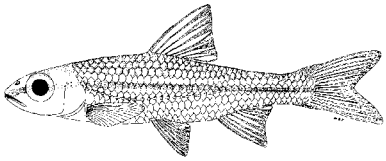
Appendices to the Year 2000 Ohio Water Resource Inventory



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Sept 11, 2000

Appendix A. OHIO SPORT FISH CONSUMPTION ADVISORY

OHIO DEPARTMENT OF HEALTH YEAR 2000 FISHING SEASON

What Health Benefits do I get From Eating Sport Fish?

Fish are nutritious and good to eat. Many doctors suggest that eating one half-pound of fish each week helps to prevent heart disease. Almost any kind of fish may have real health benefits when it replaces a high-fat source of protein in the diet. Fish eaten often provide valuable vitamins and minerals, high-quality protein, and beneficial oils that are low in saturated fat.

Why is a Fish Consumption Advisory Needed?

While most Ohio sport fish are of high quality, low levels of chemicals like polychlorinated biphenyls (PCBs), mercury, and lead have been found in some fish from certain waters. To ensure the continued good health of Ohioans, the Ohio Department of Health offers an advisory for how often these fish can be safely eaten. An advisory is advice, and should not be viewed as law or regulation. It is intended to help anglers and their families make educated choices about: Where you fish, what types of fish you eat, how to limit the amount and frequency of fish you consume, and how you prepare fish for cooking. By following these advisories, you can get the health benefits of fish and reduce unwanted contaminants.

What Groups are Most Sensitive to Contaminatants?

Contaminants in fish can be harmful to people of all ages, but the fetus and young children are especially sensitive to contaminants because their organs and systems are not yet fully developed. They are less able than an adult is to deal with toxic substances. Contaminants in fish can affect your baby more than they affect you and can be hard to detect. It is best to prevent childhood exposure to fish contaminants in the first place. In summary, the most sensitive groups are unborn children, and children age six and under. This also includes women who plan to become pregnant, women who are pregnant, and nursing mothers.

Health Effects From Eating Contaminated Fish

What Contaminants are in Fish?

Contaminants that are found in some Ohio fish include PCBs, pesticides, and heavy metals such as lead and methyl mercury. The contaminants responsible for most advisories are methyl mercury and PCBs.

What is Methyl Mercury?

Mercury is a metal that occurs in nature. It does not break down, but recycles between land, air, and water. Mercury may be released to the atmosphere by active volcanoes, coal-burning power plants, and burning of industrial or household wastes. Bacteria in sediments convert mercury to methyl mercury, an organic compound. Methyl mercury builds up in fish through the food chain. Nearly all of the mercury found in fish is methyl mercury.

What are Polychlorinated Biphenyls (PCBs)?

Polychlorinated biphenyls (PCBs) are man-made oils that were once used in carbonless copying paper and in electrical equipment such as capacitors, transformers, and fluorescent light ballasts. PCBs break down very slowly in the environment. PCBs tend to stay in sediments and build up in fish through the food chain.

How do Methyl Mercury and PCBs Affect Human Health?

The levels of these compounds found in Ohio fish are not known to cause immediate severe sickness. Long-lasting contaminants such as polychlorinated biphenyls (PCBs) and mercury can build up in your body over time. It may take months or years of regularly eating contaminated fish to build up amounts that are a health concern. Health problems that may result from the contaminants in fish range from small, hard to detect health changes to birth defects, as well as mental and physical retardation in newborns. Mothers who eat highly contaminated fish for many years before becoming pregnant may have children who are slower to develop and learn. Therefore, women who plan to become pregnant should follow the fish consumption advice given to pregnant and nursing women for several years before becoming pregnant. It takes up to six years or more for the body to get rid of PCBs, and up to one year to get rid of mercury. The advisories that protect sensitive populations also protect all other members of the general public.

Should I Stop Eating Fish?

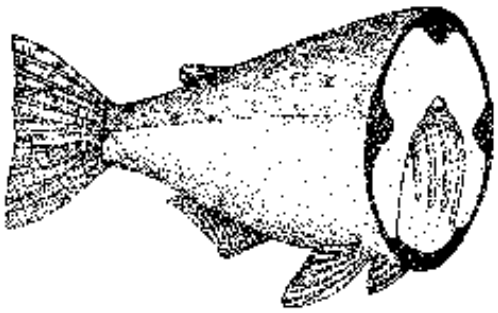
We are NOT recommending that you stop eating sport fish, except where "Do not eat" is shown in the advisory. As stated earlier in this fact sheet, eating fish regularly offers several health benefits. If you follow this fish advisory booklet carefully to: choose safer places to fish, pick safer species to eat, trim and cook your catch correctly, and follow the recommended meal frequency, you will gain those benefits. At the same time you will reduce your exposure to possible contaminants.

How Can I Reduce my Health Risk?

Choose smaller fish (within the legal size limit) - smaller fish within a species tend to have fewer contaminants than older, larger fish, and are sometimes tastier and more tender.

Choose leaner fish. Fish that are higher in fat - Channel Catfish and Carp, for example, will likely have more fat and may have higher levels of PCBs and similar chemicals in their bodies. Yellow Perch, Sunfish, and Crappies are examples of lean fish.

Trim and cook your fish properly to reduce risk. This is important because all meal advice given in the advisory assumes that this has been done. Proper preparation reduces your exposure to organic chemicals like PCBs and certain pesticides. More than 50 percent of these contaminants can be eliminated by trimming fatty areas before cooking and by cooking fish in ways that allow fat to drip away. Mercury levels cannot be reduced by trimming because mercury binds to protein (the meat portion) of the fish.



Trimming and Cooking Fish

Fillet the fish.

Remove all skin from fillets or steaks. This allows fat to drain away from the fish during cooking.

Trim off the fatty areas that are shown in black on the drawing. These include the fatty areas found along the belly, back, and both sides of the fillet.

Cook so that the fat drips away. Broil, bake, or grill on a rack or poach and discard the liquid.

If you deep-fry your catch, discard the oil. Pan frying removes few, if any contaminants.

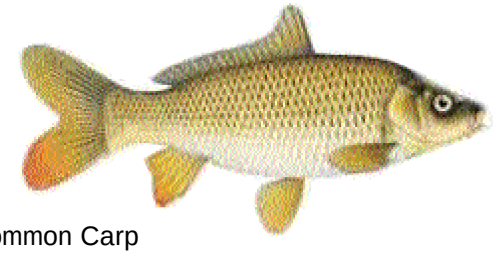
If you prepare soups or chowders from fish, be aware that this cooking method holds in juices that contain fat (and contaminants) from the fish.

Ohio's Fish Tissue Monitoring and Advisory

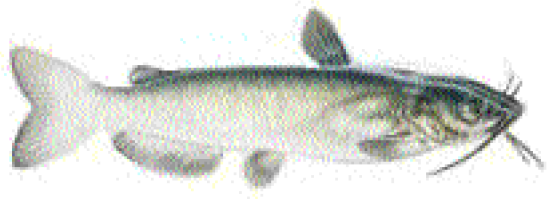
Ohio Fish Tissue Monitoring began in 1976. Since then more than 5400 samples have been collected, and 291 water bodies have been sampled, including: 209 rivers and streams, Lake Erie, the Ohio River, and 80 inland lakes, ponds, and reservoirs.

Ohio Sport Fish Most Often Under Advisory

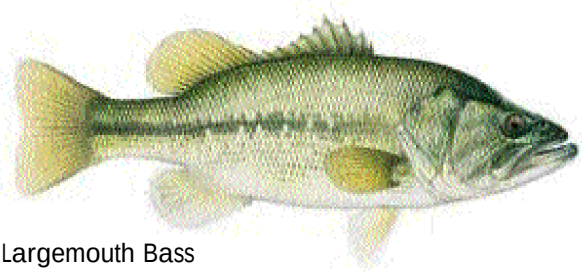
Illustrations © Joseph R. Tomelleri — Courtesy of ODNR/Division of Wildlife


Common Carp


Smallmouth Bass


Channel Catfish


Freshwater Drum


Largemouth Bass


Bullhead

Types of Advisories

There are three types of fish consumption advisories:

1. Do Not Eat - Check here first to find out if your catch is listed. These fish have higher levels of contaminants, and should not be eaten.

2. Meal Advice - These fish have low levels of contaminants, but are safe to eat - provided the trimming, cooking, and meal frequency advice is followed.

3. Statewide advisory for sensitive populations.

4. Another advisory is issued that cautions against dermal (skin) contact: The waters and/or sediments in these areas have high levels of contaminants. It is recommended that a person not swim or wade in these water body sections.

How to use this Advisory

Three Easy Steps!

Column 1		Column 2	Column 3
Body of Water	Area Under Advisory	Species	One meal per
Nemo River	U.S. 71 to Xeno River Halibut 20" and over	Halibut under 20" Month	Week

*One meal is assumed to be 8 ounces (weighed before cooking).

1. In column 1, find the body of water and location in which you are fishing.
2. In column 2, find the kind of fish you have caught. If a length is noted, measure the fish from the tip of the nose to the end of the tail fin.
3. The maximum recommended meal frequency for the size and type of fish is found in column 3.

Do not eat! Ohio Department of Health Consumption Advisory

Body of Water	Area Under Advisory	Species
Dicks Creek	Oxford St, Middletown to the Great Miami River	All
Great Miami River	Lowhead Dam at Monument Ave, Dayton to the Ohio River	All Suckers
Lake Erie	All Waters	Channel Catfish 16" and over
Lake Nesmith (Summit County)	All Waters	Channel Catfish, Common Carp
Little Scioto River	SR 739, near Marion to Holland Rd, near Marion	All
Mahoning River	NW Bridge Rd, Warren to Pennsylvania Border	Channel Catfish, Common Carp
Maumee River	Mouth to Waterville	Channel Catfish
Middle Fork Little Beaver Creek	SR alt 14 at Allen Rd, to SR 11, south of Lisbon	All
Ohio River	All Waters	Channel Catfish 17" and over, Common Carp
Ottawa River (Toledo)	I-475 N of Wildwood Preserve, Toledo to Maumee Bay, Lake Erie	All
Portage Canal (a.k.a.) Ohio Canal (Summit County)	All Waters	Channel Catfish, Common Carp
Scioto River	Greenlawn Dam, Columbus to Ohio River, Portsmouth	Channel Catfish, Common Carp
Summit Lake (Summit County)	All Waters	Channel Catfish, Common Carp

Statewide Advisory for Sensitive Populations!

Mercury - This statewide advisory, issued in 1997, is for women of child bearing age and young children (age six and under) only. They are advised to eat not more than one meal per week of fish (any species) from any Ohio body of water, and not more than one meal a month, or one meal every two months if specified in the following table. This precaution pertains only to these sensitive populations. Anyone else should follow the consumption guidelines per species and per body of water.

Meal Advice
ODH Consumption Advisory

Body of Water	Area Under Advisory	Species	One meal per
Lake Erie	All Waters	Chinook Salmon under 19", Freshwater Drum, Walleye	Week
		Chinook Salmon 19" and over, Coho Salmon, Common Carp, Smallmouth Bass, Steelhead Trout, White Bass, White Perch	Month
		Channel Catfish under 16", Lake Trout	2 Months
Berlin Lake	All Waters	Channel Catfish	Month
Eastwood Lake	All Waters	Common Carp	Month
Highlandtown Lake	All Waters	Largemouth Bass	Month
New Lyme Lake	All Waters	Common Carp	Month
Walborn Reservoir	All Waters	Largemouth Bass	Month
Conneaut Creek	All Waters	Smallmouth Bass	Month
Greenville Creek	All Waters	Smallmouth Bass	Month
Mill Creek (Cincinnati)	From I-275 to the Ohio River	All Species	Month
Nimishillen Creek	All Waters	Common Carp	Month
Paint Creek	All Waters	Largemouth Bass	Month
Salt Creek	Laurelville to Queer Creek Confluence	Smallmouth Bass	Month
Sandy Creek	All Waters	Freshwater Drum	Month
Scippo Creek	Kingston Pike to Scioto River	All Species	Month
Symmes Creek	SR 141, Waterloo to Ohio River	Freshwater Drum, Sauger	Month
Twin Creek	All Waters	Channel Catfish	Week

Body of Water	Area Under Advisory	Species	One meal per
Ashtabula River	24th St. Bridge to Lake Erie	Smallmouth Bass	Week
		Largemouth Bass, Walleye	Month
		Channel Catfish, Common Carp	2 Months
Auglaize River	U. S. 33, Wapakoneta to Maumee River, Defiance	Channel Catfish, Common Carp	Week
Black River	31st Street Bridge, Sheffield to Lake Erie	Brown Bullhead, Freshwater Drum	Week
		Common Carp	Month
Chagrin River	All Waters	Rock Bass, Smallmouth Bass	Month
Cuyahoga River	Ohio Edison Dam Pool to Lake Erie	White Sucker under 11"	Week
		Common Carp, White Sucker 11" and over	Month
		Largemouth Bass	Month
		Brown Bullhead, Yellow Bullhead	2 Months
Ford (a.k.a.) Hamilton Hydraulic Canal	All Waters	Channel Catfish, Common Carp	Month
Great Miami River	All Waters	Saugeye	Week
		Largemouth Bass, Rock Bass, Smallmouth Bass, White Bass	Month
	North of SR 73, near Middletown to Indian Lake	Channel Catfish	Week
		Common Carp	Month
	S of SR 73 near Middletown to the Ohio River	Channel Catfish, Freshwater Drum, Smallmouth Buffalo	Month
		Common Carp, Flathead Catfish Striped Bass Hybrid	2 Months
Huron River	All Waters	Freshwater Drum	Month
Little Miami River	All Waters	Channel Catfish, Smallmouth Bass	Week
		Sauger	Month
Little Miami River, E. Fork	All Waters	Channel Catfish, Flathead Catfish, Rock Bass, Smallmouth Bass, Spotted Bass	Month
Little Muskingum River	Hill's Covered Bridge to the Ohio River	Spotted Bass	Month
Mad River	U. S. 36 Urbana to Dayton	White Sucker	Week
		Common Carp, Largemouth Bass	Month

Body of Water	Area Under Advisory	Species	One meal per
Mahoning River	Berlin Dam to Pennsylvania Border	Smallmouth Bass	Month
	NW Bridge Rd, Warren to the Pennsylvania Border	White Crappie	Week
		Walleye	Month
Maumee River	All Waters	Common Carp, Smallmouth Bass	Month
	Waterville to the Indiana Border	Channel Catfish	Week
	Mouth to Waterville	Freshwater Drum, Largemouth Bass	Week
Muskingum River	All Waters	Channel Catfish, Flathead Catfish, Saugeye, Spotted Bass	Week
		White Bass	Month
Ohio River	All Waters	Largemouth Bass, Smallmouth Bass, Spotted Bass, Sauger	Week
		Freshwater Drum, White Bass, Hybrid Striped Bass	Month
		Flathead Catfish, Channel Catfish under 17”	2 Months
Ottawa River (Lima)	All Waters	Channel Catfish	Week
Portage River	Ohio Turnpike to Lake Erie	Largemouth Bass, Smallmouth Bass	Week
		Channel Catfish, Common Carp	Month
Sandusky River	All Waters	Common Carp	Week
		Channel Catfish, Largemouth Bass	Month
Scioto River	Green Camp to Warrensburg	Rock Bass	Month
Stillwater River	All Waters	Channel Catfish, Smallmouth Bass	Month
St. Joseph River	All Waters	Channel Catfish	Month
St. Joseph River, West Branch	All Waters	All Species	Week
St. Mary’s River	All Waters	Northern Pike, Saugeye	Month
Tiffin River	All Waters	Smallmouth Bass	Month

Body of Water	Area Under Advisory	Species	One meal per
Tuscarawas River	Turkeyfoot Rd (SR 619), Barberton to South Broadway St. (SR 416), New Philadelphia (Tuscarawas County)	Largemouth Bass, Rock Bass	Week
		Channel Catfish, Smallmouth Bass, Yellow Bullhead	Month
		Common Carp	2 Months
Vermilion River	All Waters	Largemouth Bass	Month
Walhonding River	All Waters	Saugeye, Smallmouth Bass	Week
		Channel Catfish	Month

ODH Dermal Contact Advisory !
Avoid Swimming or Wading in these Stream Sections

Body of Water	Area Under Advisory
Black River	31st St Bridge, Lorain to Lake Erie
Little Scioto River	SR 739, near Marion to Holland Rd, near Marion
Mahoning River	NW Bridge Rd, Warren to Pennsylvania Border
Middle Fork Little Beaver Creek	SR alt 14 at Allen Rd, to SR 11, south of Lisbon
Ottawa River (Toledo)	I-475 N of Wildwood Preserve, Toledo to Maumee Bay, Lake Erie

For more information contact:
Ohio Department of Health
Health Assessment Section
246 N. High St. • Columbus, Ohio 43215-2412

Phone: 1-800-755-GROW (4769)
Fax: 614-564-2410

APPENDIX B

1996 Revised Ohio Lake Condition Index (LCI)

The Ohio Lake Condition Index (Ohio LCI) was developed by the Ohio EPA for the 1988 305(b) reporting cycle. The LCI is a multiparameter (14 metrics in the 1992 revision) lake classification scheme that is used to quantify the overall condition or ecosystem health of Ohio's public lakes, as required by Sections 305 and 314 of the Clean Water Act. Specifically, it is used to (1) determine if water quality standards are being realized in Ohio's public lakes, (2) to evaluate attainment of designated uses and the fishable and swimmable goals of the Clean Water Act, (3) to rank the relative condition or health of Ohio's public lakes, and (4) to "target" lakes potentially effected by nonpoint source pollutants as required by Section 319 of the Clean Water Act.

The Ohio LCI was developed with sufficient flexibility to meet expected revisions in federal EPA guidance for the 305(b) Report. The original 1988 Ohio LCI protocol (Ohio EPA 1988a) was revised and published in 1989 (Davic and DeShon 1989) and modifications were made for the 1990 Ohio 305(b) report cycle (Ohio EPA 1990b). Further revisions, in response to changes in federal EPA guidance, were subsequently made for the 1992 and 1996 reporting cycle.

A. Assessment of designated uses and level of lake impairment.

Federal guidance for the 1992 305(b) Report for lakes required each State to summarize, at a minimum, the degree of impairment for the following designated uses: (1) aquatic life, (2) public drinking water, (3) recreation, i.e., the "swimmable goal of the Clean Water Act", and (4) fish consumption. For each designated use (EWH, REC, TISSUE, PWS), four levels of attainment are allowed as shown below:

Full Use, Full Attainment
Threatened Use, Full Attainment
Partial Use, Non-Attainment
Impaired Use, Non-Attainment

The Ohio LCI uses different sets of parameters or metrics to evaluate attainment of designated uses. For example, to determine attainment for "recreational use (REC)", eight LCI metrics are assessed (e.g., Secchi Disk (SD); Index of Biotic Integrity (IBI); Nuisance growths of Macrophytes (NM); Aesthetics (A); Algal Production (P); Volume loss due to sedimentation (V); Sediment contamination (S); and fecal coliform bacteria (B)). More than 50% of the required LCI metrics must have either monitored (m) or evaluated (bpj) data--this is called the 50% rule. If sufficient data are not available, then the lake is added to the State's continuing assessment process and it is reported in the 305(b) Report that the lake in question could not be assessed for that specific designated use due to lack of data.

For the 1992 305(b) Report, minor changes were made to the sets of LCI metrics that are used to determine attainment for each designated use. These 1992 revisions are shown in Figure 1, Appendix A. Changes in federal guidance also resulted in the use of both monitored and evaluated to determine attainment of designated uses for aquatic life and public drinking water supply, however, greater weight is given to monitored data in the assessment process and calculation of final LCI scores.

B. Calculation of final LCI scores.

Calculation of a final LCI score provides a method for ranking the relative condition or ecosystem health of different lakes. The protocol used to calculate a final LCI ranking is presented in Davic and DeShon (1989), with some minor modifications added for this 1992 report. The final LCI score is calculated as the sum of subindex points, divided by the total number of parameters assessed (either 12, 13, or 14), multiplied by a factor of 10. This results in a mean coefficient of lake condition with a potential range of values from 10 to 100, with 100 representing the highest level of ecosystem impairment. The following points are assigned to each subindex condition:

ne:	not evaluated (0 subindex points)
t-bpj:	threatened condition, evaluated data (2 points)
t-m:	threatened condition, monitored data (5 points)
i-bpj:	impaired condition, evaluated data (5 points)
i-m:	impaired condition, monitored data (10 points)
f-bpj:	full use condition, evaluated data (1 point)
f-m:	full use condition, monitored data (1 point)
t-e(m):	monitored eutrophic condition (5 points)
t-h(m):	monitored hypereutrophic condition (10 points)

Because a single score can be ambiguous in a multiparameter index with missing data, it is recommended that final LCI scores only be calculated if data are available for at least 12 of the 14 total LCI parameters under consideration. Appenix H lists final LCI scores for 117 public lakes. It is important to note that the long term goal of the Ohio EPA is to have monitored (m) data for all 14 parameters for all of Ohio's 445 public lakes greater than 5 acres, however, attainment of this goal will require a significant increase in the amount of funds spent on lake water quality assessments. Lack of monitored data that can be used in the LCI represents a deficiency in Ohio's surface water quality assessment process.

C. LCI parameter criteria.

The Ohio Lake Condition Index assessment process uses either monitored (m) or evaluated (bpj) data to measure the condition of 14 parameters or metrics. Raw data are converted into the following subindex conditions: f(m) = full use based on monitored data; f(bpj) =

full use based on best professional judgement; t(m) = threatened use based on monitored data; t(bpj) = threatened use based on best professional judgement; i(bpj) = impaired use, best professional judgement, and i(m) = impaired use based on monitored data. Responses to a LCI questionnaire represent the (bpj) data for the 1992 assessment. A revised LCI questionnaire is provided in Appendix D. Where available, subindex determinations are based on state water quality standards or criteria.

I. BIOLOGICAL EVALUATION OF LAKE CONDITION

Index of Biotic Integrity-Fish (IBI)

a) Monitored data (m). The Ohio EPA developed an Index of Biotic Integrity to assess the overall health of fish communities in streams and rivers. The concept has not yet been adapted for lake habitats. The necessary developmental work will have to take place prior to any use of this index in the Ohio LCI assessment process.

b) Evaluated data (bpj). In the 1990 revision to the LCI, questionnaire data was used to evaluate the condition of fish communities in lakes. The following two questions are asked:

1. Does the lake support a well balanced mix of sport and forage fish, or do a few species dominate (circle one)?

Insufficient data; Well balanced fishery;
Partially balanced fishery; Impaired fishery

2. How would you rate the fishing in this lake?

Excellent; Good; Acceptable; Marginal; Poor

Responses to these questions were used to make an evaluated (bpj) assessment of the lake fishery for the 1992 LCI assessment process.

Nuisance Growths of Macrophytes (NM)

Based on potential impact on recreational boating, shoreline fishing, and decay to release organic matter. No standards or criteria exist. Data may be monitored (m) or evaluated (bpj).

Raw	Data Condition
< 25% lake area affected	f(m); f(bpj)
25% to 50% affected	t(m); t(bpj)
> 50% affected	i(m); i(bpj)

Fecal Coliform Bacteria Contamination (B)

Based on state water quality standards. Only monitored (m) data are used to assess this parameter.

Raw Data	Condition
< 200/100 ml	f(m)
Between 200-1000/100 ml	t(m)
>1000/100 ml	i(m)

Algal Production based on Chlorophyll-a (P)

Based on surface water samples (0.5 m depth). Only monitored (m) data are used.

Raw Data		Condition
0.3 - 2.0 ug/l	Oligotrophic	f(m)
2.0 - 6.0	Mesotrophic	f(m)
6.0 - 40.0	Eutrophic	t-e(m)
>40.0	Hypereutrophic	t-h(m)

Fish Tissue Contamination (F)

Raw Data	Condition
No fish consumption advisory issued	f(m)
Fish advisory for bottom feeders (carp, catfish).	t(m)
Fish advisory for game species	i(m)

II. CHEMICAL EVALUATION OF LAKE CONDITION

Nonpriority Pollutants (NP)

Based on State water quality standards. Only monitored (m) data are used.

Raw Data (surface or bottom)	# of Measures Above WQS	Condition
Any Nonpriority metals	0	f(m)
pH > 9.5	1 or 2	t(m)
Sulfates > 250 < 960 mg/l	> 2	i(m)
TDS > 1500 mg/l		
Ammonia, pH & Temp. Dependent		
D.O. < 6.0 mg/l (surface)		
D.O. < 2.0 mg/l (bottom)		

Priority Organics (PPO) and Priority Metals (PPM)

Based on U. S. EPA federal register list of 126 priority pollutants. Only monitored (m) data are used.

# Exceeding Chronic Criteria (surface or bottom)	Condition
0	f(m)
1	t(m)
> 1	i(m)

Nutrients based on Spring T-Phosphorus (N)

Based on surface water samples (0.5 m depth). Only monitored (m) data are used.

Raw Data	Trophic State	Condition
3 -9 ug/l	Oligotrophic	f(m)
9 - 24	Mesotrophic	f(m)
24 - 75	Eutrophic	e(m)
> 75	Hypereutrophic	t-h(m)

Sediment Contamination (S)

Metals based on Illinois EPA lake sediment criteria (Kelly *et al.*, 1984). Concentrations represent twice standard deviations from 273 individual lake sediment samples collected from 63 Illinois lakes. The following priority metals are used: Only monitored (m) data are used.

Raw Data	Criteria	Condition
Arsenic	> 41 (mg/kg)	None over criteria f(m)
Cadmium	> 2.6	1 over criteria ... t(m)
Chromium	> 38	2 over criteria ... i(m)
Copper	> 150	
Lead	> 150	
Mercury	> 0.40	
Zinc	> 250	
Oil-Grease	> 1000 (based on fed. crit)	
Total PCB's	> 50 (based on fed crit)	
TCLP (old EP Toxic) Waste		

Acid Mine Drainage (M)

pH from Ohio WQS. Other parameters from Ohio DNR, Division of Mine Reclamation criteria. Only monitored (m) data are used.

Raw Data	# of Violations	Conditions
pH < 6.5	0	f(m)
TDS > 1500 mg/l	1	t(m)
Mn > 4.0 mg/l	2	i(m)
Fe > 10.0 mg/l		
SO_4 > 960 mg/l		

Secchi Disk Transparency (SD)

Based on State of Illinois (Illinois EPA 1988) four foot minimum transparency recommended for bathing beaches. Only monitored (m) data are used.

Raw Data	Condition
Greater than 4 foot Secchi depth	f(m)
Less than 4 foot depth	t(m)

III. PHYSICAL EVALUATION OF LAKE CONDITION

Volume Loss Due To Sedimentation (V)

Based on an expected 40% reduction in useful life. Either monitored (m) or evaluated (bpj) data can be used.

Raw Data	Condition
< 10 % volume loss	f(m); f(bpj)
10% - 40 % loss	t(m); t(bpj)
> 40% loss	i(m); i(bpj)

IV. PUBLIC PERCEPTION OF LAKE CONDITION

Aesthetics (A)

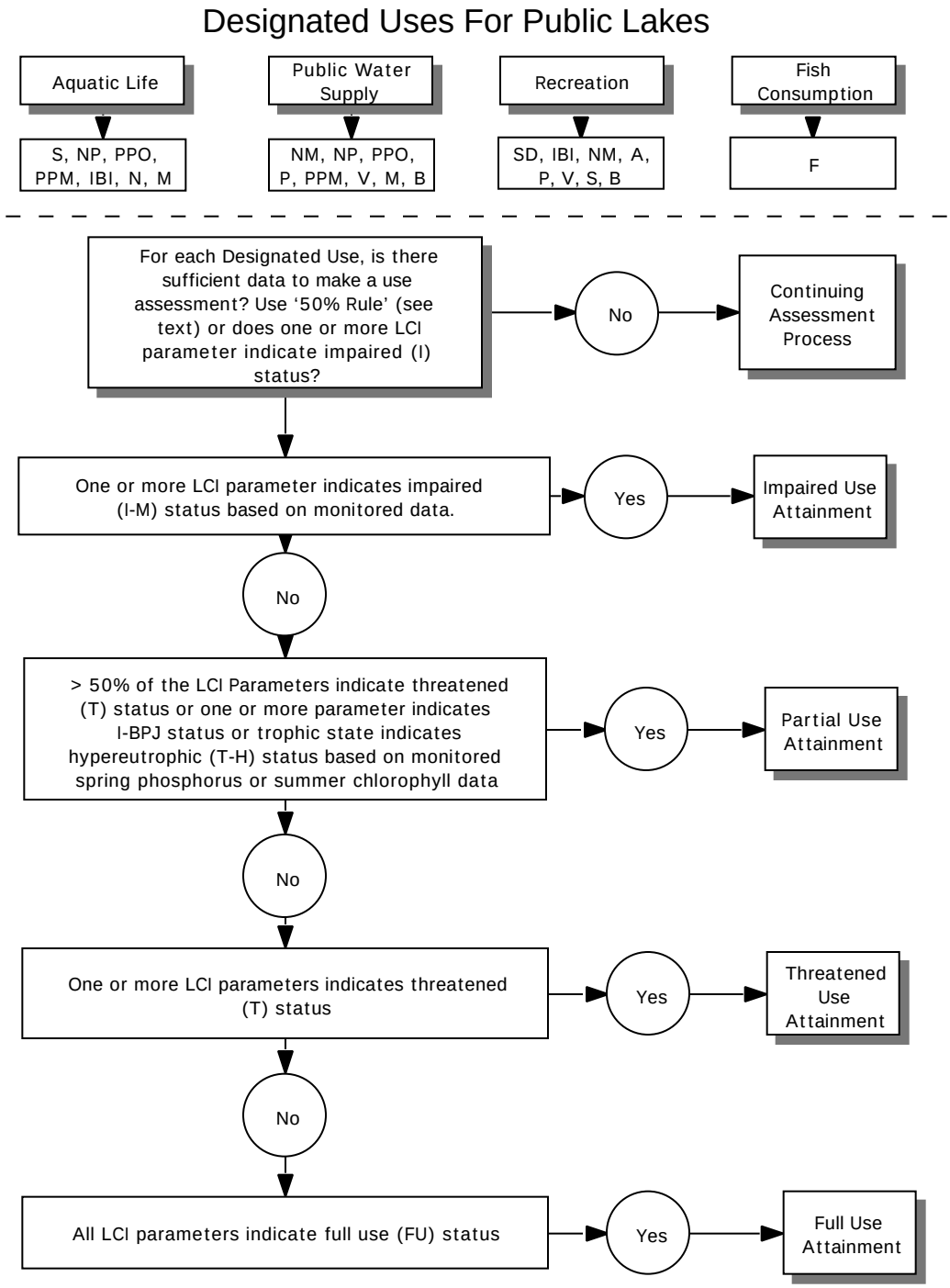
Based on responses to the following question on the Ohio LCI questionnaire:

On a scale of 1 - 10 (1 = no problem, 10 = extreme problem),
please rank the following summer aesthetic conditions at this lake:

1. Algae blooms (pea green water)	1-2-3-4-5-6-7-8-9-10
2. Floating algae scums	1-2-3-4-5-6-7-8-9-10
3. Fish Kills (more than 200 fish at a time)	1-2-3-4-5-6-7-8-9-10
4. Odors	1-2-3-4-5-6-7-8-9-10
5. Duckweed	1-2-3-4-5-6-7-8-9-10
6. Muddy (brown) water	1-2-3-4-5-6-7-8-9-10
7 Taste and Odor Problems (if a water supply)	1-2-3-4-5-6-7-8-9-10
8. THM (Trihalomethane) Problems (if a water supply)	1-2-3-4-5-6-7-8-9-10
9. Other (name)	1-2-3-4-5-6-7-8-9-10

Responses to these questions were used to make a monitored (m) assessment of the public's overall perception of lake aesthetics.

Appendix B Figure 1. Revised 305(b) use attainment process for lakes.



Appendix C. List of Ohio's publicly owned lakes, ponds, and reservoirs with > 5 acres of surface area.

Waterbody ID#	Lake	Surface Area (ac)	County	Lake Uses	Lake Type
OH61 23-048	ACTON LAKE	604	Butler	WS R	DPI
OH48 13-001	ADAMS LAKE	37	Adams	R	DPI
OH88 01-369	ALDER POND	15	Summit	R	NL
OH78 04-336	ALDRICH POND	34	Sandusky	R	DO
OH38 05-102	ALUM CREEK LAKE	3387	Delaware	WS R FC	DPI
OH36 35-268	AMANN RESERVOIR	24	Morrow	WS R	DPI
OH36 35-269	AMICKS RESERVOIR	51	Morrow	WS R	UP
OH72 18-139	ARCHBOLD RESERVOIR #1	20	Fulton	WS R	UP
OH72 18-140	ARCHBOLD RESERVOIR #2	49	Fulton	WS R	UP
OH92 28-016	ASHTABULA CO. METRO PARKS LAKE #1	5	Ashtabula	R	DPI
OH92 28-017	ASHTABULA CO. METRO PARKS LAKE #2	6	Ashtabula	R	DPI
OH45 21-303	ATOMIC ENERGY COMM. LAKE #1	13	Pike	C	DPI
OH45 21-304	ATOMIC ENERGY COMM. LAKE #2	17	Pike	C	UP
OH81 18-344	ATTICA RESERVOIR	5	Seneca	WS	UP
OH12 05-383	ATWOOD RESERVOIR	1540	Tuscarawas	R FC	DPI
OH87 04-088	BALDWIN LAKE	32	Cuyahoga	WS R	DPI
OH90 19-095	BALDWIN RESERVOIR	6	Cuyahoga	WS	UP
OH82 01-337	BALLVILLE RESERVOIR	89	Sandusky	WS	DPI
OH10 28-367	BARBERTON RESERVOIR (WOLF CR. RESV.)	196	Summit	WS	DPI
OH07 36-036	BARNESVILLE RESERVOIR #1	35	Belmont	WS R	DPI
OH07 36-037	BARNESVILLE RESERVOIR #2	11	Belmont	WS R	DPI
OH07 44-035	BARNESVILLE RESERVOIR #3	98	Belmont	WS R	DPI
OH53 13-418	BATAVIA WATER SUPPLY RESERVOIR	14	Clermont	WS	DPI
OH13 01-384	BEACH CITY LAKE	420	Tuscarawas	R FC	DPI
OH82 02-342	BEAVER CREEK RESERVOIR	110	Seneca	WS R	UP
OH02 05-078	BEAVER LAKE	103	Columbiana	WS	DPI
OH84 25-194	BELLEVUE RESERVOIR #1,#2	14	Huron	WS R	UP
OH84 25-193	BELLEVUE RESERVOIR #3	14	Huron	WS R	UP
OH83 03-192	BELLEVUE RESERVOIR #4	31	Huron	WS R	UP
OH84 12-201	BELLEVUE RESERVOIR #5	87	Huron	WS R	UP
OH06 19-030	BELMONT LAKE	117	Belmont	R	DPI
OH84 24-110	BERLIN HEIGHTS RESERVOIR	5	Erie	WS	UP
OH01 24-307	BERLIN RESERVOIR	3590	Portage	WS R FC	DPI
OH53 31-060	BETHEL RESERVOIR	5	Clermont	WS	UP
OH53 25-419	BETHEL UPGROUND RESERVOIR #2	6	Clermont	WS	UP
OH07 24-032	BETHESDA RESERVOIR	13	Belmont	WS	DPI
OH34 13-420	BIG ISLAND WILDLIFE AREA UPGR. RESERVOIR	382	Marion	R	UP
OH52 04-061	BLANCHESTER RESERVOIR #1	7	Clinton	WS	UP
OH52 04-062	BLANCHESTER RESERVOIR #2	7	Clinton	WS	UP
OH52 04-063	BLANCHESTER RESERVOIR #3	11	Clinton	WS	DPI
OH52 04-064	BLANCHESTER RESERVOIR #4	11	Clinton	WS	UP
OH52 04-065	BLANCHESTER RESERVOIR #5	17	Clinton	WS	UP

Uses: WS- Water Supply, R - Recreation, FC - Flood Control

Appendix C. List of Ohio's publicly owned lakes, ponds, and reservoirs with > 5 acres of surface area.

Waterbody ID#	Lake	Surface Area (ac)	County	Lake Uses	Lake Type
OH36 02-421	BLUE LIMESTONE PARK QUARRY LAKE	6	Delaware	R	DO
OH23 02-270	BLUE ROCK STATE PARK LAKE (CUTLER LAKE)	18	Muskingum	WS R	DPI
OH77 10-422	BOWLING GREEN GOLF COURSE LAKE	7	Wood	R	DO
OH77 10-423	BOWLING GREEN UPGROUND RESERVOIR	20	Wood	WS	DO
OH88 08-313	BRADY LAKE	70	Portage	R	NL
OH70 13-004	BRESLER RESERVOIR	582	Allen	WS R	UP
OH22 59-212	BUCKEYE LAKE	3136	Licking	WS R	DPI
OH80 17-083	BUCYRUS RESERVOIR #1	36	Crawford	WS R	DPI
OH80 17-086	BUCYRUS RESERVOIR #2	31	Crawford	WS R	DPI
OH80 20-084	BUCYRUS RESERVOIR #3 (RILEY RES.)	28	Crawford	WS R	UP
OH80 17-087	BUCYRUS RESERVOIR #4	150	Crawford	WS	UP
OH02 05-236	BURGESS LAKE	20	Mahoning	WS	DPI
OH26 20-023	BURR OAK LAKE (T. JENKINS RESV.)	664	Athens	WS R FC	DPI
OH58 18-055	C. J. BROWN LAKE	2120	Clark	R FC	DPI
OH51 01-393	CAESAR CREEK RESERVOIR	2830	Warren	WS R FC	DPI
OH09 34-278	CALDWELL LAKE	51	Noble	WS R FC	DPI
OH86 16-424	CALEY WOODS WILDLIFE LAKE	8	Lorain	R	DPI
OH21 43-158	CAMBRIDGE RESERVOIR	26	Guernsey	WS R	DPI
OH85 08-215	CAMDEN RESERVOIR	9	Lorain	R	NL
OH56 02-261	CARRIAGE HILL RESERVE LAKE	14	Montgomery	R	DPI
OH32 36-146	CARTER LAKE (WAYNE NAT'L FOREST LAKE)	7	Gallia	R	DPI
OH50 12-157	CEDARVILLE COLLEGE LAKE	6	Greene	R	DPI
OH50 12-155	CEDARVILLE RESERVOIR	5	Greene	WS R	UP
OH84 19-082	CELERYVILLE RESERVOIR	75	Crawford	WS R	UP
OH16 21-013	CHARLES MILL LAKE	1350	Ashland	R FC	DPI
OH10 24-243	CHIPPEWA CR. STRUCTURE 2-A	12	Medina	FC	DPI
OH10 22-244	CHIPPEWA CR. STRUCTURE 3-A	20	Medina	R FC	DPI
OH10 13-425	CHIPPEWA CR. STRUCTURE 5-C	8	Wayne	FC	DPI
OH10 13-426	CHIPPEWA CR. STRUCTURE 5-D	6	Wayne	R FC	DPI
OH10 19-398	CHIPPEWA CR. STRUCTURE 7-C	34	Wayne	FC	DPI
OH54 01-163	CINCINNATI WATERWORKS LAKE #1	18	Hamilton	R	DO
OH54 01-164	CINCINNATI WATERWORKS LAKE #2	19	Hamilton	R	DO
OH17 10-014	CINNAMON LAKE	131	Ashland	WS	DPI
OH17 23-010	CITY OF ASHLAND LAKE	6	Ashland	R	DO
OH58 01-258	CITY OF DAYTON LAKE #1	10	Montgomery	R	DO
OH01 20-373	CITY OF NEWTON FALLS LAKE	12	Trumbull	R	DO
OH76 20-404	CITY OF PERRYSBURG LAKE	6	Wood	R	DO
OH30 18-205	CITY OF WELLSTON LAKE	11	Jackson	WS	DPI
OH58 17-054	CLARK LAKE	100	Clark	R	DPI
OH16 15-328	CLEAR FORK RESERVOIR	1010	Richland	WS R	DPI
OH14 20-182	CLENDENING LAKE	1800	Harrison	R FC	DPI
OH52 01-427	CLINTON COUNTY DAM #1	10	Clinton	FC	DPI

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Appendix C List of Ohio's publicly owned lakes, ponds, and reservoirs with > 5 acres of surface area.

Waterbody ID#	Lake	Surface Area (ac)	County	Lake Uses	Lake Type
OH25 21-292	CLOUSE POND (CLOUSE LAKE)	41	Perry	R C	DPI
OH87 05-090	COE LAKE	23	Cuyahoga	WS R	DO
OH25 15-122	COLFAX LAKE (RCCD STRUCTURE 7-A)	22	Fairfield	R FC	DPI
OH61 30-322	COLLEGE CORNER RESERVOIR	5	Preble	R	UP
OH26 23-296	CORNING RESERVOIR	15	Perry	WS R	DPI
OH52 11-066	COWAN LAKE	688	Clinton	R	DPI
OH23 44-263	CROOKSVILLE LOWER RESERVOIR #1	7	Morgan	WS	DPI
OH23 45-286	CROOKSVILLE RESERVOIR #3	15	Perry	WS	DPI
OH23 44-264	CROOKSVILLE UPPER RESERVOIR #2	5	Morgan	WS R	DPI
OH01 14-311	CRYSTAL LAKE	25	Portage	R	NL
OH01 29-349	DALE WALBURN RESERVOIR	670	Stark	WS	DPI
OH41 16-297	DEER CREEK CAMPGROUND LAKE	8	Pickaway	R C	DPI
OH41 15-298	DEER CREEK LAKE	1277	Pickaway	R FC C	DPI
OH01 29-348	DEER CREEK RESERVOIR	313	Stark	WS R	DPI
OH71 19-417	DEFIANCE POWER DAM RESERVOIR	679	Defiance	R	DPI
OH36 01-103	DELAWARE LAKE	1300	Delaware	R FC	DPI
OH37 15-428	DELCO UPGROUND RESERVOIR #2	30	Delaware	WS R	UP
OH37 15-107	DELCO WATER COMPANY LAKE	6	Delaware	WS	UP
OH73 02-144	DELTA POND	11	Fulton	R	DO
OH73 02-142	DELTA RESERVOIR	39	Fulton	WS R	UP
OH73 02-145	DELTA RESERVOIR #2	50	Fulton	WS	UP
OH74 08-184	DESHLER RESERVOIR	23	Henry	WS R	UP
OH22 05-272	DILLON RESERVOIR	1325	Muskingum	R FC	DPI
OH27 49-021	DOW LAKE	161	Athens	R	DPI
OH77 10-429	DUGOUT POND (ODOT)	8	Wood	R	DO
OH88 18-152	EAST BRANCH RESERVOIR	416	Geauga	WS	DPI
OH58 19-430	EAST FK. BUCK CR. STRUCTURE 1-B	6	Champaign	FC	DPI
OH58 19-431	EAST FK. BUCK CR. STRUCTURE 4-A	21	Champaign	FC	DPI
OH53 20-058	EAST FORK LAKE (HARSA LAKE)	2160	Clermont	WS R FC	DPI
OH04 07-072	EAST PALESTINE RESERVOIR	5	Columbiana	WS R	DPI
OH10 33-359	EAST RESERVOIR	201	Summit	R	NL
OH58 01-257	EASTWOOD LAKE	170	Montgomery	R	DO
OH56 12-252	ECHO LAKE	14	Miami	WS R	DPI
OH62 32-162	EDEN PARK POND	6	Hamilton	R	DO
OH23 45-285	ESSINGTON LAKE	16	Perry	R C	DPI
OH02 05-239	EVANS LAKE	566	Mahoning	WS R	DPI
OH75 09-226	EVERGREEN LAKE	8	Lucas	R	DPI
OH90 20-094	FAIRMOUNT RESERVOIR	8	Cuyahoga	WS	UP
OH43 48-188	FALLSVILLE WILDLIFE AREA LAKE	11	Highland	R C	DPI
OH68 18-005	FERGUSON RESERVOIR	305	Allen	WS R	UP
OH66 13-170	FINDLAY RESERVOIR #1	186	Hancock	WS R	UP
OH66 13-171	FINDLAY RESERVOIR #2	650	Hancock	WS R	UP

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Waterbody ID#	Lake	Surface Area (ac)	County	Lake Uses	Lake Type
OH86 16-217	FINDLEY LAKE	83	Lorain	R	DPI
OH10 33-354	FIRESTONE RESERVOIR	83	Summit	WS R	DPI
OH28 63-248	FORKED RUN LAKE	104	Meigs	R	DPI
OH64 18-029	FORTY ACRE POND	70	Auglaize	R C	DPI
OH77 08-177	FOSTORIA RESERVOIR #1 (LAKE DAUGHTERY)	12	Hancock	WS R	UP
OH77 08-178	FOSTORIA RESERVOIR #2 (LAKE MOTRAM)	18	Hancock	WS R	UP
OH77 08-176	FOSTORIA RESERVOIR #3 (LAKE LAMBERJACK)	45	Hancock	WS R	UP
OH77 08-175	FOSTORIA RESERVOIR #4 (LAKE MOSIER)	88	Hancock	WS R	UP
OH77 08-174	FOSTORIA RESERVOIR #5 (LAKE LaCOMTE)	128	Hancock	WS R	UP
OH77 08-432	FOSTORIA RESERVOIR #6 (VETS. MEM. RESV.)	165	Hancock	WS R	UP
OH26 05-027	FOX LAKE (MARGARET CR. CONS. DIST. #6)	47	Athens	R FC	DPI
OH56 12-253	FRANZ POND	6	Miami	WS R	DPI
OH05 08-207	FRIENDSHIP PARK LAKE	85	Jefferson	R	DPI
OH75 11-138	FULTON POND	15	Fulton	R C	DO
OH49 48-042	GEORGETOWN VILLAGE RESERVOIR	11	Brown	WS R	UP
OH02 22-380	GIRARD LAKE	185	Trumbull	WS R	DPI
OH86 05-221	GRAFTON UPGROUND RESERVOIR	7	Lorain	WS	UP
OH63 14-028	GRAND LAKE ST. MARYS	12700	Auglaize	WS R	DPI
OH91 29-375	GRAND RIVER WILDLIFE AREA LAKE	11	Trumbull	R	DPI
OH90 02-450	GRANGER POND	30	Lake	R	DO
OH49 55-039	GRANT LAKE	181	Brown	R	DPI
OH50 06-156	GREENE CO. PARKS LAKE (FISH POND #2)	5	Greene	R	DPI
OH25 26-112	GREENFIELD LAKE (HUNTERS RUN #R-63)	13	Fairfield	R FC	DPI
OH85 14-191	GREENWICH RESERVOIR	6	Huron	WS R	DPI
OH04 34-074	GUILFORD LAKE	396	Columbiana	R	DPI
OH44 17-203	HAMMERTOWN LAKE (JACKSON CITY RESERVOIR)	186	Jackson	WS R	DPI
OH41 39-299	HARGUS LAKE	130	Pickaway	R C	DPI
OH90 10-305	HARMON'S POND (SUNNY LAKE)	63	Portage	R	NL
OH72 29-141	HARRISON LAKE	96	Fulton	R	DPI
OH22 59-213	HEBRON FISH HATCHERY LAKE	75	Licking	C	UP
OH78 05-335	HELENA LAKE	15	Sandusky	R	DO
OH01 16-318	HICKORY LAKE	6	Portage	R	DPI
OH05 84-075	HIGHLANDTOWN LAKE	170	Columbiana	R	DPI
OH05 85-076	HIGHLANDTOWN WILDLIFE AREA POND	7	Columbiana	R C	DPI
OH43 49-187	HILLSBORO RESERVOIR	22	Highland	WS R	DPI
OH43 49-433	HILLSBORO UPGROUND RESERVOIR	19	Highland	WS	UP
OH87 04-246	HINCKLEY LAKE	88	Medina	R	DPI
OH44 30-189	HOCKING HILLS RESERVOIR	21	Hocking	WS R	DPI
OH38 22-131	HOOVER RESERVOIR	3000	Franklin	WS R	DPI
OH58 11-056	HOSTERMAN LAKE	9	Clark	R	DPI
OH10 33-357	HOWER LAKE	23	Summit	R	DPI
OH25 27-116	HRCD STRUCTURE 1	5	Fairfield	FC	DPI

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Appendix C. List of Ohio's publicly owned lakes, ponds, and reservoirs with > 5 acres of surface area.

Waterbody ID#	Lake	Surface Area (ac)	County	Lake Uses	Lake Type
OH25 27-117	HRCD STRUCTURE 2	8	Fairfield	FC	DPI
OH25 26-114	HRCD STRUCTURE 5	7	Fairfield	FC	DPI
OH25 26-115	HRCD STRUCTURE 8	7	Fairfield	FC	DPI
OH25 27-111	HRCD STRUCTURE 9 (ROCK MILL LAKE)	19	Fairfield	R FC C	DPI
OH25 27-118	HRCD STRUCTURE R-21	5	Fairfield	FC C	DPI
OH89 09-371	HUDSON SPRINGS LAKE	45	Summit	R	DPI
OH58 05-154	HUFFMAN POND (MIAMI CONS. DIST. LAKE)	43	Greene	R	DO
OH73 26-100	INDEPENDENCE DAM RESERVOIR	605	Defiance	R	DPI
OH53 50-038	INDIAN CREEK WILDLIFE AREA PONDS	56	Brown	R	DPI
OH55 40-214	INDIAN LAKE	5104	Logan	R	DPI
OH05 84-434	ISMOND POND	7	Columbiana	R	DPI
OH37 19-132	J. GRIGGS RESERVOIR	385	Franklin	WS R	DPI
OH32 35-202	JACKSON LAKE	243	Jackson	R	DPI
OH05 56-206	JEFFERSON LAKE	25	Jefferson	R	DPI
OH92 23-019	JEFFERSON RESERVOIR (LAMPSON RESERVOIR)	20	Ashtabula	WS R	UP
OH44 16-416	JISCO LAKE	54	Jackson	R	DPI
OH89 09-320	KENT BOARD OF TRUSTEES LAKE	10	Portage	C	DPI
OH79 01-406	KILLDEER RESERVOIR	253	Wyandot	R C	UP
OH80 12-407	KILLDEER WILDLIFE POND #1	9	Wyandot	R C	DO
OH79 22-408	KILLDEER WILDLIFE POND #2	45	Wyandot	R C	DPI
OH80 12-409	KILLDEER WILDLIFE POND #3	9	Wyandot	R C	DPI
OH80 12-410	KILLDEER WILDLIFE POND #4	8	Wyandot	R C	DPI
OH79 24-411	KILLDEER WILDLIFE POND #5	18	Wyandot	R C	DO
OH80 12-412	KILLDEER WILDLIFE POND #6	15	Wyandot	R C	DO
OH80 11-413	KILLDEER WILDLIFE POND #7	225	Wyandot	R C	UP
OH80 11-414	KILLDEER WILDLIFE POND #8	373	Wyandot	R C	DPI
OH80 11-415	KILLDEER WILDLIFE POND #9	225	Wyandot	R C	UP
OH21 43-435	KILLIANY LAKE	5	Guernsey	R	DPI
OH85 08-216	KIPTON RESERVOIR	20	Lorain	WS R	DPI
OH56 40-052	KISER LAKE	380	Champaign	R	DPI
OH18 29-208	KNOX LAKE	474	Knox	R	DPI
OH30 17-391	LAKE ALMA	63	Vinton	WS R	DPI
OH10 28-351	LAKE ANNA	12	Summit	R	NL
OH88 16-151	LAKE AQUILLA	27	Geauga	R	NL
OH45 62-330	LAKE CALDWELL	9	Ross	R	DPI
OH02 12-234	LAKE COHASSET	27	Mahoning	R	DPI
OH88 11-315	LAKE GEORGE	12	Portage	R	NL
OH02 12-233	LAKE GLACIER	43	Mahoning	R	DPI
OH02 05-235	LAKE HAMILTON	104	Mahoning	WS R	DPI
OH88 08-310	LAKE HODGSON	190	Portage	WS R	DPI
OH30 56-390	LAKE HOPE	127	Vinton	WS R	DPI
OH54 07-168	LAKE ISABELLA	23	Hamilton	R	DO

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Waterbody ID#	Lake	Surface Area (ac)	County	Lake Uses	Lake Type
OH87 05-096	LAKE ISSAC	11	Cuyahoga	R	DPI
OH44 15-204	LAKE KATHARINE	42	Jackson	R	DPI
OH65 38-399	LAKE LA SU AN	134	Williams	R	DPI
OH65 39-400	LAKE LAVERE	11	Williams	R	DPI
OH26 44-190	LAKE LOGAN (HOCKING LAKE)	354	Hocking	R	DPI
OH56 32-345	LAKE LORAMIE	785	Shelby	R	DPI
OH25 23-119	LAKE LORETTA	5	Fairfield	R	DPI
OH87 15-240	LAKE MEDINA	109	Medina	WS R	UP
OH01 22-230	LAKE MILTON	1685	Mahoning	WS R	DPI
OH10 33-355	LAKE NESMITH	80	Summit	R	NL
OH01 30-231	LAKE PARK	20	Mahoning	R	DPI
OH88 11-314	LAKE PIPPEN	143	Portage	WS	NL
OH88 11-308	LAKE ROCKWELL	539	Portage	WS	DPI
OH25 07-120	LAKE ROMONA	5	Fairfield	R FC	DPI
OH30 17-392	LAKE RUPERT	325	Vinton	WS R	DPI
OH45 62-331	LAKE STEWART	7	Ross	R	DPI
OH65 39-401	LAKE SUE	10	Williams	R	DPI
OH33 81-210	LAKE VESUVIUS	105	Lawrence	R	DPI
OH45 34-302	LAKE WHITE	337	Pike	R	DPI
OH34 13-436	LARUE PARK POND	5	Marion	R	DO
OH12 16-051	LEESVILLE LAKE	1000	Carroll	R FC	DPI
OH56 26-437	LEIGHTY LAKE	12	Shelby	R	DPI
OH74 11-325	LEIPSIC RESERVOIR	27	Putnam	R	UP
OH02 22-379	LIBERTY LAKE	99	Trumbull	WS R	DPI
OH68 17-009	LIMA RESERVOIR	84	Allen	WS R	UP
OH88 18-438	LITTLE PUNDERSON LAKE	24	Geauga	R	DPI
OH41 28-229	LONDON FISH HATCHERY LAKE	7	Madison	C	DO
OH10 33-358	LONG LAKE	180	Summit	WS R	NL
OH68 17-006	LOST CREEK RESERVOIR	121	Allen	WS R	UP
OH90 20-092	LOWER SHAKER LAKE	16	Cuyahoga	R	DPI
OH88 15-150	LaDUE RESERVOIR	1500	Geauga	WS R	DPI
OH86 15-223	LaGRANGE WATER WORKS LAKE	6	Lorain	WS	DO
OH75 18-227	M. OLANDER PARK LAKE	20	Lucas	R	DO
OH41 30-228	MADISON LAKE	106	Madison	R	DPI
OH36 16-265	MAPLE GROVE LAKE (UPPER MT. GILEAD LAKE)	7	Morrow	R	DPI
OH26 02-026	MARGARET CREEK CONS. DIST. LAKE #1	16	Athens	FC	DPI
OH26 02-025	MARGARET CREEK CONS. DIST. LAKE #4	28	Athens	FC	DPI
OH26 05-024	MARGARET CREEK CONS. DIST. LAKE #5	8	Athens	FC	DPI
OH26 02-022	MARGARET CRK CONS.DIST.#2 (LAKE SNOWDEN)	131	Athens	WS R	DPI
OH23 22-274	MAYSVILLE REG. WATER DIST. LAKE	45	Muskingum	WS R	DO
OH89 30-368	MEADOWBROOK LAKE	24	Summit	R	DPI
OH02 23-378	MEANDER CREEK RESERVOIR	2010	Trumbull	WS C	DPI

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Waterbody ID#	Lake	Surface Area (ac)	County	Lake Uses	Lake Type
OH75 18-439	METAMORA RESERVOIR #1	6	Fulton	WS	UP
OH75 18-143	METAMORA RESERVOIR #2	7	Fulton	WS R	DO
OH68 17-003	METZGER RESERVOIR	157	Allen	WS R	UP
OH62 05-165	MIAMI WHITEWATER LAKE	85	Hamilton	R	DPI
OH01 14-309	MICHAEL J. KIRWIN RESV. (WEST BR. RESV.)	2650	Portage	WS R FC	DPI
OH37 09-133	MILLER ANTRIM LAKE	37	Franklin	R	DO
OH10 33-362	MILLER LAKE	28	Summit	R	DPI
OH65 26-440	MILLER PARK LAKE	7	Williams	R	DO
OH38 04-441	MINERVA PARK LAKE	5	Franklin	R	DPI
OH88 04-312	MOGADORE RESERVOIR	900	Portage	WS R	DPI
OH88 05-366	MONROE FALLS LAKE (PARK LAKE)	13	Summit	R	DPI
OH07 10-255	MONROE LAKE	39	Monroe	R C	DPI
OH02 31-381	MOSQUITO CREEK RESERVOIR	7850	Trumbull	WS R FC	DPI
OH49 55-098	MOUNT ORAB RESERVOIR #1	181	Brown		UP
OH49 55-045	MOUNT ORAB RESERVOIR #2	5	Brown	WS	UP
OH36 16-266	MT. GILEAD LAKE (LOWER)	11	Morrow	WS R	DPI
OH10 33-365	MUD LAKE	85	Summit	R	NL
OH15 01-081	MUDPORT BASIN LAKE	9	Coshocton	R	DO
OH20 01-271	MUNROE BASIN LAKE	17	Muskingum	R	DO
OH10 16-242	MUSKINGUM WCD STRUCTURE 7-C	23	Medina	FC	DPI
OH88 08-319	MUZZY LAKE	82	Portage	WS	NL
OH77 05-172	McCOMB RESERVOIR #1	6	Hancock	WS R	UP
OH77 05-173	McCOMB RESERVOIR #2	20	Hancock	WS R	UP
OH02 09-238	McKELVEY LAKE	133	Mahoning	WS R	DPI
OH65 36-402	NETTLE LAKE	94	Williams	R	NL
OH21 36-273	NEW CONCORD RESERVOIR	9	Muskingum	WS R	DPI
OH25 20-283	NEW LEXINGTON RESERVOIR #1	44	Perry	WS R FC	DPI
OH25 20-284	NEW LEXINGTON RESERVOIR #2	27	Perry	WS R	DPI
OH85 12-196	NEW LONDON RESERVOIR	221	Huron	WS R	UP
OH60 38-442	NEWFIELDS DEVELOPMENT LAKE	7	Montgomery	R	DPI
OH02 12-232	NEWPORT LAKE	105	Mahoning	R	DPI
OH10 12-360	NIMISILA RESERVOIR	825	Summit	WS R	DPI
OH77 04-403	NORTH BALTIMORE RESERVOIR	29	Wood	WS R	UP
OH18 27-209	NORTH BRANCH KOKOSING LAKE	154	Knox	R FC	DPI
OH93 05-018	NORTH KINGSVILLE RESERVOIR	7	Ashtabula	R	DPI
OH10 33-356	NORTH RESERVOIR	160	Summit	R	NL
OH84 05-197	NORWALK LOWER RESERVOIR	31	Huron	WS R	DPI
OH84 05-199	NORWALK MEMORIAL RESERVOIR	97	Huron	WS R	DPI
OH84 05-198	NORWALK UPPER RESERVOIR	50	Huron	WS R	DPI
OH75 06-443	NOVA FRANCE RECREATION CTR. LAKE	12	Lucus	R	DO
OH37 25-101	O'SHAUGHNESSY RESERVOIR	920	Delaware	WS R	DPI
OH25 17-124	OAK THORPE RESERVOIR (RCCD STRUC. 6-D)	43	Fairfield	R FC C	DPI

Uses: WS- Water Supply, R - Recreation, FC - Flood Control

Appendix C. List of Ohio's publicly owned lakes, ponds, and reservoirs with > 5 acres of surface area.

Waterbody ID#	Lake	Surface Area (ac)	County	Lake Uses	Lake Type
OH86 14-224	OBERLIN OLD UPGROUND RESERVOIR	10	Lorain	WS	UP
OH86 16-218	OBERLIN RESERVOIR	56	Lorain	WS R	UP
OH24 80-262	OHIO POWER RECREATION LAKES	2000	Morgan	R	DPI
OH58 16-053	OLD REID PARK LAKE	15	Clark	R	DO
OH60 34-259	OPOSSUM CREEK POND #1	5	Montgomery	R	DPI
OH60 34-260	OPOSSUM CREEK RESERVE LAKE	18	Montgomery	R	DPI
OH37 10-135	OSU GOLF COURSE LAKE	8	Franklin	WS R	DPI
OH76 11-279	OTTAWA NATIONAL WILDLIFE REFUGE LAKE	8	Ottawa	C	DO
OH67 06-324	OTTAWA RESERVOIR	20	Putnam	WS	UP
OH72 06-099	OXBOW LAKE	40	Defiance	R	DPI
OH42 01-186	PAINT CREEK LAKE	1190	Highland	WS R FC	DPI
OH71 15-282	PAULDING PONDS	6	Paulding	R	UP
OH71 15-281	PAULDING RESERVOIR	67	Paulding	WS R	UP
OH76 23-445	PEARSON PARK PONDS	10	Lucus	R	DO
OH23 28-291	PERRY RECLAMATION POND (PERRY DAM #3)	8	Perry	R	DPI
OH11 06-350	PETROS LAKE	12	Stark	R	DO
OH14 33-181	PIEDMONT LAKE	2310	Harrison	R FC	DPI
OH45 13-301	PIKE LAKE RESERVOIR	13	Pike	R	DPI
OH33 55-211	PINE CREEK STRUCTURE #8	8	Lawrence	FC	DPI
OH54 23-067	PINE HILL LAKE	5	Warren	R	DPI
OH02 05-237	PINE LAKE	474	Mahoning	R	DPI
OH44 25-329	PINE LAKE	14	Ross	R FC	DPI
OH16 01-011	PLEASANT HILL LAKE	850	Ashland	R FC	DPI
OH47124-341	POND LICK LAKE	5	Scioto	R	DPI
OH88 11-317	PORTAGE CO. COMM. LAKE	5	Portage	C	DO
OH36 35-085	POWERS RESERVOIR	29	Crawford	WS R	UP
OH88 13-153	PUNDERSON LAKE	101	Geauga	R	NL
OH03 14-015	PYMATUNING RESERVOIR	3580	Ashtabula	WS R FC	DPI
OH83 11-334	RACCOON CREEK RESERVOIR	34	Sandusky	WS R	UP
OH01 07-316	RAVENNA ORDINANCE PLANT LAKE	12	Portage	C	DPI
OH25 21-294	RCCD STRUCTURE 3-A	13	Perry	R FC	DPI
OH25 21-293	RCCD STRUCTURE 3-B	13	Perry	R FC C	DPI
OH25 20-288	RCCD STRUCTURE 4-C (TWIN CHURCH LAKE)	49	Perry	R FC	DPI
OH25 20-125	RCCD STRUCTURE 5-A	20	Fairfield	FC	DPI
OH25 21-126	RCCD STRUCTURE 5-B	12	Fairfield	FC	DPI
OH25 21-127	RCCD STRUCTURE 5-C	13	Fairfield	FC	DPI
OH25 15-113	RCCD STRUCTURE 7-C	43	Fairfield	FC	DPI
OH25 15-123	RCCD STRUCTURE 7-D	15	Fairfield	R FC	DPI
OH25 15-128	RCCD STRUCTURE 7-E	9	Fairfield	FC	DPI
OH83 04-109	RESTHAVEN WILDLIFE AREA PONDS	200	Erie	R C	DO
OH10 33-363	REX LAKE	48	Summit	R	DPI
OH35 30-386	RICHWOOD PARK LAKE	16	Union	R	DO

Uses: WS- Water Supply, R - Recreation, FC - Flood Control

Appendix C. List of Ohio's publicly owned lakes, ponds, and reservoirs with > 5 acres of surface area.

Waterbody ID#	Lake	Surface Area (ac)	County	Lake Uses	Lake Type
OH31 51-148	RIO GRANDE RESERVOIR	7	Gallia	WS	DPI
OH91 01-020	ROAMING ROCK LAKE	464	Ashtabula	WS	DPI
OH43 44-185	ROCKY FORK LAKE	2080	Highland	R	DPI
OH47127-340	ROOSEVELT LAKE	16	Scioto	R	DPI
OH41 02-333	ROSS LAKE	140	Ross	R	DPI
OH11 30-447	RUFF POND	6	Columbiana	R	DPI
OH25 16-289	RUSH CREEK LAKE (RCCD STRUCTURE 6-A)	300	Fairfield	R FC	DPI
OH61 14-321	RUSH RUN LAKE	54	Preble	R	DPI
OH47 45-040	RUSSELLVILLE RESERVOIR	11	Brown	WS	DPI
OH04 35-070	SALEM RESERVOIR	97	Columbiana	WS R	DPI
OH21 19-159	SALT FORK RESERVOIR	2952	Guernsey	WS R	DPI
OH21 19-121	SALT FORK WILDLIFE AREA POND #2	10	Guernsey	R	DPI
OH49 60-222	SARDINIA RESERVOIR	6	Brown		DPI
OH34 26-179	SAULIS BERRY PARK LAKE	50	Hardin	R	DO
OH68 17-008	SCHOONOVER LAKE	22	Allen	WS R	DPI
OH38 04-134	SCHROCK LAKE	12	Franklin	R C	DPI
OH60 19-046	SEBALD POND #1	5	Butler	R	DPI
OH60 19-047	SEBALD POND #2	5	Butler	R	DPI
OH21 46-160	SENECAVILLE LAKE	3550	Guernsey	R FC C	DPI
OH21 46-161	SENECAVILLE NATIONAL FISH HATCHERY LAKE	20	Guernsey	C	DO
OH54 26-395	SHADOW LAKE	6	Warren	WS	DPI
OH66 03-338	SHANK LAKE	9	Hancock	R C	DO
OH62 29-167	SHARON WOODS LAKE	38	Hamilton	R	DPI
OH16 28-326	SHELBY RESERVOIR #1	29	Richland	WS R	UP
OH16 21-327	SHELBY RESERVOIR #2	12	Richland	WS R	UP
OH19 35-397	SHREVE LAKE	56	Wayne	R	DPI
OH88 05-448	SILVER CREEK LAKE	47	Summit	R C	DPI
OH10 06-347	SIPPO LAKE	88	Stark	R	NL
OH16 21-449	SITES LAKE	7	Richland	R	DO
OH60 20-050	SMITH PARK LAKE	7	Butler	R	DO
OH91 06-372	SNIDER DITCH LAKE	245	Trumbull	R	DPI
OH58 15-057	SNYDER PARK LAKE	5	Clark	R	DO
OH25 21-295	SOMERSET RESERVOIR	7	Perry	WS	DPI
OH33 10-451	SOUTH WEBSTER RESERVOIR	5	Scioto	WS	DPI
OH06 71-183	SPARROW RESERVOIR	17	Harrison	WS	DPI
OH86 09-241	SPENCER LAKE	51	Medina	R	DPI
OH86 09-247	SPENCER RESERVOIR	8	Medina	WS	DPI
OH50 01-394	SPRING VALLEY LAKE	58	Warren	R	DPI
OH88 02-370	SPRINGFIELD LAKE	200	Summit	R	NL
OH66 22-267	SPRINGVILLE MARSH STATE NAT. AREA LAKE	5	Seneca	C	DO
OH61 11-049	ST. CLAIR RECREATION AREA LAKE	10	Butler	R	DO
OH06 05-033	ST. CLAIRSVILLE RESERVOIR #1	10	Belmont	WS	DPI

Uses: WS- Water Supply, R - Recreation, FC - Flood Control

Appendix C. List of Ohio's publicly owned lakes, ponds, and reservoirs with > 5 acres of surface area.

Waterbody ID#	Lake	Surface Area (ac)	County	Lake Uses	Lake Type
OH06 32-034	ST. CLAIRSVILLE RESERVOIR #2	6	Belmont	WS	DPI
OH25 21-290	ST. JOSEPH'S LAKE (RCCD STRUCTURE 3-E)	60	Perry	WS R FC	DPI
OH53 53-041	ST. MARTIN RESERVOIR	6	Brown	WS	DPI
OH40 02-300	STAGE'S POND	30	Pickaway	C	NL
OH64 25-149	STATE FISH HATCHERY LAKE	52	Auglaize	C	DO
OH91 14-377	STATE OF OHIO LAKE #1	35	Trumbull	C	DPI
OH91 14-374	STATE OF OHIO LAKE #2	5	Trumbull	C	DPI
OH91 14-376	STATE OF OHIO LAKE #3	21	Trumbull	C	DPI
OH66 14-343	STATE OF OHIO LAKE #4	5	Seneca	C	DO
OH53 08-059	STONELICK RESERVOIR	160	Clermont	R	DPI
OH10 33-352	SUMMIT LAKE	100	Summit	R	NL
OH38 30-104	SUNBURY RESERVOIR #1	6	Delaware	WS	UP
OH38 30-108	SUNBURY RESERVOIR #2	18	Delaware	WS	UP
OH75 12-225	SWANTON RESERVOIR	25	Lucas	WS	UP
OH56 19-251	SWIFT RUN LAKE	40	Miami	WS R	DPI
OH14 02-180	TAPPAN LAKE	2350	Harrison	R FC	DPI
OH56 39-346	TAWAWA LAKE	8	Shelby	R	DO
OH38 20-130	THOREAU POND	10	Franklin	R C	DPI
OH89 09-306	TINKERS CREEK STATE PARK LAKE	5	Portage	R	DPI
OH76 04-280	TOUSSAINT CREEK WILDLIFE AREA LAKE	5	Ottawa	R C	NL
OH47115-339	TURKEY CREEK LAKE	51	Scioto	R	DPI
OH10 33-364	TURKEYFOOT LAKE	318	Summit	R	NL
OH20 24-254	TURNING BASIN LAKE	11	Coshocton	R	DO
OH68 17-007	TWIN LAKES RESERVOIR	26	Allen	WS R	UP
OH31 49-147	TYCOON LAKE	204	Gallia	R	DPI
OH80 09-405	UPPER SANDUSKY RESERVOIR	36	Wyandot	WS R	DPI
OH90 19-093	UPPER SHAKER LAKE	11	Cuyahoga	R	DPI
OH63 19-080	UPPER WABASH STRUCTURE #2	6	Mercer	FC	DPI
OH63 19-012	UPPER WABASH STRUCTURE #3	77	Mercer	FC	DPI
OH88 11-245	USA DEPARTMENT OF LABOR LAKE	7	Medina	C	DPI
OH77 04-169	VAN BUREN LAKE	53	Hancock	R	DPI
OH69 15-387	VAN WERT RESERVOIR #1	60	Van Wert	WS R	UP
OH69 15-388	VAN WERT RESERVOIR #2	60	Van Wert	WS R	UP
OH27 63-396	VETO LAKE	160	Washington	R	DPI
OH14 44-031	VILLAGE OF BARNESVILLE LAKE	7	Belmont	R	DPI
OH70 02-323	VILLAGE OF CONTINENTAL LAKE	5	Putnam	R	UP
OH56 10-249	VILLAGE OF TIPP CITY LAKE #1	7	Miami	R	DPI
OH56 10-250	VILLAGE OF TIPP CITY LAKE #2	14	Miami	R	DO
OH89 21-353	VIRGINIA KENDALL PARK LAKE	14	Summit	R	DPI
OH63 19-097	WABASH CONS. DIST. RESERVOIR #1	57	Darke	R FC	DPI
OH87 04-089	WALLACE LAKE	15	Cuyahoga	WS R	DPI
OH42 35-129	WASHINGTON COURTHOUSE RESERVOIR	37	Fayette	WS R	UP

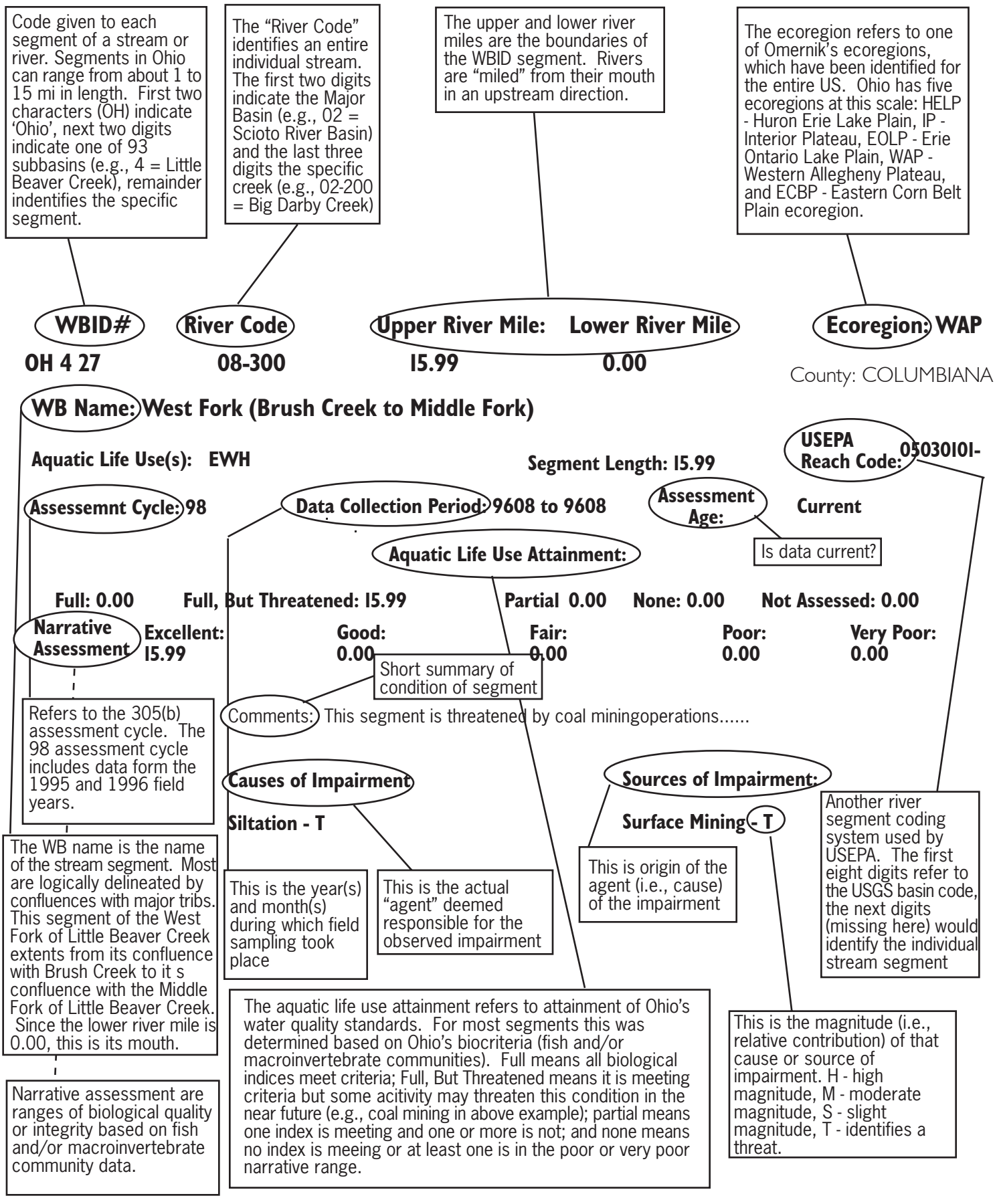
Uses: WS- Water Supply, R - Recreation, FC - Flood Control

Appendix C. List of Ohio's publicly owned lakes, ponds, and reservoirs with > 5 acres of surface area.

Waterbody ID#	Lake	Surface Area (ac)	County	Lake Uses	Lake Type
OH73 11-137	WAUSEON RESERVOIR #1	17	Fulton	WS R	UP
OH73 16-136	WAUSEON RESERVOIR #2	49	Fulton	WS R	UP
OH55 27-287	WAYNESFIELD RESERVOIR	5	Auglaize	WS	UP
OH47 18-043	WAYNOKA RETENTION DAM	11	Brown	WS	DPI
OH49 69-044	WAYNOKA UPGROUND RESERVOIR	11	Brown	WS	UP
OH86 18-219	WELLINGTON RESERVOIR	21	Lorain	WS R	DPI
OH86 18-220	WELLINGTON UPGROUND RESERVOIR	160	Lorain	WS	UP
OH05 84-073	WELLSVILLE RESERVOIR	25	Columbiana	WS R	DPI
OH10 33-361	WEST RESERVOIR	104	Summit	R	NL
OH38 04-105	WESTERVILLE RESERVOIR	53	Delaware	WS	DPI
OH01 30-071	WESTVILLE LAKE	90	Columbiana	WS R	DPI
OH35 12-106	WHITE SULPHUR LAKE	39	Delaware	WS R	DO
OH84 18-195	WILLARD CITY RESERVOIR	200	Huron	WS R	UP
OH84 19-200	WILLARD MARSH AREA LAKE	6	Huron	R C	DPI
OH21 01-079	WILLS CREEK RESERVOIR	900	Coshocton	R FC	DPI
OH64 02-389	WILLSHIRE QUARRY LAKE	7	Van Wert	WS	DO
OH52 13-069	WILMINGTON RESERVOIR #1	16	Clinton	WS	UP
OH52 11-068	WILMINGTON RESERVOIR #2	54	Clinton	WS	UP
OH48 30-002	WINCHESTER LAKE	10	Adams	WS R	DPI
OH62 26-166	WINTON WOODS LAKE (W.FK. MILL CK. LAKE)	183	Hamilton	R FC	DPI
OH09 35-277	WOLF RUN RESERVOIR	209	Noble	WS R FC	DPI
OH89 02-091	WOODLAND HILLS PARK LAKE	5	Cuyahoga	R	UP
OH07 05-256	WOODSFIELD RESERVOIR	7	Monroe	WS R	DPI
OH41 01-332	YOUCTANGEE PARK LAKE	6	Ross	R	DO
OH23 50-276	ZANESVILLE STATE NURSERY LAKE	10	Muskingum	C	DPI
OH11 30-077	ZEPPERNICK LAKE	41	Columbiana	R	DPI

Uses: WS- Water Supply, R - Recreation, FC - Flood Control

Key to Appendix D



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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 1 1	18-001	55.47	45.57	05030103-	Erie-Ontario Lake Plain

WB Name: ***MAHONING RIVER (WEST BRANCH TO DUCK CREEK)*** | County: **TRUMBULL CO**

Aquatic Life Use(s): **WWH** | Segment Length: **9.90**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 9.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Of the three sites sampled in this section only one site (river mile 54.7) had attainment of a biological index (nonsignificant departure of invertebrate community index). Two other sites, RM 47.5 and RM 45.5, were located in impounded areas. The main cause of non-attainment was due to the impoundment (pool habitat). Another cause was one high fecal coliform value recorded at RM 47.35, attributed to agricultural sources. Upstream combined sewer overflows (Newton Falls area) and overloaded. The Newton Falls WWTP is likely contributing to the non-attainment status.

Causes of Impairment:
- *Other habitat alterations - H*
- *Organic enrichment/DO - H*
- *Pathogens - M*

Sources of Impairment:
- *Flow reg./mod. - Development - H*
- *Dam construction - Development - H*
- *Channelization - Development - M*
- *Nonirrigated crop production - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 1 3	18-040	10.90	0.00	05030103-008	Erie-Ontario Lake Plain

WB Name: ***EAGLE CREEK (SOUTH FORK EAGLE CR. TO MAHONING R.)*** | County: **TRUMBULL CO**

Aquatic Life Use(s): **WWH** | Segment Length: **10.90**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.30	Full, But Threatened: 0.00	Partial: 0.00	None 3.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The cause of non-attainment is poor performance of the fish community at RM 0.8, due to low Qualitative Habitat Evaluation Index (QHEI) score (51.5), and impounded conditions. Macroinvertebrates were sampled at RM 6.6 and represented a very good community.

Causes of Impairment:
- *Other habitat alterations - H*

Sources of Impairment:
- *Flow reg./mod. - Development - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 1 10	18-046	7.20	0.00	05030103-	Erie-Ontario Lake Plain

WB Name: ***SILVER CREEK*** | County: **PORTAGE CO**

Aquatic Life Use(s): **CWH** | Segment Length: **7.20**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.20	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This segment attained both fish and bug Warmwater Habitat criteria.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 1 14	**18-050**	**13.20**	**0.00**	**05030103-010**	**Erie-Ontario Lake Plain**

WB Name: ***WEST BRANCH MAHONING RIVER*** County:

Aquatic Life Use(s): **WWH** Segment Length: **13.20**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.50	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Partial attainment status was due to only fair performance of the fish and macroinvertebrate biological index scores. This may be due to the fair to poor habitat scores.

Causes of Impairment:

Other habitat alterations - H

Sources of Impairment:

Channelization - Development - H
Flow reg./mod. - Development - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 1 20	**18-001**	**63.57**	**55.47**	**05030103-011**	**Erie-Ontario Lake Plain**

WB Name: ***MAHONING RIVER (MILTON DAM TO WEST BRANCH)*** County: **TRUMBULL CO**

Aquatic Life Use(s): **WWH** Segment Length: **8.10**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199412** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 3.80	None 4.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Impacts in this segment are the result of a combination of factors. They include 1) upstream reservoir releases (flow control and high total suspended solids (TSS) (visual observation-very muddy), 2) Milton WWTP also had high TSS, 3) impoundment around Newton Falls, 4) combined sewer overflow (CSO) discharges in Newton Falls, 5) Newton Falls WWTP - hydraulic overload, and 6) unsewered areas. The largest cause in this region appears to be habitat alteration. Qualitative Habitat Evaluation Index (QHEI) score drops from 75.0 at river mile 63.6 to 48.5 at RM 57.8. Much of this segment is impounded) by the Newton Falls dam. Chemical samples did not focus on Newton Falls CSOs and SSOs, which are a problem.

Causes of Impairment:

Other habitat alterations - H
Suspended solids - H
Flow alteration - H
Organic enrichment/DO - H
Turbidity - H

Sources of Impairment:

Flow reg./mod. - Development - H
Dam construction - Development - H
Dam construction - Development - H
Minor Municipal Point Source - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 1 30	18-001	110.03	82.03	05030103-011	Erie-Ontario Lake Plain

WB Name: ***MAHONING RIVER (HEADWATERS TO BEECH CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **28.00**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 17.30	Full, But Threatened: 0.00	Partial: 0.00	None 9.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Higher levels of nitrate-nitrite were recorded in the Mahoning River downstream from Fish Creek (Sebring WWTP). Sediments were contaminated at river mile 85.0, downstream from Beloit and Sebring WWTP, and Babcock Run (Alliance Tubular). There was poor performance of biological communities in the Alliance area. Ryans Run was observed with orange precipitate at the mouth.

Highly elevated levels of Chromium, Lead, Zinc, PCBs and PAHs were detected in the sediments at river mile 85.0. Alliance area industries via Ryans Run and Sebring/Beloit WWTP are possible sources.

Causes of Impairment:

Metals - H
Cause Unknown - H
Priority organics - M
Siltation - M
Nutrients - S
Pathogens - S

Sources of Impairment:

Minor Industrial Point Source - H
Minor Municipal Point Source - H
Spills - H
Contaminated sediments - H
Source Unknown - H
Pasture land - M
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 2 1	18-001	15.39	11.43	05030103-001	Erie-Ontario Lake Plain

WB Name: ***MAHONING RIVER (PA. TO YELLOW CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **3.96**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.96

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Cummulative pollutant loads from upstream appear to be the major cause if non-attainment within this segment. Poor sediment quality remains from past coking operations, and may be another major cause of impairment in this segment. Overall, the river flows through a more rural landscape. However, downstream from the Struthers WWTP, the site at river mile 13.2 had the highest Zinc sediment concentration in the survey. Prior to discharge to the Mahoning River, the Struthers WWTP effluent is mixed with storm water which may contain landfill leachate. Also, the Lowellville WWTP treats BFI carbon landfill leachate 2 to 3 times per month. Although Amonia has decreased and dissolved oxygen has increased, Lead and fecals remain elevated at the state line. Highly elevated levels of PCBs, pesticides and PAHs were recorded in sediments. Also, PCBs and PAHs were found in fish tissues and organs. The source is from past coking operations.

Additional sources used in assessment:

1. U.S. EPA - 1986 PAH Sediment Study of Mahoning River
2. Fish Tissue and Sediment Organic Chemical Evaluation of the Lower Mahoning River (John Estenik, June 1988)

Causes of Impairment:

Metals - H
Pathogens - H
Nutrients - H
Organic enrichment/DO - H
Priority organics - M
Pesticides - M
Chlorine - S
Suspended solids - S

Sources of Impairment:

Major Municipal Point Source - H
Contaminated sediments - H
Flow reg./mod. - Development - M
Minor Municipal Point Source - S
Landfills - S

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 2 5	18-007	11.10	0.00	05030103-032	Erie-Ontario Lake Plain

WB Name: ***YELLOW CREEK*** County: **MAHONING CO**

Aquatic Life Use(s): **WWH** Segment Length: **11.10**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Macroinvertebrate communities indicated good water quality. The non-attainment status was due to the poor performance of the fish community. No high percentage of DELTS were found. This stream may still be recovering from past degradation (Struthers possibly used to discharge close to mouth). The fish community has not recovered as well as the invertebrates, possibly due to CSOs and SSOs.

Causes of Impairment:

Cause Unknown - H

Sources of Impairment:

Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 2 7	18-001	21.67	15.39	05030103-001	Erie-Ontario Lake Plain

WB Name: ***MAHONING RIVER (YELLOW CREEK TO MILL CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **6.28**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 6.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Upstream from the Youngstown WWTP the city's CSO and SSO discharges appeared to be the major source of new pollutants to the river. The river is, however ,severely impacted as it flows into this segment. High fecals were recorded, as well as lead spikes. The highest DELT (26%) were recorded downstream from the Youngstown WWTP. Sediment quality is very poor between river mile 16.3 and 15.9. This was the location of the old Youngstown Sheet and Tube Campbell Coke Plant. At river mile 15.9 there is a dam. Oil spills have been reported in this segment from minor industries. One spill in 1994 entered the Campbell sewer system. The Youngstown WWTP effluent icomprises as high as 25% of the river flow. Highly elevated levels of PCBs, pesticides and PAHs were recorded in sediments. Also, PCBs and PAHs were found in fish tissues and organs. The source is from past coking operations.

Additional sources used in assessment:

1. U.S. EPA - 1986 PAH Sediment Study of Mahoning River
2. Fish Tissue and Sediment Organic Chemical Evaluation of the Lower Mahoning River (John Estenik, June 1988)

Causes of Impairment:

Priority organics - H
Metals - H
Organic enrichment/DO - H
Pathogens - H
Other habitat alterations - M
Oil and grease - M
Nutrients - M

Sources of Impairment:

Combined Sewer Overflow - H
Non-industrial Permitted - H
Spills - H
Dam construction - Development - H
Major Municipal Point Source - M
Flow reg./mod. - Development - M
Contaminated sediments - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 2 9	18-010	7.10	0.00	05030103-023	Erie-Ontario Lake Plain

WB Name: ***DRY RUN*** County: **MAHONING CO**

Aquatic Life Use(s): **WWH** Segment Length: **7.10**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Macroinvertebrates indicated good water quality. The partial attainment status was due to the fair performance of the Index of Biotic Integrity (IBI). This segment may be recovering from past (old industry) degradation, and the fish community hasn't caught up as fast as the macroinvertebrates.

Causes of Impairment:

Cause Unknown - H

Sources of Impairment:

Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 2 12	18-020	20.90	0.00	05030103-	Erie-Ontario Lake Plain

WB Name: ***MILL CREEK*** County: **MAHONING CO**

Aquatic Life Use(s): **WWH** Segment Length: **20.90**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 11.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Upstream from the Boardman WWTP (river miles 11.3 - 9.5) appears to be impacted by agricultural sources. In the vicinity of river mile 11.3 the stream is impacted by channelization, and dewatering at Rounstown sod farm. The Boardman WWTP severly degrades Mill Creek with high levels of ammonia and solids deposition, creating low levels of instream oxygen for at least 2 miles. No difference was observed in this 2 mile section of mainstem downstream from the WWTP from the previous survey done in 1982. The lower 5 miles appears to be impacted by CSOs, SSOs, and unwewered areas. The entity generated bioassays.

Causes of Impairment:

Nutrients - H
Unionized Ammonia - H
Organic enrichment/DO - H
Siltation - H
Flow alteration - M
Other habitat alterations - M
Metals - S
Nutrients - S

Sources of Impairment:

Major Municipal Point Source - H
Non-industrial Permitted - H
Nonirrigated crop production - H
Channelization - Agriculture - H
Dam construction - Agriculture - H
Combined Sewer Overflow - H
Flow regulation/modification - Ag - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 2 13	18-021	4.10	0.00	05030103-	Erie-Ontario Lake Plain	MAHONING CO

WB Name: ***BEARS DEN RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.10**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Water quality appears to be unchanged since 1982.

Causes of Impairment:

Metals - H
Nutrients - M

Sources of Impairment:

Natural - H
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 2 14	18-022	4.00	0.00	05030103-	Erie-Ontario Lake Plain	MAHONING CO

WB Name: ***AX FACTORY RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.00**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Water quality appears to be unchanged since 1982.

Causes of Impairment:

Metals - H
Nutrients - M

Sources of Impairment:

Non-industrial Permitted - H
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 2 15	18-023	4.50	0.00	05030103-	Erie-Ontario Lake Plain	MAHONING CO

WB Name: ***ANDERSONS RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.50**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Water quality appears to be unchanged since 1982.

Causes of Impairment:

Organic enrichment/DO - H
Metals - H

Sources of Impairment:

Non-industrial Permitted - H
Source Unknown - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 2 17	**18-025**	**4.80**	**0.00**	**05030103-**	**Erie-Ontario Lake Plain**

WB Name: ***INDIAN RUN*** County: **MAHONING CO**

Aquatic Life Use(s): **WWH** Segment Length: **4.80**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Macroinvertebrate sampling done at river mile 1.8 in 1982 showed "good" communities. In 1992, scores at river mile 0.3 were only marginally good. This may be due to a difference in habitat at river mile 0.3. Non-attainment of WWH criteria both years was due to poor performance of the fish community.

Causes of Impairment:

Organic enrichment/DO - H
Metals - H

Sources of Impairment:

Other Urban Runoff - H
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 2 20	**18-001**	**30.27**	**21.67**	**05030103-001**	**Erie-Ontario Lake Plain**

WB Name: ***MAHONING RIVER (MILL CREEK TO MEANDER CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **8.60**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 8.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The entirety of the segment was plagued by continued poor sediment quality with highly elevated levels of metals, PCBs and PAHs. The most drastic water quality change in this segment is significant increase in water temperature (@ 5 degrees Celsius) from the Ohio Edison cooling water discharge. The largest impact on the biota appears to be from the biomarker data which shows the highest ERUB and BUN and second highest NAPH-type below Ohio Edison at river mile 29.0. Higher levels of nitrate-nitrite were recorded downstream from The Niles and Girard WWTPs. Highly elevated levels of PCBs, pesticides and PAHs were recorded in sediments. Also, PCBs and PAHs were found in fish tissues and organs. The source is from past coking operations.

Additional sources used in assessment:

1. U.S. EPA - 1986 PAH Sediment Study of Mahoning River
2. Fish Tissue and Sediment Organic Chemical Evaluation of the Lower Mahoning River (John Estenik, June 1988)

Causes of Impairment:

Priority organics - H
Metals - H
Thermal modifications - H
Organic enrichment/DO - H
Nutrients - S
Pesticides - S

Sources of Impairment:

Major Industrial Point Source - H
Spills - H
Combined Sewer Overflow - H
Major Municipal Point Source - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 2 23	18-015	20.40	0.00	05030103-012	Erie-Ontario Lake Plain	

WB Name: ***MEANDER CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **20.40**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: A definite water quality problem exists with the Meander Creek WWTP effluent that degrades Meander Creek with high levels of nitrate-nitrite and phosphorus. Dense growths of algae, along with low levels of dissolved oxygen were observed in the lower 1.8 miles. High ammonia-nitrogen may also be a cause of the toxic impact to the fish and macroinvertebrate communities. Black sludge deposits were also observed downstream from the WWTP. The entity generated bioassays.

Causes of Impairment:

Metals - H
Unionized Ammonia - H
Nutrients - H
Organic enrichment/DO - H
Other habitat alterations - H
Suspended solids - H
Flow alteration - M

Sources of Impairment:

Major Municipal Point Source - H
Dam construction - Development - H
Upstream Impoundment - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 2 27	18-030	12.49	0.00	05030103-002	Erie-Ontario Lake Plain	TRUMBULL CO

WB Name: ***MOSQUITO CREEK (MOSQUITO CR. RES. TO MAHONING R.)***

Aquatic Life Use(s): **WWH** Segment Length: **12.49**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 12.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Macroinvertebrates communities at the mouth improved from Invertebrate Community Index (ICI) score of 6 (1982) to 30 (1994). However, the fish community has remained relatively unchanged at mouth, scoring in the poor range.

Causes of Impairment:

Suspended solids - H

Sources of Impairment:

Minor Industrial Point Source - H
Major Municipal Point Source - H
Upstream Impoundment - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 2 35	18-001	45.57	30.27	05030103-	Erie-Ontario Lake Plain

WB Name: ***MAHONING RIVER (MEANDER CREEK TO DUCK CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **15.30**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.30	Full, But Threatened: 0.00	Partial: 5.80	None 9.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: From river mile 45.6 to 37.15 there was some partial attainment. Non-attainment was due to 1) contaminated sediments (metals and PCBs) from CSC, Thomas Strip Steel, and a possible DERR source, 2) CSOs and SSOs in Warren (high fecal coliforms), 3) Thomas Strip Steel has a toxic plume that hugs the bank of the Mahoning River as it comes out of the Dickey Run storm sewer. From river mle 37.15 to the end of the segment the macroinvertebrates are virtually gone. Mayflies and caddisflies are eliminated. This segment has sediments contaminated with PCBs, PAHs and metals, as did some areas from RM 45.6 to 37.15. Therefore, some other sources from the WCI-LTV area appear to degrade water quality severely in addition to the sediments. Some of the WCI outfalls along with slag piles and leachates on LIV-WCI property may be causing "dead" zones. The Warren WWTP appears to be over-chlorinating. There is very serious nonpoint runoff from WCI slag piles upstream from the Warren WWTP. Stream bank sediments contain metal flakes. Leachate from a slag area is prominant.

Additional sources for assessment:

1. Napthalene has been detected in CSC, Thomas Strip, WCI and LTV effluents.
2. PCB DERR site in Warren, along with high sediment concentration nearby.
3. Extremely high PAH concentrations in sediments in LTV 014 outfall ditch (1986).
4. USEPA - 1986 PAH sediment Study of Mahoning River.
5. Fish Tissue and Sediment Organic Chemical Evaluation of the Lower Mahoning River (John Estenik, June 1988)

Causes of Impairment:	Sources of Impairment:
Priority organics - H	*Major Industrial Point Source - H*
Metals - H	*Minor Industrial Point Source - H*
Chlorine - H	*Hazardous waste - H*
Oil and grease - H	*Source Unknown - H*
Cause Unknown - H	*Other Urban Runoff - M*
Nutrients - M	*Spills - M*
Pathogens - M	*Contaminated sediments - M*
Unionized Ammonia - S	*Major Municipal Point Source - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 3 1	18-504	13.20	0.00	05030102-	Erie-Ontario Lake Plain

WB Name: ***LITTLE YANKEE RUN*** County: **TRUMBULL CO**

Aquatic Life Use(s): **WWH** Segment Length: **13.20**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.00	Partial: 1.60	None 7.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Non attainment in upstream portion of the segment was due to poor performance of the fish community, and may be related to urban runoff from Hubbard. Nitrate and nitrite drastically increased in Little Yankee Creek downstream from Hubbard. Both fish and macroinvertebrates did not attain WWH criteria downstream from Hubbard. However, the Invertebrate Community Index (ICI) attained at river mile 3.8, indicating some recovery from WWTP effects. None of the indices attained WWH criteria near the mouth, probably from impounded habitat-related conditions.

Causes of Impairment:	Sources of Impairment:
Nutrients - H	*Major Municipal Point Source - H*
Flow alteration - M	*Other Urban Runoff - H*
Metals - S	*Other Urban Runoff - M*
Chlorine - S	*Dam construction - Development - M*
	Natural - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 3 2	18-505	6.90	0.00	05030102-	Erie-Ontario Lake Plain

WB Name: ***LITTLE DEER CREEK*** | County: **TRUMBULL CO**

Aquatic Life Use(s): **WWH** | Segment Length: **6.90**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.50	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The Index of Biotic Integrity (IBI) decreased slightly from 37 in1984 to 35 in 1994. This changed the attainment status from full to non, although, the most it would have been in 1994 was partial because the Invertebrate Community Index (ICI) was only 20. The ICI was low, but there was no detectable current over the artificial substrate samplers. Instream substrates were mostly sand, which may have affected the qualitative macroinvertebrate sample.

Causes of Impairment:

Other habitat alterations - H
Organic enrichment/DO - S
Flow alteration - S

Sources of Impairment:

Source Unknown - H
Natural - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 3 3	18-506	14.80	0.00	05030102-007	Erie-Ontario Lake Plain

WB Name: ***YANKEE RUN*** | County: **TRUMBULL CO**

Aquatic Life Use(s): **WWH** | Segment Length: **14.80**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.80	Full, But Threatened: 0.00	Partial: 3.50	None 7.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The upper Yankee Creek non-support, full support, and partial support uses were calculated by midpoint. PAHs were detected in sediments at river mile 11.3. The source was unknown. The entity generated bioassays. The non-attainment of the upper segment was due to the poor quality of the fish community. This may have been due to the marginal to submarginal quality of the physical habitat. The non-attainment status downstream from the Hubbard WWTP was due to the extremely poor macroinvertebrate community. Bioassays conducted on the Brookfield WWTP show that it's discharge has potential to result in acute and chronic effects on the stream. Three of the fourteen bioassays showed TUa and TUc, that would exceed AETs. Much higher levels of nitrate and nitrite were present downstream from the Brookfield WWTP in Yankee Creek.

Causes of Impairment:

Nutrients - H
Flow alteration - H
Other habitat alterations - H
Cause Unknown - M
Organic enrichment/DO - S
Chlorine - S
Metals - S
Salinity/TDS/chlorides - S

Sources of Impairment:

Major Municipal Point Source - H
Habitat Modifications o/than Hydromod. - H
Natural - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 3 6	18-550	19.79	0.00	05030102-006	Erie-Ontario Lake Plain

WB Name: ***PYMATUNING CREEK (SHENANGO RESERVOIR TO PA.)***

Aquatic Life Use(s): **WWH** Segment Length: **19.79** County: **TRUMBULL CO**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 19.79

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Non attainment within this segment was due to all biological indices failing to meet Warmwater Habitat criterion, mostly due to the wetland characteristics of Pymatuming Creek. Seeps in Kinsman had very high fecals, and may have increased the percentage of DELTS (deformaties, eroded fins, lesions and tumors) in fish in this area. Much (mostly all) of the stream is a swamp, or flows through swamp, is channelized, or becomes impounded as it nears Shenango Reservoir. Slightly elevated levels of mercury and PCBs were reported in fish tissue samples.

Causes of Impairment:

Organic enrichment/DO - H
Flow alteration - H
Other habitat alterations - H
Pathogens - H

Sources of Impairment:

Other Urban Runoff - H
Channelization - Agriculture - H
Natural - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 3 10	18-550	34.33	19.80	05030102-006	Erie-Ontario Lake Plain

WB Name: ***PYMATUNING CREEK (HEADWATERS TO SHENANGO RES.)***

Aquatic Life Use(s): **WWH** Segment Length: **14.54** County:

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 6.74	None 7.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Invertebrate Community Index (ICI) attained Warmwater Habitat criterion at the sites in this segment. Non and partial attainment were due to fair and poor performance of the fish communtiy. The site at river mile 22.7 had livestock access to stream with trampled banks and little to no riparian cover.
Slightly elevated levels of mercury were reported in fish tissue samples.

Causes of Impairment:

Other habitat alterations - H

Sources of Impairment:

Natural - H
Pasture land - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 3 11	**18-556**	**8.10**	**0.00**	**05030102-**	**Erie-Ontario Lake Plain**

WB Name: ***SUGAR CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **8.10**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**1.00**	**0.00**	**0.00**	**0.00**

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:							

Comments: Although full attainment was recorded, the biological indices were within nonsignificant departure. Chemical results showed slightly higher values of total kjeldahl nitrogen (TKN) and ammonia (on one sampling date) in samples at Sugar Creek at the mouth compared to the headwater sites in Pymatuming Creek. This suggests possible agricultural nonpoint source impacts upstream.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 4 14	**08-001**	**15.82**	**7.80**	**05030101-015**	**Western Allegheny Plateau**

WB Name: ***LITTLE BEAVER CREEK (MIDDLE FORK TO NORTH FORK)*** County: **COLUMBIANA CO**

Aquatic Life Use(s): **EWH** Segment Length: **8.02**

Assessment Cycle: **2000** Field Data Collected From: **199709 to 199709** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**8.00**	**0.00**	**0.00**	**0.00**

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:	**8.00**						

Comments: Little Beaver Creek is a high quality stream, and was meeting EWH criteria based on fish sampling done in 1997.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 4 17	**08-200**	**8.57**	**0.00**	**05030101-**	**Western Allegheny Plateau**

WB Name: ***MIDDLE FORK (MIDDLE RUN TO WEST FORK)*** County: **COLUMBIANA CO**

Aquatic Life Use(s): **EWH** Segment Length: **8.57**

Assessment Cycle: **2000** Field Data Collected From: **199709 to 199709** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**0.00**	**0.00**	**4.00**	**4.50**

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:			**8.50**				

Comments: The lower portion of the Middle Fork of Little Beaver Creek was suffering from the effects of bank destabilization, grazing from pasture land, as well as from development within the basin. The stream failed to attain the EWH use designation criteria.

Causes of Impairment:

Siltation - H

Sources of Impairment:

Pasture land - H
Land development/Suburbanization - M
Streambank destabilization - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 4 22	08-200	21.49	8.57	05030101-	Erie-Ontario Lake Plain

WB Name: ***MIDDLE FORK (EAST BRANCH TO MIDDLE RUN)*** | County: **COLUMBIANA CO**

Aquatic Life Use(s): **WWH,EWH** | Segment Length: **12.92**

Assessment Cycle: **2000** | Field Data Collected From: **199808 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	3.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.00				

Comments: A quarry operation in this segment caused significant impact on the fish community and the habitat.

Causes of Impairment:

Siltation - H
Unknown toxicity - M

Sources of Impairment:

Surface Mining - H
Land development/Suburbanization - M
Streambank destabilization - Ag - M
Combined Sewer Overflow - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 4 24.1	08-208	3.67	0.00	05030101--	Erie-Ontario Lake Plain

WB Name: ***BUTTERMILK CREEK*** | County:

Aquatic Life Use(s): **NONE** | Segment Length: **3.67**

Assessment Cycle: **1994** | Field Data Collected From: **199107 to 199107** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.80	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: No significant point sources are located in this segment. Sampling was recently done to determine the appropriate use designation prior to receiving discharge from a potential new point source (Nease Chemical).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 4 27	08-300	15.99	0.00	05030101-	Western Allegheny Plateau

WB Name: ***WEST FORK (BRUSH CREEK TO MIDDLE FORK)*** | County: **COLUMBIANA CO**

Aquatic Life Use(s): **EWH** | Segment Length: **15.99**

Assessment Cycle: **2000** | Field Data Collected From: **199708 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	15.90	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	15.90						

Comments: The West Fork of Little Beaver is a high quality stream. Based on fish sampling done in 1997, the stream is meeting EWH criteria within this segment.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 5 3	06-210	12.70	0.00	05030101-	Western Allegheny Plateau

WB Name: ***MCINTYRE CREEK*** County: **JEFFERSON CO**

Aquatic Life Use(s): **WWH** Segment Length: **12.70**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.00				

Comments: One regional reference site was sampled near the the mouth in 1996. Fish and macroinvertebrate communities have remained stable since 1983.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 5 9	06-200	17.44	5.55	05030101-	Western Allegheny Plateau

WB Name: ***CROSS CREEK (SALEM CREEK TO MCINTYRE CREEK)*** County: **JEFFERSON CO**

Aquatic Life Use(s): **WWH** Segment Length: **11.89**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: One site was sampled on this stream by Ohio Northern University in 1997. Based on the IBI results, the stream appears to be marginally attaining WWH criteria. Results may be on the low end due to the fish collection being done with a seine.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 5 11	06-202	3.60	0.00	05030101-	Western Allegheny Plateau

WB Name: ***CEDAR LICK RUN*** County: **JEFFERSON CO**

Aquatic Life Use(s): **CWH** Segment Length: **3.60**

Assessment Cycle: **1994** Field Data Collected From: **199106 to 199106** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.60	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: It is recommended that the Coldwater Habitat use designation be retained.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 5 12	06-203	5.60	0.00	05030101-	Western Allegheny Plateau

WB Name: ***CEDAR LICK CREEK*** | County: **JEFFERSON CO**

Aquatic Life Use(s): **WWH** | Segment Length: **5.60**

Assessment Cycle: **1998** | Field Data Collected From: **199608 to 199608** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.60	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.60						

Comments: One regional reference site near the mouth was sampled in 1996. This is a high quality stream. Biological scores have remained stable since 1983, well into the Exceptional Warmwater Habitat range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 5 40	06-902	6.40	0.00	05030101-027	Western Allegheny Plateau

WB Name: ***HOLLOW ROCK RUN*** | County: **JEFFERSON CO**

Aquatic Life Use(s): **WWH** | Segment Length: **6.40**

Assessment Cycle: **2000** | Field Data Collected From: **199709 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				4.00	2.40		

Comments:

Causes of Impairment:

Nutrients - H
Noxious aquatic plants - H

Sources of Impairment:

Industrial land treatment - H
Landfills - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 5 48	06-915	5.30	0.00	05030101-	Western Allegheny Plateau

WB Name: ***NANCY RUN*** | County: **COLUMBIANA CO**

Aquatic Life Use(s): **CWH** | Segment Length: **5.30**

Assessment Cycle: **1994** | Field Data Collected From: **199106 to 199109** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.30	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Water chemistry values for metals (including Iron, nutrients, and Chloride) were measured as very low. Sulfate values were moderate.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 5 60	06-900	25.85	8.75	05030101-019	Western Allegheny Plateau

WB Name: ***YELLOW CREEK (ELKHORN CREEK TO TOWN FORK)*** | County: **JEFFERSON CO**

Aquatic Life Use(s): **WWH** | Segment Length: **17.10**

Assessment Cycle: **2000** | Field Data Collected From: **199708 to 199708** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.00						

Comments: One site was sampled on this stream by Ohio Northern University in 1997. Based on the IBI results, the stream appears to be attaining WWH criteria. The IBI score of 52 indicates an excellent fish community.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 5 71	06-931	8.90	0.00	05030101-	Western Allegheny Plateau

WB Name: ***ELKHORN CREEK*** | County:

Aquatic Life Use(s): **EWH** | Segment Length: **8.90**

Assessment Cycle: **1998** | Field Data Collected From: **199608 to 199608** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.90	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	8.90						

Comments: One regional reference site sampled in 1996 showed a noticeable improvement in the fish community compared to sampling done in 1983. The fish results improved from Warmwater Habitat range (IBI=39) to the Exceptional Warmwater Habitat range (IBI=50). The macroinvertebrates were rated good based on qualitative sampling results.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 5 72	06-932	4.80	0.00	05030101-037	Western Allegheny Plateau

WB Name: ***STRAWCAMP RUN*** | County: **CARROLL CO**

Aquatic Life Use(s): **EWH** | Segment Length: **4.80**

Assessment Cycle: **1998** | Field Data Collected From: **199608 to 199608** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	4.80						

Comments: This is a high quality stream. The biological community has remained stable within the Exceptional Warmwater Habitat range since 1983.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 5 73	06-933	5.00	0.00	05030101-023	Western Allegheny Plateau	CARROLL CO

WB Name: ***CENTER FORK***

Aquatic Life Use(s): **CWH** Segment Length: **5.00**

Assessment Cycle: **1994** Field Data Collected From: **199106 to 199109** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The biological communities scored in the EWH range. Water chemistry was very good except for high conductivity and zinc.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 5 76	06-900	34.05	25.85	05030101-019	Western Allegheny Plateau	

WB Name: ***YELLOW CREEK (HEADWATERS TO ELKHORN CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **8.20**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.15	Full, But Threatened: 0.00	Partial: 0.95	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.10				

Comments: A slight impact was noted downstream from the confluence of Goose Creek. Faulty septic systems were the major source of nutrient enrichment.

Causes of Impairment:

Nutrients - H
Nutrients - H

Sources of Impairment:

Onsite wastewater systems (septic tanks) - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 5 79	06-938	3.80	0.00	05030101-	Western Allegheny Plateau	JEFFERSON CO

WB Name: ***GOOSE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **3.80**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.80	Full, But Threatened: 1.10	Partial: 0.90	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.80		1.10		0.90		

Comments: Fish sampling was done at 3 sites in this segment, and ranged from fair to excellent. Habitat was good throughout the reach. This segment was in attainment of Warmwater Habitat criteria except for one site at the mouth in the town of Amsterdam.

Causes of Impairment:

Nutrients - H
Metals - S
Nutrients - T

Sources of Impairment:

Onsite wastewater systems (septic tanks) - H
Mine tailings - S
Onsite wastewater systems (septic tanks) - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 5 84	06-079	11.30	0.00	05030101-031	Western Allegheny Plateau	COLUMBIANA CO

WB Name: ***LITTLE YELLOW CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **11.30**

Assessment Cycle: **2000** Field Data Collected From: **199709 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	11.30	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				11.30			

Comments:

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Combined Sewer Overflow - H
Minor Municipal Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 6 1	06-500	12.74	0.00	05030106-	Western Allegheny Plateau	BELMONT CO

WB Name: ***MCMAHON CREEK (WILLIAMS CREEK TO OHIO RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **12.74**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	2.80	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.80		

Comments: Mining is present within this basin. One regional reference site at river mile 2.3 showed significant improvement in the IBI compared to sampling done in 1983. However, the macroinvertebrates appear to be affected by poor quality substrates (silt, muck). The macroinvertebrate communities have remained in the fair to poor range. Water chemistry data showed little or no elevation in parameters associated with mining activities. A slug of mine-affected water may have passed through this segment recently. Future monitoring is recommended.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Surface Mining - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 6 11	06-504	8.00	0.00	05030106-085	Western Allegheny Plateau	BELMONT CO

WB Name: ***WILLIAMS CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **8.00**

Assessment Cycle: **1994** Field Data Collected From: **199106 to 199110** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	5.40	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This segment is achieving WWH criteria, though the IBI dropped significantly since 1983, possibly due to low flow/intermittent conditions and siltation. This segment may achieve higher biological index values under higher flow conditions. Water chemistry is good, but may have some impacts from local septic systems. There is some reclamation channelization at the mouth and on the mainstem of McMahon Creek.

Causes of Impairment:
Siltation - T

Sources of Impairment:
Surface Mining - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 6 57	06-600	19.43	8.24	05030106-041	Western Allegheny Plateau	JEFFERSON CO

WB Name: ***SHORT CREEK (NORTH FORK TO PINEY FORK)***

Aquatic Life Use(s): **LWH** Segment Length: **11.19**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199306** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 6 58	06-610	15.50	0.00	05030106-075	Western Allegheny Plateau	JEFFERSON CO

WB Name: ***PINEY FORK***

Aquatic Life Use(s): **LWH** Segment Length: **15.50**

Assessment Cycle: **1994** Field Data Collected From: **199106 to 199110** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.30	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Instream habitat and fish community performance suggests that this site, which is currently designated as Limited Warmwater Habitat (LWH), should easily meet Modified Warmwater Habitat (MWH) and approach Warmwater Habitat (WWH) criteria. Iron precipitate lining the stream bed suggests mine runoff influences. It is recommended to change the aquatic life use designation of this segment to MWH.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 6 66	06-608	2.60	0.00	05030106-	Western Allegheny Plateau	JEFFERSON CO

WB Name: ***GOOSE RUN***

Aquatic Life Use(s): **WWH** Segment Length: **2.60**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199306** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.60	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This segment was assessed to determine the correctness of the use designation (due to a mining company wanting to move a stream and mine through the area).

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 6 75.1	**06-087**	**2.27**	**0.00**	**05030106-**	**Western Allegheny Plateau**

WB Name: ***BLOCKHOUSE HOLLOW*** County:

Aquatic Life Use(s): **LRW** Segment Length: **2.27**

Assessment Cycle: **1998** Field Data Collected From: **199609 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.27

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							2.27

Comments: This segment is designated Limited Resource Water (LRW). It cannot attain Warmwater Habitat (WWH) criteria based on the small drainage area and high stream gradient, along with discharges of wastewater from a steel mill.

Causes of Impairment:
Flow alteration - H
Metals - H

Sources of Impairment:
Channelization - Development - H
Major Industrial Point Source - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 7 1	**06-700**	**14.68**	**0.00**	**05030201-**	**Western Allegheny Plateau**

WB Name: ***SUNFISH CREEK (PINEY FORK TO OHIO RIVER)*** County: **MONROE CO**

Aquatic Life Use(s): **WWH,EWH,WWH** Segment Length: **14.68**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.59	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.59				

Comments: This segment is divided between Warmwater Habitat (WWH) and Exceptional Warmwater Habitat (EWH). Only the WWH portion was monitored in 1996. At river mile 7.1 there was a modest decline in the fish community compared to sampling done in 1991, but scores were still well within the WWH range. However, there has been a notable decline in the IBI since 1983 when the scores were in the EWH range. Future monitoring is recommended to follow the downward trend.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 7 5	**06-700**	**31.40**	**14.68**	**05030201-**	**Western Allegheny Plateau**

WB Name: ***SUNFISH CREEK (HEADWATERS TO PINEY FORK)*** County: **MONROE CO**

Aquatic Life Use(s): **WWH** Segment Length: **16.72**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	16.72	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			16.72				

Comments: One regional reference site sampled in 1996 showed a modest decline in the fish community compared to sampling done in 1983, but results were still within Warmwater Habitat criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 7 7	06-705	4.80	0.00	05030201-096	Western Allegheny Plateau

WB Name: ***EAST FORK PINEY FORK*** County: **MONROE CO**

Aquatic Life Use(s): **WWH** Segment Length: **4.80**

Assessment Cycle: **1998** Field Data Collected From: **199609 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.80	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.00		0.80		

Comments: Sampling was done near the Beallsville WWTP. There is very low flow upstream from the treatment plant due to the small drainage area. Downstream from the WWTP the fish community was meeting Warmwater Habitat criteria. The Beallsville WWTP has been operating very well.

Causes of Impairment: *Organic enrichment/DO - T*

Sources of Impairment: *Minor Municipal Point Source - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 7 10	06-708	6.70	0.00	05030201-060	Western Allegheny Plateau

WB Name: ***BAKER FORK*** County: **MONROE CO**

Aquatic Life Use(s): **WWH** Segment Length: **6.70**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.70				

Comments: One regional reference site was sampled near the mouth in 1996. The IBI declined dramatically compared to sampling done in 1983, dropping from 53 to 42. The macroinvertebrates remained stable. Future monitoring is recommended to follow the downward trend of the fish community.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 7 18	06-100	18.02	0.00	05030106-049	Western Allegheny Plateau

WB Name: ***CAPTINA CREEK (BEND FORK TO OHIO RIVER)*** County: **BELMONT CO**

Aquatic Life Use(s): **EWH,WWH** Segment Length: **18.02**

Assessment Cycle: **1998** Field Data Collected From: **199609 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 18.02	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	18.02						

Comments: One regional reference site was sampled in this segment in 1996. The stream is high quality, and is clearly within the Exceptional Warmwater Habitat range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 7 19	06-101	7.20	0.00	05030106-060	Western Allegheny Plateau

WB Name: ***CAT RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **7.20**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 7.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					7.20		

Comments: The cause of non-attainment is unknown. Good habitat, substrates and riparian were all present.

Causes of Impairment: *Flow alteration - H*

Sources of Impairment: *Natural - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 7 24	06-106	13.00	0.00	05030106-050	Western Allegheny Plateau

WB Name: ***BEND FORK*** County: BELMONT CO

Aquatic Life Use(s): **WWH,EWH** Segment Length: **13.00**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 13.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			13.00				

Comments: One regional reference site upstream from the Bethesda WWTP was sampled in 1996. Significant improvement was noted in the fish community compared to sampling done in 1983. The macroinvertebrates have remained stable within the good range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 7 28	06-100	25.42	18.02	05030106-051	Western Allegheny Plateau

WB Name: ***CAPTINA CREEK (NORTH/SOUTH FORKS TO BEND FORK)*** County: BELMONT CO

Aquatic Life Use(s): **EWH** Segment Length: **7.40**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	7.40						

Comments: One regional reference site was sampled in this segment in 1996. Biological results have been in the upper range of Exceptional Warmwater Habitat for the last 15 years. Water chemistry results also indicate good water quality.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 7 31	06-112	3.00	0.00	05030106-	Western Allegheny Plateau	BELMONT CO

WB Name: ***LONG RUN***

Aquatic Life Use(s): **WWH** Segment Length: **3.00**

Assessment Cycle: **2000** Field Data Collected From: **199810 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		3.00					

Comments: This stream was sampled as the result of a 401 permit application. The stream was found to be diverse and healthy, with the fish community achieving WWH criteria with an IBI score of 48. Habitat was excellent within the sampling zone (QHEI=77).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 7 39	06-117	14.00	0.00	05030106-053	Western Allegheny Plateau	BELMONT CO

WB Name: ***SOUTH FORK CAPTINA CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **14.00**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 14.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	14.00						

Comments: One regional reference site near the mouth was sampled in 1996. While the fish results showed near attainment of Exceptional Warmwater Habitat (IBI=48), there was a dramatic decline from sampling done in 1983 (IBI=57). The macroinvertebrates were rated excellent based on qualitative sampling results. Water chemistry results indicated high quality of water. Future monitoring is recommended to follow the downward trend in the fish community.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 8 18	06-420	7.00	0.00	05030201-064	Western Allegheny Plateau	WASHINGTON CO

WB Name: ***ARCHERS FORK***

Aquatic Life Use(s): **WWH** Segment Length: **7.00**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	7.00						

Comments: Two regional reference sites sampled in the lower 2.2 miles indicated excellent water quality. The fish community at river mile 2.2 improved significantly since 1983, with the IBI rising from 44 to 52. The macroinvertebrates were rated very good to excellent based on qualitative sampling results.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 8 30	06-431	6.60	0.00	05030201-	Western Allegheny Plateau	MONROE CO

WB Name: ***WITTEN RUN***

Aquatic Life Use(s): **EWH** Segment Length: **6.60**

Assessment Cycle: **1994** Field Data Collected From: **199106 to 199110** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.20	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The stream is definitely showing a trend of improvement. Fish community index scores meet EWH criteria. Macroinvertebrate scores also exceed WWH criteria, and during higher flow years would score higher. This segment should be reclassified as EWH. Water chemistry also supports the change in use designation.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 8 38	06-428	9.80	0.00	05030201-	Western Allegheny Plateau	MONROE CO

WB Name: ***STRAIGHT FORK***

Aquatic Life Use(s): **WWH** Segment Length: **9.80**

Assessment Cycle: **1996** Field Data Collected From: **199309 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 8 44	06-440	11.20	0.00	05030201-	Western Allegheny Plateau	MONROE CO

WB Name: ***WITTEN FORK***

Aquatic Life Use(s): **WWH** Segment Length: **11.20**

Assessment Cycle: **1994** Field Data Collected From: **199106 to 199110** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fish community index scores exceed EWH criteria. Macroinvertebrate scores meet WWH. These represent a significant improvement from sampling done in 1983. The IBI increased 6 points and the ICI increased 8 points. Nutrients (NO3 & NH3) were very low. Other chemical values are not elevated, although they are are not as low as other streams in the area. This stream may lack buffer capacity. Low flow in 1991 accounts for lower ICI scores.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 8 48	06-444	7.10	0.00	05030201-070	Western Allegheny Plateau	MONROE CO

WB Name: ***DISMAL CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **7.10**

Assessment Cycle: **2000** Field Data Collected From: **199809 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		7.10					

Comments: This stream segment has excellent water quality, with no documented problems. The fish community scored well within the WWH criteria with an IBI score of 48.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 8 62	06-458	13.70	0.00	05030201-072	Western Allegheny Plateau	MONROE CO

WB Name: ***CRANENEST FORK***

Aquatic Life Use(s): **WWH** Segment Length: **13.70**

Assessment Cycle: **1996** Field Data Collected From: **199309 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 13.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 8 78	06-013	8.40	0.00	05030201-104	Western Allegheny Plateau	WASHINGTON CO

WB Name: ***LEITH RUN***

Aquatic Life Use(s): **EWH** Segment Length: **8.40**

Assessment Cycle: **1994** Field Data Collected From: **199107 to 199110** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This segment had excellent water chemistry values.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 8101	06-033	12.30	0.00	05030106-	Western Allegheny Plateau	MONROE CO

WB Name: ***OPOSSUM CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **12.30**

Assessment Cycle: **2000** Field Data Collected From: **199709 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 10.10	Full, But Threatened: 2.20	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	12.30						

Comments: Opossum Creek was originally designated WWH, but recent sampling suggests that it should be upgraded to EWH.

Causes of Impairment:
Siltation - T

Sources of Impairment:
Mine tailings - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 9 2	06-300	24.30	0.00	05030201-078	Western Allegheny Plateau	WASHINGTON CO

WB Name: ***DUCK CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **24.30**

Assessment Cycle: **2000** Field Data Collected From: **199709 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 3.70	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Limited data are available for Duck Creek. Both sampling locations were influenced by Ohio River water levels, with stream flows going both upstream and downstream during the day. These flow changes appear associated with barge traffic and/or lock activity on the Ohio River. An extensive sediment bedload in Duck Creek was documented during sampling in 1997.

Causes of Impairment:
Siltation - H
Flow alteration - M

Sources of Impairment:
Flow reg./mod. - Development - H
Source Unknown - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH 9 8	06-306	6.50	0.00	05030201-	Western Allegheny Plateau	WASHINGTON CO

WB Name: ***WHIPPLE RUN***

Aquatic Life Use(s): **WWH** Segment Length: **6.50**

Assessment Cycle: **2000** Field Data Collected From: **199810 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.50	Full, But Threatened: 1.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	6.50						

Comments: This stream segment was attaining WWH criteria with an IBI score of 50. Habitat was also good (QHEI=64). Agricultural activities (livestock grazing) are a potential threat to the stream.

Causes of Impairment:
Other habitat alterations - T

Sources of Impairment:
Range Grazing - Riparian - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 9 10	06-321	11.60	0.00	05030201-080	Western Allegheny Plateau

WB Name: ***PAWPAW CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **11.60**

Assessment Cycle: **2000** Field Data Collected From: **199809 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 11.60	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	11.60						

Comments: Water quality in this stream segment was excellent based on sampling done in 1998. The IBI scored 52, while the MIwb of 10.1 was very high for a wadeable stream. Habitat was also excellent with a QHEI score of 70.5. The stream is currently designated WWH, but it is recommended that this use be upgraded to EWH.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 9 11	06-322	13.80	0.00	05030201-085	Western Allegheny Plateau

WB Name: ***MIDDLE FORK DUCK CREEK*** County: NOBLE CO

Aquatic Life Use(s): **LWH** Segment Length: **13.80**

Assessment Cycle: **2000** Field Data Collected From: **199809 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 13.20	Partial: 0.00	None 0.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			13.20			0.60	

Comments: One site was sampled in this segment at river mile 1.1. The site was moderately impacted by cattle and horse access to the stream, AMD and siltation from agriculture. A very bad AMD seep/stream enters at river mile 0.6. Although the stream was not biologically assessed at the mouth, it appears to be heavily impacted by AMD. Concentrations of Aluminum (92 ppm), Iron (7 ppm), Nickel (0.85 ppm), and Zinc (1.65 ppm), along with abundant AMD flocculent in the stream downstream from the seep resulted in no life being observed. This basin has a very high potential to fully meet WWH with limited AMD mitigation and riparian protection.

Causes of Impairment:	Sources of Impairment:
Siltation - H	*Acid Mine Drainage - H*
Metals - H	*Range land - T*
Siltation - T	*Range Grazing - Riparian - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH 9 18	06-328	3.80	0.00	05030201-	Western Allegheny Plateau

WB Name: ***ROAD FORK*** County: NOBLE CO

Aquatic Life Use(s): **LWH** Segment Length: **3.80**

Assessment Cycle: **2000** Field Data Collected From: **199809 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.80						

Comments: Fish results indicate excellent water quality in this segment. The current use designation of LRW should be upgraded to EWH, based on the IBI score of 52 and the habitat score (QHEI=75.5).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 1	17-500	86.70	73.10	05040001-029	Erie-Ontario Lake Plain

WB Name: ***TUSCARAWAS RIVER (PIGEON RUN TO SANDY CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **13.60**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 13.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						10.90	2.70

Comments: Sampling in this segment was done in response to a crude oil spill which occurred in 1995. No significant biological impairment associated with the spill was noted. Biological results showed non-attainment of Warmwater Habitat criteria throughout the reach. Fish communities were in the fair to poor range. Contaminated sediments and municipal wastewater appear to have a strong negative influence on the fish populations. A high incidence of Carp with head deformites was noted. A fish consumption advisory is in effect for this segment of the Tuscarawas River.

Causes of Impairment:
- *Priority organics - H*
- *Metals - M*
- *Organic enrichment/DO - M*

Sources of Impairment:
- *Industrial Point Sources - H*
- *Contaminated sediments - M*
- *Municipal Point Sources - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 1.3	17-580	6.09	0.00	05040001-	Erie-Ontario Lake Plain

WB Name: ***TRIB. TO TUSCARAWAS R. (RM 83.74)*** County: **STARK CO**

Aquatic Life Use(s): **NONE** Segment Length: **6.09**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199407** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: High ammonia-nitrogen levels have been documented instream, with values as high as 28 mg/l. Fish sampling results were in the poor range. Habitat was reflective of warmwater habitat conditions. A 2,000 foot channel modification project was conducted on this stream in 1994. The source of high ammonia-nitrogen levels is unknown. Results are from a water quality survey done in April 1994 by ACRT, Inc.

Causes of Impairment:
- *Unionized Ammonia - H*
- *Flow alteration - M*

Sources of Impairment:
- *Source Unknown - H*
- *Flow reg./mod. - Development - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 9	17-500	103.20	91.90	05040001-029	Erie-Ontario Lake Plain

WB Name: ***TUSCARAWAS RIVER (CHIPPEWA CREEK TO NEWMAN CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **11.30**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 11.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Elevated levels of hexachlorobenzene were observed. Upstream influences (urban storm sewers, lime lake discharge, WWTP) continue to influence water resource quality. Elevated TDS, chlorides and sodium were documented in surface water 'Severe Effect Level'. Hexachlorobenzene and heavy metals were observed in sediments, and a fish consumption advisory remains in place due to elevated levels of hexachlorobenzene and PCBs in fish tissue.

Causes of Impairment:
- *Unknown toxicity - H*
- *Salinity/TDS/chlorides - M*
- *Priority organics - M*
- *Metals - M*

Sources of Impairment:
- *Landfills - H*
- *Major Municipal Point Source - M*
- *Contaminated sediments - M*
- *Other Urban Runoff - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 12	17-538	11.10	0.00	05040001-069	Erie-Ontario Lake Plain

WB Name: ***NIMISILA CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **11.10**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.90	Full, But Threatened: 0.00	Partial: 0.00	None 7.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The Nimisila Creek basin contains several on-stream impoundments. These impoundments have had significant influence upon the in-stream biological community. The habitat modifications associated with impoundments have resulted in non-attainment in segments of Nimisila Creek. The areas of non-attainment can be broken into two segments: Upper (river miles 8.6 - 9.0) - Habitat modifications associated with impoundments, coupled with organic loading from on-site treated domestic waste have resulted in non-attainment within the headwaters. An additional unknown factor appeared to impact the benthic community. Lower (river miles 0.0 - 6.7) - non-attainment within the reach likely reflected the cummulative influence of numerous on-stream impoundments.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H
Cause Unknown - H

Sources of Impairment:

Upstream impoundment - H
Source Unknown - H
Onsite wastewater systems (septic tanks) - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 12.1	17-579	3.80	0.00	05040001-	Erie-Ontario Lake Plain

WB Name: ***TRIB. TO NIMISILA CREEK (RM 8.85)*** County:

Aquatic Life Use(s): **NONE** Segment Length: **3.80**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 13	17-550	12.80	0.00	05040001-031	Erie-Ontario Lake Plain

WB Name: ***CHIPPEWA CREEK (STEELE DITCH TO TUSCARAWAS RIVER)*** County: **WAYNE CO**

Aquatic Life Use(s): **MWH-C** Segment Length: **12.80**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 12.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						12.80	

Comments:

Causes of Impairment:

Cause Unknown - H
Organic enrichment/DO - H

Sources of Impairment:

Major Industrial Point Source - H
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 16	17-553	10.10	0.00	05040001-083	Erie-Ontario Lake Plain

WB Name: ***RIVER STYX*** County: **WAYNE CO**

Aquatic Life Use(s): **WWH,MWH-C** Segment Length: **10.10**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.89	Full, But Threatened: 0.00	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.89	1.00	

Comments: While the Wadsworth WWTP may increase instream concentrations of nitrates and phosphorus, it is not to the degree to cause non attainment of MWH-C biocriteria. However, Rittman Paperboard discharges are high in total suspended solids and BOD, and cause low DO levels instream. Additionally, there are lagoons and tributaries entering River Styx from the Rittman Paperboard property with unknown pollution that impact the stream. River Styx from Rittman Paperboard to the mouth does not attain MWH-C criteria.

Causes of Impairment:
Suspended solids - H
Organic enrichment/DO - H

Sources of Impairment:
Major Industrial Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 19	17-556	12.95	0.00	05040001-058	Erie-Ontario Lake Plain

WB Name: ***LITTLE CHIPPEWA CREEK*** County: **WAYNE CO**

Aquatic Life Use(s): **WWH** Segment Length: **12.95**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 12.95

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						12.95	

Comments: The headwaters site at river mile 11.4 is a roadside ditch which historically flowed through a WWTP applied sod farm, with additional drainage from a creosote treated lumber yard. The Orville WWTP adds high nutrient concentrations (nitrates and phosphorus), while a tributary entering at river mile 10.13 (which drains an area containing the Orville Power Co. and 2 casting companies) contributes high nutrients and low DO levels. Low DO concentrations were present throughout the survey area in 1998. Near the mouth, the macroinvertebrate community recovers, but the fish community remains poor.

Causes of Impairment:
Organic enrichment/DO - H
Nutrients - H
Unionized Ammonia - M

Sources of Impairment:
Major Municipal Point Source - H
Source Unknown - H
Industrial Permitted - M
Channelization - Agriculture - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 20	17-561	1.37	0.00	05040001-	Erie-Ontario Lake Plain

WB Name: ***UNNAMED TRIB. TO LITTLE CHIPPEWA CREEK*** | County: **WAYNE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **2.00**

Assessment Cycle: **2000** | Field Data Collected From: **199806 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: One site was sampled on this small headwaters stream. The only chemical parameter which was elevated was nitrates (6.14 mg/l to 9.84 mg/l) in three samples collected. This stream has the potential for Headwaters Habitat designation based on its small size and the presence of salamanders.

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 21	17-550	26.70	12.80	05040001-031	Erie-Ontario Lake Plain

WB Name: ***CHIPPEWA CREEK (HEADWATERS TO STEELE DITCH)*** | County:

Aquatic Life Use(s): **WWH,MWH-C** | Segment Length: **13.90**

Assessment Cycle: **2000** | Field Data Collected From: **199806 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 13.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						13.90	

Comments:

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 26	17-500	110.70	103.20	05040001-029	Erie-Ontario Lake Plain

WB Name: ***TUSCARAWAS RIVER (WOLF CREEK TO CHIPPEWA CREEK)*** | County:

Aquatic Life Use(s): **MWH-C** | Segment Length: **7.50**

Assessment Cycle: **1996** | Field Data Collected From: **199307 to 199310** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 7.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This segment of the Tuscarawas River is impaired by elevated sediment levels of hexachlorobenzene, other chlorobenzenes, and heavy metals with several parameters at the 'Severe Effect Level'. Surface water measures revealed elevated total dissolved solids, chlorides and sodium, with many total dissolved solids values exceeding the 30-day average Ohio Water Quality Standard. This segment of the Tuscarawas River has a fish consumption advisory for PCBs and hexachlorobenzene. The river has been channelized in the recent past. High levels of hexachlorobenzene was reported in sediments. A fish consumption advisory was issued based on high levels for PCBs and hexachlorobenzene in fish tissue. PPG Preliminary Sediment/Surface Water Data-1993 was also used in this assessment.

Causes of Impairment:
Unknown toxicity - H
Other habitat alterations - H
Salinity/TDS/chlorides - M
Metals - M
Chlorine - M

Sources of Impairment:
Landfills - H
Channelization - Development - H
Major Municipal Point Source - M
Removal of riparian vegetation - Dev - M
Contaminated sediments - M
Other Urban Runoff - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 28	17-540	13.10	0.00	05040001-093	Erie-Ontario Lake Plain

WB Name: ***WOLF CREEK*** County:

Aquatic Life Use(s): **WWH,MWH-C** Segment Length: **13.10**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The lower portion of Wolf Creek is impaired by a number of sources, including discharges of heavy metals, contaminated sediments, and spills via the sewer system. On two occasions during the 1993 study, spills via the sewer system were observed. Material included an oily substance and a milky gray/white substance. These pervasive conditions contribute to the poor aquatic communities recorded. The lower segment of Wolf Creek has also been channelized. PPG Preliminary Sediment/Surface Water Data-1993 was also used in this assessment.

Causes of Impairment:

Unknown toxicity - H
Metals - M
Other habitat alterations - M

Sources of Impairment:

Other Urban Runoff - H
Minor Industrial Point Source - M
Contaminated sediments - M
Channelization - Development - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 29	17-541	7.50	0.00	05040001-	Erie-Ontario Lake Plain

WB Name: ***HUDSON RUN*** County:

Aquatic Life Use(s): **WWH,MWH-C** Segment Length: **7.50**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.00	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Upstream from Lake Dorothy partial impairment appeared related to siltation influences. Downstream from Hudson Run Reservoir, hexachlorobenzene and heavy metals were at 'Severe Effect Levels' in sediments. A fish kill was observed in Hudson Run at river mile 0.1 during the macroinvertebrate sampling conducted in 1993. The lower 0.5 miles of Hudson Run have been highly modified, with lime lake landfills occurring alone both sides of the stream. Hexachlorobenzene sediment levels in Hudson Run Reservoir are among highest recorded in a national database. PPG Preliminary Sediment/Surface Water Data-1993 was also used in this assessment.

Causes of Impairment:

Siltation - H
Other habitat alterations - H
Unknown toxicity - H

Sources of Impairment:

Channelization - Development - H
Landfills - H
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 33	17-500	129.90	110.69	05040001-030	Erie-Ontario Lake Plain

WB Name: ***TUSCARAWAS RIVER (HEADWATERS TO WOLF CREEK)*** County:

Aquatic Life Use(s): **WWH,MWH-C** Segment Length: **19.21**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	4.00	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The upper part of segment has relatively good water quality, with influences from the summit Co. #36 WWTP. The downstream portion of the segment is impacted by unknown toxics associated with sewer discharges, elevated levels of heavy metals in the sediments, and reduced habitat diversity associated with past channel modifications. A fish tissue consumption advisory has been issued for the lower segment due to elevated PCBs and hexachlorobenzene in fish tissue. Elevated levels of heavy metals were reported in sediments. Numerous industries discharge into the sewer systems. PPG Preliminary Sediment/Surface Water Data-1993 was also used in this assessment.

Causes of Impairment:

Other habitat alterations - H
Unknown toxicity - H
Metals - M
Nutrients - S

Sources of Impairment:

Other Urban Runoff - H
Channelization - Development - H
Removal of riparian vegetation - Dev - S
Minor Municipal Point Source - S
Contaminated sediments - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH10 33.4	17-581	2.96	0.00	05040001-	Erie-Ontario Lake Plain

WB Name: ***TRIB. TO TUSCARAWAS RIVER (UNIONTOWN)*** County: **SUMMIT CO**

Aquatic Life Use(s): **NONE** Segment Length: **2.96**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.06

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.06	

Comments: An unauthorized dam/causeway was installed accross the stream cutting off access to the headwaters. Elevated levels of fecal coliforms suggests septic and runoff problems. Under low flow these conditions result in stress to the biological communities. Instream habitat was fully capable of supporting a WWH community. Removal of the dam should permit this segment to recover.

Causes of Impairment:

Other habitat alterations - H
Flow alteration - H
Pathogens - S

Sources of Impairment:

Dam construction - Development - H
Land development/Suburbanization - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH11 1	17-450	8.00	0.00	05040001-026	Western Allegheny Plateau	TUSCARAWAS CO

WB Name: ***SANDY CREEK (NIMISHILLEN CREEK TO TUSCARAWAS R.)***

Aquatic Life Use(s): **WWH** Segment Length: **8.00**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 8.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					8.00		

Comments: The segment of Sandy Creek upstream from the confluence of Nimishillen Creek performs better than this downstream segment, which appears to be degraded from water entering from Nimishillen Creek.

Causes of Impairment:
Unknown toxicity - H

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH11 5	17-460	14.70	0.00	05040001-028	Western Allegheny Plateau	STARK CO

WB Name: ***NIMISHILLEN CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **14.70**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 5.60	None 9.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					14.70		

Comments: Biological sampling done in 1985 and 1990 had biological index scores in the very poor to fair range. The fish communities improved substantially in 1998, but were still below WWH criteria. However, macroinvertebrate communities were mostly "marginally good" at all non mixing zone sites. There were exceedences of fecal coliform bacteria throughout the mainstem. There were also elevated levels of nitrates due to J & L Steel (located on East Branch Niimishillen Creek) and the Canton WWTP. Higher zinc values were recorded downstream from the West Branch (Gregory Galvanizing). Highly elevated sediment levels of chromium, copper, lead and zinc were also recorded in 1998.

Causes of Impairment:
Nutrients - H
Zinc - M
Pathogens - M

Sources of Impairment:
Major Industrial Point Source - H
Major Municipal Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH11 6	17-468	4.95	0.00	05040001-	Erie-Ontario Lake Plain	STARK CO

WB Name: ***HURFORD RUN***

Aquatic Life Use(s): **LRW,MWH-C,W** Segment Length: **4.95**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.40	None 2.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.40	1.40	1.30

Comments: High levels of manganese were present in the headwaters. Downstream from the Timken 006 outfall there were high levels of pH. The Marathon-Ashland effluent increases stream temperature, and has high ammonia concentrations. There were exceedences instream of pH, temperature, conductivity and ammonia. Biology has historically been poor in Hurford Run. In 1998, the site at the mouth had partial attainment of WWH criteria for the first time.

Causes of Impairment:
Unionized Ammonia - H
Thermal modifications - H
pH - H
Cause Unknown - M

Sources of Impairment:
Major Industrial Point Source - H
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH11 6.1	17-477	3.21	0.00	05040001-	Erie-Ontario Lake Plain	STARK CO

WB Name: ***DOMER DITCH***

Aquatic Life Use(s): **WWH** Segment Length: **3.21**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	3.21

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.21		

Comments: Timken discharges near the mouth at river mile 0.07. The upstream monitoring site historically has had poor to fair fish communities, and fair to good macroinvertebrate communities. Downstream from the discharge the fish decline to poor. Likewise, the macroinvertebrates decline to poor to fair. Elevated metals concentrations have been recorded in water chemistry samples collected downstream from the Timken discharge.

Causes of Impairment:
Cause Unknown - H
Metals - H

Sources of Impairment:
Major Industrial Point Source - H
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH11 8	17-464	9.00	0.00	05040001-088	Erie-Ontario Lake Plain	STARK CO

WB Name: ***WEST BRANCH NIMISHILLEN CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **9.00**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.30	

Comments: Sources of impairment upstream from Gregory Galvanizing were unknown in 1998. Sampling in the upper portion of the watershed in 1985 indicated impacts from Hoover Corporation and airport de-icing, but these potential sources were not evaluated in 1998. Gregory Galvanizing impacts the stream near the mouth with high concentrations of zinc.

Causes of Impairment:
Zinc - H
Cause Unknown - H

Sources of Impairment:
Minor Industrial Point Source - H
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH11 10	17-462	16.60	0.00	05040001-	Erie-Ontario Lake Plain	STARK CO

WB Name: ***MIDDLE BRANCH NIMISHILLEN CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **16.60**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.40	0.00	7.20	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.40	3.60	3.60		

Comments: Water chemistry sampling did not show any parameters of concern except slightly higher nutrient concentrations in the lower portion of the segment. The sediment data had some elevated parameters. Partial attainment at the downstream sites was attributed to a "fair" fish community. The site at the mouth improved in 1998 compared to historical sampling, but the reference site at river mile 6.8 declined somewhat.

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH11 10.1	17-484	8.10	0.00	05040001-	Erie-Ontario Lake Plain

WB Name: ***SWARTZ DITCH*** County: **STARK CO**

Aquatic Life Use(s): **MWH-C** Segment Length: **8.10**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.80	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.80		

Comments: Fish sampling done near the mouth indicated attainment of MWH criteria. Elevated levels of fecal coliforms and nitrates were recorded.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH11 11	17-463	10.40	0.00	05040001-047	Erie-Ontario Lake Plain

WB Name: ***EAST BRANCH NIMISHILLEN CREEK*** County: **STARK CO**

Aquatic Life Use(s): **WWH** Segment Length: **10.40**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	5.10	5.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					5.10	5.30	

Comments: The East Branch continues to be degraded by high concentrations of nitrates from J & L Steel. Highly elevated levels of sediment metals were also recorded downstream from J & L Steel. Partial attainment of WWH criteria at the regional reference site (river mile 8.6) may be attributed to agricultural activiity in the upstream portion of the watershed.

Causes of Impairment:	Sources of Impairment:
Nutrients - H	*Industrial Point Sources - H*
Pathogens - H	*Source Unknown - H*
Pathogens - S	*Municipal Point Sources - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH11 12	17-450	17.40	8.00	05040001-027	Western Allegheny Plateau

WB Name: ***SANDY CREEK (L. SANDY CREEK TO NIMISHILLEN CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **9.40**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	9.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					9.40		

Comments: Previous data from this segment showed poor to very poor fish communities as a result of problems with the Minerva WWTP (high ammonia, 1995). Also, a the high incidence of skeletal deformities suggested metals or pesticides contamination. However, in the lower portion of this segment (one site at river mile 10.3) in 1998, the only apparent elevated water chemistry parameter was manganese.

Causes of Impairment:	Sources of Impairment:
Unknown toxicity - H	*Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH11 16	17-450	29.10	17.40	05040001-027	Erie-Ontario Lake Plain

WB Name: ***SANDY CREEK (STILL FORK TO LITTLE SANDY CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **11.70**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.50	0.00	5.20	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.50		5.20		

Comments: 1996 results from Sandy Creek documented poor to very poor fish communities downstream from the Minerva WWTP. A substantial improvement in aquatic biological conditions occurred during 1997, with fish and macroinvertebrates scoring in the fair to good range. The improvements corresponded with a significant decrease in the ammonia pollutant loadings from the Minerva WWTP during late 1996 and 1997.

Causes of Impairment:
Unknown toxicity - H

Sources of Impairment:
Municipal Point Sources - H
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH11 21	17-470	16.10	0.00	05040001-	Western Allegheny Plateau

WB Name: ***STILL FORK SANDY CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **16.10**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	6.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					6.00		

Comments: There was some decline in the fish community at the mouth compared to sampling done in 1993. Masco Tech no longer discharges directly to the Still Fork. They now discharge to the Minerva WWTP.

Causes of Impairment:
Other habitat alterations - H
Siltation - H
Flow alteration - M
Nutrients - S
Metals - S

Sources of Impairment:
Pasture land - H
Dam construction - Agriculture - M
Minor Industrial Point Source - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH11 28	17-450	38.00	29.07	05040001-027	Erie-Ontario Lake Plain

WB Name: ***SANDY CREEK (HEADWATERS TO STILL FORK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **8.93**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.80	0.00	0.30	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.60		3.20		0.30		

Comments: There was a small area of impact adjacent to the Minerva WWTP.

Causes of Impairment:
Pesticides - H

Sources of Impairment:
Irrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH12 2	17-101	9.90	0.00	05040001-	Western Allegheny Plateau

WB Name: ***HUFF RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **9.90**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.90	Full, But Threatened: 0.00	Partial: 0.00	None 7.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.90		2.00	5.00	

Comments: The stream had segments ranging from poor to good. Mining reclamation is planned for numerous areas in the upper portion of the watershed.

Causes of Impairment:
pH - H
Siltation - H
Metals - H

Sources of Impairment:
Acid Mine Drainage - H
Mine tailings - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 1	17-400	12.30	0.00	05040001-032	Western Allegheny Plateau

WB Name: ***SUGAR CREEK (S. FK. SUGAR CR. TO TUSCARAWAS R.)*** County: TUSCARAWAS CO

Aquatic Life Use(s): **WWH** Segment Length: **12.30**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.50	Full, But Threatened: 0.00	Partial: 7.70	None 1.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.50		7.70	1.10	

Comments: The lowest reach of Sugar Creek drains a rural residential, agricultural and strip mining area. In 1991 biological performance in this reach was slightly better than was documented in 1998. Chronic affects of poor agricultural practices, strip mining and effluent from Dover Chemical appear be limiting the stream's recovery.

Causes of Impairment:
Unknown toxicity - H
Siltation - H
Metals - S

Sources of Impairment:
Major Industrial Point Source - H
Nonirrigated crop production - H
Pasture land - H
Surface Mining - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 1.1	17-422	5.14	0.00	05040001-	Western Allegheny Plateau

WB Name: ***GOETTGE RUN*** County: TUSCARAWAS CO

Aquatic Life Use(s): **NONE** Segment Length: **5.14**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 5.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						5.10	

Comments: Goettge Run drains a residential and strip mining area. In 1991 the stream was essentially dead. Some recovery was noted in 1998 based on the presence of a few fish. Acidic conditions were less severe in 1998.

Causes of Impairment:
Metals - H

Sources of Impairment:
Surface Mining - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH13 2	17-401	3.50	0.00	05040001-041	Western Allegheny Plateau	TUSCARAWAS CO

WB Name: ***BRANDYWINE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **3.50**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.50		

Comments: Brandywine Creek drains a rural residential, agricultural and strip mining area. In 1991 the stream was essentially the same as was documented in 1998. Chronic affects of strip mining appear be limiting the stream's recovery.

Causes of Impairment:
Metals - H

Sources of Impairment:
Surface Mining - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH13 3	17-402	6.00	0.00	05040001-042	Western Allegheny Plateau	TUSCARAWAS CO

WB Name: ***BROAD RUN***

Aquatic Life Use(s): **WWH** Segment Length: **6.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 6.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					6.00		

Comments: Broad Run drains an agricultural and strip mining area. Much of the stream has been modified. The stream transports a heavy silt load which it is incapable of expelling. Nutrient levels exceed 75 %tile ecoregional reference conditions. Fecal coliform levels are influenced by animal and human sources.

Causes of Impairment:
Other habitat alterations - H
Siltation - H
Nutrients - M
Flow alteration - M

Sources of Impairment:
Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Flow regulation/modification - Ag - M
Channelization - Agriculture - M
Surface Mining - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH13 3.1	17-419	3.74	0.00			TUSCARAWAS CO

WB Name: ***CHERRY RUN***

Aquatic Life Use(s): **NONE** Segment Length: **3.74**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							3.70

Comments: Cherry Run drains a strip mining area. The water is too acidic to support a healthy and diverse aquatic community.

Causes of Impairment:
pH - H

Sources of Impairment:
Surface Mining - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH13 4	17-403	3.30	0.00	05040001-	Western Allegheny Plateau	TUSCARAWAS CO

WB Name: ***TURKEYFOOT RUN***

Aquatic Life Use(s): **WWH** Segment Length: **3.30**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							3.30

Comments: Turkeyfoot Run drains a strip mining area. The water is too acidic to support a healthy and diverse aquatic community.

Causes of Impairment:
pH - H

Sources of Impairment:
Surface Mining - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH13 5	17-410	6.60	0.00	05040001-034	Western Allegheny Plateau	

WB Name: ***SOUTH FORK SUGAR CREEK (WALNUT CR. TO SUGAR CR.)***

Aquatic Life Use(s): **WWH** Segment Length: **6.60**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 6.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						6.60	

Comments: The lower reach of the South Fork of Sugar Creek flows through an extensive wetland area. In addition to the natural limiting factors the watershed drains an agricultural and strip mining area . The intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks through out the sub basin. The stream is incapable of expelling the resulting heavy silt load. Nutrient levels exceed 75 %tile ecoregional reference conditions. Fecal coliform levels are influenced by animal and human sources.

Causes of Impairment:
Natural Limits (Wetlands) - H
Siltation - H
Nutrients - M

Sources of Impairment:
Natural - H
Nonirrigated crop production - H
Pasture land - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH13 6	17-411	11.10	0.00	05040001-	Western Allegheny Plateau	

WB Name: ***WALNUT CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **11.10**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 3.50	None 7.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.50	7.60	

Comments: Intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. Nutrient levels exceed 75 %tile ecoregional reference conditions. Fecal coliform levels are influenced by animal and human sources.

Causes of Impairment:
Other habitat alterations - H
Siltation - H
Nutrients - M
Flow alteration - S

Sources of Impairment:
Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 6.1	**17-432**	**0.60**	**0.00**	**05040001-**	

WB Name: ***TRIB. TO WALNUT CREEK (RM 3.95)*** County:

Aquatic Life Use(s): **NONE** Segment Length: **0.60**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.60		

Comments: This unnamed tributary to Walnut Creek (confluence at RM 2.07) drains an agricultural and strip mining area. Agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. Nutrient levels exceed 75 %tile ecoregional reference conditions. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Flow alteration - M

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M
Surface Mining - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 7	**17-412**	**8.10**	**0.00**	**05040001-**	**Western Allegheny Plateau**

WB Name: ***INDIAN TRAIL CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **8.10**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 5.10	None 3.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					5.10	3.00	

Comments: Intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. Holmes ByProducts releases toxic concentrations of ammonia to a tributary. Resulting pulses of pollutants are associated with a reach of downstream non attainment. Nutrient levels exceed 75 %tile ecoregional reference conditions. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Nutrients - H
Flow alteration - S

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Industrial land treatment - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH13 7.1	**17-433**	**1.08**	**0.00**	**05040001-**	
WB Name:	***TRIB. TO INDIAN TRAIL CREEK (RM 2.07)***				County:
Aquatic Life Use(s):	**NONE**	Segment Length:	**1.08**		

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**0.00**	**0.00**	**1.08**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.08	

Comments: This unnamed tributary to Indian Trail Creek (confluence at RM 6.08) drains an industrial property where effluent is irrigated. Toxic concentrations of ammonia are regularly discharged. Agriculture also is prevalent. The intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. Nutrient levels exceed 75 %tile ecoregional reference conditions. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas.

Causes of Impairment:

Unionized Ammonia - H
Other habitat alterations - H
Nutrients - H

Sources of Impairment:

Industrial land treatment - H
Pasture land - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH13 8	**17-413**	**4.70**	**0.00**	**05040001-**	**Western Allegheny Plateau**
WB Name:	***GOOSE CREEK***				County:
Aquatic Life Use(s):	**WWH**	Segment Length:	**4.70**		

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**0.00**	**0.00**	**4.70**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						4.70	

Comments: Intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. Nutrient levels exceed 75 %tile ecoregional reference conditions. Fecal coliform levels are influenced by animal sources

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Nutrients - M
Flow alteration - S

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 9	17-410	22.70	6.60	05040001-034	Western Allegheny Plateau

WB Name: ***SOUTH FORK SUGAR CREEK (HEADWATERS TO WALNUT CR.)***

County:

Aquatic Life Use(s): **WWH** Segment Length: **16.10**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 16.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						16.10	

Comments: The South Fork of Sugar Creek drains an agricultural and strip mining area . The intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks through out the sub basin. The stream is incapable of expelling the resulting heavy silt load. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. Nutrient levels exceed 75 %tile ecoregional reference conditions. Fecal coliform levels are influenced by animal and human sources.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Nutrients - M
Flow alteration - M

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M
Surface Mining - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 9.3	17-424	3.30	0.00	05040001-	Western Allegheny Plateau

WB Name: ***TRIB. TO S. FK. SUGAR CREEK (RM 14.15)***

County: **TUSCARAWAS CO**

Aquatic Life Use(s): **NONE** Segment Length: **3.30**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.10	3.20	

Comments: This unnamed tributary to the South Fork of Sugar Creek (confluence at RM 14.14) drains an agricultural and strip mining area. The intensive pasture use associated with Amish animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. The Ohio Whey discharge contains high nutrient concentrations. Nutrient levels exceed 75 %tile ecoregional reference conditions. Fecal coliform concentrations are elevated by animal and human sources.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Nutrients - H
Flow alteration - M

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M
Minor Industrial Point Source - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 9.4	17-429	4.90	0.00	05040001-	

WB Name: ***TRIB. TO S. FK. SUGAR CREEK (RM 1.00)***

County: **TUSCARAWAS CO**

Aquatic Life Use(s): **NONE** Segment Length: **4.90**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						4.90	

Comments: This unnamed tributary to the South Fork of Sugar Creek drains an agricultural and strip mining area. Stream substrates were unusually compacted as though the aggregate was embedded in concrete. Black sand-like fines were present along the stream margin. Strip mining was a suspected source of this abnormal condition but existing data was inconclusive about the cause of the impairment.

Causes of Impairment:

Cause Unknown - H

Sources of Impairment:

Source Unknown - H
Surface Mining - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 9.5	17-430	2.40	0.00	05040001-	

WB Name: ***TRIB. TO S. FK. SUGAR CREEK (RM 11.30)***

County: **TUSCARAWAS CO**

Aquatic Life Use(s): **NONE** Segment Length: **2.40**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.40	

Comments: This unnamed tributary to the South Fork of Sugar Creek (confluence at RM 11.3) drains an agricultural and strip mining area. The intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. Nutrient levels exceed 75 %tile ecoregional reference conditions. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Flow alteration - M
Nutrients - M

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M
Surface Mining - S

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 9.6	17-431	3.30	0.00	05040001-	

WB Name: ***TRIB. TO S. FK. SUGAR CREEK (RM 15.83)***

County: **TUSCARAWAS CO**

Aquatic Life Use(s): **NONE** Segment Length: **3.30**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.30	

Comments: This unnamed tributary to the South Fork of Sugar Creek drains an agricultural and strip mining area. The intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. Stream substrates were covered with orange colored silt. Nutrient levels exceed 75 %tile ecoregional reference conditions. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Nutrients - H
Flow alteration - M

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M
Surface Mining - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 10	17-414	9.70	0.00	05040001-	Western Allegheny Plateau

WB Name: ***EAST BRANCH***

County: **TUSCARAWAS CO**

Aquatic Life Use(s): **WWH** Segment Length: **9.70**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 9.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						9.70	

Comments: The East Branch of the South Fork of Sugar Creek (confluence at RM 14.14) drains an agricultural and strip mining area. The highest concentration of dairy farms in Tuscrawras County and the unsewered community of Ragersville exists in this subwatershed. The channelized stream is incapable of expelling a heavy silt load. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. Nutrient levels exceed 75 %tile ecoregional reference conditions. Fecal coliform concentrations are elevated by animal and human sources.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Nutrients - H
Flow alteration - H

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - H
Flow regulation/modification - Ag - H
Surface Mining - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 10.1	17-434	2.90	0.00	05040001-	

WB Name: ***TRIB. TO E. BR. S. FK. SUGAR CREEK (RM 2.07)***

County: **TUSCARAWAS CO**

Aquatic Life Use(s): **NONE** Segment Length: **2.90**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.90	

Comments: This unnamed tributary to the East Branch of the South Fork of Sugar Creek (confluence at RM 2.07) drains an agricultural and strip mining area. Agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. Nutrient levels exceed 75 %tile ecoregional reference conditions. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Flow alteration - M
Nutrients - M

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M
Surface Mining - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 10.2	17-435	2.10	0.00	05040001-	

WB Name: ***TRIB. TO E. BR. S. FK. SUGAR CREEK (RM 3.60)***

County: **TUSCARAWAS CO**

Aquatic Life Use(s): **NONE** Segment Length: **2.10**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.10	

Comments: This unnamed tributary to the East Branch of the South Fork of Sugar Creek (confluence at RM 3.6) drains an agricultural and strip mining area. Agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. Nutrient levels exceed 75 %tile ecoregional reference conditions. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Flow alteration - M
Nutrients - M

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M
Surface Mining - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 11	17-415	4.90	0.00	05040001-	Western Allegheny Plateau

WB Name: ***PLEASANT VALLEY CREEK***

County: **TUSCARAWAS CO**

Aquatic Life Use(s): **WWH** Segment Length: **4.90**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						4.90	

Comments: Pleasant Valley Creek is a tributary to the East Branch of the South Fork of Sugar Creek which drains an agricultural and strip mining area. The small channelized stream is incapable of expelling a heavy silt load. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. Nutrient levels exceed 75 %tile ecoregional reference conditions. Fecal coliform concentrations are elevated by animal and human sources. Low dissolved oxygen levels were recorded. Milk house wash water was observed instream.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Organic enrichment/DO - H
Flow alteration - M

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 12	17-416	3.20	0.00	05040001-	Western Allegheny Plateau

WB Name: ***TROYER VALLEY CREEK***

County:

Aquatic Life Use(s): **WWH** Segment Length: **3.20**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.20	

Comments: Troyer Valley Creek drains an agricultural and strip mining area. The intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. The Union Cheese Co. discharge includes toxic concentrations of ammonia and extremely elevated nutrients. Nutrient levels exceed 75 %tile ecoregional reference conditions. Fecal coliform levels are influenced by animal sources.

Causes of Impairment:

Unionized Ammonia - H
Iron - H
Nutrients - H
Other habitat alterations - H
Siltation - H
Flow alteration - S

Sources of Impairment:

Minor Industrial Point Source - H
Surface Mining - H
Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 13	17-417	3.40	0.00	05040001-	Western Allegheny Plateau

WB Name: ***BRUSH RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **3.40**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.40		

Comments: Brush Run drains an agricultural and strip mining area before flowing through the Village of Baltic. Downstream, the Village WWTP discharges nutrient rich effluent as the stream flows through heavily grazed pastures with denuded unstable stream banks. The stream carries a heavy silt load which it is incapable of expelling. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. Nutrient levels exceed 75 %tile ecoregional reference conditions. Fecal coliform levels are influenced by animal and human sources.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Nutrients - M
Flow alteration - S

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M
Minor Municipal Point Source - M
Surface Mining - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 13.1	17-436	0.43	0.00	05040001-	County: HOLMES CO

WB Name: ***TRIB. TO BRUSH RUN (RM 1.54)***

Aquatic Life Use(s): **NONE** Segment Length: **0.43**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.43

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							0.43

Comments: This tributary to Brush Run (confluence at RM 1.54) drains an abandoned strip mine. The stream is acidic with high metals concentrations, and is essentially devoid of aquatic life.

Causes of Impairment:

pH - H
Iron - H

Sources of Impairment:

Surface Mining - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH13 14	17-400	19.40	12.30	05040001-033	Erie-Ontario Lake Plain	STARK CO

WB Name: ***SUGAR CREEK (MIDDLE FORK TO SOUTH FORK)***

Aquatic Life Use(s): **WWH** Segment Length: **7.10**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 7.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						7.10	

Comments: The middle reach of Sugar Creek flows through an extensive wetland area. Drainage from rural residential, agricultural and strip mining land affect water quality in this reach. Although biological performance in this reach is naturally limited by the wetlands, it was also affected by an excessive amount of siltation and by elevated nutrient concentrations

Causes of Impairment:

Natural Limits (Wetlands) - H
Siltation - H
Nutrients - M

Sources of Impairment:

Natural - H
Nonirrigated crop production - H
Pasture land - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH13 16	17-405	5.40	0.00	05040001-048	Erie-Ontario Lake Plain	STARK CO

WB Name: ***ELM RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.40**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.00		

Comments: Elm Run drains an agricultural area before flowing through the City of Brewster. Historically, some strip mining occurred in the subwatershed. The lower mile of the stream has been modified to accommodate a flood levee. The stream carries a heavy silt load which it is incapable of expelling. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. Fecal coliform levels are influenced by animal and human sources.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Flow alteration - M
Nutrients - S

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - H
Flow regulation/modification - Ag - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 17	17-406	23.00	0.00	05040001-062	Erie-Ontario Lake Plain

WB Name: ***MIDDLE FORK SUGAR CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **23.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 13.00	Full, But Threatened: 0.00	Partial: 2.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			13.00		2.00		

Comments: Intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. Nutrient levels exceed 75 %tile ecoregional reference conditions. Fecal coliform levels are influenced by animal sources. The lower mile of this stream flows through a natural wetland reach which also limits fish community performance.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Nutrients - M
Flow alteration - S

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 17.2	17-427	3.30	0.00	05040001-	County: STARK CO

WB Name: ***TRIB. TO M. FK. SUGAR CREEK (RM 3.25)***

Aquatic Life Use(s): **NONE** Segment Length: **3.30**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				1.00			

Comments: Intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. However, strong groundwater flow seemed to dilute or transport pollutants downstream. Additionally, the sample site was located on Stark Wilderness Center property, a natural wetland area. As a result, nonsignificant departure from the fish biocriterion was recorded at RM 0.5.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH13 17.3	**17-428**	**2.65**	**0.00**	**05040001-**	
WB Name:	***TRIB. TO M. FK. SUGAR CREEK (RM 6.00)***				County:
Aquatic Life Use(s):	**NONE**	Segment Length:	**2.65**		

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**1.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: Intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. However, strong groundwater flow seemed to dilute or transport pollutants downstream. As a result, attainment of the fish biocriterion was recorded at RM 0.5.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH13 18	**17-407**	**3.00**	**0.00**	**05040001-**	**Erie-Ontario Lake Plain**
WB Name:	***MISERS RUN***				County:
Aquatic Life Use(s):	**WWH**	Segment Length:	**3.00**		

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**3.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.00				

Comments: Intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. A large strip mine which appeared to be sporadically active is also located within the subwatershed. Strong groundwater flow was considered to be a factor resulting in generally good biological performance.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH13 19	**17-408**	**6.10**	**0.00**	**05040001-**	**Erie-Ontario Lake Plain**
WB Name:	***CRABAPPLE CREEK***				County:
Aquatic Life Use(s):	**WWH**	Segment Length:	**6.10**		

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**6.10**	**Full, But Threatened:**	**0.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.10				

Comments: Intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. However, strong groundwater flow seemed to dilute or transport pollutants downstream. As a result, biological performance was generally good.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 20	17-400	45.00	19.40	05040001-033	Erie-Ontario Lake Plain

WB Name: ***SUGAR CREEK (HEADWATERS TO M. FK. SUGAR CREEK)***

County:

Aquatic Life Use(s): **WWH** Segment Length: **25.60**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.50	Full, But Threatened: 0.00	Partial: 7.50	None 12.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.50		7.50	12.60	

Comments: The upper reach of Sugar Creek drains a rural residential and agricultural area. At least 10 miles of this reach is maintained in a channelized condition. Biological performance in this reach is also affected by an excessive amount of siltation and by elevated nutrient concentrations. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. The lower portion of this reach is limited by natural wetland characteristics.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Natural Limits (Wetlands) - H
Nutrients - M
Flow alteration - S

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Natural - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 21	17-409	6.80	0.00	05040001-	Erie-Ontario Lake Plain

WB Name: ***NORTH FORK SUGAR CREEK***

County: **WAYNE CO**

Aquatic Life Use(s): **WWH** Segment Length: **6.80**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.80	Full, But Threatened: 0.00	Partial: 2.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.80	2.00			

Comments: Intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas. Nutrient levels exceed 75 %tile ecoregional reference conditions. In addition to agricultural nutrient sources, Gerber Poultry effluent is a significant source. Fecal coliform levels are influenced by animal sources and poorly treated home sewage.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Nutrients - H
Flow alteration - S

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M
Minor Industrial Point Source - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 22	17-418	10.60	0.00	05040001-060	Erie-Ontario Lake Plain

WB Name: ***LITTLE SUGAR CREEK*** County: **WAYNE CO**

Aquatic Life Use(s): **WWH** Segment Length: **10.60**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.00	Partial: 0.00	None 6.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.00			6.60	

Comments: Intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. Nutrient levels exceed 75 %tile ecoregional reference conditions. The stream hydrograph is influenced by the extent of tiled crop land and the coresponding reduction of natural areas.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Nutrients - M
Flow alteration - S

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH13 22.1	17-437	4.20	0.00	05040001-	

WB Name: ***TRIB. TO LITTLE SUGAR CREEK (RM 0.50)*** County: **WAYNE CO**

Aquatic Life Use(s): **NONE** Segment Length: **4.20**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: Intensive pasture use associated with animal oriented agricultural practices have resulted in denuded unstable stream banks. The stream is incapable of expelling the resulting heavy silt load. Nutrient levels exceed 75 %tile ecoregional reference conditions. The stream hydrograph is influenced by the extent of tiled crop land and the corresponding reduction of natural areas.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Nutrients - M
Flow alteration - S

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Flow regulation/modification - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH14 1	17-350	25.80	0.00	05040001-	Western Allegheny Plateau

WB Name: ***STILLWATER CREEK (BRUSHY CREEK TO TUSCARAWAS R.)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **25.80**

Assessment Cycle: **2000** Field Data Collected From: **199809 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.80	Full, But Threatened: 0.00	Partial: 0.00	None 3.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.80		2.20	0.80	

Comments: The fish community within this segment showed much variation, ranging from poor to good. Acid mine drainage within the basin affects water quality, while low stream gradient, sluggish flow and poor habitat hinder the fish community. A lowhead dam in Dennison impounds a portion of this segment. The fish community was poor in the vicinity of an old industrial facility near river mile 6.1. Upstream from the facility conditions were fair. Habitat improved downstream from the lowhead dam in Dennison, resulting in a portion of the segment attaining WWH criteria with an IBI of 44. The fish community declined further downstream at river mile 2.1 (IBI=38), but was within non-significant departure from WWH criteria.

Causes of Impairment:

Siltation - H
Flow alteration - M

Sources of Impairment:

Surface Mining - H
Flow regulation/modification - Ag - H
Nonirrigated crop production - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH14 28	17-350	38.30	25.80	05040001-	Western Allegheny Plateau

WB Name: ***STILLWATER CREEK (BOGGS FORK TO BRUSHY FORK)*** County:

Aquatic Life Use(s): **LWH** Segment Length: **12.50**

Assessment Cycle: **1994** Field Data Collected From: **199207 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 4.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Piedmont Reservoir (flood control reservoir) upstream causes extended periods of high flow conditions.

Causes of Impairment:

Flow alteration - H

Sources of Impairment:

Flow reg./mod. - Development - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH14 29	17-358	6.30	0.00	05040001-036	Western Allegheny Plateau

WB Name: ***ATKINSON CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **6.30**

Assessment Cycle: **1994** Field Data Collected From: **199207 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There is extensive pasturing in woods and fields.

Causes of Impairment:

Siltation - H

Sources of Impairment:

Pasture land - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH14 30	17-359	6.70	0.00	05040001-043	Western Allegheny Plateau

WB Name: ***CRABORCHARD CREEK*** County: **HARRISON CO**

Aquatic Life Use(s): **WWH** Segment Length: **6.70**

Assessment Cycle: **2000** Field Data Collected From: **199710 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.30	Full, But Threatened: 0.00	Partial: 0.00	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.30	0.40		1.60	0.50		

Comments: The most recent macroinvertebrate sampling indicates continued good to exceptional communities. Fish communities are also improving in most areas subsequent to early 1990's impacts. Non-attainment was restricted to the portion of the stream which had unrestricted livestock access.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Range Grazing - Riparian - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH14 31	17-371	17.50	0.00	05040001-007	Western Allegheny Plateau

WB Name: ***SKULL FORK*** County:

Aquatic Life Use(s): **LWH** Segment Length: **17.50**

Assessment Cycle: **1996** Field Data Collected From: **199408 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 11.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Charles Whiteley recently channelized a 1.5 mile segment of Skull Fork. Other channelization activities have possibly occurred throughout the stream in the past.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH15 1	17-500	14.80	0.00	05040001-001	Western Allegheny Plateau

WB Name: ***TUSCARAWAS RIVER (EVANS CREEK TO WALHONDING RIVER)*** County:

Aquatic Life Use(s): **EWH** Segment Length: **14.80**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.90	Full, But Threatened: 0.00	Partial: 12.90	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There is significant background enrichment and turbidity upstream from Coshocton, prior to the Stone Container Corporation discharge. Fish communities declined since 1988, and macroinvertebrates suggest high enrichment. Peak nitrate levels were associated with corn field fertilizer applications, but this does not entirely explain observations. Stone Container Corporation an additional enrichment source, but the river has improved in this section since 1988. Oxygen injection in the final effluent and less severe temperatures and flow (versus 1988 drought) may be reasons for the improvement. "Signature" body burden of PCB's and Hexachlorobenzene that extends throughout the Tuscarawas River downstream from the Barberton/PPG area were detected in fish tissue samples. Potential impacts on biological communities are unknown. Fish communities declined upstream from Stone Container, but biology improved downstream from the discharge.

Causes of Impairment:
Organic enrichment/DO - H
Suspended solids - M

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH15 3	17-502	10.00	0.00	05040001-091	Western Allegheny Plateau	COSHOCTON CO

WB Name: ***WHITE EYES CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **10.00**

Assessment Cycle: **2000** Field Data Collected From: **199809 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 10.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	10.00						

Comments: Water quality in this stream segment appears to be very good. The IBI score of 52 was in the exceptional range. The stream is currently designated WWH, but based on the recent results it is recommended that this stream be upgraded to EWH.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH15 6	17-505	9.30	0.00	05040001-049	Western Allegheny Plateau	COSHOCTON CO

WB Name: ***EVANS CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **9.30**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199806** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: One site was sampled in this segment near the mouth. The stream was not attaining WWH criteria, with causes most likely related to agricultural grazing in the area. While habitat at the site was very good (QHEI=73.5), the IBI was only 32, well below WWH criteria for the ecoregion.

Causes of Impairment:

Siltation - H
Nutrients - H
Other habitat alterations - M

Sources of Impairment:

Range Grazing - Riparian - H
Streambank destabilization - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH15 10	17-500	25.30	14.80	05040001-001	Western Allegheny Plateau	

WB Name: ***TUSCARAWAS RIVER (DUNLOP CREEK TO EVANS CREEK)***

Aquatic Life Use(s): **EWH** Segment Length: **10.50**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Attainment was based on sampling of one organism group (macroinvertebrate). Slightly elevated levels of mercury, and slightly to moderately elevated levels of PCBs were reported in fish tissue samples

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH15 17	17-515	7.00	0.00	05040001-002	Western Allegheny Plateau

WB Name: ***DUNLAP CREEK*** | County: **TUSCARAWAS CO**

Aquatic Life Use(s): **WWH** | Segment Length: **7.00**

Assessment Cycle: **2000** | Field Data Collected From: **199809 to 199809** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 2.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	7.00						

Comments: One site was sampled in this segment at river mile 2.1. No major sources of pollution were noted, with the exception of cattle in the stream, which poses a threat to bank stabilization. The IBI score of 50 was well within WWH criteria. Habitat at the sampling site was also very good (QHEI=65).

Causes of Impairment:
Siltation - T
Other habitat alterations - T

Sources of Impairment:
Range Grazing - Riparian - T
Streambank destabilization - Ag - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH15 18	17-516	3.40	0.00	05040001-	Western Allegheny Plateau

WB Name: ***BROWNING RUN*** | County: **TUSCARAWAS CO**

Aquatic Life Use(s): **WWH** | Segment Length: **3.40**

Assessment Cycle: **2000** | Field Data Collected From: **199809 to 199809** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.00	Full, But Threatened: 0.40	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.40						

Comments: One site was sampled in this segment at river mile 0.3. No major sources of pollution were noted, with the exception of cattle in the stream, which poses a threat to bank stabilization. The IBI score of 48 was well within WWH criteria. Habitat at the sampling site was also very good (QHEI=68.5).

Causes of Impairment:
Siltation - T
Other habitat alterations - T

Sources of Impairment:
Range Grazing - Riparian - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH15 31	17-500	65.50	58.10	05040001-023	Western Allegheny Plateau

WB Name: ***TUSCARAWAS RIVER (CONOTTON CREEK TO SUGAR CREEK)*** | County:

Aquatic Life Use(s): **WWH** | Segment Length: **7.40**

Assessment Cycle: **1998** | Field Data Collected From: **199506 to 199508** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.50		

Comments: Sites were sampled upstream from Dover Dam, a flow-through flood control dam. Habitat conditions range from free-flowing to impounded. The fish community scored in the poor range. Macroinvertebrates scored in the very good range. Sediments are known to be contaminated in this segment. There was a high incidence of Carp with head deformities. A fish consumption advisory is in effect for this segment of the Tuscarawas River.

Causes of Impairment:
Priority organics - H
Flow alteration - M
Siltation - M
M

Sources of Impairment:
Contaminated sediments - H
Flow reg./mod. - Development - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH15 32	17-500	73.10	65.50	05040001-	Western Allegheny Plateau

WB Name: ***TUSCARAWAS RIVER (SANDY CREEK TO CONOTTON CREEK)***

County:

Aquatic Life Use(s): **WWH** Segment Length: **7.60**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	7.10	0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					7.10	0.50	

Comments: Biological communities in this segment ranged from fair (fish) to very good (macroinvertebrates). Contaminated sediments appear to be influencing the fish populations based on low species diversity and a high incidence of Carp with head deformities. A fish consumption advisory is in effect for this segment of the Tuscarawas River.

Causes of Impairment:
Priority organics - H
Organic enrichment/DO - S

Sources of Impairment:
Contaminated sediments - H
Municipal Point Sources - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH16 1	17-750	4.90	0.00	05040002-005	Erie-Ontario Lake Plain

WB Name: ***CLEAR FK MOHICAN R(PLEASANT HILL RES TO BLACK FK.)***

County: ASHLAND CO

Aquatic Life Use(s): **CWH,WWH** Segment Length: **4.90**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.90	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.90				

Comments: This stream segment begins as the discharge from the Pleasant Hill Resevoir and flows through state forest land. Water is discharged from the surface of the reservoir, which can be very warm during the summer, and may contain high amounts of suspended organic material (algae). Fish and macroinvertebrate communities were in good to excellent condition.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH16 2	17-751	8.20	0.00	05040002-	Erie-Ontario Lake Plain

WB Name: ***PINE RUN***

County: ASHLAND CO

Aquatic Life Use(s): **CWH** Segment Length: **8.20**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: Sampling in Pine Run near the mouth yielded fish communities that fully met the WWH biological criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH16 5	17-754	7.80	0.00	05040002-019	Erie-Ontario Lake Plain	RICHLAND CO

WB Name: ***OPOSSUM RUN***

Aquatic Life Use(s): **WWH** Segment Length: **7.80**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		1.00					

Comments: Sampling in Opossum Run yielded fish communities that fully met the WWH biological criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH16 10	17-750	21.40	4.90	05040002-005	Erie-Ontario Lake Plain	RICHLAND CO

WB Name: ***CLEAR FK MOHICAN R(CEDAR FK TO PLEASANT HILL RES)***

Aquatic Life Use(s): **CWH,WWH** Segment Length: **16.50**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	10.20	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			10.20				

Comments: A WWH aquatic life use is a a more appropriate use for all free-flowing segments of Clear Fork based on native fauna. Analytical results indicated very good to excellent water quality. Habitats in this portion of Clear Fork were found fully capable of supporting WWH aquatic communities. Fish and macroinvertebrate communities yielded index scores in the good to excellent range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH16 13	17-761	9.60	0.00	05040002-007	Erie-Ontario Lake Plain	

WB Name: ***CEDAR FORK***

Aquatic Life Use(s): **CWH** Segment Length: **9.60**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.60	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.00	5.70	2.90				

Comments: The Warmwater Habitat (WWH) aquatic life use is more appropriate than Coldwater Habitat (CWH) for all free-flowing segments of Clear Fork based on the native fauna. Generally, analytical results indicated very good to excellent water quality. The only portion of Clear Fork that did not fully attain the proposed WWH use was immediately downstream from the Lexington WWTP. The channelized, low gradient nature of the stream in this area likely exacerbated impacts from urban runoff and the Lexington WWTP.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH16 15	17-750	36.80	21.40	05040002-005	Erie-Ontario Lake Plain

WB Name: ***CLEAR FORK MOHICAN R. (HEADWATERS TO CEDAR FORK)***

County:

Aquatic Life Use(s): **WWH,CWH** Segment Length: **15.40**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199311** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: One site was sampled in this segment and fully attained WWH biocriteria. Good habitat was present. Slightly elevated levels of mercury and PCBs were reported in fish tissue samples.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH16 16	17-730	14.00	0.00	05040002-003	Erie-Ontario Lake Plain

WB Name: ***BLACK FORK MOHICAN R. (ROCKY FORK TO CLEAR FORK)***

County:

Aquatic Life Use(s): **WWH** Segment Length: **14.00**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00		

Comments: One fish sample was collected at river mile 1.0. Swift current (causing short sampling time in the boat), embedded substrates and riparian removal possibly combine to cause the non-attainment status of this lower portion Black Fork Mohican River.

Causes of Impairment:

Cause Unknown - H

Sources of Impairment:

Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH16 19	17-733	19.60	0.00	05040002-021	Erie-Ontario Lake Plain

WB Name: ***ROCKY FORK MOHICAN RIVER***

County: **RICHLAND CO**

Aquatic Life Use(s): **WWH** Segment Length: **19.60**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.70	0.00	6.40	9.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.70	3.30	7.90	4.90	

Comments: Chemical sampling demonstrated increases in suspended solids associated with high flow events, accompanied by higher metal concentrations, especially copper and lead due to impacts from urban storm water runoff and the re-suspension of contaminated sediment. In contrast, high flows diluted a nutrient enrichment impact downstream from the Mansfield WWTP. Sediment metals and organics are a major concern, especially regarding PCBs, beginning at Old Bowman Rd. Some improvement was noted in the fish and macroinvertebrate communities compared with the 1993 results. The most compelling difference was the drastic reduction of DELT anomalies in the fish community. This suggested that severe toxicity present in 1993 associated with the ARMCO facility had been eliminated. However, due to sediment contamination, urban runoff, channelization and enrichment associated with the Mansfield WWTP, only 0.7 miles of stream were in full attainment of the WWH aquatic life use.

Causes of Impairment:

Metals - H
Priority organics - H
Nutrients - H
Siltation - M

Sources of Impairment:

Major Industrial Point Source - H
Major Municipal Point Source - H
Other Urban Runoff - H
Channelization - Development - M
Removal of riparian vegetation - Dev - M
Streambank destabilization - Dev - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH16 20	17-734	5.30	0.00	05040002-	Erie-Ontario Lake Plain	

WB Name: ***TOUBY RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.30**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199311** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.50	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Touby Run is an urban stream with problems that are typical given the land use (i.e., channelization and urban run-off) that produced an enriched condition and limited habitat.

Causes of Impairment:
- *Other habitat alterations - H*
- *Organic enrichment/DO - S*

Sources of Impairment:
- *Other Urban Runoff - H*
- *Channelization - Development - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH16 23	17-730	44.90	31.00	05040002-004	Erie-Ontario Lake Plain	RICHLAND CO

WB Name: ***BLACK FK MOHICAN R(LEATHERWOOD CR TO WHETSTONE CR)***

Aquatic Life Use(s): **WWH** Segment Length: **13.90**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.20	Full, But Threatened: 0.00	Partial: 2.30	None 3.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				0.20	2.30	3.60	

Comments: The 1998 results indicated improvement in the environmental conditions since 1989. However, habitat alteration, possibly exacerbated by point source discharges, resulted in a depressed fish community. Deficient near and instream habitats were widespread on the Black Fork. Extremely low fish index values and elevated gross external anomalies suggested a complex, possibly toxic, impact compounding the existing problem of severely degraded habitat at the lowest sampled station (RM 38.4). Even though ICI scores were in the exceptional range, nutrient enrichment was indicated in this reach.

Causes of Impairment:
- *Siltation - H*
- *Unknown toxicity - H*
- *Other habitat alterations - H*
- *Nutrients - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Major Municipal Point Source - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH16 23.1	17-770	4.50	0.00	05040002-	Erie-Ontario Lake Plain	RICHLAND CO

WB Name: ***FLEMING FALLS CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **4.50**

Assessment Cycle: **1996** Field Data Collected From: **199408 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.80	None 2.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The Eastview Subdivision WWTP released a large amount of sludge from its lagoon. It had become incorporated in the hyporheic zone and concentrated in the pools. Low dissolved oxygen associated with this had largely eliminated fish down stream from the WWTP. Recovery after the elimination of this problem will be very slow due to the high gradient of the stream and the number of obstacles that re-invading fish must pass. Also present was riparian grazing, with livestock (dairy cattle) having free access to the stream.

Causes of Impairment:
- *Organic enrichment/DO - H*

Sources of Impairment:
- *Domestic Wastewater Lagoon - H*
- *Onsite wastewater systems (septic tanks) - M*
- *Package Plants (Small Flows) - M*
- *Range Grazing - Riparian - M*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH16 23.11	**17-771**	**1.50**	**0.00**	**05040002-**	**Erie-Ontario Lake Plain**

WB Name: ***TRIB TO FLEMING FALLS CREEK*** County: **RICHLAND CO**

Aquatic Life Use(s): **WWH** Segment Length: **1.50**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**0.00**	**0.40**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Eastview Subdivision WWTP released a large amount of sludge from its treatment lagoon. Sludge had become incorporated in the hyporheic zone and accumulated in the pools. Low dissolved oxygen associated with this sludge had eliminated all but the most tolerant pioneering fish species.

Causes of Impairment:

Organic enrichment/DO - H

Sources of Impairment:

Domestic Wastewater Lagoon - H
Onsite wastewater systems (septic tanks) - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH16 28	**17-730**	**58.40**	**44.85**	**05040002-004**	**Erie-Ontario Lake Plain**

WB Name: ***BLACK FK MOHICAN R.(HEADWATERS TO LEATHERWOOD CR.)*** County: **RICHLAND CO**

Aquatic Life Use(s): **WWH** Segment Length: **13.55**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.70	**0.00**	**4.50**	**1.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	0.10	**0.90**	**2.30**	**1.20**	**3.60**	**0.30**	**0.70**

Comments: Sampling yielded generally good results upstream from Tuby Run. Partial attainment of the WWH use was documented downstream from Tuby Run. Increased nutrients, along with flow modifications through the urban area (channelization, canopy removal), resulted in accelerated algal growth. Nitrate, phosphorus, and suspended solids were elevated downstream from the Shelby WWTP. The fish community was impacted by habitat alteration, possibly exacerbated by point source discharges. In comparison with previous surveys, the 1998 results indicated considerable improvement in the environmental conditions of the Black Fork since 1989.

Causes of Impairment:

Nutrients - H
Siltation - H
Unknown toxicity - M

Sources of Impairment:

Channelization - Development - H
Removal of riparian vegetation - Dev - H
Major Industrial Point Source - M
Industrial Permitted - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH16 28.1	17-769	4.40	0.00	05040002-	Erie-Ontario Lake Plain

WB Name: ***TUBY RUN*** County: **RICHLAND CO**

Aquatic Life Use(s): **WWH** Segment Length: **4.40**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.00	0.10

Comments: Tuby Run is a highly modified stream. Non-attainment of the WWH aquatic life use designation was due to a predominance of tolerant macroinvertebrate taxa. The macroinvertebrate community was in poor condition upstream from the Copperweld 002 outfall and very poor near the confluence with the Black Fork. The 002 discharge did not appear to be acutely toxic. However, toxicity was demonstrated in the macroinvertebrate assemblage near the mouth. Chemical quality near the mouth was poor. Sources of degradation included agricultural and urban runoff, Copperweld discharges, and contaminated sediments.

Causes of Impairment:

Unknown toxicity - H
Pathogens - M
Organic enrichment/DO - M
Oil and grease - S

Sources of Impairment:

Major Industrial Point Source - H
Industrial Permitted - H
Contaminated sediments - H
Other Urban Runoff - M
Channelization - Development - M
Streambank destabilization - Dev - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH17 1	17-700	16.10	0.00	05040002-001	Western Allegheny Plateau

WB Name: ***MOHICAN RIVER (UNNAMED TRIB. TO KOKOSING RIVER)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **16.10**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.10				

Comments: One site was sampled in the this stream segment by Ohio Northern University in 1997. Based on the IBI results, the stream appears to be attaining WWH criteria. Results may be on the low end due to the fish collection being done with a seine. Ohio EPA sampling done in the segment immediately upstream (using electrofishing methods) also indicated good biological quality.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH17 4	17-700	27.60	16.10	05040002-001	Western Allegheny Plateau

WB Name: ***MOHICAN RIVER (ROCKY FORK TO UNNAMED TRIB.)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **11.50**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				1.00			

Comments:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH17 10	17-714	28.90	0.00	05040002-015	Erie-Ontario Lake Plain

WB Name: ***MUDDY FORK MOHICAN RIVER*** County:

Aquatic Life Use(s): **WWH** Segment Length: **28.90**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.00				

Comments: Water quality was determined to be good, with no violations documented at Fleming Rd. (RM 18.4). There was a slight potential for a nutrient enrichment impact, since some nutrient levels, especially phosphorus, were elevated due to loadings from the West Salem WWTP. Water quality at Co. Rd. 100 (RM 13.4) was determined to be very good. The upper station appeared in a natural, or unmodified state, possessing a minimum compliment of positive features. The remaining station was likely channelized in the past, but limited recovery was evident. Each site was found to contain communities of fish and macroinvertebrates consistent with WWH biocriteria.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH17 12	17-716	3.50	0.00	05040002-	Erie-Ontario Lake Plain

WB Name: ***REDHAW CREEK*** County: ASHLAND CO

Aquatic Life Use(s): **WWH** Segment Length: **3.50**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.00						

Comments: The macroinvertebrate community of Redhaw Creek at RM 2.1 was in excellent condition owing, in part, to an abundance of coarse stable substrates that resisted recent scouring that affected many sampling locations in the Jerome Fork basin. Sampling yielded an ICI score of 58, and a diverse assemblage of sensitive taxa including three stonefly taxa.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH17 14	17-718	12.28	0.00	05040002-	Erie-Ontario Lake Plain	ASHLAND CO

WB Name: ***JEROME FORK MOHICAN R. (LANG CREEK TO LAKE FORK)***

Aquatic Life Use(s): **WWH** Segment Length: **12.28**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	7.40	0.00	2.90	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		1.30	4.00	2.00	2.90		

Comments: Generally, 1998 analytical results indicated good water quality. However, there was a significant increase in nutrient concentrations downstream from Lang Creek. The fish community provided evidence of chronic sublethal stress in the form of an elevated incidence of DELT anomalies at nearly all stations beginning at RM 12.1 (downstream from Lang Creek). Biological sampling identified two stream segments totaling 2.9 miles that were partially attaining the WWH use due to the presence of only fair fish communities. Departure from the WWH criteria at these sites were the result of the combined effects of poor physical habitat and point sources of pollution.

Causes of Impairment:
Nutrients - H
Pathogens - M

Sources of Impairment:
Major Municipal Point Source - H
Onsite wastewater systems (septic tanks) - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH17 21	17-725	9.30	0.00	05040002-	Erie-Ontario Lake Plain	ASHLAND CO

WB Name: ***LANG CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **9.30**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.60	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		3.40	0.20				

Comments: Full attainment of the WWH aquatic life use was documented in Lang Creek in 1998. No exceedences of water quality standards were recorded. No acute toxicity was indicated within the mixing zone of the Ashland WWTP. However, increases in nitrate and phosphorus concentrations occurred downstream from the WWTP. Conditions were significantly improved compared with the severe impacts that existed in 1984. Sediment sampling identified elevated to highly elevated DDT, metals, and PAH levels primarily downstream from the Ashland WWTP and the Ashland urban area.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH17 22	17-726	5.40	0.00	05040002-	Erie-Ontario Lake Plain	ASHLAND CO

WB Name: ***JAMISON CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.40**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.60	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		0.50	1.10				

Comments: Full attainment of the WWH aquatic life use was documented in Jamison Creek in 1998. No exceedences of water quality standards were recorded. This result is significantly improved compared with the findings of the 1984 survey. Wastewater discharges from National Latex Co., Philway Products Corp., and United Brand Corp. have been eliminated since 1984. Exceptional fish communities were indicated at two stations sampled on Jamison Creek. Despite the positive findings of the 1998 survey, elevated DELT anomalies suggest lingering chronic effects from past industrial practices within the basin.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH17 23	17-727	5.60	0.00	05040002-	Erie-Ontario Lake Plain	ASHLAND CO

WB Name: ***TOWN RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.60**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.80	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				0.80			

Comments: Full attainmet of the WWH aquatic life use was documented in 1998. No exceedences of water quality standards were documented. However, daytime dissolved oxygen measurements were very elevated due to an abundance of filamentous algae, and the macroinvertebrate community was rated only marginally good. These were indications that DO levels may drop below criteria in the evenings. Additionally, elevated DELT anomalies were documented within the fish community of Town Run. It appeared that urban runoff poses a threat to the continued attainment of the WWH use.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH17 24	17-718	14.78	12.29	05040002-	Erie-Ontario Lake Plain	ASHLAND CO

WB Name: ***JEROME FORK (LEIDIGH MILL/ORANGE CR. TO LANG CR.)***

Aquatic Life Use(s): **WWH** Segment Length: **2.49**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.80	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		0.80	1.00				

Comments: The single site sampled in 1998 demonstrated full attainment of WWH and no significant water quality concerns.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH18 27	17-674	18.30	0.00	05040003-022	Erie-Ontario Lake Plain	

WB Name: ***NORTH BRANCH KOKOSING RIVER***

Aquatic Life Use(s): **WWH** Segment Length: **18.30**

Assessment Cycle: **1998** Field Data Collected From: **199505 to 199505** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.60	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.60						

Comments: One site in this segment was sampled by students from Ohio State University as part of a fisheries class. The fish community scored well into the Exceptional Warmwater Habitat range. Land use is a combination of row crop agriculture and pasture land. There are no apparent water quality or biological problems in this segment.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH19 2	17-151	3.90	0.00	05040003-010	Western Allegheny Plateau

WB Name: ***BUCKLEW RUN*** County:

Aquatic Life Use(s): **EWH** Segment Length: **4.00**

Assessment Cycle: **1996** Field Data Collected From: **199408 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: It is recommended that this stream be designated Exceptional Warmwater Habitat based on fish sampling results (IBI=50).

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH19 4	17-153	20.10	0.00	05040003-	Western Allegheny Plateau

WB Name: ***DOUGHTY CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **20.10**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: One site was sampled in this stream segment by Ohio Northern University in 1997. Based on the IBI results (IBI=42) the stream appears to be marginally attaining WWH criteria for the WAP ecoregion. Results may be on the low end due to the fish collection being done with a seine and backpack shocking unit.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH19 4.1	17-138	2.60	0.00	05040001-	Western Allegheny Plateau

WB Name: ***TRIB. TO DOUGHTY CREEK (RM 14.34)*** County: HOLMES CO

Aquatic Life Use(s): **WWH** Segment Length: **2.60**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Biological communities were both in the fair range. Significant background nutrient enrichment was present, but no Water Quality Standard (WQS) violations. The sampling site was downstream from the unsewered Village of Charm, and open pasture/livestock operations.

Causes of Impairment:

Organic enrichment/DO - H
Siltation - M

Sources of Impairment:

Onsite wastewater systems (septic tanks) - H
Pasture land - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH19 8	**17-150**	**25.20**	**15.70**	**05040003-002**	**Western Allegheny Plateau**

WB Name: ***KILLBUCK CREEK (BLACK CREEK TO DOUGHTY CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **9.50**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**0.00**	**1.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment: *Other habitat alterations - H*

Sources of Impairment: *Channelization - Agriculture - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH19 9	**17-157**	**6.40**	**0.00**	**05040003-008**	**Western Allegheny Plateau**

WB Name: ***BIG RUN*** County:

Aquatic Life Use(s): **EWH** Segment Length: **6.40**

Assessment Cycle: **1996** Field Data Collected From: **199410 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.20	**0.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Riparian removal and agricultural runoff are both sources of siltation. Despite these influences, it is recommended that this stream be designated Exceptional Warmwater Habitat based on fish sampling results.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH19 12	**17-160**	**9.00**	**0.00**	**05040003-**	**Western Allegheny Plateau**

WB Name: ***WOLF CREEK*** County: **HOLMES CO**

Aquatic Life Use(s): **WWH** Segment Length: **9.00**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.10	**0.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		5.10					

Comments: One site was sampled in this stream segment by Ohio Northern University in 1997. Based on the IBI results (IBI=48) the fish community appears to be healthy and diverse, attaining WWH criteria for the WAP ecoregion.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH19 13	17-161	11.10	0.00	05040003-	Western Allegheny Plateau	HOLMES CO

WB Name: ***BLACK CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **11.10**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.60	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.60				

Comments: One site was sampled in this stream segment by Ohio Northern University in 1997. Based on the IBI results (IBI=46) the stream appears to be attaining WWH criteria for the WAP ecoregion.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH19 23	17-150	37.60	31.30	05040003-002	Erie-Ontario Lake Plain	

WB Name: ***KILLBUCK CREEK (SALT CREEK TO SAPPS RUN)***

Aquatic Life Use(s): **WWH** Segment Length: **6.30**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	6.30	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly elevated levels of mercury and PCBs were reported.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH19 26	17-172	8.30	0.00	05040003-	Erie-Ontario Lake Plain	

WB Name: ***MARTINS CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **8.30**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: One site in this segment attained WWH criteria, though the fish were only marginally attaining.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH19 27	**17-173**	**9.00**	**0.00**	**05040003-023**	**Erie-Ontario Lake Plain**

WB Name: ***PAINT CREEK*** County:

Aquatic Life Use(s): **EWH** Segment Length: **9.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: One site in this segment was monitoring, with exceptional biological and habitat quality was recorded. It is recommended that this stream be designated Exceptional Warmwater Habitat.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH19 29	**17-175**	**11.60**	**0.00**	**05040003-025**	**Erie-Ontario Lake Plain**

WB Name: ***SALT CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **11.60**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: One site was sampled in this segment, and fully attained Warmwater Habitat criteria.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH19 30	**17-176**	**4.70**	**0.00**	**05040003-**	**Erie-Ontario Lake Plain**

WB Name: ***NORTH BRANCH SALT CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **4.70**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: One site was sampled in this segment, and fully attained Warmwater Habitat criteria.. Livestock are present in the watershed, and some elevation of phosphorus and total kjeldahl nitrogen above background were recorded based on comparison to Erie Ontario Lake Plains reference site database (> 75 th. percentile concentrations at reference sites).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH19 31	17-150	49.80	37.60	05040003-002	Erie-Ontario Lake Plain

WB Name: ***KILLBUCK CREEK (APPLE CREEK TO SALT CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **12.20**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.60	Full, But Threatened: 0.00	Partial: 3.80	None 6.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Biological communities gradually decline downstream from Wooster due to channelization and increasing wetland influences. Slight;ly to moderately levels of mercury, and slightly elevated levels of PCBs were reported in fish tissue samples.

Causes of Impairment:
Other habitat alterations - H
Organic enrichment/DO - H
Unionized Ammonia - S

Sources of Impairment:
Channelization - Agriculture - H
Natural - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH19 35	17-180	7.50	0.00	05040003-029	Erie-Ontario Lake Plain

WB Name: ***SHREVE CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **7.50**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Diked wetlands in lower Shreve Creek are nearly anoxic during summer months. Poor macroinvertebrate communities were present.

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Natural - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH19 36	17-181	11.70	0.00	05040003-005	Erie-Ontario Lake Plain

WB Name: ***APPLE CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **11.70**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.90	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: No significant impact associated with agriculture, were reported. Small wastewater treatment plants are present in the upper portion of the segment. Wooster combined sewer overflows or air stripper (contaminated groundwater) discharges in Wooster. Significant improvement was noted since 1981-83, particularly downstream from the Wooster urban area.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH19 38	17-150	60.60	49.80	05040003-002	Erie-Ontario Lake Plain

WB Name: ***KILLBUCK CREEK (SHADE CREEK TO APPLE CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **10.80**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.00	Full, But Threatened: 0.00	Partial: 1.80	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Historical channelization and occasional maintenance is the primary source of impact. The Wooster WWTP discharges to the lower 0.1 mile of the segment.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH19 40	17-184	9.00	0.00	05040003-	Erie-Ontario Lake Plain

WB Name: ***LITTLE KILLBUCK CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **9.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 3.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Extensive livestock operations and unrestricted access are present in upper portion of the basin. The stream appeared to de-water in the lower 0.5 miles when it entered the Killbuck Creek floodplain, resulting in fair macroinvertebrate quality.

Causes of Impairment:
Organic enrichment/DO - H
Other habitat alterations - H

Sources of Impairment:
Feedlots (Confined Animal Feeding Oper.) - H
Natural - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH19 43	17-187	3.40	0.00	05040003-	Erie-Ontario Lake Plain

WB Name: ***SHADE CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **3.40**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This basin was considered relatively unimpacted, and a control basin compared to more extensive agricultural and nonpoint sources in other areas of the Killbuck Creek basin. Hence, one sampling site near mouth was considered representative of the entire watershed.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH19 44	17-150	81.70	60.61	05040003-002	Erie-Ontario Lake Plain

WB Name: ***KILLBUCK CREEK (HEADWATERS TO SHADE CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **21.05**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.40	Full, But Threatened: 0.00	Partial: 5.00	None 3.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: A 6.6 mile stretch within the segment was previously designated as Limited Warmwater Habitat (LWH) and is being upgraded to Warmwater Habitat (WWH). Channelization and dissolved oxygen (primarily nonpoint source related) are major problems in the segment. The highest ammonia levels were found at the most upstream site (upstream from all point sources (minor) but downstream from livestock operations).

Causes of Impairment:

Organic enrichment/DO - H
Other habitat alterations - H
Unionized Ammonia - S

Sources of Impairment:

Feedlots (Confined Animal Feeding Oper.) - H
Channelization - Agriculture - H
Minor Municipal Point Source - S
Source Unknown - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH19 47	17-190	7.60	0.00	05040003-	Erie-Ontario Lake Plain

WB Name: ***CAMEL CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **7.60**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: A major difference between fish communities (very good) and macroinvertebrate communities (fair) is of some concern. Lack of flow may have had some influence on the ICI, but dissolved oxygen violations were consistantly recorded throughout the summer, indicating water quality impacts.

Causes of Impairment:

Organic enrichment/DO - H
Flow alteration - S

Sources of Impairment:

Nonirrigated crop production - H
Natural - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 1	17-001	99.30	87.10	05040004-	Western Allegheny Plateau

WB Name: ***MUSKINGUM RIVER (WILLS CREEK TO SYMMES CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **12.20**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 9.90	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Attainment drops from full to partial beginning downstream from Wills Creek. However, full attainment in Wills Creek near mouth indicates it is not a significant source of impairment.

Causes of Impairment:

Organic enrichment/DO - H
H

Sources of Impairment:

Major Industrial Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 2	17-960	19.70	0.00	05040004-	Western Allegheny Plateau

WB Name: ***WAKATOMIKA CREEK (BRUSHY FORK TO MUSKINGUM RIVER)*** County:

Aquatic Life Use(s): **EWH** Segment Length: **19.70**

Assessment Cycle: **2000** Field Data Collected From: **199608 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 17.20	Full, But Threatened: 2.50	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	16.70	3.00					

Comments: Fish communities throughout the mainstem scored in the good to excellent range.

Causes of Impairment: *Siltation - T*

Sources of Impairment: *Channelization - Agriculture - T*; *Removal of riparian vegetation - Ag - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 5	17-963	6.30	0.00	05040004-097	Western Allegheny Plateau

WB Name: ***MOSCOW BROOK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **6.30**

Assessment Cycle: **1996** Field Data Collected From: **199409 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.30	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: SLIGHT RESIDUALL SURFACE MINING EFFECTS SEEN , BUT NO SIGNIFICANT EFFECT TO BIOTA. WWH IS RECOMMENDED BASED ON THE FISH COMMUNITY.

Slight residual effects of surface mining were observed, but no significant effects were noted in the biota. It is recommended that this stream be designated Warmwater Habitat based on fish sampling results.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 11	17-969	6.10	0.00	05040004-	Western Allegheny Plateau

WB Name: ***FIVEMILE RUN*** County:

Aquatic Life Use(s): **EWH** Segment Length: **6.10**

Assessment Cycle: **1996** Field Data Collected From: **199408 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: It is recommended that this stream be upgraded to Exceptional Warmwater Habitat based on fish sampling results.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 13	17-960	47.80	19.70	05040004-	Western Allegheny Plateau

WB Name: ***WAKATOMIKA CREEK (HEADWATERS TO BRUSHY FORK)*** County:

Aquatic Life Use(s): **EWH** Segment Length: **28.10**

Assessment Cycle: **2000** Field Data Collected From: **199710 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.00				

Comments: One site was sampled in the headwaters of this segment at river mile 43.8. Fish results indicate good water quality (IBI=44), but the stream was not attaining the EWH use designation.

Causes of Impairment:
Natural Limits (Wetlands) - H

Sources of Impairment:
Natural - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 14	17-971	8.30	0.00	05040004-047	Western Allegheny Plateau

WB Name: ***BRUSHY FORK*** County:

Aquatic Life Use(s): **EWH** Segment Length: **8.30**

Assessment Cycle: **1996** Field Data Collected From: **199409 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 8.30	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: It is recommended that this stream be upgraded to Exceptional Warmwater Habitat based on fish sampling results (IBI=56). Unrestricted livestock access in the lower reaches of the stream may result in non attainment in these reaches.

Causes of Impairment:
Organic enrichment/DO - T
Other habitat alterations - T

Sources of Impairment:
Range Grazing - Riparian - T
Removal of riparian vegetation - Ag - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 16	17-973	8.00	0.00	05040004-	Western Allegheny Plateau

WB Name: ***WINDING FORK*** County:

Aquatic Life Use(s): **EWH** Segment Length: **8.00**

Assessment Cycle: **1996** Field Data Collected From: **199408 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: It is recommended that this stream be upgraded to Exceptional Warmwater Habitat based on fish sampling results.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 22	17-001	111.13	99.30	05040004-071	Western Allegheny Plateau

WB Name: ***MUSKINGUM RIVER (TUSC./WALHOND. R. TO WILLS CREEK)***

County:

Aquatic Life Use(s): **WWH** Segment Length: **11.83**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 11.83	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Some improvement were noted since 1988, and full attainment was recorded during an intensive survey. Dissolved oxygen and temperature regiems show improvement over drought years. However, both fish and macroinvertebrate show indications of gradually declining health with increased distance downstream from Coshocton/Stone Container and additional point source inputs. Slightly elevated levels of mercury, and slightly to moderately elevated levels of PCBs were reported in fish tissue samples.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 24	17-600	7.30	0.00	05040003-001	Western Allegheny Plateau

WB Name: ***WALHONDING RIVER (KILLBUCK CREEK TO TUSCARAWAS R.)***

County:

Aquatic Life Use(s): **EWH** Segment Length: **7.30**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.30	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This segment fully attains Exceptional Warmwater Habitat criteria. It remains as one of the highest quality large streams in the state of Ohio.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 25	17-610	18.00	0.00	05040003-	Western Allegheny Plateau

WB Name: ***MILL CREEK***

County:

Aquatic Life Use(s): **EWH** Segment Length: **18.00**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199407** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 16.30	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream, especially the lower 6 miles, has the potential to be heavily impacted by agricultural runoff, highway runoff, and siltation due to the proximity to roads. Lack of riparian corridor also plays a role. Future monitoring is recommended to document any changes in nonpoint source impacts in the lower portion of the basin. Based on fish sampling results, Exceptional Warmwater Habitat is recommended.

Causes of Impairment:

Siltation - T
Other habitat alterations - T

Sources of Impairment:

Nonirrigated crop production - T
Highway maintenance and runoff - T
Removal of riparian vegetation - Ag - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 26	17-611	5.90	0.00	05040003-	Western Allegheny Plateau

WB Name: ***SPOON CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **5.90**

Assessment Cycle: **1996** Field Data Collected From: **199409 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 4.70	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Dairy cattle operations and over-grazing are impacting stream banks, and contributing nutrient loads to the stream. Limited Resource Water (LRW - mine drainage) should be upraded to Warmwater Habitat based on the attainment of the fish community.

Causes of Impairment:

Nutrients - T
Other habitat alterations - T
Nutrients - T

Sources of Impairment:

Range Grazing - Riparian - T
Streambank destabilization - Ag - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 27	17-612	4.10	0.00	05040003-	Western Allegheny Plateau

WB Name: ***TURKEY RUN*** County:

Aquatic Life Use(s): **EWH** Segment Length: **4.10**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: No problems were found within this watershed, though the assessment indicates possible nonpoint source contamination. However, none were found. Stone Container has a landfill in the upper part of the watershed that may possibly be the source. Based on fish community sampling results, Exceptional Warmwater Habitat is recommended.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 28	17-613	6.20	0.00	05040003-	Western Allegheny Plateau

WB Name: ***LITTLE MILL CREEK*** County:

Aquatic Life Use(s): **EWH** Segment Length: **6.20**

Assessment Cycle: **1996** Field Data Collected From: **199409 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There are presently no significant sources of pollution within this subbasin. But, agricultural activitiy is somewhat intense, and future monitoring is recommended to update any possible degradation due to this activity. Based fish community sampling results, Exceptional Warmwater Habitat is recommnded for this segment.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 31	17-600	23.20	7.30	05040003-003	Western Allegheny Plateau

WB Name: ***WALHONDING R. (MOHICAN/KOKOSING R. TO KILLBUCK CR)***

County:

Aquatic Life Use(s): **EWH** Segment Length: **15.90**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 15.90	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There was full attainment of Exceptional Warmwater Habitat in this segment.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH20 34	17-605	8.10	0.00	05040003-	Western Allegheny Plateau

WB Name: ***BEAVER RUN***

County:

Aquatic Life Use(s): **EWH** Segment Length: **8.10**

Assessment Cycle: **1996** Field Data Collected From: **199408 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Exception Warmwater Habitat use designation is recommended for this stream based on fish community results.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH21 1	17-800	15.10	0.00	05040005-001	Western Allegheny Plateau

WB Name: ***WILLS CREEK (WHITE EYES CREEK TO MUSKINGUM RIVER)***

County:

Aquatic Life Use(s): **WWH** Segment Length: **15.10**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.90	Full, But Threatened: 0.00	Partial: 5.20	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Sedimentation from mine drainage influenced biological communities in the upstream portion of the stream segment. Reduced siltation and higher gradient occurred downstream from Wills Creek Reservoir.

Causes of Impairment:	Sources of Impairment:
Siltation - H	*Surface Mining - H*
	Range Grazing - Upland - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH21 6	**17-800**	**31.40**	**15.10**	**05040005-003**	**Western Allegheny Plateau**

WB Name: ***WILLS CREEK (BIRDS RUN TO WHITE EYES CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **16.30**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 16.30	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Macroinvertebrate communities were reflective of good water quality. However, fish results continue to reflect impaired conditions associated with sedimentation from mine drainage and agricultural runoff.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Surface Mining - H
Range Grazing - Upland - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH21 14	**17-800**	**50.20**	**31.40**	**05040005-**	**Western Allegheny Plateau**

WB Name: ***WILLS CREEK (SALT FORK TO BIRDS RUN)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **18.80**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 18.80	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Pervasive habitat limitations (primarily sedimentation) continue to suppress biological communities, in particular, fish. Sedimentation is present due to mine drainage and agricultural runoff. Higher stream gradients help to improve stream bed conditions.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Surface Mining - H
Range Grazing - Upland - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH21 19	**17-820**	**32.00**	**0.00**	**05040005-**	**Western Allegheny Plateau**

WB Name: ***SALT FORK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **32.00**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 4.10	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Limited sampling in Salt Fork suggests some impact on water quality associated with nonpoint source influences. Salt Fork had elevated levels of aluminum, iron and manganese, and several nutrient parameters. Results suggested potential influences from livestock grazing in the watershed, as well as reduced habitat conditions caused by past channel modification activities.

Causes of Impairment:
Siltation - H
Other habitat alterations - M
Nutrients - S
Other inorganics - S

Sources of Impairment:
Range Grazing - Upland - H
Channelization - Agriculture - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH21 20	17-821	15.50	0.00	05040005-	Western Allegheny Plateau

WB Name: ***SUGARTREE FORK*** County: GUERNSEY CO

Aquatic Life Use(s): **WWH** Segment Length: **15.50**

Assessment Cycle: **2000** Field Data Collected From: **199710 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.40	0.00	0.00	1.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.70			0.70	1.40		

Comments: The most recent macroinvertebrate sampling indicates continued exceptional communities. Fish communities within the reach have remained stable compared to previous sampling. Non-attainment was restricted to reaches with unrestricted livestock access to the stream, and intensive row crop agricultural use.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Range Grazing - Riparian - H
Nonirrigated crop production - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH21 21	17-822	9.20	0.00	05040005-	Western Allegheny Plateau

WB Name: ***ROCKY FORK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **9.20**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	1.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Limited sampling in Rocky Fork indicated partial impairment associated with livestock grazing in the watershed. Elevated nutrients and iron were recorded in surface water samples.

Causes of Impairment:
Siltation - H
Nutrients - M
Other inorganics - S

Sources of Impairment:
Range Grazing - Upland - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH21 22	17-823	3.40	0.00	05040005-	Western Allegheny Plateau

WB Name: ***YELLOW WATER CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **3.40**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.10	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Limited sampling in the lower portion of Yellow Water Creek indicated natural stream habitats, low levels of nutrient and mine drainage chemical parameters, and good to exceptional biological communities.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH21 23	17-824	7.20	0.00	05040005-029	Western Allegheny Plateau

WB Name: ***CLEAR FORK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **7.20**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Limited sampling in Clear Fork indicated fair physical stream habitats, slight nutrient enrichment and biological communities reflective of good water quality.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH21 24	17-825	2.30	0.00	05040005-	Western Allegheny Plateau

WB Name: ***TURKEY RUN*** County: GUERNSEY CO

Aquatic Life Use(s): **WWH** Segment Length: **2.30**

Assessment Cycle: **2000** Field Data Collected From: **199710 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	0.60			0.50			

Comments: Fish sampling within this segment indicates stable communities which meet WWH criteria despite habitat limitations in the downstream end of the stream reach.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH21 25	17-826	3.00	0.00	05040005-	Western Allegheny Plateau

WB Name: ***BEEHAM RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **3.00**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.10	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Limited sampling in Beeham Run indicated fair to exceptional biological communities. Fish sampling revealed the influences of pervasive siltation and significant bottom embeddedness, associated with upland livestock grazing. Nutrient and mine drainage parameters were reflective of good water quality.

Causes of Impairment:	Sources of Impairment:
Siltation - H	*Range Grazing - Upland - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH21 26	17-827	7.50	0.00	05040005-025	Western Allegheny Plateau

WB Name: ***BRUSHY FORK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **7.50**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.30	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Limited sampling in Brushy Fork indicated partial impairment to the water resource associated with livestock watershed grazing and stream access. Elevated aluminum and iron, along with nutrient parameters were documented.

Causes of Impairment:

Siltation - H
Nutrients - M
Other habitat alterations - M
Other inorganics - S

Sources of Impairment:

Range Grazing - Upland - H
Channelization - Agriculture - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH21 27	17-828	1.90	0.00	05040005-	Western Allegheny Plateau

WB Name: ***CHRISTIAN CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **1.90**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Limited sampling in Christian Run indicated impairment to the water resource associated with livestock watershed grazing, livestock access to stream and past channel modifications. Elevated manganese, iron and nutrients were documented.

Causes of Impairment:

Siltation - H
Nutrients - M
Other habitat alterations - M
Other inorganics - S

Sources of Impairment:

Range Grazing - Upland - H
Range Grazing - Riparian - H
Channelization - Agriculture - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH21 28	17-829	1.90	0.00	05040005-	Western Allegheny Plateau

WB Name: ***COON RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **1.90**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Limited sampling in Coon Run indicated impairment to the water resource associated with livestock watershed grazing, livestock access to stream and past channel modifications. Elevated manganese was documented.

Causes of Impairment:

Siltation - H
Other habitat alterations - M
Other inorganics - S

Sources of Impairment:

Range Grazing - Upland - H
Range Grazing - Riparian - H
Channelization - Agriculture - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH21 29	17-800	65.00	50.20	05040005-	Western Allegheny Plateau

WB Name: ***WILLS CREEK (LEATHERWOOD CREEK TO SALT FORK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **14.80**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.60	None 13.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Pervasive habitat limitations (primarily sedimentation of the substrates) suppress the full biological potential of Wills Creek. The sedimentation is due to a combination of mine drainage and agricultural runoff along with a low stream gradient. Effluent discharges from the WWTP had no detectable impact on the biological communities. However, effects were potentially masked by the background conditions instream. High fecal coliform concentrations were observed upstream from the WWTP, indicating the sewer system leaks or lift station overflows are discharging poorly treated human waste. Cambridge WWTP toxicity tests were also used in the assessment.

Causes of Impairment:

Siltation - H
Pathogens - M
Other inorganics - S

Sources of Impairment:

Surface Mining - H
Range Grazing - Upland - M
Combined Sewer Overflow - M
Major Municipal Point Source - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH21 43	17-800	81.47	64.98	05040005-011	Western Allegheny Plateau

WB Name: ***WILLS CREEK (BUFFALO FORK TO LEATHERWOOD CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **16.49**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 3.50	None 7.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Non-acidic mine drainage impacts are a major influence on the non/partial attainment status in this segment. Significant sedimentation of the strem bottom has occurred due to a combination of low river gradient and excessive silt runoff from surrounding abandoned surface mines. Wills Creek typically maintains a muddy water appearance year round. Chemical parameters associated with non-acidic mine drainage were elevated thoughout this segment. Slightly to moderately elevated levels of mercury were reported in fish tissue samples (7 of 9 samples).

Causes of Impairment:

Siltation - H
Other inorganics - M
Other habitat alterations - S

Sources of Impairment:

Surface Mining - H
Range Grazing - Upland - M
Minor Municipal Point Source - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH21 44	17-817	6.90	0.00	05040005-034	Western Allegheny Plateau

WB Name: ***CHAPMAN RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **6.90**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199412** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 6.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The lower 6.3 miles of Chapman Run is not attaining the WWH use. The causes include: reduced instream habitat and bottom sedimentation, raw sewage from a malfunctioning lift station, potential influences from an unsewered community and elevated vanadium levels associated with an industrial source. Poor biological communities were documented in an area with vanadium surface water values exceeding Ohio Water Quality Criteria. High levels of vanadium were also observed in sediment from Chapman Run and in fish tissue. An overflowing lift station contributes raw sewage to Chapman Run, as well as linear alkylated benzenes at toxic levels.

Causes of Impairment:

Metals - H
Siltation - H
Unionized Ammonia - H
Nonpriority organics - M
Organic enrichment/DO - M

Sources of Impairment:

Surface Mining - H
Hazardous waste - H
Onsite wastewater systems (septic tanks) - H
Combined Sewer Overflow - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH22 1	17-200	6.20	0.00	05040006-001	Western Allegheny Plateau

WB Name: ***LICKING RIVER (DILLON RES. TO MUSKINGUM RIVER)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **6.20**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.40	Full, But Threatened: 0.00	Partial: 1.80	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The area of partial attainment was limited to the reach immediately downstream from Dillon Reservoir, and represented a failure of the benthic community to perform at a Warmwater Habitat level. Through the course of the 1993 study elevated biological oxygen demand, ammonia-nitrogen, and low dissolved oxygen were recorded, likely associated with the hypolimnetic discharge from Dillon Reservoir. These factors coupled with the disruption of expected riverine energy and nutrient cycling on stream impoundments resulted in diminished performance within the benthic invertebrate assemblage. The impact was localized, and rapid recovery was observed about 1.8 miles downstream. Limnilogical data were collected by a Muskingum Tech. professor consisting of basic chemical/physical profile of Dillon Reservoir. These data were not actually encorperated into technical support document, but aided (as background information) in defining the level of lake stratification. Slightly elevated levels of mercury, and slight to high levels of PCBs were reported in fish tissue samples.

Causes of Impairment:

Unionized Ammonia - H
Organic enrichment/DO - M

Sources of Impairment:

Upstream Impoundment - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH22 2	**17-201**	**7.10**	**0.00**	**05040006-039**	**Western Allegheny Plateau**

WB Name: ***TIMBER RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **7.10**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199306** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**7.10**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There is lots of siltation due to bankside clearing and demolition/construction debris dumped nearby.

Causes of Impairment:
- *Siltation - T*
- *Suspended solids - T*
- *Thermal modifications - T*

Sources of Impairment:
- *Land development/Suburbanization - T*
- *Other Urban Runoff - T*
- *Removal of riparian vegetation - Dev - T*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH22 2.1	**17-281**	**0.83**	**0.00**	**05040006-**	**Western Allegheny Plateau**

WB Name: ***TRIB. TO TIMBER RUN (RM 5.02)*** County: **MUSKINGUM CO**

Aquatic Life Use(s): **NONE** Segment Length: **0.83**

Assessment Cycle: **1998** Field Data Collected From: **199509 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.63	**0.00**	**0.20**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.83				

Comments: Macroinvertebrate results suggest this segment is Coldwater Habitat. Marginal impairment was noted downstream from the West Muskingum WWTP.

Causes of Impairment:
- *Organic enrichment/DO - H*

Sources of Impairment:
- *Package Plants (Small Flows) - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH22 4	**17-203**	**6.00**	**0.00**	**05040006-042**	**Western Allegheny Plateau**

WB Name: ***BARTLETT RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **6.00**

Assessment Cycle: **1998** Field Data Collected From: **199509 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.10	**0.00**	**0.00**	**1.10**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.10		**1.10**		

Comments: Macroinvertebrate communities showed degradation in both the natural and channelized areas of this segment. Biological quality improved downstream from the Vistaview WWTP. Macroinvertebrates were impaired downstream from the Lebar and Crestmont WWTPs.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Other habitat alterations - H*

Sources of Impairment:
- *Package Plants (Small Flows) - H*
- *Channelization - Agriculture - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH22 4.1	**17-282**	**0.85**	**0.00**	**05040006-**	**Western Allegheny Plateau**

WB Name: ***TRIB. TO BARTLETT RUN (RM 2.76)*** County: **MUSKINGUM CO**

Aquatic Life Use(s): **NONE** Segment Length: **0.85**

Assessment Cycle: **1998** Field Data Collected From: **199509 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.85

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							0.85

Comments: Macroinvertebrates were severely impacted in this segment, scoring in the very poor range. Habitat was good, and representative of natural headwaters conditions. A very strong sewage odor was present, along with extensive growths of sewage fungus. The Ash Meadow WWTP, as well as upstream septic discharges, were causing the impacts.

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Onsite wastewater systems (septic tanks) - H
Package Plants (Small Flows) - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH22 5	**17-200**	**21.70**	**6.20**	**05040006-003**	**Western Allegheny Plateau**

WB Name: ***LICKING RIVER (ROCKY FORK TO DILLON RESERVOIR)*** County:

Aquatic Life Use(s): **WWH,LAKE** Segment Length: **15.50**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 15.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly elevated levels of mercury and moderately to highly elevated levels of PCBs were reported in fish tissue samples.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH22 6	**17-204**	**9.70**	**0.00**	**05040006-002**	**Western Allegheny Plateau**

WB Name: ***BIG RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **9.70**

Assessment Cycle: **1998** Field Data Collected From: **199509 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					9.70		

Comments:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH22 6.1	17-283	0.81	0.00	05040006-	Western Allegheny Plateau

WB Name: ***TRIB. TO BIG RUN (RM 1.30)*** County: **MUSKINGUM CO**

Aquatic Life Use(s): **NONE** Segment Length: **0.81**

Assessment Cycle: **1998** Field Data Collected From: **199509 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.20	Full, But Threatened: 0.10	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.30				

Comments: This stream is a good quality, small headwaters stream with high gradient and a forested riparian corridor. The macroinvertebrate community ranged from good to marginally good. The taxa present in the community suggest Coldwater Habitat. The Stonehenge WWTP has a slight impact on the biota, but conditions are still in attainment of goals of the Clean Water Act.

Causes of Impairment:	Sources of Impairment:
Organic enrichment/DO - T	*Package Plants (Small Flows) - T*
Organic enrichment/DO - T	*Package Plants (Small Flows) - T*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH22 6.2	17-284	1.11	0.00	05040006-	Western Allegheny Plateau

WB Name: ***TRIB. TO BIG RUN (RM 2.63)*** County: **MUSKINGUM CO**

Aquatic Life Use(s): **NONE** Segment Length: **1.11**

Assessment Cycle: **1998** Field Data Collected From: **199509 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.11	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.11				

Comments: Macroinvertebrate sampling indicated good biological quality reflective of good water quality. Taxa collected suggest Coldwater Habitat (CWH). It is recommended that this high-gradient, extensively forested segment be designated CWH.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH22 16	17-200	30.20	21.70	05040006-005	Erie-Ontario Lake Plain

WB Name: ***LICKING RIVER (NORTH/SOUTH FORKS TO ROCKY FORK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **8.50**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This assessment was based on Monthly Operating Reports and bioassay samples from the Newark Wastewater Treatment Plant. Slightly elevated levels of mercury and highly elevated levels of PCBs were reported in fish tissue samples.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH22 23	17-250	20.30	0.00	05040006-	Erie-Ontario Lake Plain

WB Name: ***NORTH FORK (SYCAMORE CREEK TO S. FK. LICKING R.)***

Aquatic Life Use(s): **WWH** Segment Length: **20.30** County:

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.80	0.00	1.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Partial attainment was limited to the lower mile of the North Fork Licking River, and was driven by the failure of the benthic invertebrate community to achieve Warmater Habitat standards. The benthic community appeared reflective of moderate nutrient enrichment from urban runoff and combined sewer overflows from Newark. Slightly elevated levels of mercury and moderately elevated levels of PCBs were reported in fish tissue samples.

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Combined Sewer Overflow - H
Other Urban Runoff - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH22 35	17-262	14.10	0.00	05040006-038	Erie-Ontario Lake Plain

WB Name: ***SYCAMORE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **14.10** County:

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	14.10	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH22 38	17-264	6.20	0.00	05040006-040	Erie-Ontario Lake Plain

WB Name: ***VANCE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **6.20** County:

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	6.20	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH22 41	17-267	20.60	0.00	05040006-011	Erie-Ontario Lake Plain

WB Name: ***OTTER FORK*** County: **LICKING CO**

Aquatic Life Use(s): **WWH** Segment Length: **20.60**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.70	Full, But Threatened: 0.00	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.70		1.00		

Comments: Otter Fork fully attained biological criteria in the natural segments of the stream in the lower 7.7 miles. The most upstream site sampled site at river mile 15.6 was channelized with grassed banks and no wooded riparian. The fish community scored well (IBI=45), but the macroinvertebrate community was only fair.

Causes of Impairment:
Other habitat alterations - H
Organic enrichment/DO - M
Nutrients - M

Sources of Impairment:
Channelization - Agriculture - H
Removal of riparian vegetation - Ag - H
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH22 42	17-268	3.70	0.00	05040006-	Erie-Ontario Lake Plain

WB Name: ***BOWL RUN*** County: **LICKING CO**

Aquatic Life Use(s): **WWH** Segment Length: **3.70**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199807** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.10				

Comments: Although the stream was dry late in the summer, early summer results showed fish and macroinvertebrates to be in full attainment of WWH criteria at Appleton Rd. (RM 0.6).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH22 45	17-220	12.80	0.00	05040006-	Erie-Ontario Lake Plain

WB Name: ***S. FK. LICKING R. (BUCKEYE LK OUTLET TO LICKING R)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **12.80**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 11.60	Full, But Threatened: 1.20	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The channelized/low gradient segment of the South Fork Licking River is currently receiving immoderate nutrient levels from Buckeye Lake Waste Water Treatment Plant (primarily Ammonia-nitrogen). The data suggests that the ability of this physically modified segment is near its limit. Slightly elevated levels of mercury and PCBs were reported in fish tissue samples. Part of this assessment was based on Monthly Operating Reports from the Hebron, Heath and Buckeye Lake WWTPs.

Causes of Impairment:
Nutrients - T
Other habitat alterations - T

Sources of Impairment:
Minor Municipal Point Source - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH22 46	17-221	30.40	0.00	05040006-	Erie-Ontario Lake Plain	LICKING CO

WB Name: ***RACCOON CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **30.40**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: One site was sampled in this segment at St. Rt. 37 (RM 26.2). The fish and macroinvertebrate communities were both in attainment of WWH criteria. This site has remained stable since the first survey done in 1987.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH22 48	17-223	14.30	0.00	05040006-017	Erie-Ontario Lake Plain	LICKING CO

WB Name: ***LOBDELL CREEK***

Aquatic Life Use(s): **WWH,MWH-C** Segment Length: **14.30**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	3.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.30	

Comments: One site was sampled in the headwaters of this segment at Woodhaven Rd. (RM 12.0). The stream is a maintained ditch, with grass banks and no woody vegetation. Poor habitat resulted in poor fish and macroinvertebrate communities. Excessive algae growth was present during low flow periods. Highly elevated nitrates were recorded in water chemistry samples collected.

Causes of Impairment:

Siltation - H
Nutrients - H

Sources of Impairment:

Channelization - Agriculture - H
Nonirrigated crop production - M
Confined Animal Feeding Operations (NPS) - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH22 57	17-232	8.40	0.00	05040006-020	Erie-Ontario Lake Plain	

WB Name: ***RAMP CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **8.40**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.70	0.00	0.30	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Based on the Index of Biotic Integrity (IBI) and Invertebrated Community Index (ICI), the aquatic communities in Ramp Creek indicated very good to exceptional conditions. A qualitative macroinvertebrate sample from river mile 0.7 indicated a depressed community. There was a strong petroleum odor associated with sediments in this area. Historically, the stream caught on fire from contaminated groundwater from the Union Oil Refinery. There were very low levels of some PAH's and pesticides detected in sediments at River mile 0.77.

Causes of Impairment:

Priority organics - H
Pesticides - M

Sources of Impairment:

Contaminated sediments - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH22 59	17-220	23.20	12.80	05040006-	Erie-Ontario Lake Plain

WB Name: ***S. FK. LICKING R(TRIB@ 23.25 TO BUCKEYE LK OUTLET)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **10.40**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 10.10	Full, But Threatened: 0.30	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The channelized/low gradient segment of the South Fork Licking River is currently receiving immoderate nutrient levels from Buckeye Lake Waste Water Treatment Plant (primarily Ammonia-nitrogen). The data suggests that the ability of this physically modified segment is near its limit. Additional nutrient loads would jeopardize attainment of the use designation. Slightly elevated levels of mercury were reported in fish tissue samples.

Causes of Impairment:
Nutrients - T
Other habitat alterations - T

Sources of Impairment:
Minor Municipal Point Source - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH22 61	17-220	33.90	23.25	05040006-022	Eastern Corn Belt Plain

WB Name: ***S. FK. LICKING R. (HEADWATERS TO TRIB. @ 23.25)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **10.65**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 10.65	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This assessment was based on Monthly Operating Report data.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH23 1	17-940	27.10	0.00	05040004-	Western Allegheny Plateau

WB Name: ***SALT CREEK*** County: MUSKINGUM CO

Aquatic Life Use(s): **WWH** Segment Length: **27.10**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 19.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		19.50					

Comments: One site was sampled in this stream segment (RM 8.6) by Ohio Northern University in 1997. Based on the IBI results (IBI=44) the stream appears to be attaining WWH criteria for the WAP ecoregion. Results may be on the low end due to the fish collection being done with a seine and backpack shocking unit. Sampling done by Ohio EPA in 1996 in the upper portion of this reach (using electrofishing methods) indicate excellent water quality and a healthy and diverse fish community.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH23 27	17-310	26.10	4.90	05040004-	Erie-Ontario Lake Plain

WB Name: ***JONATHAN CREEK (HEADWATERS TO BUCKEYE FORK)*** County:

Aquatic Life Use(s): **EWH,LWH** Segment Length: **21.20**

Assessment Cycle: **1998** Field Data Collected From: **199509 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 21.20	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	21.20						

Comments: The fish community scored in the exceptional range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH23 36	17-300	29.20	4.54	05040004-058	Western Allegheny Plateau

WB Name: ***MOXAHALA CREEK (HEADWATERS TO JONATHAN CREEK)*** County:

Aquatic Life Use(s): **LRW** Segment Length: **29.20**

Assessment Cycle: **1990** Field Data Collected From: **198601 to 198812** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 24.66

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: U.S.G.S. data were used in this assessment. Evidence summarized in the 1986 305(b) report reinforces the classification of Moxahala Creek as mine impacted. Four parameters associated with mine drainage were extremely elevated based on data from 1986-1988.

Causes of Impairment:

pH - H

Sources of Impairment:

Surface Mining - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH23 43	17-308	7.70	0.00	05040004-079	Western Allegheny Plateau

WB Name: ***BLACK FORK*** County:

Aquatic Life Use(s): **WWH,LWH** Segment Length: **7.70**

Assessment Cycle: **1992** Field Data Collected From: **198706 to 198906** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 5.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

pH - H
Other habitat alterations - H
Siltation - M

Sources of Impairment:

Subsurface mining - H
Channelization - Development - H
Harvesting,restoration,residue managem't - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH23 43.2	17-328	1.10	0.00	05040004-		PERRY CO

WB Name: ***TRIB. TO BLACK FORK (RM 3.32)***

Aquatic Life Use(s): **NONE** Segment Length: **1.10**

Assessment Cycle: **2000** Field Data Collected From: **199705 to 199705** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 1.10	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.10				

Comments: Mining within the basin is planned for the future. Fish communities near the mouth met WWH criteria.

Causes of Impairment:

Sources of Impairment:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH25 1	01-001	81.62	73.40	05030204-027	Western Allegheny Plateau	HOCKING CO

WB Name: ***HOCKING RIVER (RUSH CREEK TO CLEAR CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **8.22**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.22	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	8.22						

Comments: This segment has fully recovered from degraded conditions documented in the early 1980's. Fish and macroinvertebrates were characterized by very good to exceptional communities.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH25 4	01-400	24.00	0.00	05030204-045	Western Allegheny Plateau	FAIRFIELD CO

WB Name: ***CLEAR CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **24.00**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 10.40	Full, But Threatened: 5.90	Partial: 0.00	None 7.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	9.50		6.80		7.70		

Comments: Despite the high quality conditions that characterize much of Clear Creek, the eroding and unstable upland areas pose a serious threat to existing conditions. Sediment bedload from the eroding uplands appear to have a significant impact on the downstream habitat quality of the forested, unglaciated segment. Although this reach still retains many positive habitat features, sediment transport will eventually degrade habitat quality. Future impairment may result from this process.

Causes of Impairment:

Flow alteration - H
Siltation - M
Other habitat alterations - S
Siltation - T

Sources of Impairment:

Natural - H
Channelization - Agriculture - M
Nonirrigated crop production - M
Removal of riparian vegetation - Ag - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH25 4.1	01-401	5.20	0.00	05030204-	Western Allegheny Plateau	FAIRFIELD CO

WB Name: ***DACE DITCH (AMANDA)***

Aquatic Life Use(s): **WWH** Segment Length: **5.20**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.20	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.20				

Comments: Very good to exceptional biological conditions have been documented in this stream since 1987. The Fairfield County landfill apparently has little instream effect.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH25 4.4	01-451	2.52	0.00	05030204-	Eastern Corn Belt Plain	FAIRFIELD CO

WB Name: ***SAND RUN***

Aquatic Life Use(s): **WWH** Segment Length: **2.52**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.52	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.52				

Comments: This stream was in full attainment of Warmwater Habitat criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH25 5	01-410	8.20	0.00	05030204-044	Western Allegheny Plateau	FAIRFIELD CO

WB Name: ***ARNEY RUN***

Aquatic Life Use(s): **WWH** Segment Length: **8.20**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.20	0.00	3.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.20		3.00		

Comments: Modest impairment was observed downstream from the Southeast Ohio Correctional Facility WWTP, due to organic and nutrient enrichment. Partial attainment was a result of the macroinvertebrate community falling below Warmwater Habitat criteria.

Causes of Impairment:

Organic enrichment/DO - H
Nutrients - H

Sources of Impairment:

Minor Municipal Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH25 7	01-420	7.20	0.00	05030204-064	Eastern Corn Belt Plain	FAIRFIELD CO

WB Name: ***MUDDY PRAIRIE RUN***

Aquatic Life Use(s): **WWH** Segment Length: **7.20**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.20	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	7.20						

Comments: One site sampled near the mouth supported an exceptional biological community.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH25 8	01-430	2.81	0.00	05030204-	Eastern Corn Belt Plain	FAIRFIELD CO

WB Name: ***DUNKLE RUN***

Aquatic Life Use(s): **WWH** Segment Length: **2.81**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.81	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.81				

Comments: One site sampled near the mouth had biological communities in the very good to exceptional range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH25 9	01-450	3.40	0.00	05030204-	Eastern Corn Belt Plain	FAIRFIELD CO

WB Name: ***MUDDY PRAIRIE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **3.40**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 3.40	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.40		

Comments: This stream is impaired due to channelization, heavy siltation and nutrient enrichment, all related to agricultural land use.

Causes of Impairment:

Nutrients - H

Sources of Impairment:

Nonirrigated crop production - H

Channelization - Agriculture - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH25 12	01-500	16.68	0.00	05030204-028	Western Allegheny Plateau

WB Name: ***RUSH CREEK (LITTLE RUSH CREEK TO HOCKING RIVER)*** County:

Aquatic Life Use(s): **LRW,MWH-C** Segment Length: **16.68**

Assessment Cycle: **1992** Field Data Collected From: **199007 to 199009** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH25 23	01-001	101.59	81.62	05030204-	Eastern Corn Belt Plain

WB Name: ***HOCKING RIVER (HEADWATERS TO RUSH CREEK)*** County: **FAIRFIELD CO**

Aquatic Life Use(s): **WWH,MWH-C,W** Segment Length: **19.97**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.66	0.00	7.04	2.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.66		7.04		2.90

Comments: This reach consists of two distinctly different segments. The headwaters (upstream from Lancaster) are affected by channelization, sedimentation and nutrient enrichment. All of these are related to agricultural land use. Downstream from the Lancaster WWTP the impacts are from organic enrichment. Despite the modest impacts documented in 1995, the environmental conditions of the Hocking River from Lancaster to points downstream have demonstrated remarkable improvement. Recent upgrades to the Lancaster WWTP, along with pre-treatment programs, have been largely successful.

Causes of Impairment:

Siltation - H
Organic enrichment/DO - H
Other habitat alterations - M
Nutrients - S

Sources of Impairment:

Channelization - Development - H
Major Municipal Point Source - H
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH25 25	01-046	4.60	0.00	05030204-	Erie-Ontario Lake Plain

WB Name: ***BALDWIN RUN*** County: **FAIRFIELD CO**

Aquatic Life Use(s): **WWH** Segment Length: **4.60**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.40	0.00	0.20	0.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.40		0.20	0.10	

Comments: Impairment in the lower 0.3 miles of the stream was attributed to frequent bypassing of raw sewage, and a temporary groundwater discharge from construction activities at the Lancaster WWTP. Sites upstream from the CSOs did not show impairment. Although the lower section is still impacted, significant improvement was noted compared to sampling done in previous years.

Causes of Impairment:

Organic enrichment/DO - H
Thermal modifications - H

Sources of Impairment:

Combined Sewer Overflow - H
Groundwater Loadings - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH25 27	01-048	7.50	0.00	05030204-042	Erie-Ontario Lake Plain	FAIRFIELD CO

WB Name: ***HUNTERS RUN***

Aquatic Life Use(s): **WWH** Segment Length: **7.50**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.50		5.00				

Comments: This entire segment was in full attainment of Warmwater Habitat criteria. The lower 5 miles have been monitored since the early 1980's, and have shown considerable improvement. In 1995 the sampling coverage was extended further upstream to evaluate the effect of the Lancaster Landfill. No impact was evident.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH26 1	01-001	48.89	34.93	05030204-	Western Allegheny Plateau	ATHENS CO

WB Name: ***HOCKING RIVER (MONDAY CREEK TO ATHENS)***

Aquatic Life Use(s): **WWH** Segment Length: **13.96**

Assessment Cycle: **1992** Field Data Collected From: **199007 to 199009** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.80	Full, But Threatened: 0.00	Partial: 12.16	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Siltation - H
Metals - M

Sources of Impairment:

Surface Mining - H
Streambank destabilization - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH26 3	01-025	6.30	0.00	05030204-047	Western Allegheny Plateau	ATHENS CO

WB Name: ***FACTORY CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **6.30**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 6.30	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					6.30		

Comments: The fish community scored moderately below Warmwater Habitat criteria (IBI=36). Slight effects of acid mine drainage were observed.

Causes of Impairment:

Siltation - T
Metals - T
Nutrients - T

Sources of Impairment:

Mine tailings - T
Onsite wastewater systems (septic tanks) - T
Range Grazing - Riparian - T

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 8	01-200	13.15	0.00	05030204-011	Western Allegheny Plateau

WB Name: ***SUNDAY CREEK (W. BR. SUNDAY CR. TO HOCKING R.)*** County: **ATHENS CO**

Aquatic Life Use(s): **LRW** Segment Length: **13.15**

Assessment Cycle: **1992** Field Data Collected From: **197807 to 199009** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 13.15

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
pH - H

Sources of Impairment:
Surface Mining - H
Subsurface mining - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 19.1	01-202	1.45	0.00	05030204-	

WB Name: ***TRIB. TO SUNDAY CREEK (RM 25.45)*** County: **PERRY CO**

Aquatic Life Use(s): **NONE** Segment Length: **1.45**

Assessment Cycle: **2000** Field Data Collected From: **199705 to 199705** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 1.45	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.45				

Comments: Mining within the basin is planned for the future. Fish communities near the mouth met WWH criteria.

Causes of Impairment:
Other habitat alterations - T
Siltation - T
Flow alteration - T
pH - T

Sources of Impairment:
Surface Mining - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 25	01-300	27.00	0.00	05030204-	Western Allegheny Plateau

WB Name: ***MONDAY CREEK*** County:

Aquatic Life Use(s): **LRW** Segment Length: **27.00**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 27.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							27.00

Comments: Severe acid mine drainage effects are present throughout the basin.

Causes of Impairment:
pH - H
Metals - H

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 25.1	01-301	4.05	0.00	05030204-	Western Allegheny Plateau

WB Name: ***TRIB. TO MONDAY CREEK (RM 19.73)***
County: **PERRY CO**
Aquatic Life Use(s): **NONE** Segment Length: **4.05**
Assessment Cycle: **1998** Field Data Collected From: **199509 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.05	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.05				

Comments: This stream is currently undesignated. Based on fish and chemical results it is recommended that this segment be designated Warmwater Habitat.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 25.2	01-302	3.46	0.00	05030204-	

WB Name: ***STONE CHURCH RUN***
County: **PERRY CO**
Aquatic Life Use(s): **NONE** Segment Length: **3.46**
Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.46

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.46	

Comments: Moderate acid mine drainage effects were noted, with only 4 fish species present at one site sampled.

Causes of Impairment:
Siltation - H
pH - H

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 26.1	01-314	3.52	0.00	05030204-	Western Allegheny Plateau

WB Name: ***TRIB. TO SNOW FORK (RM 6.7)***
County: **HOCKING CO**
Aquatic Life Use(s): **NONE** Segment Length: **3.52**
Assessment Cycle: **2000** Field Data Collected From: **199709 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.52

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							3.52

Comments: Severe acid mine drainage impacts were present.

Causes of Impairment:
Siltation - H
pH - H
Metals - H

Sources of Impairment:
Acid Mine Drainage - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 28	01-312	4.70	0.00	05030204-	Western Allegheny Plateau

WB Name: ***SYCAMORE FORK*** — County: **HOCKING CO**

Aquatic Life Use(s): **WWH** Segment Length: **4.70**

Assessment Cycle: **2000** Field Data Collected From: **199710 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							4.70

Comments: Severe acid mine drainage impacts were present.

Causes of Impairment:
pH - H
Metals - H
Siltation - M

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 30	01-320	3.10	0.00	05030204-	Western Allegheny Plateau

WB Name: ***SAND RUN*** — County: **HOCKING CO**

Aquatic Life Use(s): **WWH** Segment Length: **3.10**

Assessment Cycle: **2000** Field Data Collected From: **199710 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.10		

Comments: Moderate acid mine drainage impacts were present. There was a heavy sand bedload within the stream channel.

Causes of Impairment:
Siltation - H
Metals - S
pH - S

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 31	01-330	3.20	0.00	05030204-	Western Allegheny Plateau

WB Name: ***KITCHEN RUN*** — County: **HOCKING CO**

Aquatic Life Use(s): **WWH** Segment Length: **3.20**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.20		

Comments: Effects of row crop agriculture and poor riparian were causes of non-attainment of WWH criteria.

Causes of Impairment:
Siltation - H
Nutrients - M

Sources of Impairment:
Nonirrigated crop production - H
Removal of riparian vegetation - Ag - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 32	01-340	14.30	0.00	05030204-021	Western Allegheny Plateau

WB Name: ***LITTLE MONDAY CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **14.30**

Assessment Cycle: **2000** Field Data Collected From: **199509 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.80	Full, But Threatened: 2.60	Partial: 3.00	None 5.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.40			3.00		5.90	

Comments:

Causes of Impairment:

Siltation - H
pH - M
Metals - M
Siltation - T

Sources of Impairment:

Acid Mine Drainage - H
Surface Mining - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 32.1	01-341	3.60	0.00	05030204-	Western Allegheny Plateau

WB Name: ***TEMPERANCE HOLLOW CREEK*** County: **PERRY CO**

Aquatic Life Use(s): **NONE** Segment Length: **3.60**

Assessment Cycle: **1998** Field Data Collected From: **199509 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.60	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.60				

Comments: This stream is currently undesignated, but clearly falls within the Warmwater Habitat range (IBI=44).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 34	01-360	2.80	0.00	05030204-	Western Allegheny Plateau

WB Name: ***SALT RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **2.80**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.80		

Comments:

Causes of Impairment:

Siltation - H
pH - S

Sources of Impairment:

Acid Mine Drainage - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 35	01-370	1.60	0.00	05030204-	Western Allegheny Plateau

WB Name: ***SHAWNEE CREEK*** | County: **PERRY CO**

Aquatic Life Use(s): **WWH** | Segment Length: **1.60**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.60		

Comments:

Causes of Impairment:
- *Siltation - H*
- *Nutrients - M*
- *Other habitat alterations - M*

Sources of Impairment:
- *Acid Mine Drainage - H*
- *Highway/road/bridge/sewer line - M*
- *Combined Sewer Overflow - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 36	01-001	68.96	48.89	05030204-	Western Allegheny Plateau

WB Name: ***HOCKING RIVER (SCOTT CREEK TO MONDAY CREEK)*** | County: **HOCKING CO**

Aquatic Life Use(s): **WWH** | Segment Length: **20.07**

Assessment Cycle: **1992** | Field Data Collected From: **199007 to 199009** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 17.47	Full, But Threatened: 2.60	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
- *Other habitat alterations - T*

Sources of Impairment:
- *Channelization - Agriculture - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 38	01-032	2.80	0.00	05030204-	Western Allegheny Plateau

WB Name: ***DORR RUN*** | County: **ATHENS CO**

Aquatic Life Use(s): **WWH** | Segment Length: **2.80**

Assessment Cycle: **1998** | Field Data Collected From: **199508 to 199508** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							2.80

Comments: This stream is severly impacted by acid mine drainage.

Causes of Impairment:
- *pH - H*
- *Metals - H*
- *Salinity/TDS/chlorides - H*

Sources of Impairment:
- *Acid Mine Drainage - H*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 43	01-037	9.50	0.00	05030204-026	Western Allegheny Plateau

WB Name: ***SCOTT CREEK*** | County: **HOCKING CO**

Aquatic Life Use(s): **WWH** | Segment Length: **9.50**

Assessment Cycle: **1998** | Field Data Collected From: **199506 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.50	Full, But Threatened: 0.00	Partial: 7.50	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.50		7.50		

Comments: The biological communities in the middle and upper reaches appeared to be most influenced by habitat condition, effects from previous channelization, sedimentation, and natural low flow conditions. The Exceptional Warmwater Habitat (EWH) designation was changed to Warmwater Habitat (WWH) in the lower segment. Biological communities were more reflective of WWH.

Causes of Impairment:

Flow alteration - H
Siltation - M

Sources of Impairment:

Natural - H
Channelization - Agriculture - M
Nonirrigated crop production - M
Animal holding/management areas - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH26 47	01-001	73.40	68.96	05030204-	Western Allegheny Plateau

WB Name: ***HOCKING RIVER (ENTERPRISE TO SCOTT CREEK)*** | County: **HOCKING CO**

Aquatic Life Use(s): **WWH** | Segment Length: **4.44**

Assessment Cycle: **1998** | Field Data Collected From: **199506 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	4.40						

Comments: This segment has fully recovered from degraded conditions documented in the early 1980's. Fish and macroinvertebrates were characterized by very good to exceptional communities.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH27 4	01-010	4.50	0.00	05030204-055	Western Allegheny Plateau

WB Name: ***FOURMILE CREEK*** | County: **ATHENS CO**

Aquatic Life Use(s): **EWH** | Segment Length: **4.50**

Assessment Cycle: **1998** | Field Data Collected From: **199604 to 199604** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.50	Full, But Threatened: 3.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.50		3.00				

Comments: This segment is currently meeting Exceptional Warmwater Habitat criteria (IBI=56), but is threatened by proposed major road construction. Habitat destruction caused by re-routing of the stream will most definitely cause impairment to the biological communities.

Causes of Impairment:

Other habitat alterations - T

Sources of Impairment:

Highway/road/bridge/sewer line - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH27 10	**01-006**	**5.10**	**0.00**	**05030204-**	**Western Allegheny Plateau**

WB Name: ***JORDAN RUN*** County: **ATHENS CO**

Aquatic Life Use(s): **WWH** Segment Length: **5.10**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**5.10**	**0.00**	**0.00**	**0.00**

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:	**5.10**						

Comments: This stream is currently designated Warmwater Habitat (WWH). In 1995 the fish community scored in the Exceptional Warmwater Habitat (EWH) range. This segment should be re-designated EWH based on the fish and habitat scores.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH27 15	**01-110**	**3.90**	**0.00**	**05030204-**	**Western Allegheny Plateau**

WB Name: ***SHARPS RUN*** County: **ATHENS CO**

Aquatic Life Use(s): **LWH** Segment Length: **3.90**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**3.90**	**0.00**	**0.00**	**0.00**

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:	**3.90**						

Comments: This stream is currently designated Limited Resource Water (LRW). The fish community clearly scored in the Exceptional Warmwater Habitat (EWH) range. This segment should be re-designated EWH.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH27 17	**01-130**	**6.40**	**0.00**	**05030204-050**	**Western Allegheny Plateau**

WB Name: ***BIG RUN*** County: **WASHINGTON CO**

Aquatic Life Use(s): **LWH** Segment Length: **6.40**

Assessment Cycle: **1998** Field Data Collected From: **199508 to 199508** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**6.40**	**0.00**	**0.00**	**0.00**

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:	**6.40**						

Comments: This stream is currently designated Limited Resource Water (LRW), but is clearly scoring at or near the range of Exceptional Warmwater Habitat (EWH). This segment should be re-designated EWH.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH27 18	01-132	2.10	0.00	05030204-	Western Allegheny Plateau

WB Name: ***JOES RUN*** County: **WASHINGTON CO**

Aquatic Life Use(s): **LWH** Segment Length: **2.10**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.10	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.10						

Comments: This stream is currently designated Limited Resource Water (LRW). The fish community clearly scores in the Exceptional Warmwater Habitat (EWH) range. This segment should be re-designated EWH.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH27 19	01-131	0.60	0.00	05030204-	Western Allegheny Plateau

WB Name: ***NELLIS RUN*** County: **WASHINGTON CO**

Aquatic Life Use(s): **LWH** Segment Length: **0.60**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.60	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	0.60						

Comments: This stream is currently designated Limited Resource Water (LRW). The fish community is well within the Exceptional Warmwater Habitat (EWH) range (IBI=54). This segment should be re-designated EWH.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH27 20	01-133	2.40	0.00	05030204-	Western Allegheny Plateau

WB Name: ***WILDCAT RUN*** County: **WASHINGTON CO**

Aquatic Life Use(s): **LWH** Segment Length: **2.40**

Assessment Cycle: **1998** Field Data Collected From: **199508 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.40	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.40						

Comments: This stream is currently designated Limited Resource Water, but fish results indicate a community which is close to exceptional. Upgrading to Warmwater Habitat or Exceptional Warmwater Habitat is recommended.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH27 21	01-140	2.60	0.00	05030204-	Western Allegheny Plateau

WB Name: ***SPRING RUN*** County:

Aquatic Life Use(s): **LWH** Segment Length: **2.60**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.60	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.60						

Comments: This stream is currently designated Limited Resource Water (LRW). The fish community is well within the Exceptional Warmwater Habitat (EWH) range (IBI=56). This segment should be re-designated EWH.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH27 22	01-150	6.10	0.00	05030204-063	Western Allegheny Plateau

WB Name: ***MARIETTA RUN*** County: ATHENS CO

Aquatic Life Use(s): **LWH** Segment Length: **6.10**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	6.10						

Comments: The fish community in this segment is well within Warmwater Habitat criteria (IBI=48), and almost into the exceptional range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH27 23	01-151	3.00	0.00	05030204-	Western Allegheny Plateau

WB Name: ***BRILL RUN*** County:

Aquatic Life Use(s): **LWH** Segment Length: **3.00**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.00						

Comments: The fish community in this stream clearly meets Exceptional Warmwater Habitat criteria (IBI=56). Habitat was also excellent (QHEI=79.5).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH27 41	01-015	2.40	0.00	05030204-	Western Allegheny Plateau	ATHENS CO

WB Name: ***MILLER RUN***

Aquatic Life Use(s): **WWH** Segment Length: **2.40**

Assessment Cycle: **1998** Field Data Collected From: **199508 to 199512** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.40	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.40				

Comments: This stream was a sampled as a control stream for sites in the vicinity which are impacted by coal mining activities. Fish results from this natural stream indicate attainment of WWH criteria. Data were collected by an Ohio University graduate student.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH28 9	09-071	5.00	0.00	05030202-	Western Allegheny Plateau	MEIGS CO

WB Name: ***DUNHAM RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.00**

Assessment Cycle: **1998** Field Data Collected From: **199508 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.50	1.50	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.00				

Comments: The proposed construction of U.S. Rt. 50 through Meigs County threatens the quality of this stream. Fish sampling done at river mile 1.5 was within non-significant departure of Warmwater Habitat criteria.

Causes of Impairment:
Other habitat alterations - T
Siltation - T

Sources of Impairment:
Channelization - Development - T
Highway/road/bridge/sewer line - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH28 18	09-079	5.90	0.00	05030202-075	Western Allegheny Plateau	MEIGS CO

WB Name: ***OLDTOWN CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.90**

Assessment Cycle: **1998** Field Data Collected From: **199508 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.20	1.70	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.90				

Comments: The proposed construction of U.S. Rt. 50 through Meigs County threatens the quality of this stream. Fish sampling done at river mile 1.7 showed results within Warmwater Habitat criteria.

Causes of Impairment:
Other habitat alterations - T
Siltation - T

Sources of Impairment:
Highway/road/bridge/sewer line - T
Channelization - Development - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH28 33	09-608	21.90	0.00	05030202-046	Western Allegheny Plateau

WB Name: ***EAST BRANCH SHADE RIVER*** County:

Aquatic Life Use(s): **EWH** Segment Length: **21.90**

Assessment Cycle: **1998** Field Data Collected From: **199610 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.00						

Comments: This is a high quality stream chosen as a comparison stream to stations in the Leading Creek basin, as part of the Meigs Mine #31 investigation.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH28 49	09-630	14.85	0.00	05030202-048	Western Allegheny Plateau

WB Name: ***MIDDLE BR. SHADE R. (PRATTS FK. TO W. BR. SHADE R)*** County:

Aquatic Life Use(s): **EWH** Segment Length: **14.85**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 5.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.00		5.00				

Comments: This stream was sampled as reference conditions for sites on Leading Creek affected by the Meigs Mine #31 discharge. The downstream site was within non-significant departure of Exceptional Warmwater Habitat criteria. The upstream site did not attain EWH. There was insufficient data to do a full use attainability analysis.

Causes of Impairment:
Other habitat alterations - H
Siltation - M

Sources of Impairment:
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH28 56	09-640	20.80	0.00	05030202-	Western Allegheny Plateau

WB Name: ***WEST BRANCH SHADE RIVER*** County:

Aquatic Life Use(s): **WWH** Segment Length: **20.80**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199607** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					4.00		

Comments: This stream was sampled as reference conditions to the lower portion of Leading Creek, which was affected by the Meigs Mine #31 discharge. Excessive sedimentation from coal mining was present, with some additional inputs from agriculture.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Surface Mining - H
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH29 12	09-051	19.20	0.00	05030202-059	Western Allegheny Plateau

WB Name: ***CAMPAIGN CREEK*** County: **GALLIA CO**

Aquatic Life Use(s): **WWH** Segment Length: **19.20**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.00	Partial: 2.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Campaign Creek was sampled as part of the 1991 South East Ohio River tributary survey and as a reference site for the Meigs Mine #31 discharge (early plans proposed a discharge to this stream). Environmental Assessment Engineering sampling (river miles 14.7 to 16.6) in the headwater portion (fish only) attained the Warmwater Habitat aquatic life use. The lower portion (near river miles 4.9 to 5.8) showed partial attainment. Fish results did not achieve ecoregional biocriteria, but macroinvertebrates did. Impacts are likely sediment-related (high sand bedload from old mining activites and current agricultural practices in the basin).

Causes of Impairment:

Siltation - H
Other habitat alterations - M

Sources of Impairment:

Surface Mining - H
Nonirrigated crop production - H
Pasture land - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH29 28	09-200	8.49	0.00	05030202-	Western Allegheny Plateau

WB Name: ***LEADING CREEK (LITTLE LEADING CREEK TO OHIO RIVER)*** County: **MEIGS CO**

Aquatic Life Use(s): **WWH** Segment Length: **8.49**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 8.49

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					8.49		

Comments: Aquatic life in this reach of Leading Creek is still limited by the extensive sedimentation from surface mining operations (most abandoned) and upstream forestry practices. Downstream from Thomas Fork (River Mile 1.6), Leading Creek is still limited from acid mine runoff from this watershed. The Meigs Mine spill of 1993 is no longer believed to be a contributing factor to the observed impairment. Improvement in the upper reaches of Leading Creek may enhance performance in downstream reaches, but not enough to overcome the overwhelming sediment effects.

Causes of Impairment:

Siltation - H
pH - H
Other habitat alterations - M
Salinity/TDS/chlorides - S

Sources of Impairment:

Surface Mining - H
Specialty crop production - M
Subsurface mining - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH29 32	09-213	7.20	0.00	05030202-062	Western Allegheny Plateau

WB Name: ***THOMAS FORK*** | County: **MEIGS CO**

Aquatic Life Use(s): **WWH** | Segment Length: **7.20**

Assessment Cycle: **1996** | Field Data Collected From: **199308 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 5.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Thomas Fork is severly impaired by acid mine drainage. No fish are present and yellow precipitates cover much of the substrates. The stream also has a high sediment load from mining activities. The water quality in Thomas Fork has a substrate effect on the lower part of Leading Creek (confluence of Thomas Fork is at RM 1.5).

Causes of Impairment:
pH - H
Siltation - M

Sources of Impairment:
Surface Mining - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH29 34	09-201	10.60	0.00	05030202-054	Western Allegheny Plateau

WB Name: ***LITTLE LEADING CREEK*** | County: **MEIGS CO**

Aquatic Life Use(s): **WWH** | Segment Length: **10.60**

Assessment Cycle: **1998** | Field Data Collected From: **199506 to 199606** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: This segment was sampled as part of the Meigs Mine #31 investigation. The stream is affected by sedimentation from abandoned coal mines. Other contributing factors are pasturing and agricultural activities, which encroach on the stream and deliver excess sand and other fine sediments. Sediments and sand have filled in the pools and the channel bottom.

Causes of Impairment:
Siltation - H
Other habitat alterations - M

Sources of Impairment:
Surface Mining - H
Pasture land - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH29 35	09-200	18.50	8.49	05030202-	Western Allegheny Plateau

WB Name: ***LEADING CREEK (DEXTER RUN TO LITTLE LEADING CREEK)*** | County: **MEIGS CO**

Aquatic Life Use(s): **WWH** | Segment Length: **10.01**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 10.01	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					10.01		

Comments: Fish communities in this reach have met or come close to meeting the ecological endpoints for the IBI, although the biomass is still low. Macroinvertebrate communities are still not meeting the ecological endpoints, thus the partial attainment status. Further work is being planned to consider the effect of the Meigs #31 Mine treatment plant on Leading Creek, along with upstream stressors. Some of these upstream stressors should be addressed via the Leading Creek Improvement Plan.

Causes of Impairment:
Salinity/TDS/chlorides - H
Siltation - H
Cause Unknown - H

Sources of Impairment:
Subsurface mining - H
Pasture land - H
Nonirrigated crop production - H
Surface Mining - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH29 36	09-202	3.40	0.00	05030202-	Western Allegheny Plateau	MEIGS CO

WB Name: ***MALLOONS RUN***

Aquatic Life Use(s): **WWH** Segment Length: **3.40**

Assessment Cycle: **1998** Field Data Collected From: **199505 to 199607** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.00				

Comments: This is a small tributary which is generally intact, and provides a good reference condition for small streams in the Leading Creek basin. Substrates are gravels, as opposed to sand and silt found in the mainstem of Leading Creek. A good population of salamaders was present. This segment easily attains Warmwater Habitat criteria for fish, even during periods of interstitial flow.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH29 37	09-203	4.80	0.00	05030202-076	Western Allegheny Plateau	MEIGS CO

WB Name: ***PARKER RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.80**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.40	Full, But Threatened: 0.00	Partial: 3.40	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00	1.40	2.00		

Comments: Fish data from 1998 indicated the stream was attaining WWH biocriteria. However, a key species in the endpoint document - southern redbelly dace - is still avoiding the reach downstream from the discharge. In addition, the macroinvertebrate community is still substantially impaired. Future work needs to be done to distinguish the effects of the discharge from other possible stressors. Conductivity and dissolved solids from the discharge remain very high.

Causes of Impairment:

Salinity/TDS/chlorides - H
Cause Unknown - H

Sources of Impairment:

Subsurface mining - H
Channelization - Development - H
Channelization - Development - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH29 37.1	09-218	1.93	0.00	05030202-	Western Allegheny Plateau	MEIGS CO

WB Name: ***LITTLE PARKER RUN***

Aquatic Life Use(s): **NONE** Segment Length: **1.93**

Assessment Cycle: **1996** Field Data Collected From: **199310 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Little Parker Run is a small tributary to Parker Run in the Leading Creek basin. Unlike many small streams in the area, the small watershed has not had much if any surface mining. As a result of this, the typical substrates are large and coarse gravels rather than sand and other fines. The relatively intact habitat conditions (there is some pasturing but most is fenced from the stream) have resulted in a good quality fauna for such a small stream (5 species, IBI=40) including darters and southern redbelly dace . This stream should be listed as Warmwater Habitat.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH29 37.2	**09-220**	**2.40**	**0.00**	**05030202-**	

WB Name: ***TRIB. TO PARKER RUN (RM 2.71)***

County: **MEIGS CO**

Aquatic Life Use(s): **NONE** Segment Length: **2.40**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						0.40	

Comments: One macroinvertebrate sample was collected in this segment near the mouth. Results indicated a poor macroinvertebrate community.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Surface Mining - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH29 39	**09-200**	**33.00**	**18.50**	**05030202-**	**Western Allegheny Plateau**

WB Name: ***LEADING CREEK (HEADWATERS TO DEXTER RUN)***

County:

Aquatic Life Use(s): **WWH** Segment Length: **14.50**

Assessment Cycle: **1996** Field Data Collected From: **198710 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 10.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The upper part of Leading Creek was sampled as part of the study related to the Meigs Mine #31 discharge (which was downstream from this segment) during 1993-95, as part of a USGS/OEPA study of long will mining (1987-91), and as part of an ODOT survery (1986). The upper part of this reach is higher gradient with cobble/rubble/bedrock substrates. In the lower reach of the segment there is more agriculture and old mining activities, and the stream has a much lower gradient. In some of thes areas sediment has accumulated and limits the biota.

Causes of Impairment:
Siltation - H
Other habitat alterations - S

Sources of Impairment:
Surface Mining - H
Pasture land - M
Nonirrigated crop production - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH29 39.2	**09-219**	**3.35**	**0.00**	**05030202-**	**Western Allegheny Plateau**

WB Name: ***TRIB. TO LEADING CREEK (RM 20.45)***

County: **MEIGS CO**

Aquatic Life Use(s): **NONE** Segment Length: **3.35**

Assessment Cycle: **1996** Field Data Collected From: **199410 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a small headwater stream that drains to Leading Creek in southeast Ohio. The fish community in this stream easily achieved the Warmwater Habitat (WWH) Index of Biotic Integrity (IBI) biocriterion of 44, with an IBI of 46. The land use near the stream is mainly second growth hardwood forest. There were some small amounts of fines in the stream bottom. However, the habitat in this low gradient section of the stream was in fairly good condition.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 1	09-510	12.57	0.00	05090101-033	Western Allegheny Plateau

WB Name: ***LITTLE RACCOON CREEK (DICKASON RUN TO RACCOON CR.)*** County:

Aquatic Life Use(s): **EWH** Segment Length: **12.57**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 12.57	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					12.57		

Comments: This segment may have some impacts from acid mine drainage tributaries entering the mainstem in the segment upstream.

Causes of Impairment:
Other Metal - H
Aluminum - M
Iron - M

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 2	09-511	4.00	0.00	05090101-	Western Allegheny Plateau

WB Name: ***DEER CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **4.00**

Assessment Cycle: **1996** Field Data Collected From: **199408 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fish sampling in this segment was done by Ohio Department of Natural Resources.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Nonirrigated crop production - H
Removal of riparian vegetation - Ag - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 3	09-512	2.30	0.00	05090101-	Western Allegheny Plateau

WB Name: ***KEETON RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **2.30**

Assessment Cycle: **1996** Field Data Collected From: **199408 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.30	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fish sampling in this segment was done by Ohio Department of Natural Resources.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 4	09-513	4.60	0.00	05090101-089	Western Allegheny Plateau

WB Name: ***SPRING RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **4.60**

Assessment Cycle: **1996** Field Data Collected From: **199408 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Substrates were very sandy/silty. The site sampled for fish was within the backwater influence of Raccoon Creek, possibly influencing the Index of Biotic Integrity.

Causes of Impairment:
Siltation - H
Other habitat alterations - M

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 5	09-514	11.20	0.00	05090101-035	Western Allegheny Plateau

WB Name: ***DICKASON RUN*** County:

Aquatic Life Use(s): **LRW,WWH** Segment Length: **11.20**

Assessment Cycle: **1996** Field Data Collected From: **199408 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 8.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fish sampling in this segment was done by Ohio Department of Natural Resources.

Causes of Impairment:
Metals - H

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 7	09-510	28.89	12.57	05090101-034	Western Allegheny Plateau

WB Name: ***LITTLE RACCOON CREEK (SAND RUN TO DICKASON RUN)*** County:

Aquatic Life Use(s): **WWH,LRW** Segment Length: **16.32**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 16.32	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					16.32		

Comments: Ammonia and BOD levels increased downstream from the confluence of Meadow Run. Several acid mine drainage tributaries flow into this section of Little Raccoon Creek, and may have some impacts on water quality.

Causes of Impairment:
Other Metal - H
Aluminum - M
Iron - M
Organic enrichment/DO - M

Sources of Impairment:
Acid Mine Drainage - H
Major Municipal Point Source - M
Minor Industrial Point Source - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH30 8	09-516	2.50	0.00	05090101-	Western Allegheny Plateau

WB Name: ***TARCAMP RUN*** County:

Aquatic Life Use(s): **LRW** Segment Length: **2.50**

Assessment Cycle: **1996** Field Data Collected From: **199408 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fish sampling in this segment was done by Ohio Department of Natural Resources.

Causes of Impairment: *Siltation - H*

Sources of Impairment: *Mine tailings - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH30 9	09-517	1.80	0.00	05090101-	Western Allegheny Plateau

WB Name: ***GOOSE RUN*** County:

Aquatic Life Use(s): **LRW** Segment Length: **1.80**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							1.80

Comments: This stream is highly impacted by acid mine drainage. No chemical data were collected in 1995, but instream sediments were stained orange, indicating mining effects. The fish and macroinvertebrate communities both scored in the poor range.

Causes of Impairment: *Metals - H*, *pH - H*

Sources of Impairment: *Acid Mine Drainage - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH30 10	09-518	2.60	0.00	05090101-	Western Allegheny Plateau

WB Name: ***GREASY RUN*** County:

Aquatic Life Use(s): **LRW** Segment Length: **2.60**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.60	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.60	

Comments: This stream is highly impacted by acid mine drainage. No chemical data were collected in 1995, but instream sediments were stained orange, indicating mining effects. The fish community scored in the fair range, while the macroinvertebrate community scored in the poor range.

Causes of Impairment: *Metals - H*, *pH - H*

Sources of Impairment: *Acid Mine Drainage - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH30 11	09-519	2.40	0.00	05090101-	Western Allegheny Plateau	

WB Name: ***BUFFER RUN***

Aquatic Life Use(s): **LRW** Segment Length: **2.40**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							2.40

Comments: Biological and chemical impairment due to acid mine drainage was evident. A gob pile adjacent to the stream was observed upstream from the sampling location. A substantial amount of coal fines were present in the stream substrates.

Causes of Impairment:	Sources of Impairment:
Metals - H	*Acid Mine Drainage - H*
Aluminum - H	
Iron - H	
Nickel - H	
pH - H	

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH30 12	09-520	2.20	0.00	05090101-	Western Allegheny Plateau	

WB Name: ***FLINT RUN***

Aquatic Life Use(s): **LRW** Segment Length: **2.20**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							2.20

Comments: This stream is highly impacted by acid mine drainage. No chemical data were collected in 1995, but instream sediments were stained orange, indicating mining effects. The fish and macroinvertebrate communities both scored in the very poor range.

Causes of Impairment:	Sources of Impairment:
Metals - H	*Acid Mine Drainage - H*
pH - H	

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH30 13	09-521	1.40	0.00	05090101-	Western Allegheny Plateau	

WB Name: ***COAL RUN***

Aquatic Life Use(s): **LRW** Segment Length: **1.40**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.40	

Comments: Acid mine drainage impacts were noted in this stream, but the severity was not as much as in other streams in the area which flow into Little Raccoon Creek.

Causes of Impairment:	Sources of Impairment:
Iron - H	*Acid Mine Drainage - H*
Other Metal - H	

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 14	09-522	4.00	0.00	05090101-	Western Allegheny Plateau

WB Name: ***RICH RUN*** | County:

Aquatic Life Use(s): **LRW** | Segment Length: **4.00**

Assessment Cycle: **1998** | Field Data Collected From: **199506 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						4.00	

Comments: This stream is impacted by acid mine drainage. High levels of aluminum and manganese were documented. Low pH (4.65) was also present. The fish and macroinvertebrate communities both scored in the very poor range.

Causes of Impairment:
- *Aluminum - H*
- *Other Metal - H*
- *pH - H*

Sources of Impairment:
- *Acid Mine Drainage - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 15	09-523	4.90	0.00	05090101-080	Western Allegheny Plateau

WB Name: ***MULGA RUN*** | County:

Aquatic Life Use(s): **LRW** | Segment Length: **4.90**

Assessment Cycle: **1996** | Field Data Collected From: **199408 to 199408** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fish sampling in this segment was done by Ohio Department of Natural Resources.

Causes of Impairment:
- *Salinity/TDS/chlorides - H*
- *Siltation - H*
- *pH - H*
- *Metals - H*

Sources of Impairment:
- *Acid Mine Drainage - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 16	09-524	5.10	0.00	05090101-	Western Allegheny Plateau

WB Name: ***MEADOW RUN*** | County: JACKSON CO

Aquatic Life Use(s): **WWH** | Segment Length: **5.10**

Assessment Cycle: **1998** | Field Data Collected From: **199506 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 5.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.90	4.20	

Comments: Impacts from acid mine drainage in the upper portion of this segment appear to be less than in previous years. High levels of manganese were recorded in the water column and sediments in Wellston. The lower 1.2 miles (near the Wellston WWTP and the Pillsbury Co. outfalls) are heavily impacted by organic wastes and low dissolved oxygen. At river mile 0.8, the macroinvertebrate community scored in the very poor range in all 3 surveys done from 1984 to 1995.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Metals - H*
- *Priority organics - M*

Sources of Impairment:
- *Major Municipal Point Source - H*
- *Minor Industrial Point Source - H*
- *Acid Mine Drainage - H*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 17	09-510	40.50	28.89	05090101-034	Western Allegheny Plateau

WB Name: ***LITTLE RACCOON CREEK (HEADWATERS TO SAND RUN)*** County:

Aquatic Life Use(s): **WWH,LAKE,WW** Segment Length: **11.61**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199406** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	11.61	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 17.1	09-582	3.05	0.00	05090101-	Western Allegheny Plateau

WB Name: ***SUGAR RUN*** County:

Aquatic Life Use(s): **NONE** Segment Length: **3.05**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199406** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Hog lot run-off is very severe just upstream from the first bridge near mouth.

Causes of Impairment:

Nutrients - H
Siltation - H
Other habitat alterations - H
Metals - H

Sources of Impairment:

Confined Animal Feeding Operations (NPS) - H
Pasture land - H
Removal of riparian vegetation - Ag - H
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 18	09-525	4.30	0.00	05090101-086	Western Allegheny Plateau

WB Name: ***SAND RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **4.30**

Assessment Cycle: **1996** Field Data Collected From: **199408 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	1.25	3.05	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Thermal modifications - H
Nutrients - M
Nutrients - T

Sources of Impairment:

Removal of riparian vegetation - Ag - H
Package Plants (Small Flows) - M
Removal of riparian vegetation - Ag - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH30 22	**09-500**	**47.67**	**37.55**	**05090101-**	**Western Allegheny Plateau**

WB Name: ***RACCOON CREEK (FLATLICK RUN TO LITTLE RACCOON CR.)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **10.12**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**0.00**	**10.12**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					10.12		

Comments: This segment appears to receive periodic pulses of acid mine drainage from Pierce Run and Karr Run. High rainfall and high water years have been shown to correlate with a decline in biological index scores.

Causes of Impairment:	Sources of Impairment:
Metals - H	*Acid Mine Drainage - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH30 23	**09-544**	**2.90**	**0.00**	**05090101-**	**Western Allegheny Plateau**

WB Name: ***ROBINSON RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **2.90**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.50	**0.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.50				

Comments: This stream has recovered well from the 1993 discharge from the pumping of the Meigs #31 Mine. Limitations in the is stream are largely natural and include periodic impounding in the lower reach and occasional droughts. These effects can be worsened from sedimentation from agriculture although the stream has enough natural habitat characteristics to assimilate it during most years.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH30 24	**09-545**	**3.10**	**0.00**	**05090101-**	**Western Allegheny Plateau**

WB Name: ***SUGAR RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **3.10**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.50	**0.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.50				

Comments: Sugar Run has recovered fully from the effects of the Meigs #31 Mine discharge in 1993. The stream has good-sized populations of sensitive headwater species such as southern redbelly dace and least brook lamprey.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 25	09-546	10.40	0.00	05090101-023	Western Allegheny Plateau

WB Name: ***STRONGS RUN*** County:

Aquatic Life Use(s): **EWH** Segment Length: **10.40**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.00	None 3.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				1.00	5.00		

Comments: Strongs Run has recovered completely from the effects of the 1993 Meigs Mine #31 discharge. The non-attainment observed in 1998 was largely a result of drought conditions that are magnified by a low level agricultural sedimentation problem. During most years this stream should attain the WWH use. There has been more riparian encroachment in the lower reach over the past 2 to 3 years.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 27	09-548	1.40	0.00	05090101-	Western Allegheny Plateau

WB Name: ***OPOSSUM RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **1.40**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.40	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.40		

Comments: Although no visible signs of acid mine drainage were observed, other factors suggest its presence. Elevated levels of iron and manganese, with low pH values indicate a possible impact. Oil was observed on the surface of the water, and silted substrates were present. The macroinvertebrate community scored in the fair range. It is recommended that this segment be upgraded to the Warmwater Habitat use designation.

Causes of Impairment:
Iron - H
Other Metal - H
Siltation - H
pH - M
Oil and grease - S

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 28	09-500	66.64	47.67	05090101-	Western Allegheny Plateau

WB Name: ***RACCOON CREEK (ELK FORK TO FLATLICK RUN)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **18.97**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.94	Full, But Threatened: 0.00	Partial: 12.79	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.94		12.79		

Comments: This segment appears to receive periodic pulses of acid mine drainage from Pierce Run and Karr Run. High rainfall and high water years have been shown to correlate with a decline in biological index scores.

Causes of Impairment:
Metals - H

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 29	09-549	5.10	0.00	05090101-069	Western Allegheny Plateau

WB Name: ***FLATLICK RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **5.10**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.00				

Comments: This segment was sampled as a "control" stream or unimpacted reference stream for small tributaries in the Raccoon Creek basin impacted by the Meigs Mine #31 discharge. The stream has met WWH criteria throughout the period of the 1990's. Potential stressors in the watershed include livestock impacts.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 30	09-550	1.20	0.00	05090101-	Western Allegheny Plateau

WB Name: ***KARR RUN*** County:

Aquatic Life Use(s): **LRW** Segment Length: **1.20**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.20	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.20	

Comments: This stream is impacted by acid mine drainage. No chemical data were collected in 1995, but instream substrates were stained orange, indicating mining effects. The fish community scored in the fair range, while the macroinvertebrate community scored in the poor range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 31	09-551	2.40	0.00	05090101-	Western Allegheny Plateau

WB Name: ***INDIANCAMP RUN*** County:

Aquatic Life Use(s): **LRW** Segment Length: **2.40**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.40		

Comments: This stream is impacted by acid mine drainage, but not as severe as other streams in the Raccoon Creek basin. Instream sediments were stained brownish-orange. The fish and macroinvertebrate communities both scored in the fair range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 32	09-552	2.10	0.00	05090101-	Western Allegheny Plateau

WB Name: ***ROCKCAMP RUN*** County:

Aquatic Life Use(s): **LRW** Segment Length: **2.10**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.10	

Comments: This stream is impacted by acid mine drainage. Instream substrates were stained orange, and manganese and sulfate levels in the water column were elevated. The fish and macroinvertebrate communities both scored in the poor range.

Causes of Impairment: *Other Metal - H*

Sources of Impairment: *Acid Mine Drainage - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 33	09-553	8.50	0.00	05090101-	Western Allegheny Plateau

WB Name: ***PIERCE RUN*** County:

Aquatic Life Use(s): **LRW** Segment Length: **8.50**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 8.50	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						8.50	

Comments: This stream is impacted by acid mine drainage. Sediments were stained orange, water column metals and sulfates were elevated, and the pH was low. The fish community scored in the fair range, while the macroinvertebrates were poor.

Causes of Impairment: *pH - H*, *Iron - H*, *Zinc - H*, *Other Metal - H*

Sources of Impairment: *Acid Mine Drainage - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 34	09-554	2.60	0.00	05090101-	Western Allegheny Plateau

WB Name: ***ZINNS RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **2.60**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.60	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.60				

Comments: Although a few chemical parameters (pH, aluminum, iron, manganese) were outside of the ranges expected for the ecoregion, the substrates were not characteristic of streams affected by acid mine drainage. The fish and macroinvertebrate communities both scored in the good range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH30 35	09-530	18.60	0.00	05090101-032	Western Allegheny Plateau	VINTON CO

WB Name: ***ELK FORK***

Aquatic Life Use(s): **WWH** Segment Length: **18.60**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.00	Partial: 14.60	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.00		14.60		

Comments: The segment upstream from the confluence of Puncheon Fork was in partial attainment of WWH criteria. Some acid mine drainage effects were noted (high levels of iron, manganese and zinc). Downstream from Puncheon Fork ammonia and BOD levels were elevated due to the McArthur WWTP. Siltation downstream from Puncheon Fork affected the macroinvertebrate community. Although Austin Powder Co.'s main effluent no longer dichargers to a small tributary to Elk Fork, elevated nitrate levels were recorded downstream from the tributary.

Causes of Impairment:

Zinc - H
Iron - H
Other Metal - H
Siltation - H
Cause Unknown - M

Sources of Impairment:

Acid Mine Drainage - H
Source Unknown - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH30 39	09-534	5.60	0.00	05090101-083	Western Allegheny Plateau	VINTON CO

WB Name: ***PUNCHEON FORK***

Aquatic Life Use(s): **WWH** Segment Length: **5.60**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.60	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.60				

Comments: The fish and macroinvertebrate communities scored well at sites upstream from the McArthur WWTP. Slight declines in the biological communities were noted downstream from the WWTP. Ammonia and nitrate levels increased downstream from the WWTP. There is no indication of acid mine drainage impacts in Puncheon Fork.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH30 40	09-578	2.95	0.00	05090101-	Western Allegheny Plateau	VINTON CO

WB Name: ***AUSTIN POWDER TRIB.***

Aquatic Life Use(s): **WWH** Segment Length: **2.95**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.95

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.95		

Comments: This stream used to receive the main effluent from Austin Powder Co., but the company moved the outfall to another small stream just to the north. Macroinvertebrate data was the only data collected in 1995. The community scored in the fair range. Nitrate levels on Elk Fork were elevated downstream from this tributary.

Causes of Impairment:

Nutrients - H

Sources of Impairment:

Minor Industrial Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 41	09-500	89.54	66.64	05090101-	Western Allegheny Plateau

WB Name: ***RACCOON CREEK (HEWETT FORK TO ELK FORK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **22.90**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	11.66	0.00	11.24	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			11.66		11.24		

Comments: The effects of acid mine drainage are less in this segment than in the reaches upstream. Fish and macroinvertebrate communities improved significantly, scoring in the fair to marginally good range, and even exceptional in places.

Causes of Impairment:
Zinc - H
Other Metal - H

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 43	09-556	3.80	0.00	05090101-077	Western Allegheny Plateau

WB Name: ***LONG RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **3.80**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	3.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.80		

Comments: There was no indication of impacts from acid mine drainage in this stream. Possible impacts may be from oil and gas operations in the basin. Fish and macroinvertebrate scores were both in the fair range.

Causes of Impairment:
Oil and grease - H
Salinity/TDS/chlorides - H

Sources of Impairment:
Petroleum activities - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 44	09-557	7.30	0.00	05090101-	Western Allegheny Plateau

WB Name: ***FLAT RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **7.30**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	7.30	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					7.30		

Comments: There was no indication of impacts from acid mine drainage in this stream. Some impacts are possible from oil and gas operations in the basin. The fish community scored in the fair range.

Causes of Impairment:
Oil and grease - H
Cause Unknown - H

Sources of Impairment:
Petroleum activities - H
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 45	09-558	3.00	0.00	05090101-	Western Allegheny Plateau

WB Name: ***RUSSELL RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **3.00**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 3.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.00		

Comments: There is no indication of impacts from acid mine drainage in this stream. Some impacts are possible from oil and gas operations in the basin. The fish community scored in the fair range.

Causes of Impairment: *Oil and grease - H*

Sources of Impairment: *Petroleum activities - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 46	09-559	2.10	0.00	05090101-	Western Allegheny Plateau

WB Name: ***MERRIT RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **2.10**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.10	

Comments: There appear to be some impacts from acid mine drainage in this stream. Instream substrates were slightly stained orange, indicating effects of mining.

Causes of Impairment: *Cause Unknown - H*

Sources of Impairment: *Acid Mine Drainage - H*, *Petroleum activities - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 47	09-560	2.50	0.00	05090101-	Western Allegheny Plateau

WB Name: ***TEDROE RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **2.50**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.50		

Comments: Slight impacts from acid mine drainage were observed in this stream. Some areas had instream substrates stained orange. Elevated levels of manganese were present in the water column. The fish and macroinvertebrate communities both scored in the fair range.

Causes of Impairment: *Other Metal - H*

Sources of Impairment: *Acid Mine Drainage - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 48	09-561	6.00	0.00	05090101-	Western Allegheny Plateau

WB Name: ***ONION CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **6.00**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 6.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					6.00		

Comments: There is no indication of impacts from acid mine drainage in this stream. The fish community scored in the fair range, while the macroinvertebrates were in the very good range.

Causes of Impairment: *Cause Unknown - H*

Sources of Impairment: *Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 49	09-562	3.30	0.00	05090101-	Western Allegheny Plateau

WB Name: ***LAUREL RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **3.30**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.30	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.30				

Comments: There is no indication of impacts from acid mine drainage in this stream. However, thick deposits of silt were present. The macroinvertebrate community was attaining Warmwater Habitat criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 51	09-564	5.10	0.00	05090101-085	Western Allegheny Plateau

WB Name: ***ROCKCAMP CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **5.10**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 5.10	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					5.10		

Comments: There is no indication of acid mine drainage impacts in this stream. It is recommended that the use designation be upgraded to Warmwater Habitat. The macroinvertebrate community scored only in the fair range, but this may have been due to low habitat diversity (no riffles in the sampling zone).

Causes of Impairment: *Cause Unknown - H*

Sources of Impairment: *Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 52	09-565	1.60	0.00	05090101-	Western Allegheny Plateau

WB Name: ***COAL RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **1.60**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.60		

Comments: This stream appears to have some impacts from acid mine drainage. No chemical samples were collected in 1995, but instream sediments were slightly red, indicating mining effects. The fish and macroinvertebrate communities both scored in the fair range.

Causes of Impairment:
pH - H
Metals - H

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 53	09-566	2.10	0.00	05090101-	Western Allegheny Plateau

WB Name: ***PINE RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **2.10**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.10	

Comments: This stream shows signs of impairment from acid mine drainage. No chemical data were collected in 1995, but instream sediments were stained orange, indicating mining effects. The macroinvertebrate community scored in the poor range.

Causes of Impairment:
pH - H
Metals - H

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 54	09-567	2.80	0.00	05090101-	Western Allegheny Plateau

WB Name: ***GRASS RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **2.80**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.80	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.80		

Comments: This segment was in partial attainment of Warmwater Habitat criteria. The fish community scored in the fair range. Macroinvertebrates scored in the good range. Manganese and iron were present in elevated levels in the water column.

Causes of Impairment:
Iron - H
Other Metal - H

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 55	09-500	103.06	89.54	05090101-	Western Allegheny Plateau

WB Name: ***RACCOON CREEK (BRUSHY CREEK TO HEWETT FORK)*** County:

Aquatic Life Use(s): **LRW,WWH** Segment Length: **13.52**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	10.54	0.00	2.98	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.98	10.54	

Comments: The upper reaches of Raccoon Creek are impaired chemically and biologically due to acid mine drainage entering from the East Branch. High levels of zinc and manganese were documented. The impairment in this segment is not as severe as in the upstream segment, but fish and macroinvertebrates were still in the poor and fair ranges. Water quality improves downstream from Sandy Run, but fish and macroinvertebrates were still below Warmwater Habitat criteria.

Causes of Impairment:
Zinc - H
Other Metal - H

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 55.1	09-589	2.32	0.00	05090101-	Western Allegheny Plateau

WB Name: ***TRIB. TO RACCOON CREEK (RM 98.96)*** County: VINTON CO

Aquatic Life Use(s): **WWH** Segment Length: **2.32**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.32

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.32		

Comments: The biological communites scored in the fair range, with much of the reason being poor habitat. The macroinvertebrate sample was collected in a wetland environment. Austin Powder Co. has a discharge in the upper portion of this segment.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Natural - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 56	09-568	6.00	0.00	05090101-	Western Allegheny Plateau

WB Name: ***SANDY RUN*** County: VINTON CO

Aquatic Life Use(s): **WWH** Segment Length: **6.00**

Assessment Cycle: **2000** Field Data Collected From: **199808 to 199808** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	4.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00	1.12	0.88

Comments: The upstream site in this segment was minimally impaired by AMD, but performed poorly due to the very small drainage area (1 square mile). Additionally, chemical impairment downstream restricts the migration of fish from downstream. The middle site sampled was biologically dead due to significant AMD entering the stream from Big Four Hollow. ODNR, Mining and Reclamation, is planning to do a reclamation project at this site within 3 years. The downstream site showed signs of recovering with 7 species of fish present, but still being impacted by AMD. Habitat, especially land use and riparian, was very good, as all sites are within Zaleski State Forest.

Causes of Impairment:
pH - H
Metals - H
Siltation - H
Siltation - M
Siltation - S

Sources of Impairment:
Acid Mine Drainage - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH30 59.1	09-590	4.85	0.00			

WB Name: ***DUNKLE CREEK***

Aquatic Life Use(s): **NONE** Segment Length: **4.85**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.85

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					4.85		

Comments: This stream is currently undesignated. The fish community scored below Warmwater Habitat criteria (IBI=34), but habitat was sufficient to support a WWH community (QHEI=64).

Causes of Impairment:

Siltation - H
Other habitat alterations - M
Metals - M
pH - M

Sources of Impairment:

Surface Mining - H
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH30 59.2	09-581	5.70	0.00	05090101-		VINTON CO

WB Name: ***SIVERLY CREEK***

Aquatic Life Use(s): **NONE** Segment Length: **5.70**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 5.70	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.70				

Comments: This segment is marginally attaining the WWH use designation, but is threatened due to mining activities within the basin.

Causes of Impairment:

Siltation - T
pH - T

Sources of Impairment:

Surface Mining - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH30 60	09-500	111.96	103.06	05090101-	Western Allegheny Plateau	

WB Name: ***RACCOON CREEK (EAST/WEST BRANCH TO BRUSHY FORK)***

Aquatic Life Use(s): **LRW** Segment Length: **8.90**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 8.90	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						8.90	

Comments: The upper reaches of Raccoon Creek are impaired biologically and chemically from acid mine drainage entering from the East Branch. High levels of aluminum, manganese and zinc, along with low pH values were documented. The fish and macroinvertebrate communities were both poor. This segment should be re-designated Limited Resource Water - Acid Mine Drainage.

Causes of Impairment:

Zinc - H
Aluminum - H
Other Metal - H
pH - H

Sources of Impairment:

Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 62	09-573	4.30	0.00	05090101-	Western Allegheny Plateau

WB Name: ***TWOMILE RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **4.30**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	4.30	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					4.30		

Comments: This stream shows some signs of impairment due to acid mine drainage. Instream sediments were stained orange, and contained significant amounts of coal fines. High levels of manganese and sulfates were also recorded. The fish community scored in the fair range, while the macroinvertebrates scored in the good range.

Causes of Impairment:
Other Metal - H

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 63	09-574	9.30	0.00	05090101-029	Western Allegheny Plateau

WB Name: ***EAST BRANCH RACCOON CREEK*** County:

Aquatic Life Use(s): **LRW** Segment Length: **9.30**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	9.30	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						9.30	

Comments: This stream is severely degraded by acid mine drainage. The contamination continues from the East Branch into the upper Raccoon Creek mainstem, causing major impairment as far down as the confluence of Sandy Run.

Causes of Impairment:
Aluminum - H
Iron - H
Other Metal - H
Zinc - H
pH - H

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH30 64	09-575	8.10	0.00	05090101-030	Western Allegheny Plateau

WB Name: ***WEST BRANCH RACCOON CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **8.10**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	8.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						8.10	

Comments: This stream has slight impacts from acid mine drainage, but they are not nearly as severe as in the East Branch. The fish community scored in the poor range. Low flow conditions affected the macroinvertebrate community at the upper site sampled, but the community scored in the good range near the mouth.

Causes of Impairment:
Other Metal - H
Zinc - H

Sources of Impairment:
Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH31 33	09-500	12.65	0.00	05090101-	Western Allegheny Plateau

WB Name: ***RACCOON CREEK (CLAYLICK RUN TO OHIO RIVER)*** | County: GALLIA CO

Aquatic Life Use(s): **WWH** | Segment Length: **12.65**

Assessment Cycle: **1998** | Field Data Collected From: **199506 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.65	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			12.65				

Comments: The lower portion of the Raccoon Creek mainstem appears to be unaffected by acid mine drainage impacts. However, during high rainfall and high flow events, there may be some effects from problems originating in the upper portion of the basin.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH31 49	09-500	37.55	27.83	05090101-	Western Allegheny Plateau

WB Name: ***RACCOON CREEK (LITTLE RACCOON CREEK TO RYAN RUN)*** | County: GALLIA CO

Aquatic Life Use(s): **WWH** | Segment Length: **9.72**

Assessment Cycle: **1998** | Field Data Collected From: **199506 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.72	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	4.92		4.80				

Comments: The lower section of the Raccoon Creek mainstem appears to be unaffected by acid mine drainage impacts. However, this segment may be affected during high rainfall and high flow years from mining problems in the upper portion of the basin.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH31 50	09-539	9.10	0.00	05090101-	Western Allegheny Plateau

WB Name: ***INDIAN CREEK*** | County:

Aquatic Life Use(s): **WWH** | Segment Length: **9.10**

Assessment Cycle: **1998** | Field Data Collected From: **199507 to 199508** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.10				

Comments: There has been significant improvement in the water quality downstream from the Rio Grande WWTP since 1987. Sampling done in 1996 showed attainment of Warmwater Habitat criteria upstream from the WWTP, and very little effect immediately downstream. Historically, sites downstream from the WWTP had been in the poor range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH32 5	09-704	3.70	0.00	05090101-	Western Allegheny Plateau

WB Name: ***LEATHERWOOD CREEK***
Aquatic Life Use(s): **WWH** Segment Length: **3.70**
County: **LAWRENCE CO**

Assessment Cycle: **2000** Field Data Collected From: **199805 to 199805** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.70						

Comments: Water quality in this segment appears to be very good. The fish community attained WWH criteria with an IBI of 50 and a QHEI score of 68.5.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH32 18.1	09-742	2.00	0.00	05090101-	

WB Name: ***HANDLEY BRANCH***
Aquatic Life Use(s): **NONE** Segment Length: **2.00**
County: **LAWRENCE CO**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199807** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.00				

Comments: One site was sampled in this segment by a student at Ohio University (Athens). The site at river mile 0.1 had an IBI of 46, indcating good water quality in this small, headwaters stream.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH32 35	09-730	16.05	0.00	05090101-	Western Allegheny Plateau

WB Name: ***BLACK FORK***
Aquatic Life Use(s): **WWH** Segment Length: **16.05**
County:

Assessment Cycle: **1998** Field Data Collected From: **199508 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 16.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			16.00				

Comments: One site was sampled in 1996 downstream from the confluence of Huntingcamp Creek. Dramatic improvement in the fish community at river mile 5.8 was noted compared to sampling done in 1987. IBI scores were near the exceptional range. Improvements may be related to better conditions in Huntingcamp Creek than historically recorded. Though notable impacts were observed in Oak Hill (IBI values in the poor and fair range), they were not nearly as severe as in 1987. The reduction of the toxic effects in Huntingcamp Creek has apparently carried over into better water quality conditions in Black Fork.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH32 40	09-735	3.40	0.00	05090101-	Western Allegheny Plateau

WB Name: ***HUNTINGCAMP CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **3.40**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.40	

Comments: This segment is impacted by the Oak Hill WWTP. Sludge deposits were present in significant amounts in the stream channel. Oil and grease from a junk yard upstream adds to the water quality problems. Fish sampling scores were all below Warmwater Habitat criteria, falling into the fair and poor ranges.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Nutrients - H*
- *Oil and grease - M*

Sources of Impairment:
- *Minor Municipal Point Source - H*
- *Onsite wastewater systems (septic tanks) - H*
- *Other Urban Runoff - H*
- *Sludge - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH33 2	09-001	4.20	0.00	05090103-	Western Allegheny Plateau

WB Name: ***MUNN RUN*** County: **SCIOTO CO**

Aquatic Life Use(s): **WWH** Segment Length: **4.20**

Assessment Cycle: **2000** Field Data Collected From: **199709 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.00	

Comments: Some impacts noted were from on-lot sewage discharges, and oil and grease from gas stations.

Causes of Impairment:
- *Nutrients - H*
- *Noxious aquatic plants - M*
- *Organic enrichment/DO - M*
- *Oil and grease - S*

Sources of Impairment:
- *Onsite wastewater systems (septic tanks) - H*
- *Other Urban Runoff - M*
- *Road construction/maintenance - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH33 38	09-300	35.10	24.12	05090103-	Western Allegheny Plateau

WB Name: ***LITTLE SCIOTO RIVER (HEADWATERS TO HOLLAND FORK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **10.98**

Assessment Cycle: **1998** Field Data Collected From: **199610 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.00	Full, But Threatened: 4.98	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	10.98						

Comments: Two sites were sampled in this segment as part of the Meigs Mine #31 investigation. Sites were used as reference conditions for the Leading Creek basin. Livestock activities are encroaching on the stream banks in the upper portion. Lots of stream litter was present at the downstream site. There is Exceptional Warmwater Habitat potential within this segment.

Causes of Impairment:
- *Siltation - T*
- *Other habitat alterations - T*

Sources of Impairment:
- *Pasture land - T*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH33 49	09-400	19.53	0.00	05090103-	Western Allegheny Plateau

WB Name: ***PINE CREEK (LITTLE PINE CREEK TO OHIO RIVER)***

County: **SCIOTO CO**

Aquatic Life Use(s): **WWH** Segment Length: **19.53**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	19.50	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	19.50						

Comments: The stream supported a WWH fish community at river mile 5.1.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH33 61	09-400	38.15	19.53	05090103-052	Western Allegheny Plateau

WB Name: ***PINE CREEK (HALES CREEK TO LITTLE PINE CREEK)***

County:

Aquatic Life Use(s): **WWH** Segment Length: **18.62**

Assessment Cycle: **2000** Field Data Collected From: **199709 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	18.60	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		18.60					

Comments:

Causes of Impairment:
- *Siltation - T*
- *Nutrients - T*

Sources of Impairment:
- *Range Grazing - Riparian - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH33 66	09-400	47.41	38.15	05090103-053	Western Allegheny Plateau

WB Name: ***PINE CREEK (HEADWATERS TO HALES CREEK)***

County:

Aquatic Life Use(s): **WWH** Segment Length: **9.26**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.96	0.00	6.70	0.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.96		5.60			1.10	0.60

Comments: Acid mine drainage from Kimble Creek, Negro Creek and Painter Creek cause local impacts on Pine Creek.

Causes of Impairment:
- *Siltation - H*
- *Metals - H*
- *pH - H*

Sources of Impairment:
- *Acid Mine Drainage - H*
- *Nonirrigated crop production - M*
- *Range Grazing - Riparian - M*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH33 66.1	09-424	3.45	0.00			LAWRENCE CO

WB Name: ***KIMBLE CREEK***

Aquatic Life Use(s): **NONE** Segment Length: **3.45**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.65	0.00	0.00	0.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		2.65					0.80

Comments: Severe acid mine drainage at river mile 0.8 rendered the stream devoid of fish all the way to the mouth. Additionally, Pine Creek was impacted for 0.6 miles downstream from the confluence of Kimble Creek.

Causes of Impairment:

pH - H
Metals - H
Siltation - H

Sources of Impairment:

Acid Mine Drainage - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH33 66.2	09-425	1.97	0.00			

WB Name: ***SAW MILL RUN***

Aquatic Life Use(s): **NONE** Segment Length: **1.97**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199606** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.97	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.97				

Comments: This segment is currently undesignated. The fish community scored well within the Warmwater Habitat (WWH) range (IBI=44). This segment should be designated WWH.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH33 73	09-421	2.30	0.00	05090103-	Western Allegheny Plateau	LAWRENCE CO

WB Name: ***NEGRO CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **2.30**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	1.50	0.00	0.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.50						0.80

Comments: Acid mine drainage originating from several seeps along the stream affect Negro Creek. Clear-cutting in the upper portion of the basin further impacts the stream.

Causes of Impairment:

pH - H
Metals - H
Siltation - H
Siltation - T

Sources of Impairment:

Acid Mine Drainage - H
Harvesting,restoration,residue managem't - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH34 1	02-158	10.42	0.00	05060001-033	Eastern Corn Belt Plain

WB Name: ***LITTLE SCIOTO RIVER (ROCK FORK TO SCIOTO RIVER)*** County: **MARION CO**

Aquatic Life Use(s): **WWH,MWH-C** Segment Length: **10.42**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.00	None 8.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.50	2.30	6.60

Comments: Little Scioto River sediments are highly contaminated with PAHs and heavy metals for at least 4 miles of the river. Contaminated sediments, combined with CSOs, low dissolved oxygen and elevated ammonia discharges, have caused significant impairment of fish and macroinvertebrate communities. In addition, physical habitat modifications of the lower 9 miles of the Little Scioto River preclude achieving a WWH use designation. Significant levels of DELT anomalies were recorded on fish in the lower 6.6 miles of the river. DELT anomalies in the lower portion of the river ranged from 9.9% to 37%. A fish consumption advisory and primary contact health advisory has been in effect for the lower Little Scioto River since 1992, based on PAH contaminants in the sediments.

Causes of Impairment:

Priority organics - H
Other habitat alterations - H
Unionized Ammonia - M
Metals - M
Organic enrichment/DO - M
Other habitat alterations - S
Siltation - S

Sources of Impairment:

Combined Sewer Overflow - H
Contaminated sediments - H
Channelization - Agriculture - M
Municipal Point Sources - M
Nonirrigated crop production - S
Landfills - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH34 1.1	02-236	3.00	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***ROCKSWALE DITCH*** County: **MARION CO**

Aquatic Life Use(s): **LRW** Segment Length: **3.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							3.00

Comments: Heavy metals and PAH contaminants in the sediments of Rockswale Ditch, along with elevated nutrients, elevated ammonia and very poor instream habitat have contributed to the very poor quality of the stream. Shallow water depths in combination with mucky bottom substrates and the lack of woody riparian cover provide ideal conditions for large production of aquatic macrophytes instream. Nutrients are contributed by an industrial source and urban storm sewers.

Causes of Impairment:

Other habitat alterations - H
Nutrients - M
Siltation - M
Unionized Ammonia - S

Sources of Impairment:

Channelization - Agriculture - H
Removal of riparian vegetation - Ag - H
Industrial Point Sources - M
Other Urban Runoff - M
Contaminated sediments - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH34 1.3	02-237	6.71	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***NORTH ROCKSWALE DITCH*** County: **MARION CO**

Aquatic Life Use(s): **MWH-C** Segment Length: **6.71**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.80	Full, But Threatened: 0.00	Partial: 2.30	None 0.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.30	3.80	0.60

Comments: The upper portion of North Rockswale Ditch has physical habitat attributes consistent with the WWH use designation. The lower 4.4 miles were channelized in 1948, with modifications maintained by private land owners. Partial attainment in the upper segment was attributed to excessive siltation and septic leachate. Downstream from Holland Rd. (RM 0.6), CSO contributions, along with contaminated sediments and poor habitat, contributed to the poor/very poor biological communities. Any recovery is largely based on eliminating the CSO discharge at Holland Rd.

Causes of Impairment:

Organic enrichment/DO - H
Siltation - H
Priority organics - M
Siltation - M
Other habitat alterations - M

Sources of Impairment:

Combined Sewer Overflow - H
Onsite wastewater systems (septic tanks) - H
Channelization - Agriculture - H
Nonirrigated crop production - M
Contaminated sediments - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH34 2	02-159	5.80	0.00	05060001-081	Eastern Corn Belt Plain

WB Name: ***HONEY CREEK*** County: **MARION CO**

Aquatic Life Use(s): **WWH** Segment Length: **5.80**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.50	None 1.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.50	1.50	

Comments: Honey Creek maintains WWH characteristics in the lower 2 miles. Upstream habitat has been previously modified, including channel modification and loss of a riparian corridor. Elevated nutrients were documented during 1998, suggesting contributions from agricultural sources, septic systems and effluent from the Pleasant Acres Trailer Park WWTP (RM 4.10). Habitat modifications, excessive siltation and excessive nutrients contributed to the fair to poor biological communities in Honey Creek.

Causes of Impairment:

Nutrients - H
Siltation - M
Other habitat alterations - M

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - M
Removal of riparian vegetation - Ag - M
Onsite wastewater systems (septic tanks) - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH34 4	02-162	9.70	0.00	05060001-105	Eastern Corn Belt Plain	MARION CO

WB Name: ***ROCK FORK***

Aquatic Life Use(s): **WWH** Segment Length: **9.70**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.10	Full, But Threatened: 0.00	Partial: 7.60	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				2.10	7.60		

Comments: Hydromodification effects in the upper segment of Rock Fork were the primary influence on the partial attainment of the WWH use designation. However, the marginal habitat was partially offset by good groundwater flow resulting in large numbers of pollution sensitive species. Chemical water sampling results reflected good water quality. Hydromodications included channel modification, grassed banks and almost a complete lack of a woody corridor.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H
Removal of riparian vegetation - Ag - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH34 5	02-001	189.60	177.36	05060001-034	Eastern Corn Belt Plain	MARION CO

WB Name: ***SCIOTO RIVER (RUSH CREEK TO LITTLE SCIOTO RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **12.24**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 11.24	Full, But Threatened: 1.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			12.24				

Comments: This segment was fully attaining the Warmwater Habitat use designation. The former B.F. Goodrich disposal site was the only known significant threat to the water resource.

Causes of Impairment:
Metals - T

Sources of Impairment:
Landfills - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH34 9	02-166	10.75	0.00	05060001-	Eastern Corn Belt Plain	MARION CO

WB Name: ***MCDONALD CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **10.75**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199808** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 10.75

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						10.75	

Comments: Conditions in this stream are degraded the entire length. Fish and macroinvertebrate communities scored in the poor range both upstream and downstream from the Buckeye Egg Farm (BEF) facility. Upstream, the stream was channelized, while downstream the habitat conditions were natural. Elevated ammonia concentrations were recorded downstream from BEF. Water quality violations as well as spills were recorded. Data from pre-construction sampling (1995) indicated conditions were already poor within the basin. Sufficient habitat is available in the lower 8.5 miles of the stream to support WWH biological communities if water quality were to improve.

Causes of Impairment:
Nutrients - H
Other habitat alterations - H
Siltation - M

Sources of Impairment:
Channelization - Agriculture - H
Confined Animal Feeding Operations (NPS) - H
Natural - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH34 13	02-001	203.56	189.60	05060001-035	Eastern Corn Belt Plain	MARION CO

WB Name: ***SCIOTO RIVER (PANTHER CREEK TO RUSH CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **13.96**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	13.96	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.81		8.15				

Comments: This segment was fully attaining the Warmwater Habitat use designation. Habitat conditions are much higher quality than in upstream segments of the Scioto River.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH34 14	02-172	12.20	0.00	05060001-119	Eastern Corn Belt Plain	HARDIN CO

WB Name: ***WILDCAT CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **12.20**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	1.00	1.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00		1.00		

Comments: Marginal biological communities were attributed to unsewered wastewater discharges from the Village of Mt. Victory. Additional factors were past channelization and limited habitat. Mt. Victory is scheduled to be sewered and start discharging into Panther Creek in 1996.

Causes of Impairment:

Cause Unknown - H
Organic enrichment/DO - T

Sources of Impairment:

Onsite wastewater systems (septic tanks) - H
Channelization - Agriculture - M
Minor Municipal Point Source - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH34 17	02-001	213.07	203.56	05060001-035	Eastern Corn Belt Plain	HARDIN CO

WB Name: ***SCIOTO RIVER (SILVER CREEK TO PANTHER CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **9.51**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.31	0.00	0.20	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.74		7.57		0.20		

Comments: Channelization and siltation are the primary sources of non-attainment of Warmwater Habitat criteria in this segment. Additional impacts from organic enrichment are associated with the Kenton WWTP.

Causes of Impairment:

Other habitat alterations - H
Organic enrichment/DO - M
Siltation - S
Mercury - S

Sources of Impairment:

Channelization - Agriculture - H
Major Municipal Point Source - M
Combined Sewer Overflow - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH34 18	02-175	10.70	0.00	05060001-095	Eastern Corn Belt Plain

WB Name: ***PANTHER CREEK*** | County: **HARDIN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **10.70**

Assessment Cycle: **1998** | Field Data Collected From: **199506 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	7.15	3.55	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.15		3.55		

Comments: Impacts were noted in this segment from several sources. Elevated ammonia levels and low dissolved oxygen originate from livestock pasture land and the unsewered Village of Ridgeway. Impacts were probably made worse by low and intermittent stream flows during periods of low precipitation.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Organic enrichment/DO - T*

Sources of Impairment:
- *Pasture land - H*
- *Onsite wastewater systems (septic tanks) - M*
- *Pasture land - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH34 24	02-001	238.00	213.07	05060001-035	Eastern Corn Belt Plain

WB Name: ***SCIOTO RIVER (HEADWATERS TO SILVER CREEK)*** | County: **HARDIN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **24.93**

Assessment Cycle: **1998** | Field Data Collected From: **199506 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.63	0.00	16.30	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.63		16.30		

Comments: Channelization and siltation are the major reasons this segment does not meet Warmwater Habitat criteria. The fish scored in the fair range, while the macroinvertebrates scored in the exceptional range. Water quality appears to be good.

Causes of Impairment:
- *Other habitat alterations - H*
- *Siltation - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Nonirrigated crop production - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH34 25	02-181	7.80	0.00	05060001-115	Eastern Corn Belt Plain

WB Name: ***TAYLOR CREEK*** | County: **HARDIN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **7.80**

Assessment Cycle: **1998** | Field Data Collected From: **199506 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.70	2.10	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.80				

Comments: The biological communities in Taylor Creek were attaining Warmwater Habitat criteria. However, there is a concern about heavy metals contaminating the sediments downstream from Occidental Chemical Corp. High phosphorus concentrations from the Occidental Chemical Corp. WWTP were recorded.

Causes of Impairment:
- *Metals - T*

Sources of Impairment:
- *Industrial Point Sources - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH34 26	02-182	7.30	0.00	05060001-	Eastern Corn Belt Plain	HARDIN CO

WB Name: ***SILVER CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **7.30**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.50	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.50				

Comments: One regional reference site was sampled on this stream. The biological communities scored in the good range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH34 32	02-188	6.00	0.00	05060001-	Eastern Corn Belt Plain	HARDIN CO

WB Name: ***COTTONWOOD DITCH***

Aquatic Life Use(s): **WWH,MWH-C** Segment Length: **6.00**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.00		

Comments: This segment is a classic channelized ditch. The lower portion of the stream, near McGuffey, was meeting the Modified Warmwater Habitat (MWH) use designation with fair biological communities.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH35 1	02-109	23.80	0.00	05060001-037	Eastern Corn Belt Plain	UNION CO

WB Name: ***MILL CREEK (OTTER RUN TO SCIOTO RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **23.80**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	17.00	0.00	5.10	1.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			17.00		5.10	1.70	

Comments: Organic enrichment and low dissolved oxygen associated with the Marysville WWTP were the major causes of impairment in this segment. While the stream begins to recover downstream from Marysville, stream quality is affected downstream from Crosses Run (which receives discharges from O.M. Scott Co.). Wide variation in the quality of fish communities between sampling passes suggests possible impacts from "slugs" of polluted water. Bioassay results indicated occasional toxicity in the Marysville WWTP effluent. Despite the impacts from Marysville, the overall quality of Mill Creek is improving. The lower 5 miles had exceptional quality, although nutrient levels were elevated throughout the reach from Marysville to the mouth.

Causes of Impairment:

Organic enrichment/DO - H
Unknown toxicity - M
Metals - M

Sources of Impairment:

Major Municipal Point Source - H
Minor Industrial Point Source - H
Industrial land treatment - M
Spills - M
Other Urban Runoff - S
Onsite wastewater systems (septic tanks) - S

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH35 1.1	**02-239**	**2.01**	**0.00**	**05060001-**	**Eastern Corn Belt Plain**
WB Name: ***TOWN RUN***					County: **UNION CO**
Aquatic Life Use(s): **WWH**		Segment Length: **2.01**			

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.60	0.40	

Comments: This segment is a small, predominantly urban tributary flowing through Marysville. The Eljer Plumbingware landfill property is a documented source of heavy metals. Biological and water quality conditions were degraded upstream from the site by septic systems. Additional impacts within Marysville were recorded downstream from the culverted section. Oily sediments were present, resulting in toxic effects on the macroinvertebrates.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Metals - H*
- *Unknown toxicity - H*

Sources of Impairment:
- *Hazardous waste - H*
- *Onsite wastewater systems (septic tanks) - H*
- *Source Unknown - H*
- *Other Urban Runoff - M*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH35 2	**02-126**	**22.70**	**0.00**	**05060001-060**	**Eastern Corn Belt Plain**
WB Name: ***BLUES CREEK***					County:
Aquatic Life Use(s): **MWH-C,WWH**		Segment Length: **22.70**			

Assessment Cycle: **1998** Field Data Collected From: **199707 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.30	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.30				

Comments: Partial attainment status is still present due to channelization and agricultural land use within the basin. The town of Ostrander has recently been sewered. Future monitoring is recommended to assess the improvements within Ostrander.

Causes of Impairment:
- *Other habitat alterations - H*
- *Organic enrichment/DO - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Nonirrigated crop production - M*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH35 8	**02-133**	**2.80**	**0.00**	**05060001-**	**Eastern Corn Belt Plain**
WB Name: ***CROSSES RUN***					County: **UNION CO**
Aquatic Life Use(s): **WWH**		Segment Length: **2.80**			

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							2.80

Comments: This stream is severely impacted by point sources and runoff originating from O.M. Scott Co. The entire length is in non-attainment of Warmwater Habitat criteria, showing severe effects of toxicity. Runoff from test fields are also potential sources of impact. Upstream from O.M. Scott Co. the stream has poor instream conditions influenced by intermittent flow conditions and a dairy farm.

Causes of Impairment:
- *Unionized Ammonia - H*
- *Pesticides - H*
- *Unionized Ammonia - M*
- *Organic enrichment/DO - M*
- *Flow alteration - S*
- *Other habitat alterations - S*

Sources of Impairment:
- *Minor Industrial Point Source - H*
- *Industrial land treatment - H*
- *Spills - H*
- *Feedlots (Confined Animal Feeding Oper.) - M*
- *Natural - S*
- *Channelization - Agriculture - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH35 8.1	02-253	2.10	0.00	05060001-	Eastern Corn Belt Plain	UNION CO

WB Name: ***TRIB. TO CROSSES RUN (O.M. SCOTT)***

Aquatic Life Use(s): **WWH** Segment Length: **2.10**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.10	

Comments: Severe toxic impacts were recorded downstream from O.M. Scott Co. at the mouth. Excessive levels of ammonia were present from point source discharges, and from spills and runoff from the O.M. Scott property. Pesticides and PAHs were also potential sources of impact. Non-attainment upstream was attributed to small stream size and intermittent flow conditions.

Causes of Impairment:

Flow alteration - H
Unionized Ammonia - H
Pesticides - M
Priority organics - M
Organic enrichment/DO - S
Other habitat alterations - S

Sources of Impairment:

Natural - H
Minor Industrial Point Source - H
Industrial land treatment - H
Spills - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH35 9	02-109	48.87	23.80	05060001-037	Eastern Corn Belt Plain	

WB Name: ***MILL CREEK (HEADWATERS TO OTTER RUN)***

Aquatic Life Use(s): **WWH** Segment Length: **25.07**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	16.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			16.00				

Comments: Sites in this reach were sampled as background conditions upstream from Marysville. Highway construction on U.S. Rt. 33 may cause increased amounts of sediment to enter this segment via Otter Creek.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH35 11	02-135	5.80	0.00	05060001-	Eastern Corn Belt Plain	LOGAN CO

WB Name: ***OTTER CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.80**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	1.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: Possible impacts from stream relocation and sedimentation related to highway construction on U.S. Rt. 33 should be monitored in the future.

Causes of Impairment:

Siltation - T

Sources of Impairment:

Highway/road/bridge/sewer line - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH35 12	**02-001**	**161.88**	**155.40**	**05060001-032**	**Eastern Corn Belt Plain**

WB Name: ***SCIOTO RIVER (BOKES CREEK TO MILL CREEK)*** County: **DELAWARE CO**

Aquatic Life Use(s): **WWH** Segment Length: **6.48**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.88	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.88				

Comments: Biological communities sampled at one location in this segment scored in the good to exceptional range. This segment appears to be improving. The lower 0.6 miles (O'Shaughnessy Dam pool) was not assessed.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH35 15	**02-138**	**19.71**	**0.00**	**05060001-**	**Eastern Corn Belt Plain**

WB Name: ***BOKES CREEK (BRUSH RUN TO SCIOTO RIVER)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **19.71**

Assessment Cycle: **1994** Field Data Collected From: **199307 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 19.60	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fish data from Bokes Creek suggests a negative impact from Powderlick Run and the pollution sources located there. Macroinvertebrate communities appear to be in good condition. River mile 27.2 was threatened from lack of riparian and bank erosion. There is significant nonpoint sources of agricultural runoff throughout basin.

Causes of Impairment:
- *Unknown toxicity - H*
- *Nutrients - M*
- *Siltation - M*
- *Other habitat alterations - S*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Animal holding/management areas - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH35 18	**02-138**	**39.70**	**19.71**	**05060001-**	**Eastern Corn Belt Plain**

WB Name: ***BOKES CREEK (HEADWATERS TO BRUSH RUN)*** County: **UNION CO**

Aquatic Life Use(s): **WWH** Segment Length: **19.99**

Assessment Cycle: **1994** Field Data Collected From: **199307 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.80	Full, But Threatened: 0.00	Partial: 1.20	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: River mile 27.2 is somewhat threatened by a lack of riparian cover on the stream bank. Erosion is taking its toll. Agricultural runoff is a problem throughout the basin.

Causes of Impairment:
- *Nutrients - H*
- *Unknown toxicity - H*
- *Siltation - M*
- *Other habitat alterations - M*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Animal holding/management areas - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH35 19	02-144	5.90	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***POWDERLICK RUN*** County: **UNION CO**

Aquatic Life Use(s): **WWH** Segment Length: **5.90**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Powderlick Run is severely impacted by agricultural inputs including nutrient runoff from farms with livestock operations and habitat destruction from cattle operations. Both impacts are severe. Nutrient inputs are the result of U.S. Egg upstream and local cattle operations.

Causes of Impairment:
- *Nutrients - H*
- *Other habitat alterations - H*
- *Siltation - M*

Sources of Impairment:
- *Feedlots (Confined Animal Feeding Oper.) - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH35 27	02-001	177.35	165.45	05060001-032	Eastern Corn Belt Plain

WB Name: ***SCIOTO RIVER (LITTLE SCIOTO RIVER TO FULTON CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **11.90**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.46	Full, But Threatened: 0.00	Partial: 0.00	None 6.44

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.46			6.45	

Comments: Sites were sampled in the Prospect dam pool, and downstream from the dam. Upstream from the dam biological communities scored in the fair and poor range, while below the dam they recovered to full attainment of the Warmwater Habitat use designation. The Little Scioto River is the source of PAH contamination in the sediments.

Causes of Impairment:
- *Flow alteration - H*
- *Nutrients - M*
- *Nonpriority organics - S*

Sources of Impairment:
- *Dam construction - Agriculture - H*
- *Major Municipal Point Source - M*
- *Hazardous waste - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH36 1	02-400	36.07	25.71	05060001-028	Eastern Corn Belt Plain

WB Name: ***OLENTANGY RIVER (WHETSTONE CREEK TO DELAWARE RUN)*** County: **DELAWARE CO**

Aquatic Life Use(s): **WWH** Segment Length: **10.36**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.40				

Comments: Sampling was done at one regional reference site upstream from the Delaware WWTP and downstream from the Delaware Lake dam. No apparent problems were present. The macroinvertebrate community improved from good to near exceptional quality based on qualitative sampling results.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH36 8	02-450	8.47	0.00	05060001-029	Eastern Corn Belt Plain	MORROW CO

WB Name: ***WHETSTONE CREEK (SHAW CREEK TO OLENTANGY RIVER)***

Aquatic Life Use(s): **EWH,WWH** Segment Length: **8.47**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.47	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: An intensive survey of Whetstone Creek and lower Shaw Creek was conducted in 1994. No additional data were collected from this segment by the agency. River mile segment 2.55 to 0.0 is influenced by Delaware Lake.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH36 11	02-453	18.20	0.00	05060001-109	Eastern Corn Belt Plain	MORROW CO

WB Name: ***SHAW CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **18.20**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 2.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There was vast improvement compared to 1984, but the upstream reaches are still threatened by nonpoint source agriculture inputs, decreased riparian, and some oil operations (periodic spills). There was a lot of excess silt in the assessed segment.

Causes of Impairment:

Siltation - T
Oil and grease - T
Other habitat alterations - T

Sources of Impairment:

Nonirrigated crop production - T
Spills - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH36 12	02-450	34.97	8.47	05060001-029	Eastern Corn Belt Plain	MORROW CO

WB Name: ***WHETSTONE CREEK (HEADWATERS TO SHAW CREEK)***

Aquatic Life Use(s): **EWH** Segment Length: **26.50**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.10	Full, But Threatened: 0.00	Partial: 6.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There was a slight amount of fish tissue contamination (PCBs, Mercury, Dieldrin and DDE) from sediments sources such as wastewater treatment plants, agriculture runoff or unknown. Partial support downstream from the Mt. Gilead WWTP was due to the combination of some ammonia and chlorine toxicity at low flow, nutirent enrichment and low Dissolved Oxygen. The unsewered town of Edison contributes greatly with possible nutrient spills in this reach. Additionally, there are long pools in this reach which influence water and biological quality. A small impoundment and nutrients from Cardington WWTP, agriculture nonpoint source runoff, and a more open canopy cause increased algal production and change in fish community. Some bedrock (decreased quality habitat) definitely effected the fish population. Additional problems were from cattle grazing (nutrient and fecal problems), as well as siltation due to riparian destruction. Open canopy adds to the degradation. Some nonpoint source improvement plans have been implemented. Slightly and moderately elevated levels of mercury and slightly elevated PCB levels were reported in fish tissue samples collected in 1994.

Causes of Impairment:

Organic enrichment/DO - H
Nutrients - H
Unionized Ammonia - H
Chlorine - H
Other habitat alterations - H

Sources of Impairment:

Minor Municipal Point Source - H
Onsite wastewater systems (septic tanks) - H
Other Urban Runoff - H
Removal of riparian vegetation - Ag - H
Nonirrigated crop production - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH36 12	02-450	34.97	8.47	05060001-029	Eastern Corn Belt Plain	MORROW CO

WB Name: ***WHETSTONE CREEK (HEADWATERS TO SHAW CREEK)***

Aquatic Life Use(s): **EWH** Segment Length: **26.50**

Siltation - M
Other habitat alterations - M
Metals - S
Pesticides - S
Range Grazing - Riparian - H
Upstream Impoundment - M
Contaminated sediments - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH36 21	02-417	9.10	0.00	05060001-102	Eastern Corn Belt Plain	MARION CO

WB Name: ***QU QUA CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **9.10**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.80	None 2.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					5.40		

Comments: Storm sewer discharges, channel modification, mobile home park effluent and significant siltation have contributed to the non and partial attainment and poor biological communities in Qu Qua Creek. In addition, elevated metals (particularly cadmium), PAHs and PCBs in bottom sediments in the Barks Road area have contributed to non-attainment. Sediments which were disturbed at Barks Road released creosote odors and minor oil sheening. Siltation of the stream bottom was very excessive at Barks Road and upstream. A large scale land development project was located upstream.

Causes of Impairment:

Siltation - H
Other habitat alterations - H
Metals - M
Priority organics - M
Organic enrichment/DO - M

Sources of Impairment:

Other Urban Runoff - H
Channelization - Agriculture - H
Land development/Suburbanization - H
Contaminated sediments - M
Package Plants (Small Flows) - M
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH36 22	02-418	8.60	0.00	05060001-077	Eastern Corn Belt Plain	MARION CO

WB Name: ***GRAVE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **8.60**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.40	Full, But Threatened: 0.00	Partial: 2.40	None 3.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.40			6.20	

Comments: The upper 6.2 miles of Grave Creek is under ditch maintenance, resulting in poor instream physical habitat. Excessive levels of siltation were documented in the upstream reach, and along with severely limited habitat, nutrients, and one area of contaminated sediment, contributed to partial and non-attainment of biological resources. Large growths of filamentous algae were common at the upstream sites - associated with the open canopy and elevated nutrient levels.

Causes of Impairment:

Siltation - H
Other habitat alterations - H
Nutrients - M
Metals - M
Priority organics - M
Oil and grease - S
Noxious aquatic plants - S

Sources of Impairment:

Channelization - Agriculture - H
Removal of riparian vegetation - Ag - H
Channelization - Development - H
Nonirrigated crop production - M
Other Urban Runoff - M
Contaminated sediments - M
Minor Municipal Point Source - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH36 22.1	02-432	8.33	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***RIFFLE CREEK*** | County: **MARION CO**

Aquatic Life Use(s): **NONE** | Segment Length: **8.33**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 5.90	None 2.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.90	3.00	2.40

Comments: Significant habitat modifications prevent realistic attainment of the WWH use designation in the upper section of Riffle Creek. Habitat limitations, along with excessive siltation, nutrients and limited contaminated sediments contribute to the non and partial attainment in the upper section of Riffle Creek. In addition, biological conditions at one location indicated a toxic response, possibly due to a spill event. The lower, more natural section of the stream was only partially attaining the WWH use, due to excessive nutrients and siltation problems.

Causes of Impairment:

- *Siltation - H*
- *Other habitat alterations - H*
- *Unknown toxicity - M*
- *Metals - M*
- *Nutrients - M*
- *Other habitat alterations - S*

Sources of Impairment:

- *Nonirrigated crop production - H*
- *Channelization - Agriculture - H*
- *Removal of riparian vegetation - Ag - H*
- *Landfills - M*
- *Contaminated sediments - M*
- *Spills - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH36 22.11	02-445	4.90	0.00	05060001-	

WB Name: ***TRIB. TO RIFFLE CREEK (RM 4.50)*** | County: **MARION CO**

Aquatic Life Use(s): **NONE** | Segment Length: **4.90**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.20	None 2.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.20	2.70

Comments: Excessive siltation, along with instream habitat modifications and enriched nutrient levels, contributed to the biological non and partial attainment in Ulsh Ditch. Habitat modifications included straightening the channel, grassed banks and the removal of the riparian corridor along most of the ditch.

Causes of Impairment:

- *Other habitat alterations - H*
- *Nutrients - H*
- *Siltation - H*

Sources of Impairment:

- *Channelization - Agriculture - H*
- *Removal of riparian vegetation - Ag - H*
- *Streambank destabilization - Ag - H*
- *Nonirrigated crop production - M*
- *Pasture land - M*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH36 22.111	**02-446**	**2.60**	**0.00**	**05060001-**	

WB Name: ***TRIB. TO TRIB. TO RIFFLE CREEK (RM4.50/2.58)***

County: **MARION CO**

Aquatic Life Use(s): **NONE** Segment Length: **2.60**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.60	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.60	

Comments: Significant habitat modifications in Clendenon Ditch warrant the MWH use designation. Based on 1998 sampling, biological communities are attaining the MWH use designation.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH36 23	**02-400**	**62.44**	**45.35**	**05060001-030**	**Eastern Corn Belt Plain**

WB Name: ***OLENTANGY RIVER (MUD RUN TO GRAVE CREEK)***

County: **MARION CO**

Aquatic Life Use(s): **WWH** Segment Length: **17.09**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.70	Full, But Threatened: 0.00	Partial: 4.39	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Partial attainment of the WWH use designation was recorded at RM 59.9. The macroinvertebrate assemblasge appeared to reflect influences from the unsewered Village of Caledonia and poor habitat conditions. Slightly elevated levels of mercury were reported in fish tissue samples from 1994.

Causes of Impairment:

Siltation - H
Nutrients - M
Unionized Ammonia - S

Sources of Impairment:

Nonirrigated crop production - H
Streambank destabilization - Ag - M
Onsite wastewater systems (septic tanks) - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH36 30	**02-425**	**15.40**	**0.00**	**05060001-072**	**Eastern Corn Belt Plain**

WB Name: ***FLAT RUN***

County:

Aquatic Life Use(s): **WWH** Segment Length: **15.40**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: One site sampled in the downstream end of the reach performed in the exceptional range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH36 34	02-429	10.50	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***MUD RUN (TRIB. OF OLENTANGY RIVER)*** County:

Aquatic Life Use(s): **MWH-C** Segment Length: **10.50**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	1.50	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There is pervasive agricultural landuse in the basin. Riparian removal and elevated silt loads, with extensive hydromodification from channelization and field tile installation, also cause problems.

Causes of Impairment:

Other habitat alterations - H
Flow alteration - H
Siltation - S
Organic enrichment/DO - S

Sources of Impairment:

Channelization - Agriculture - H
Removal of riparian vegetation - Ag - H
Nonirrigated crop production - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH36 35	02-400	92.98	62.44	05060001-030	Eastern Corn Belt Plain

WB Name: ***OLENTANGY RIVER (HEADWATERS TO MUD RUN)*** County: **CRAWFORD CO**

Aquatic Life Use(s): **WWH** Segment Length: **30.54**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	25.00	0.00	4.64	0.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The reach contains an upstream area of partial attainment and a downstream area of non-attainment (Downstream from the Galion WWTP). Both areas are influenced by poorly functioning home sewage systems. The upstream reach is also channel modified with riaprian removal. This reach contains the abandoned plating factories. Runoff from these entities is the likely source of metal-contaminated sediments in the stream. Slightly elevated levels of mercury and PCBs were reported in fish tissue samples from 1994.

Causes of Impairment:

Organic enrichment/DO - H
Nutrients - H
Unionized Ammonia - H
Other habitat alterations - M
Flow alteration - M
Metals - S
Priority organics - S

Sources of Impairment:

Onsite wastewater systems (septic tanks) - H
Removal of riparian vegetation - Dev - M
Channelization - Development - M
Other Urban Runoff - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 1	02-001	124.40	117.15	05060001-027	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***SCIOTO RIVER (SCIOTO BIG RUN TO BIG WALNUT CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **7.25**

Assessment Cycle: **2000** Field Data Collected From: **199808 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.25	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	7.25						

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 1.1	02-243	4.00	0.00	05060001-	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***REPUBLICAN RUN (GROVE CITY)***

Aquatic Life Use(s): **WWH** Segment Length: **4.00**

Assessment Cycle: **1994** Field Data Collected From: **199108 to 199108** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Downstream from Stringtown Road natural habitats are present The entire stream has the potential to attain a WWH aquatic community.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 2	02-090	2.70	0.00	05060001-100	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***PLUM RUN***

Aquatic Life Use(s): **WWH** Segment Length: **2.70**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.20	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				1.20			

Comments: The lower 1.2 miles of this segment are barely in attainment of WWH criteria based on fish sampling done in 1997. Residential development within the basin may impact the lower watershed in the future.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 4	02-092	8.00	0.00	05060001-108	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***SCIOTO BIG RUN***

Aquatic Life Use(s): **WWH** Segment Length: **8.00**

Assessment Cycle: **1996** Field Data Collected From: **199207 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Scioto Big Run drains a predominantly suburban and industrial watershed. The flow regime is typical of urban and suburban watersheds where runoff contributes silt and sand. A gravel mining operation resulted in the relocation of the stream channel in 1992. Biological performance in the impaired segment was fair, and indicative of non-chemical and habitat impacts.

Causes of Impairment:

Siltation - H
Flow alteration - M
Other habitat alterations - M
Organic enrichment/DO - M

Sources of Impairment:

Surface Mining - H
Channelization - Development - H
Other Urban Runoff - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 5	02-093	5.50	0.00	05060001-	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***MARSH RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.50**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.50	Full, But Threatened: 0.00	Partial: 0.00	None 4.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				0.50	4.90		

Comments: Marsh Run has improved significantly since 1994, when the fish community was assessed as poor. The elimination of a combined sewer overflow at Hoover Rd. has reduced the amount of sewage entering the stream during high rainfall events. While biological improvements have been noted, development within Grove City is a contributer of sediment runoff, and may hinder the recovery of the stream. Sewer line construction is proposed for the near future, and may result in the removal of riparian habitat in portions of the stream.

Causes of Impairment:

Other habitat alterations - H
Flow alteration - M

Sources of Impairment:

Other Urban Runoff - H
Channelization - Development - H
Land development/Suburbanization - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 5.1	02-234	5.72	0.00	05060001-		FRANKLIN CO

WB Name: ***BROWN RUN***

Aquatic Life Use(s): **NONE** Segment Length: **5.72**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	5.72

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						5.72	

Comments: One site was sampled in the lower portion of the stream in a natural area. Habitat was very good, but the fish community was poor. Residential and commercial development was heavy within the basin. The entire middle and upper portions of the watershed flow through suburban Grove City, receiving much urban runoff - the probable cause of non-attainment of WWH criteria.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H

Sources of Impairment:

Land development/Suburbanization - H
Other Urban Runoff - H
Channelization - Development - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 6	02-001	132.33	124.40	05060001-027	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***SCIOTO RIVER (OLENTANGY RIVER TO SCIOTO BIG RUN)***

Aquatic Life Use(s): **MWH-I,WWH** Segment Length: **7.93**

Assessment Cycle: **2000** Field Data Collected From: **199808 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	7.93	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.93				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 9	02-400	14.48	0.00	05060001-028	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***OLENTANGY RIVER (BARTHOLOMEW RUN TO SCIOTO RIVER)***

Aquatic Life Use(s): **EWH,WWH** Segment Length: **14.48**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	2.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.00				

Comments: The lower portion of the Olentangy River showed impairment in 1996. Urban runoff and combined sewer overflows were major contibuting factors. Conditions have shown improvement compared to previous surveys, rising from non-attainment to partial attainment of Warmwater Habitat criteria.

Causes of Impairment:

Unknown toxicity - H

Sources of Impairment:

Combined Sewer Overflow - H
Other Urban Runoff - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH37 9.5	**02-440**	**2.88**	**0.00**	**05060001-**	

WB Name: ***TRIB. TO OLENTANGY R. (RM 7.82)***

County: **FRANKLIN CO**

Aquatic Life Use(s): **NONE** Segment Length: **2.88**

Assessment Cycle: **2000** Field Data Collected From: **199710 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.88

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.88	

Comments: The entire watershed flows through urban/suburban areas of north Columbus. Habitat near the mouth was sufficient to support a WWH fish community, but the IBI score was in the poor range. Poor water quality probably plays a major role in the poor fish community.

Causes of Impairment:
Flow alteration - H

Sources of Impairment:
Other Urban Runoff - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH37 9.6	**02-441**	**3.19**	**0.00**	**05060001-**	

WB Name: ***KEMPTON RUN***

County: **FRANKLIN CO**

Aquatic Life Use(s): **NONE** Segment Length: **3.19**

Assessment Cycle: **2000** Field Data Collected From: **199710 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.19

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.19	

Comments: Urban runoff from the Linworth area, along with runoff from the Don Scott Airport, contribute to the non-attainment status of the fish community in this stream.

Causes of Impairment:
Flow alteration - H
Other habitat alterations - H

Sources of Impairment:
Other Urban Runoff - H
Channelization - Development - H
Natural - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH37 9.7	**02-442**	**3.20**	**0.00**	**05060001-**	

WB Name: ***LINWORTH RUN***

County: **FRANKLIN CO**

Aquatic Life Use(s): **NONE** Segment Length: **3.20**

Assessment Cycle: **2000** Field Data Collected From: **199709 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.20		

Comments: Habitat in this suburban stream was very good, but the fish community only scored in the fair range. Urban runoff is most likely the major cause of impairment, although summer low flow conditions render the stream intermittent at times.

Causes of Impairment:
Flow alteration - H
Cause Unknown - M

Sources of Impairment:
Other Urban Runoff - H
Natural - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 10	02-402	4.20	0.00	05060001-	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***TURKEY RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.20**

Assessment Cycle: **2000** Field Data Collected From: **199709 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						4.20	

Comments: Fish kills and spills have historically occured downstream from the Ohio State University Golf Course in Upper Arlington. Urban runoff, along with runoff from the golf course, contribute to the stream not attaining WWH criteria. The fish community scored in the poor range with tolerant species being dominant.

Causes of Impairment:
Flow alteration - H
Pesticides - H

Sources of Impairment:
Other Urban Runoff - H
Spills - H
Natural - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 11	02-401	2.00	0.00	05060001-054	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***ADENA BROOK***

Aquatic Life Use(s): **WWH** Segment Length: **2.00**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199606** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.00	

Comments: This is a small urban watershed which receives most of its flow from urban runoff. Marzetti's has a discharge in the headwaters which has caused several fish kills in the past. The stream goes intermittent during the summer months, but has a few large pools for refuges. The fish and macroinvertebrates both scored in the poor range.

Causes of Impairment:
Flow alteration - H
Other inorganics - H

Sources of Impairment:
Natural - H
Minor Industrial Point Source - M
Other Urban Runoff - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 12	02-403	1.50	0.00	05060001-107	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***RUSH RUN***

Aquatic Life Use(s): **WWH** Segment Length: **1.50**

Assessment Cycle: **1996** Field Data Collected From: **199409 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Rush Run drains a residential area and lies within a municipal park. The habitat is good with an extensive,mature wooded riparian zone. Evidence of raw sewage was observed during sampling in 1994. This likely emanates from the City of Columbus sewer system. The biological response signature indicated sewage enrichment.

Causes of Impairment:
Organic enrichment/DO - H
Flow alteration - M

Sources of Impairment:
Municipal Point Sources - H
Other Urban Runoff - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 13	02-400	25.71	14.48	05060001-028	Eastern Corn Belt Plain	DELAWARE CO

WB Name: ***OLENTANGY RIVER (DELAWARE RUN TO BARTHOLOMEW RUN)***

Aquatic Life Use(s): **WWH,EWH** Segment Length: **11.23**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.60	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.60				

Comments: One regional reference site was sampled in 1996 at Hyatts Rd. There was a marked decline in the IBI compared to sampling done in 1989. This segment still meets Warmwater Habitat criteria, but dropped from nearly Exceptional Warmwater Habitat (IBI=48) to nonsignificant departure from WWH (IBI=39). The macroinvertebrate community historically was also in the exceptional range. The Delaware WWTP is in the segment immediately upstream from this segment. Future monitoring is recommended to follow the downward trend.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 19	02-001	145.18	132.33	05060001-031	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***SCIOTO RIVER (INDIAN RUN TO OLENTANGY RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **12.85**

Assessment Cycle: **2000** Field Data Collected From: **199808 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	12.85	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	12.18		0.67				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 19.2	02-266	5.30	0.00	05060001-	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***TRABUE RUN***

Aquatic Life Use(s): **NONE** Segment Length: **5.30**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	5.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						5.30	

Comments: This stream is channelized and receives poor water quality runoff from the Conrail railroad yard. The stream is not likely to improve in the near future. Spills and fish kills have been recorded.

Causes of Impairment:

Other habitat alterations - H
Priority organics - H

Sources of Impairment:

Channelization - Development - H
Removal of riparian vegetation - Dev - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH37 19.4	**02-275**	**3.07**	**0.00**	**05060001-**	**Eastern Corn Belt Plain**

WB Name: ***CRAMER DITCH*** County: **FRANKLIN CO**

Aquatic Life Use(s): **NONE** Segment Length: **3.07**

Assessment Cycle: **1998** Field Data Collected From: **199510 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							2.50

Comments: A major sewage spill occurred sometime in 1995. No fish were present in the stream in October. Habitat was good, but water quality appears to be an issue due to overflows from a lift station in the headwaters.

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Spills - H
Combined Sewer Overflow - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH37 20	**02-095**	**5.10**	**0.00**	**05060001-**	**Eastern Corn Belt Plain**

WB Name: ***DRY RUN*** County: **FRANKLIN CO**

Aquatic Life Use(s): **WWH** Segment Length: **5.10**

Assessment Cycle: **2000** Field Data Collected From: **199510 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.40	

Comments: Dry Run was evaluated in 1995 to determine if its WWH use designation should be retained. Sampling confirmed that the WWH use is appropriate, with physical stream conditions reflective of good quality habitat. Fish sampling revealed a poor biological community due to poor chemical water quality. This poor chemical quality is associated with poorly treated wastewater discharged from a trailer park WWTP, and numerous spills of various compounds (battery acid, chromium, diesel fuel, ammonia, oil) into Dry Run or storm sewers to Dry Run and tributaries.

Causes of Impairment:
Unknown toxicity - H
Unionized Ammonia - H
Organic enrichment/DO - H

Sources of Impairment:
Spills - H
Package Plants (Small Flows) - H
Other Urban Runoff - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH37 21	**02-096**	**2.10**	**0.00**	**05060001-**	**Eastern Corn Belt Plain**

WB Name: ***SLATE RUN*** County: **FRANKLIN CO**

Aquatic Life Use(s): **WWH** Segment Length: **2.10**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							2.10

Comments: The fish community scored in the poor range, with only one species present. Natural low flow conditions, and very high gradient near the mouth which prohibits recolonization from the Scioto River, influence the low quality fish community. The Ohio State University Airport is located in the headwaters, and may possibly contribute runoff to the stream.

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Source Unknown - H
Other Urban Runoff - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 22	02-097	3.30	0.00	05060001-080	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***HAYDEN RUN***

Aquatic Life Use(s): **WWH** Segment Length: **3.30**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.30	

Comments: Habitat was very good, but the fish community scored in the poor range. Species diversity was low, and pollution-tolerant species were dominant. Suburban development is taking place within the watershed. A large waterfall near the mouth prohibits any migration of fish into Hayden Run from the Scioto River.

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Municipal Point Sources - H
Land development/Suburbanization - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 23	02-098	4.50	0.00	05060001-	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***NORTH FORK INDIAN RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.50**

Assessment Cycle: **2000** Field Data Collected From: **199710 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						0.50	

Comments: The stream has reaches of good habitat, but the fish community only scored in the poor range. Residential development in the upper reaches has encroached upon the the stream. The lower 1 mile of stream has bedrock substrates, very high gradient, and is intermittent during low rainfall periods. However, based on the positive habitat features in the upper reaches, the stream is capable of supporting a WWH biological community, although it currently falls far short.

Causes of Impairment:
Siltation - H
Natural Limits (Wetlands) - M

Sources of Impairment:
Land development/Suburbanization - H
Natural - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 24	02-099	5.60	0.00	05060001-110	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***SOUTH FORK INDIAN RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.60**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.70		

Comments: This segment had been channelized historically, and currently is not under stream maintenance. Knee-deep silt was present in the stream channel. Fish sampling done in the headwaters fell short of Warmwater Habitat criteria, but easily attained Modified Warmwater Habitat (MWH) criteria.

Causes of Impairment:
Siltation - H
Other habitat alterations - M
Nutrients - S

Sources of Impairment:
Nonirrigated crop production - H
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 25	02-001	155.40	145.18	05060001-031	Eastern Corn Belt Plain	DELAWARE CO

WB Name: ***SCIOTO RIVER (MILL CREEK TO INDIAN RUN)***

Aquatic Life Use(s): **WWH** Segment Length: **10.22**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.72	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.72				

Comments: The biological community within O'Shaughnessy Reservoir was not evaluated in 1995. One site downstream from the dam near I-270 indicated that the biological community was marginally good to good.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH37 27	02-108	3.60	0.00	05060001-069	Eastern Corn Belt Plain	DELAWARE CO

WB Name: ***EVERSOLE RUN***

Aquatic Life Use(s): **WWH** Segment Length: **3.60**

Assessment Cycle: **1996** Field Data Collected From: **199409 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	3.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a rapidly developing rural area , thus impacts from construction runoff and riparian encroachment are growing threats. Eversole Run easily attains the existing Warmwater Habitat use designation. During sampling in 1994 , the flow was intermittent or interstitial as large, deep pools were separated by brief sections of dry stream bed. This site was used as a reference for a survey of Columbus area urban streams.

Causes of Impairment: *Siltation - T*

Sources of Impairment: *Land development/Suburbanization - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH38 1	02-100	15.30	0.00	05060001-011	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***BIG WALNUT CREEK (ALUM/BLACKLICK CR. TO SCIOTO R.)***

Aquatic Life Use(s): **EWH** Segment Length: **15.30**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	5.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.00				

Comments: Fish sampling results have declined since the 1991 survey. A substantial bedload of silt and soil associated with the Port Columbus Airport runway expansion project has influenced the lower 27 miles of Big Walnut Creek.

Causes of Impairment: *Siltation - H*

Sources of Impairment: *Highway/road/bridge/sewer line - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 1.1	02-257	3.23	0.00	05060001-	

WB Name: ***TRIB. TO BIG WALNUT CREEK (RM 12.74)***

County: **FRANKLIN CO**

Aquatic Life Use(s): **NONE** Segment Length: **3.23**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.23

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.23		

Comments: Silty and sandy substrates were indicative of sedimentation from upstream development in Obetz. Stream flow is flashy as evidenced by a flash flood which occurred immediately following a thunderstorm at the time of sampling. Suburban influences may limit the ability of the stream to attain WWH criteria.

Causes of Impairment:

Siltation - H
Flow alteration - H

Sources of Impairment:

Other Urban Runoff - H
Land development/Suburbanization - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 2	02-110	19.90	0.00	05060001-026	Eastern Corn Belt Plain

WB Name: ***ALUM CREEK (COLUMBUS BOUNDARY TO BIG WALNUT CREEK)***

County: **FRANKLIN CO**

Aquatic Life Use(s): **WWH** Segment Length: **19.90**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 10.40	Partial: 7.60	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			10.40		7.60	1.00	

Comments: The lead causes of impairment in this segment include urban and stormwater runoff, combined sewer overflows, contaminated sediments, impoundments, and other habitat modifications. Sediments were contaminated with PAHs, PCBs, arsenic, zinc and cadmium at most of the sediment stations. The greatest level of contamination was found at river mile 9.2, downstream from American Ditch. Water quality problems included high fecal coliforms concentrations, and low dissolved oxygen levels. Despite all of the above, overall conditions in Alum Creek have improved compared to sampling done in 1986. Impacts from the Huber Ridge WWTP were minimal, significantly reduced compared to previous surveys.

Causes of Impairment:

Cause Unknown - H
Organic enrichment/DO - H
Flow alteration - M
Cadmium - M
Priority organics - M
Zinc - M
Flow alteration - M
Other habitat alterations - M
Organic enrichment/DO - T

Sources of Impairment:

Combined Sewer Overflow - H
Other Urban Runoff - M
Channelization - Development - M
Contaminated sediments - M
Other Urban Runoff - T

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 2.3	**02-276**	**7.20**	**0.00**		

WB Name: ***SPRING RUN***

Aquatic Life Use(s): **NONE** Segment Length: **7.20**

County: **FRANKLIN CO**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 7.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.50	3.70	

Comments: The upper reaches of the watershed have had extensive channel modifications due to residential development. Heavy silt was present at County Line Rd. (RM 4.9). The fish community scored in the poor range. In the middle portion of the basin, at Shrock Rd., habitat was very good, but the fish community was only fair. At the mouth, bedrock substrates were the dominating habitat feature. Substrates were silt-coated due to upstream construction activities. The fish community was improved, but still below WWH criteria.

Causes of Impairment:
Siltation - H
Other habitat alterations - H

Sources of Impairment:
Land development/Suburbanization - H
Channelization - Development - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 2.5	**02-295**	**1.05**	**0.00**	**05060001-**	

WB Name: ***TRIB. TO ALUM CREEK (RM 14.12)***

Aquatic Life Use(s): **NONE** Segment Length: **1.05**

County: **FRANKLIN CO**

Assessment Cycle: **2000** Field Data Collected From: **199710 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.05

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.05	

Comments: While much of the lower portion of the stream flows through heavily wooded areas, the entire headwaters is urban, with much of the stream culverted. Heavy silt and muck were present upstream from a small dam in the wooded area. Downstream from the dam the substrates were clean gravel. Fish species diversity and numbers of individuals were both very low. Despite the positive habitat features in the lower reach of the stream, the poor water quality from urban runoff makes this stream a candidate for LRW.

Causes of Impairment:
Organic enrichment/DO - H
Flow alteration - H

Sources of Impairment:
Other Urban Runoff - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 4	02-110	26.70	19.90	05060001-026	Eastern Corn Belt Plain

WB Name: ***ALUM CREEK (ALUM CREEK DAM TO COLUMBUS BOUNDARY)*** | County: **DELAWARE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **6.80**

Assessment Cycle: **1998** | Field Data Collected From: **199606 to 199610** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.80				

Comments: All sampling locations within this segment were in full attainment of Warmwater Habitat criteria for fish and macroinvertebrate communities.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 4.1	02-264	6.34	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***MEACHAM RUN*** | County: **FRANKLIN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **6.34**

Assessment Cycle: **1996** | Field Data Collected From: **199409 to 199409** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 1.50	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The watershed is subject to on-going land development, and riparian encroachment is a chronic threat. Meacham Run exhibits good habitat despite having a major traffic interchange in the headwaters. The Warmwater Habitat use designation was fully attained at river mile 0.1, based on sampling conducted in 1994.

Causes of Impairment:
Other habitat alterations - T

Sources of Impairment:
Land development/Suburbanization - T
Removal of riparian vegetation - Dev - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 4.2	02-265	6.11	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***NOBLE RUN (SPRING HOLLOW)*** | County: **FRANKLIN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **6.11**

Assessment Cycle: **1996** | Field Data Collected From: **199409 to 199409** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 2.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Noble Run is in a rapidly developing suburban area, thus it is subjected to chronic threats from spills, runoff, and riparian encroachment. Noble Run offers good headwater stream habitat with a nearly continuous, but narrow, riparian buffer. Channel morphology is well developed with extensive cover and good pool, run, and riffle development. Sampling in October1994, revealed an Index of Biotic Integrity (IBI) score of 40, which meets the Warmwater Habitat biocriterion. The survey was done in anticipation of a request to relocate the lower segment in order to make room for a parking lot.

Causes of Impairment:
Siltation - T
Other habitat alterations - T

Sources of Impairment:
Land development/Suburbanization - T
Channelization - Development - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH38 5	02-110	42.80	26.70	05060001-026	Eastern Corn Belt Plain	DELAWARE CO

WB Name: ***BIG RUN***

Aquatic Life Use(s): **LAKE** Segment Length: **16.10**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.70						

Comments: Sites upstream from Alum Creek Reservoir contained exceptional fish and macroinvertebrate communities. The reservoir portion of this reach was not sampled.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH38 12	02-118	11.80	0.00	05060001-	Eastern Corn Belt Plain	DELAWARE CO

WB Name: ***WEST BRANCH ALUM CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **11.80**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	4.00						

Comments: The fish and macroinvertebrate communities both scored in the exceptional range. A large population of bigeye chubs (sensitive, declining fish species) was present in this stream. This segment is currently designated Warmwater Habitat, but is recommended for upgrading to Exceptional Warmwater Habitat.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH38 14	02-110	55.80	42.80	05060001-026	Eastern Corn Belt Plain	MORROW CO

WB Name: ***ALUM CREEK (HEADWATERS TO WEST BRANCH ALUM CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **13.00**

Assessment Cycle: **2000** Field Data Collected From: **199710 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.70				

Comments: One fish sample was collected in this segment. Results showed a healthy and diverse fish community which included a population of bigeye chubs (sensitive species).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 17	02-130	28.00	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***BLACKLICK CREEK*** County: **FRANKLIN CO**

Aquatic Life Use(s): **WWH,EWH,WWH** Segment Length: **28.00**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 13.70	Partial: 4.60	None 8.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			17.20		9.80		

Comments: Several factors attribute to impairment within this segment. Intermittent stream conditions, land applied livestock wastes, and land use practices affect the upper reaches. Suburban development is increasing, resulting in riparian encroachment and runoff. Three WWTPs are located in this segment. There have been significant improvements in the lower portion, specifically downstream from the Blacklick Estates WWTP. Impairment recorded in the mid-1980s has improved to nearly full recovery. While areas of the stream are in full attainment of Warmwater Habitat criteria, they are in the low end, barely into attainment. Future monitoring is recommended to follow the effects of development within the basin.

Causes of Impairment:

Flow alteration - H
Nutrients - H
Organic enrichment/DO - H
Cause Unknown - H
Organic enrichment/DO - M
Flow alteration - M
Nutrients - T

Sources of Impairment:

Removal of riparian vegetation - Dev - H
Land development/Suburbanization - H
Natural - H
Onsite wastewater systems (septic tanks) - M
Onsite wastewater systems (septic tanks) - M
Major Municipal Point Source - M
Major Municipal Point Source - T
Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 17.1	02-281	4.98	0.00		

WB Name: ***DYSAR RUN*** County: **FRANKLIN CO**

Aquatic Life Use(s): **WWH** Segment Length: **4.98**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199806** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 4.98	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.98				

Comments: Rapid development within the basin, along with poor erosion control methods, has caused some affects on the stream. Sedimentation is a problem, but the fish community is still achieving WWH criteria. Coarse substrates and good groundwater inflow contribute to the stream's ability to perform well under the changing conditions.

Causes of Impairment:

Sources of Impairment:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 17.11	02-292	1.99	0.00	05060001-	

WB Name: ***TRIB. TO DYSAR RUN (RM 2.58)*** County: **FRANKLIN CO**

Aquatic Life Use(s): **NONE** Segment Length: **1.99**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.99	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.99				

Comments: This small stream was evaluated to determine its use designation. A proposed sewer line was to run through the stream channel. Fish results indicated the stream clearly meets WWH criteria. Residential development in the area is impacting Dysar Run, into which this stream flows.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 17.2	02-286	3.43	0.00	05060001-	

WB Name: ***TRIB. TO BLACKLICK CREEK (RM 6.50)*** County: **FRANKLIN CO**

Aquatic Life Use(s): **NONE** Segment Length: **3.43**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.50	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				0.50			

Comments: Only the lower 0.5 miles are in a natural state. The middle and upper reaches have been modified, with significant stormwater runoff entering the stream from residential and commercial shopping areas upstream. The site at river mile 0.5 was within nonsignifcant departure of WWH criteria based on fish sampling done in 1997. Continued development within the basin may impact the remaining natural segment near the mouth in the future.

Causes of Impairment:

Siltation - T
Flow alteration - T
T

Sources of Impairment:

Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 17.3	02-287	3.62	0.00	05060001-	

WB Name: ***TRIB. TO BLACKLICK CREEK (RM 10.36)*** County: **FAIRFIELD CO**

Aquatic Life Use(s): **NONE** Segment Length: **3.62**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.80				

Comments: Fish sampling results in 1997 were well within WWH criteria. Residential development in the area may pose problems in the future, but currently the stream has a healthy fish community.

Natural Limits (Wetlands) - T

Nonirrigated crop production - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH38 17.4	02-288	4.28	0.00	05060001-		FAIRFIELD CO

WB Name: ***TRIB. TO BLACKLICK CREEK (RM 11.25)***

Aquatic Life Use(s): **NONE** Segment Length: **4.28**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.80	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.80				

Comments: This segment meets WWH criteria based on fish sampling done in 1997. Problems may develop in the future if residential development occurs in the upper reaches of the basin.

Causes of Impairment: Sources of Impairment:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH38 17.5	02-289	3.00	0.00	05060001-		FAIRFIELD CO

WB Name: ***TRIB. TO BLACKLICK CREEK (RM 12.89)***

Aquatic Life Use(s): **NONE** Segment Length: **3.00**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.80	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.80				

Comments:

Causes of Impairment: Sources of Impairment:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH38 17.6	02-290	5.28	0.00	05060001-		FRANKLIN CO

WB Name: ***FRENCH RUN***

Aquatic Life Use(s): **NONE** Segment Length: **5.28**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.70	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				0.70			

Comments: French Run was within nonsignificant departure of WWH criteria based on fish sampling done in 1997. Suburban development in the Reynoldsburg area may impact the stream in the future if proper stream protection measures aren't undertaken.

Causes of Impairment: Sources of Impairment:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH38 17.61	02-291	3.80	0.00	05060001-		FRANKLIN CO

WB Name: ***N. BR. FRENCH RUN***

Aquatic Life Use(s): **NONE** Segment Length: **3.80**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 3.80	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.80						

Comments: This is a high quality headwaters stream. Proposed development in the headwaters may reduce water quality in the lower reaches if the stream channel is not protected. EWH use designation is recommended.

Causes of Impairment: Sources of Impairment:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH38 17.7	02-293	3.64	0.00	05060001-		FRANKLIN CO

WB Name: ***SWISHER CREEK***

Aquatic Life Use(s): **NONE** Segment Length: **3.64**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.50	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.50				

Comments: This stream was sampled to determine its use designation. Residential development in northeast Franklin County threatens many small streams in the Blacklick Creek basin. This segment, though somewhat modified by riparian removal, exhibited many characteristics of a coldwater, spring-fed stream. WWH criteria were achieved based on the fish sampling results in 1997.

Causes of Impairment: Sources of Impairment:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH38 18	02-100	28.30	15.30	05060001-	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***BIG WALNUT CREEK (ROCKY FORK TO ALUM CREEK)***

Aquatic Life Use(s): **WWH,EWH** Segment Length: **13.00**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.00	Full, But Threatened: 0.00	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			12.00		1.00		

Comments: The 1996 study concentrated on the area adjacent to the D.E. Edwards Landfill. However, heavy sedimentation of the stream bottom was noted as a result of the Port Columbus Airport runway expansion project.

Causes of Impairment:
Siltation - H
Cause Unknown - H

Sources of Impairment:
Land development/Suburbanization - H
Other Urban Runoff - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH38 18.1	02-280	4.00	0.00			FRANKLIN CO

WB Name: ***TRIB. TO BIG WALNUT CREEK (RM 27.29)***

Aquatic Life Use(s): **NONE** Segment Length: **4.00**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						0.50	

Comments: This stream flows through the Port Columbus Airport. The fish commumity was poor due to channelization, sedimentation from construction activities, and de-icing chemicals entering the stream from the airport.

Causes of Impairment:
- *Siltation - H*
- *Nutrients - H*

Sources of Impairment:
- *Land development/Suburbanization - H*
- *Other Urban Runoff - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH38 19	02-122	7.00	0.00	05060001-053	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***MASON RUN***

Aquatic Life Use(s): **WWH,MWH-C,L** Segment Length: **7.00**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	2.10	4.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.10		4.00

Comments: The upper 4.2 miles of this segment have been previously modified, with 1.5 miles completely enclosed in a culvert. The cause of biological impairment in uncertain. Permitted discharges and urban stormwater runoff appear to be major factors.

Causes of Impairment:
- *Unknown toxicity - H*
- *Other habitat alterations - H*
- *Siltation - M*

Sources of Impairment:
- *Industrial Point Sources - H*
- *Other Urban Runoff - H*
- *Channelization - Development - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH38 21	02-123	13.00	0.00	05060001-016	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***ROCKY FORK***

Aquatic Life Use(s): **WWH,EWH** Segment Length: **13.00**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.30	0.00	5.70	5.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	0.50		2.80		9.70		

Comments: Nutrient enrichment and siltation appear to be the causes of partial attainment in the upper reach. Siltation appears to be having the greatest effect in the lower reach. Previous noted "threats" have now become reality. Land development and construction activities in the New Albany area have had major negative effects on this stream.

Causes of Impairment:
- *Siltation - H*
- *Organic enrichment/DO - H*
- *Turbidity - M*

Sources of Impairment:
- *Land development/Suburbanization - H*
- *Onsite wastewater systems (septic tanks) - M*
- *Package Plants (Small Flows) - M*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 21.1	02-252	3.40	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***ROSE RUN*** | County: **FRANKLIN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **3.40**

Assessment Cycle: **1998** | Field Data Collected From: **199608 to 199609** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.60	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.60		

Comments: Residential development in the New Albany area has affected this stream for the past several years. Heavy sediment loads have reduced the quality of the stream. The fish community at river mile 0.6 appears to be improving from the initial impact, rising from the fair range in 1991 to attainment of Warmwater Habitat criteria in 1996. The macroinvertebrate community has declined, falling from moderately good in 199) to fair. Construction of a sewer line in New Albany altered the influx of groundwater to the stream, resulting in lower flows downstream than historically recorded.

Causes of Impairment:
- *Other habitat alterations - H*
- *Siltation - M*
- *Flow alteration - M*

Sources of Impairment:
- *Channelization - Development - H*
- *Land development/Suburbanization - M*
- *Natural - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 21.2	02-260	5.83	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***SUGAR RUN (NEW ALBANY)*** | County: **FRANKLIN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **5.83**

Assessment Cycle: **1998** | Field Data Collected From: **199607 to 199609** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.30	Full, But Threatened: 1.50	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.80				

Comments: Sedimentation from highway construction (re-routing of St. Rt. 161) is a threat to the lower 1.5 miles of this segment. Qualitative macroinvertebrate data in 1996 indicate good water quality at river mile 0.4.

Causes of Impairment:
- *Siltation - T*

Sources of Impairment:
- *Highway/road/bridge/sewer line - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 21.3	02-254	2.90	0.00		

WB Name: ***SYCAMORE RUN (GAHANNA)*** | County: **FRANKLIN CO**

Aquatic Life Use(s): **NONE** | Segment Length: **2.90**

Assessment Cycle: **2000** | Field Data Collected From: **199708 to 199708** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.50	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				0.50			

Comments: This is a small headwaters stream with residential development occuring within the basin. Fish sampling results in 1997 indicated the segment meets WWH criteria. Construction debris was evident within the stream channel. Future degradation of the stream is possible if major habitat alterations occur upstream. WWH use designation is recommended for this stream.

Causes of Impairment:

Sources of Impairment:

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 36	02-100	62.76	53.35	05060001-025	Eastern Corn Belt Plain

WB Name: ***BIG WALNUT CREEK (REYNOLDS RUN TO CULVER CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **9.41**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.41	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.41				

Comments: Two regional reference sites were sampled in this segment in 1996. No major problems were noted. A modest decline in the IBI was observed near Marengo compared to sampling done in previous years. The macroinvertebrate community has remained stable since 1982.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH38 39	02-103	6.40	0.00	05060001-087	Eastern Corn Belt Plain

WB Name: ***LONG RUN*** County: DELAWARE CO

Aquatic Life Use(s): **WWH** Segment Length: **6.40**

Assessment Cycle: **2000** Field Data Collected From: **199705 to 199705** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.80		

Comments: One fish sample was collected in this segment near the mouth. Results indicated a fair fish community, barely below WWH criteria despite excellent habitat (QHEI=85.5). Possible influences include siltation (nearby development) and algal growth. Early season sampling (May) might also have contributed to the lower than expected IBI score.

Causes of Impairment: *Cause Unknown - H*

Sources of Impairment: *Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH39 1.1	02-274	3.50	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***TRIB. TO BIG DARBY CREEK (RM 8.80)*** County: PICKAWAY CO

Aquatic Life Use(s): **WWH** Segment Length: **3.50**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.50		

Comments: This stream is a small headwaters stream. The upper portion is channelized through fields of row crop agriculture. The lower portion flows through a forested area and into the Big Darby Creek valley. During the summer it goes intermittent, but has deep pools which serve as refuges for fish.

Causes of Impairment: *Flow alteration - H*

Sources of Impairment: *Natural - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH39 1.4	02-270	4.16	0.00	05060001-	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***TRIB. TO BIG DARBY CREEK (RM 20.2)***

Aquatic Life Use(s): **NONE** Segment Length: **4.16**

Assessment Cycle: **1996** Field Data Collected From: **199410 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: One fish site was sampled in 1994. IBI scores were in the exceptional range. Development issues in this small watershed are perceived influences.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH39 2	02-200	25.70	12.93	05060001-038	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***BIG DARBY CREEK (HELLBRANCH RUN TO LIZZARD RUN)***

Aquatic Life Use(s): **EWH** Segment Length: **12.77**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.77	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There are multiple threats to this segment. Hellbranch Run is at the upstream end of this segment. This is the most rapidly developing portion of the whole watershed. Problems with failing on site systems and poorly operated package Wastewater Treatment Plant already cause localized problems, which may translate into downstream problem in Big Darby Creek as density increases. Discharges in the vicinity of the Pickaway Correctional Institute are currently causing peaks of phosphorus that may eventually translate into biological impacts. Slightly elevated levels of mercury were reported in fish tissue samples.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH39 6	02-204	11.18	0.00	05060001-039	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***HELLBRANCH RUN***

Aquatic Life Use(s): **WWH** Segment Length: **12.80**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 3.80	Partial: 3.70	None 5.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Nutrients - H
Organic enrichment/DO - H
Other habitat alterations - H
Pathogens - H
Siltation - M
Siltation - T
Other habitat alterations - T

Sources of Impairment:

Package Plants (Small Flows) - H
Other Urban Runoff - H
Nonirrigated crop production - M
Land development/Suburbanization - M
Onsite wastewater systems (septic tanks) - M
Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH39 6.1	02-245	8.50	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***CLOVER GROFF DITCH*** County: **FRANKLIN CO**

Aquatic Life Use(s): **MWH-C,WWH** Segment Length: **8.50**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 8.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This small tributary is subject to a wide variety of stresses. Starting at the headwaters, siltation associated with rowcrop agriculture was evident at the upstream-most site evaluated, with sedimentation extending down to river mile 2.5, where habitat was noted and sedimentation lessened. In the intervening miles, erosion from land clearing and house construction contributed additional sediment. Bridge construction at U.S. Rt. 40 appears to have contributed elevated levels of Iron and Zinc to sediment for a short distance downstream. Channelization appeared to have been conducted throughout most of the segment, with recovery most apparent downstream from river mile 2.5. Increased nutrient concentrations were measured downstream from the Timberbrook Estates Wastewater Treatment Plant. An off-farm holding facility and numerous failed on-site septic systems contribute locally to the problem.

Causes of Impairment:

Nutrients - H
Siltation - H
Organic enrichment/DO - H
Other habitat alterations - H
Pathogens - M

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - H
Package Plants (Small Flows) - H
Onsite wastewater systems (septic tanks) - M
Highway/road/bridge/sewer line - M
Highway/road/bridge/sewer line - S
Animal holding/management areas - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH39 6.2	02-259	6.20	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***HAMILTON DITCH*** County: **FRANKLIN CO**

Aquatic Life Use(s): **MWH-C,WWH** Segment Length: **6.20**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This tributary historically has been impacted by siltation associated with rowcrop agriculture and channelization. Increased gradient from river mile 2.1 downstream adds energy to the system, flushing silt. Habitat improves also. Numerous subdivisions are springing up along its length adding additional silt to the system. Similar to nearby Clovergroft Ditch, elevated sediment concentrations of iron and zinc were found downstream from the U.S. Rt. 40 bridge which was being refurbished. Limited water chemisty monitoring has been conducted on Hamiltion Ditch. However, nutrient enrichment and highly elevated fecal coliform and fecal streptococcus was documented at the downstream end of this tibutary. Problems with on-site septic systems are the probable source of these problems. As suburban development sprouts throughout this watershed, problems will worsen. There are no plans for a sewage collection system. The soils are very poorly drained and the gradient is very low.

Causes of Impairment:

Nutrients - H
Siltation - H
Organic enrichment/DO - H
Other habitat alterations - H
Pathogens - S

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - H
Onsite wastewater systems (septic tanks) - H
Land development/Suburbanization - H
Highway/road/bridge/sewer line - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH39 7	02-200	34.10	25.70	05060001-040	Eastern Corn Belt Plain	FRANKLIN CO

WB Name: ***BIG DARBY CREEK (L. DARBY CREEK TO HELLBRANCH RUN)***

Aquatic Life Use(s): **EWH** Segment Length: **8.40**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly elevated levels of mercury were reported in fish tissue samples in 1993.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH39 8	02-210	17.46	0.00	05060001-046	Eastern Corn Belt Plain	

WB Name: ***LITTLE DARBY CREEK (SPRING FORK TO BIG DARBY CR.)***

Aquatic Life Use(s): **EWH** Segment Length: **17.46**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 17.46	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	17.46						

Comments: This segment is exceptional in biological quality, and has remained stable over many years of sampling. There is high diversity of aquatic organisms and numerous species sensitive to pollution. The West Jefferson WWTP has little effect on the stream. Residential development within the basin should be closely monitored. Increased sedimentation may cause impacts to the biological community.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH39 9	02-211	16.00	0.00	05060001-052	Eastern Corn Belt Plain	MADISON CO

WB Name: ***SPRING FORK***

Aquatic Life Use(s): **EWH** Segment Length: **16.00**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 16.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream was had previously been designated as EWH in 1978. The sampling conducted in 1992 verified that use designation as being correct.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH39 12	02-213	14.20	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***TREACLE CREEK*** County:

Aquatic Life Use(s): **EWH** Segment Length: **14.20**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.40	Full, But Threatened: 0.00	Partial: 0.90	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The downstream portion of Treacle Creek flows through an extensive pasture. Free access of cattle to the stream has resulted in false banks caused by destabilization of banks by overgrazing and trampling. This segment has also been dredged, deepened and channelized. Also causing problems are elevated fecal coliforms resulting from the livestock adjacent to the stream.

Causes of Impairment:

Organic enrichment/DO - H
Pathogens - M
Nutrients - M
Other habitat alterations - M

Sources of Impairment:

Pasture land - H
Channelization - Agriculture - M
Streambank destabilization - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH39 13	02-214	6.00	0.00	05060001-049	Eastern Corn Belt Plain

WB Name: ***PROCTOR RUN*** County: CHAMPAIGN CO

Aquatic Life Use(s): **EWH** Segment Length: **6.00**

Assessment Cycle: **1994** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This segment is easily achieving EWH criteria. Some slight reduction in habitat quality is occurring, resulting from sedimentation delivered from upstream sources.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH39 19	02-200	44.96	34.10	05060001-041	Eastern Corn Belt Plain

WB Name: ***BIG DARBY CREEK (FITZGERALD DITCH TO L. DARBY CR.)*** County: FRANKLIN CO

Aquatic Life Use(s): **EWH** Segment Length: **10.86**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.06	Full, But Threatened: 0.00	Partial: 3.80	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Habitat appeared to be at least partial contributing to the reduced biological performance measured at the upstream end of the waterbody. However, a spill and fish kill was discovered on Fitzgerald Ditch which joins Big Darby Creek just upstream from Lucas Road. A custom applicator of farm chemicals spilled anhydrous ammonia into the ditch with most of it contained by DERR-Emergency Response. Discussions with adjacent landowners by the on-site coordinator, revealed that this was not the first incident from that applicator, suggesting that the suppression may be due to periodic spills. This pattern of localized depression extends back to 1987 from the vicinity of U.S. Rt. 70 to U.S. Rt. 40. Numerous failing on-site septic systems and poorly operated package wastewater treatment plantts result in nutrient enrichment sufficient to cause characteristic shifts in macroinvertebrate performance.

Causes of Impairment:

Organic enrichment/DO - H
Nutrients - M

Sources of Impairment:

Package Plants (Small Flows) - H
Combined Sewer Overflow - H
Onsite wastewater systems (septic tanks) - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH39 19.1	**02-272**	**4.60**	**0.00**	**05060001-**	**Eastern Corn Belt Plain**

WB Name: ***FITZGERALD DITCH*** County: **MADISON CO**

Aquatic Life Use(s): **NONE** Segment Length: **4.60**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**0.00**	**0.00**	**0.50**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: A custom applicator of farm chemicals released liquid high in ammonia into drainage tiles which lead to Fitzgerald Ditch. This resulted in a total kill from the point of release to the mouth of Fitzgerald Ditch. Stream dessication is also a problem with effluent from the Canaan Community MHP WWTP being released into an occassionally intermittent stream. There are suspicions that the spill that occured was not an isolated event.

Causes of Impairment:

Unionized Ammonia - H
Organic enrichment/DO - M
Nutrients - M
Other habitat alterations - S

Sources of Impairment:

Spills - H
Channelization - Agriculture - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH39 21	**02-200**	**50.92**	**44.96**	**05060001-041**	**Eastern Corn Belt Plain**

WB Name: ***BIG DARBY CREEK (SUGAR RUN TO FITZGERALD DITCH)*** County: **MADISON CO**

Aquatic Life Use(s): **EWH** Segment Length: **5.96**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.96	**0.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Significant suburban development is taking place along the riparian corridor in this segment.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH39 22	**02-200**	**63.74**	**50.92**	**05060001-041**	**Eastern Corn Belt Plain**

WB Name: ***BIG DARBY CREEK (BUCK RUN TO SUGAR RUN)*** County: **UNION CO**

Aquatic Life Use(s): **EWH** Segment Length: **12.82**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	12.32	**0.50**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Partial attainment of biocriteria was due to a slightly depressed MIWB score. Differences between up and down stream from the wastewater treatment plant revealed reduced numbers of intolerant individuals and increased number of some tolerant species. This, coupled with slightly depressed dissolved oxygen scores (some below Exceptional Warmwater Habitat minimum criteria), suggests a slight nutrient enrichment problem. Although currently not appearing to cause a problem to biological community performance, extremely elevated Lead concentrations were found in a sediment sample taken from this segment.

Causes of Impairment:

Organic enrichment/DO - T

Sources of Impairment:

Major Municipal Point Source - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH39 23	02-206	8.00	0.00	05060001-	Eastern Corn Belt Plain	UNION CO

WB Name: ***SUGAR RUN***

Aquatic Life Use(s): **WWH** Segment Length: **8.00**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.70	Full, But Threatened: 0.00	Partial: 0.60	None 5.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00			6.40	0.60

Comments: The upper portion of this stream is affected by channelization, poor riparian corridor, nutrient enrichment, potential toxic stresses from land application of fertilizers and manure, and gray water septic discharges. The fish community scored in the poor to very poor range. The downstream section had impairment from the Kimberly Woods WWTP. The lower 1.5 miles supports a good biological community which includes an abundance of 7 species of darters.

Causes of Impairment:

Organic enrichment/DO - H
Other habitat alterations - H
Siltation - H

Sources of Impairment:

Channelization - Agriculture - H
Minor Municipal Point Source - H
Onsite wastewater systems (septic tanks) - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH39 24	02-207	3.20	0.00	05060001-104	Eastern Corn Belt Plain	UNION CO

WB Name: ***ROBINSON RUN***

Aquatic Life Use(s): **WWH** Segment Length: **3.20**

Assessment Cycle: **1994** Field Data Collected From: **199206 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.20	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH39 26	02-200	74.30	63.74	05060001-	Eastern Corn Belt Plain	

WB Name: ***BIG DARBY CREEK (SPAIN CREEK TO BUCK RUN)***

Aquatic Life Use(s): **EWH** Segment Length: **10.56**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 10.56	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Chemical water quality standards should actually improve in this segment in the short term. Milford Center was unsewered with many failing septic systems discharging raw sewage into the stream. Construction of a pipeline to the Marysville WWTP, has largely eliminated that problem. However, if Marysville permits tap-ins to the line this area could develop rapidly with the attendant problems associated with suburbanization. Elevated concentrations of Heptachlorepoxide were found at the downstream end of this segment, as well as elevated concentrations of Chromium, Iron and Lead. Zinc and Arsenic were found at slightly elevated concentrations.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH39 27	02-209	14.70	0.00	05060001-044	Eastern Corn Belt Plain

WB Name: ***BUCK RUN*** | County: **UNION CO**

Aquatic Life Use(s): **WWH** | Segment Length: **14.70**

Assessment Cycle: **1996** | Field Data Collected From: **199306 to 199309** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.00	None 7.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream may become the site of a Union County WWTP. This may not initially cause problems due to the process of flow augmentation, but subsequent expansions may cause a decline. Stream dessication appeared to be a significant factor affecting fish distribution and abundance in 1993 when compared to 1992 results. Large amounts of sediment were contributed to the headwaters of Buck Run in 1987. Subsequent flooding appears to have flushed much of this sediment downstream. This process, coupled with some reduction in livestock pastorage, has resulted in gradual improvements in stream habitat. Despite this, community quality improvements have not been measured. Water quality problems such as nutrient enrichment are probably the cause.

Causes of Impairment:

Organic enrichment/DO - H
Siltation - M
Other habitat alterations - S

Sources of Impairment:

Pasture land - H
Streambank destabilization - Ag - M
Highway/road/bridge/sewer line - M
Flow regulation/modification - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH39 31	02-200	83.70	74.30	05060001-	Eastern Corn Belt Plain

WB Name: ***BIG DARBY CREEK (HEADWATERS TO SPAIN CREEK)*** | County:

Aquatic Life Use(s): **WWH,EWH** | Segment Length: **9.40**

Assessment Cycle: **1998** | Field Data Collected From: **199206 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 9.40	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	9.40						

Comments: This segment has several potential stressors. Poor BMPs along the construction area of U.S. Rt. 33, if not rectified, will significantly increase the sediment load to the stream. Biological communities will adversely be affected. Residential development is increasing in the vicinity of this segment. Increased loadings from the TRC WWTP may also result in biological impacts.

Causes of Impairment:

Siltation - T

Sources of Impairment:

Highway/road/bridge/sewer line - T
Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH39 31.1	02-222	7.30	0.00	05060001-111	Eastern Corn Belt Plain

WB Name: ***SPAIN CREEK*** | County: **CHAMPAIGN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **7.30**

Assessment Cycle: **1996** | Field Data Collected From: **199306 to 199309** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The downstream site at RM 0.2 has dropped into the area of nonsignificant departure from EWH criteria. This site is downstream from the newly upgraded North Lewisburg WWTP, and the town of North Lewisburg which is experiencing some growth. This slight decline may be due to NO3 nutrient enrichment because of the shift from a facultative lagoon system to a tertiary treatment system.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH39 33	02-223	4.70	0.00	05060001-071	Eastern Corn Belt Plain

WB Name: ***FLAT BRANCH*** | County: **UNION CO**

Aquatic Life Use(s): **MWH-C** | Segment Length: **4.70**

Assessment Cycle: **1996** | Field Data Collected From: **199306 to 199309** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.50	Full, But Threatened: 0.00	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The segment of river mile 0.6-0.9 has been sampled periodically since 1978 with the poorest results attained in 1983. Slight and gradual improvement has occured since then, yet it is still well below criteria. Channelized habitat appears to be a locally limiting factor, although sampling further downstream at RM 0.1 supports WWH fish communities. Earth moving activities (highway construction) in 1987 contributed large amounts of sediment to Flat Branch, yielding measurable impacts downstream in Big Darby Creek.

Causes of Impairment:

Other habitat alterations - H
Organic enrichment/DO - H
Siltation - M

Sources of Impairment:

Channelization - Agriculture - H
Highway/road/bridge/sewer line - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH40 1	02-001	106.10	100.80	05060001-002	Eastern Corn Belt Plain

WB Name: ***SCIOTO RIVER (WALNUT CREEK TO BIG DARBY CREEK)*** | County: **PICKAWAY CO**

Aquatic Life Use(s): **EWH** | Segment Length: **5.30**

Assessment Cycle: **2000** | Field Data Collected From: **199808 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.30	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.30						

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH40 4	02-078	5.47	0.00	05060001-003	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***WALNUT CREEK (LITTLE WALNUT CREEK TO SCIOTO RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **5.47**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.47	0.00	1.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.47		1.00		

Comments: The cause of partial attainment is uncertain. It appears that development within the basin is resulting in sedimentation in the lower reach. Future monitoring is recommended to better assess the situation.

Causes of Impairment:
Cause Unknown - H
Siltation - H

Sources of Impairment:
Land development/Suburbanization - H
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH40 5	02-079	12.45	0.00	05060001-004	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***LITTLE WALNUT CREEK***

Aquatic Life Use(s): **WWH,EWH** Segment Length: **12.45**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	11.45	0.00	0.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	9.45		2.00		1.00		

Comments: The lower portion of this segment is impacted by sedimentation from nonpoint source runoff. The upper reaches scored in the exceptional range. It is recommended that the headwaters to the confluence of Turkey Run be upgraded to Exceptional Warmwater Habitat.

Causes of Impairment:
Siltation - H
Nutrients - M

Sources of Impairment:
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH40 6	02-080	7.00	0.00	05060001-116	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***TURKEY RUN***

Aquatic Life Use(s): **EWH** Segment Length: **7.00**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	7.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	7.00						

Comments: This segment had previously been unassessed. Biological communities scored in the Exceptional Warmwater Habitat range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH40 9	02-078	21.15	5.47	05060001-005	Eastern Corn Belt Plain

WB Name: ***WALNUT CREEK (GEORGE CREEK TO LITTLE WALNUT CREEK)***

County: **PICKAWAY CO**

Aquatic Life Use(s): **WWH** Segment Length: **15.68**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 15.68	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			15.68				

Comments: Much development is occurring within the watershed. Biological communities scored in the very good range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH40 9.1	02-279	2.96	0.00		

WB Name: ***MANNS RUN***

County:

Aquatic Life Use(s): **WWH** Segment Length: **2.96**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: Mann's Mobile Home Park WWTP contributes nutrients to this stream. However, no biological impairments were recorded attributable to the WWTP. The fish communities scored in the good to very good range. The macroinvertebrates scored in the fair range (cause and source unknown). This stream also drains from Rickenbacker Airport and through a golf course.

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH40 9.2	02-277	0.56	0.00		

WB Name: ***TRIB. TO WALNUT CREEK (RM 15.54)***

County:

Aquatic Life Use(s): **MWH-C** Segment Length: **0.56**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.56	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						0.56	

Comments: This unnamed tributary is a apparently a channel cut into the landscape where no previous stream had existed. Although it is a man-made ditch, it had beneficial habitat features such as trees in the riparian area, and deep pools. It receives WWTP effluent and stormwater runoff from Rickenbacker Airport.

Causes of Impairment:
Other habitat alterations - H
Unknown toxicity - H

Sources of Impairment:
Channelization - Development - H
Other Urban Runoff - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH40 9.3	**02-278**	**2.85**	**0.00**		County:

WB Name: ***TRIB. TO WALNUT CREEK (RM 15.64)***

Aquatic Life Use(s): **WWH** Segment Length: **2.85**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.60	Full, But Threatened: 0.00	Partial: 0.40	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.60		0.40		

Comments: Biological communities upstream from the mouth were attaining Warmwater Habitat criteria. In the lower 0.4 miles low gradient conditions contributed to the macroinvertebrate community only scoring in the fair range (due to low habitat diversity). Water column chemistry results indicate good water quality.

Causes of Impairment: *Other habitat alterations - H*

Sources of Impairment: *Nonirrigated crop production - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH40 10	**02-198**	**4.20**	**0.00**	**05060001-**	**Eastern Corn Belt Plain**
					County: **PICKAWAY CO**

WB Name: ***MUD RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.20**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.20	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.20				

Comments: This segment had previously been unassessed. Biological communities attained Warmwater Habitat criteria. This is an agricultural watershed.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH40 11	**02-083**	**4.90**	**0.00**	**05060001-**	**Eastern Corn Belt Plain**
					County: **FRANKLIN CO**

WB Name: ***BIG RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.90**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.90	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.90				

Comments: This segment had previously been unassessed. Biological communities attained Warmwater Habitat criteria. This is an agricultural watershed.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH40 12	02-084	8.50	0.00	05060001-009	Eastern Corn Belt Plain

WB Name: ***GEORGES CREEK*** | County: **FRANKLIN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **8.50**

Assessment Cycle: **1998** | Field Data Collected From: **199607 to 199610** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 4.50	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.00		6.50		

Comments: The lower 2 miles of this segment are attaining WWH criteria. The middle reach is channelized and is in non-attainment. The upper reach partially attains Warmwater Habitat criteria.

Causes of Impairment:
Siltation - H
Flow alteration - H

Sources of Impairment:
Land development/Suburbanization - H
Channelization - Development - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH40 12.1	02-231	8.50	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***TRIB. TO GEORGES CREEK*** | County: **FRANKLIN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **8.50**

Assessment Cycle: **1998** | Field Data Collected From: **199607 to 199610** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 3.50	Partial: 5.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.50		5.00		

Comments: Upstream from river mile 5.0 the stream is small, and is recovering from the effects of suburban development. It is presently attaining Warmwater Habitat criteria. The lower 5.0 miles are impacted by sedimentation from current development in the area.

Causes of Impairment:
Siltation - H
Other habitat alterations - T

Sources of Impairment:
Land development/Suburbanization - H
Land development/Suburbanization - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH40 13	02-078	29.18	21.15	05060001-005	Eastern Corn Belt Plain

WB Name: ***WALNUT CREEK (SYCAMORE CREEK TO GEORGE CREEK)*** | County: **FAIRFIELD CO**

Aquatic Life Use(s): **WWH** | Segment Length: **8.03**

Assessment Cycle: **1998** | Field Data Collected From: **199607 to 199610** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.03	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.03				

Comments: Development is increasing within the watershed. The biological communities scored in the very good range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH40 14	02-226	8.00	0.00	05060001-	Eastern Corn Belt Plain

WB Name: ***TUSSING DITCH*** | County: **FRANKLIN CO**

Aquatic Life Use(s): **MWH-C,WWH** | Segment Length: **8.00**

Assessment Cycle: **1998** | Field Data Collected From: **199607 to 199610** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.50				

Comments: Only the lower 0.5 miles was assessed. Biological communities scored in the good to moderately good ranges near the mouth.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH40 15	02-085	13.60	0.00	05060001-008	Eastern Corn Belt Plain

WB Name: ***SYCAMORE CREEK*** | County: **FAIRFIELD CO**

Aquatic Life Use(s): **WWH** | Segment Length: **13.60**

Assessment Cycle: **1998** | Field Data Collected From: **199607 to 199610** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.60	Full, But Threatened: 0.00	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			12.60		1.00		

Comments: Several small WWTPs are present in this segment. The Huntington Hills WWTP contributes ammonia and nutrients which cause a decline in the fish communities downstream. The rapidly developing area is contributing urban runoff.

Causes of Impairment: *Cause Unknown - H*

Sources of Impairment: *Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH40 16	02-078	41.39	29.18	05060001-	Eastern Corn Belt Plain

WB Name: ***WALNUT CREEK (PAWPAW CREEK TO SYCAMORE CREEK)*** | County: **FAIRFIELD CO**

Aquatic Life Use(s): **WWH** | Segment Length: **12.21**

Assessment Cycle: **1998** | Field Data Collected From: **199607 to 199610** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.21	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			12.21				

Comments: There is much development occurring within the watershed. Biological communities scored in the very good range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH40 17	02-199	6.50	0.00	05060001-	Eastern Corn Belt Plain	FAIRFIELD CO

WB Name: ***GILLETTE RUN***

Aquatic Life Use(s): **WWH** Segment Length: **6.50**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.50				

Comments: This is a small stream in a rural residential area. Some improvement was noted in the biological quality since sampling done in 1982.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH40 18	02-086	9.30	0.00	05060001-101	Eastern Corn Belt Plain	FAIRFIELD CO

WB Name: ***POPLAR CREEK***

Aquatic Life Use(s): **EWH** Segment Length: **9.30**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 8.30	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	8.30		1.00				

Comments: This stream had the best biological performance in the Walnut Creek basin. The lower reach was influenced by development in the upper reaches, and by agricultural runoff. It is recommended that this segment be upgraded to Exceptional Warmwater Habitat.

Causes of Impairment:

Flow alteration - H
Siltation - M
Nutrients - T
Other habitat alterations - T

Sources of Impairment:

Land development/Suburbanization - H
Nonirrigated crop production - M
Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH40 19	02-087	4.70	0.00	05060001-	Eastern Corn Belt Plain	FAIRFIELD CO

WB Name: ***PAWPAW CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **4.70**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.70				

Comments: This is a small stream which flows through rural residential areas, and through the city of Baltimore. An unnamed tributary enters at river mile 0.5 which receives effluent from Ohio Paperboard Co.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH40 20	02-224	6.79	0.00	05060001-	Erie-Ontario Lake Plain	FAIRFIELD CO

WB Name: ***ZELLERBACH TRIB.***

Aquatic Life Use(s): **WWH** Segment Length: **6.79**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	6.59	0.00	0.20	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.59		0.20		

Comments: Effluent from Ohio Paperboard Co. has limited influence on the biological communities. Impacts are within the lower 0.2 miles of the stream.

Causes of Impairment: *Organic enrichment/DO - H*

Sources of Impairment: *Major Industrial Point Source - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH40 21	02-078	54.44	41.39	05060001-	Western Allegheny Plateau	FAIRFIELD CO

WB Name: ***WALNUT CREEK (HEADWATERS TO PAWPAW CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **13.05**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	13.05	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			13.05				

Comments: This segment flows through agricultural areas. Biological communities scored in the very good range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH40 22	02-225	7.40	0.00	05060001-	Erie-Ontario Lake Plain	FAIRFIELD CO

WB Name: ***PLEASANTVILLE-THURSTON WWTP TRIB.***

Aquatic Life Use(s): **WWH** Segment Length: **7.40**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	2.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: Water quality and habitat appeared to be good, but biological communities only scored in the fair range. The cause of non-attainment is uncertain.

Causes of Impairment: *Cause Unknown - H*

Sources of Impairment: *Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH40 23	02-001	117.15	106.10	05060001-010	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***SCIOTO RIVER (BIG WALNUT CREEK TO WALNUT CREEK)***

Aquatic Life Use(s): **WWH,EWH** Segment Length: **11.05**

Assessment Cycle: **2000** Field Data Collected From: **199808 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 11.05	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	11.05						

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 1	02-001	82.96	63.50	05060002-078	Eastern Corn Belt Plain	ROSS CO

WB Name: ***SCIOTO RIVER (KINNIKINNICK CREEK TO PAINT CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **19.46**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 18.46	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			18.46		1.00		

Comments: The fish community drops slightly out of attainment in the long pooled stretch of stream downstream from the Chilllicothe Correctional Institute WWTP. Background sedimentation associated with riparian removal and bank erosion is a secondary source of impact.

Causes of Impairment:
Other habitat alterations - H
Other habitat alterations - T

Sources of Impairment:
Streambank destabilization - Ag - H
Streambank destabilization - Ag - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 5	02-068	14.40	0.00	05060002-079	Eastern Corn Belt Plain	ROSS CO

WB Name: ***KINNIKINNICK CREEK***

Aquatic Life Use(s): **EWH** Segment Length: **14.40**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Kinnikinnick Creek is in the process of being upgraded to Exceptional Warmwater Habitat. While the continuous stream flow is an important buffer, chronic threats include riparian encroachment from adjacent land use in the form of row crop agriculture. Kinnikinnick Creek exhibited exceptional characteristics in 1993 and 1994, and is a high value resource in this part of Ohio. A good baseflow likely mitigates the existing nonpoint source impacts such as siltation and sand bedload.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 6	02-001	89.60	82.97	05060002-081	Eastern Corn Belt Plain	ROSS CO

WB Name: ***SCIOTO RIVER (SCIPPO CREEK TO KINNIKINNICK CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **6.64**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 4.64	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.64			2.00	

Comments: Impacts in the fish community appear to be primarily related to habitat degradation and sedimentation, particularly in areas of sluggish flow (pools, slow runs). Bank destabilization and sedimentation resulting from riparian removal and encroachment are considered a major cause of habitat degradation.

Causes of Impairment:
- *Other habitat alterations - H*
- *Other habitat alterations - T*

Sources of Impairment:
- *Streambank destabilization - Ag - H*
- *Streambank destabilization - Ag - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 6.1	02-196	7.00	0.00	05060002-163	Eastern Corn Belt Plain	ROSS CO

WB Name: ***BLACKWATER CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **7.00**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.70	None 5.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The impairment is primarily due to excessive loadings of sewage constituents from the Kingston Wastewater Treatment Plant and sewer system. A brief section of channelization also contributes to the non-attainment status.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Unionized Ammonia - H*
- *Other habitat alterations - M*

Sources of Impairment:
- *Municipal Point Sources - H*
- *Channelization - Agriculture - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 7	02-300	7.21	0.00	05060002-	Eastern Corn Belt Plain	ROSS CO

WB Name: ***DEER CREEK (HAY RUN TO SCIOTO RIVER)***

Aquatic Life Use(s): **EWH** Segment Length: **7.21**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.21	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	7.21						

Comments: The biological quality of the lower segment of Deer Creek is exceptional. Fish tissue samples showed slightly elevated levels of PCBs and mercury, but these results may be influenced by the close proximity to the Scioto River.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH41 8	02-301	5.50	0.00	05060002-114	Eastern Corn Belt Plain

WB Name: ***WAUGH RUN*** | County: **ROSS CO**

Aquatic Life Use(s): **WWH** | Segment Length: **5.50**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.00				

Comments: Only one site was sampled on this stream. The fish community was exceptional (IBI=54), while the macroinvertebrates rated good. The stream is currently designated WWH, but future monitoring may be needed to fully assess EWH potential.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH41 9	02-302	7.50	0.00	05060002-111	Eastern Corn Belt Plain

WB Name: ***HAY RUN*** | County: **ROSS CO**

Aquatic Life Use(s): **WWH** | Segment Length: **7.50**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.50	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.50		

Comments: Fish sampling done in 1987 showed severe impacts immediately downstream from the Clarksburg WWTP, while sites upstream and far downstream were fully attaining WWH criteria. In 1997, conditions had improved downstream from the WWTP, with the fish community showing partial attainment.

Causes of Impairment: *Organic enrichment/DO - H*

Sources of Impairment: *Municipal Point Sources - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH41 11	02-300	16.86	7.21	05060002-	Eastern Corn Belt Plain

WB Name: ***DEER CREEK (DRY RUN TO HAY RUN)*** | County: **PICKAWAY CO**

Aquatic Life Use(s): **EWH** | Segment Length: **9.65**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.65	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	9.65						

Comments: No apparent impacts were noticed from the Williamsport WWTP. Wide variations in stream flow made it difficult to assess fish communities at two sites in this segment.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 12	02-300	23.89	16.86	05060002-	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***DEER CREEK (DEER CREEK DAM TO DRY RUN)***

Aquatic Life Use(s): **EWH** Segment Length: **7.03**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	7.03	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.03				

Comments: Deer Creek Reservoir appears to exert a stressor on the biological communities downstream from the dam. Ammonia, nitrates, TKN and iron were all recorded in higher concentrations downstream from the dam compared to sites upstream from the lake.

Causes of Impairment:
Cause Unknown - H
Flow alteration - H
Nutrients - H

Sources of Impairment:
Upstream Impoundment - H
Flow reg./mod. - Development - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 14	02-305	5.30	0.00	05060002-093	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***BUSKIRK CREEK***

Aquatic Life Use(s): **EWH,WWH** Segment Length: **10.50**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.70	0.00	0.00	2.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.70				2.60		

Comments: Fish sampling in 1995 showed a fair community at river mile 5.2, and an exceptional one at river mile 2.2. Data from 1997 showed fish communities to be very good at river mile 1.2, along with exceptional macroinvertebrates. The lower 2.7 miles of the stream has good riparian and high stream gradient compared to the upper section of the stream which is more agricultural. It is recommended that the lower 2.7 miles be designated EWH.

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 16	02-306	4.40	0.00	05060002-095	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***CLARK RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.40**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	2.10	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.10		

Comments: The macroinvertebrates were very good at river mile 1.3, near Deer Creek Reservoir. Further upstream at river mile 2.3 the fish only scored fair.

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 18	02-300	41.22	29.40	05060002-	Eastern Corn Belt Plain	MADISON CO

WB Name: ***DEER CREEK (BRADFORD/SUGAR CREEK TO DEER CR. RES.)***

Aquatic Life Use(s): **EWH** Segment Length: **11.82**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	10.10	0.00	1.72	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	10.10		1.72				

Comments: This segment performed in the EWH range with the exception of one MIwb score at river mile 31.1, which was very slightly below the EWH criterion. A mild spike of phosphorus was recorded in one water sample collected.

Causes of Impairment:
Cause Unknown - H
Nutrients - H

Sources of Impairment:
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 22	02-311	4.50	0.00	05060002-105	Eastern Corn Belt Plain	MADISON CO

WB Name: ***SUGAR RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.50**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.50	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	4.50						

Comments: Sugar Run had an exceptional fish community near the mouth, and is recommended for redesignation to EWH. Two tributaries upstream which flow into Sugar Run (Bradford Creek and Mud Run) should be monotored in the future to determine their EWH potential.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 26	02-300	50.18	41.22	05060002-	Eastern Corn Belt Plain	MADISON CO

WB Name: ***DEER CREEK (OAK RUN TO SUGAR RUN)***

Aquatic Life Use(s): **WWH** Segment Length: **8.96**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.96	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.96				

Comments: Although this segment of Deer Creek is meeting WWH, it would probably have EWH potential if it were not for the influence of Oak Run. Oak Run increases the concentrations of fecal coliforms, total suspended solids and nitrates.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH41 28	02-316	16.61	0.00	05060002-	Eastern Corn Belt Plain

WB Name: ***OAK RUN*** | County: **MADISON CO**

Aquatic Life Use(s): **WWH** | Segment Length: **16.61**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.00	Full, But Threatened: 0.00	Partial: 0.00	None 9.61

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.00		9.61		

Comments: Downstream from the London Fish Hatchery the biological communities were not attaining WWH. Non-attainment continued downstream past Jones Ditch (London Correctional Institute). A small stretch of stream attained WWH at Old Springfield Rd. in London. However, upstream from the London WWTP (river mile 8.1) unknown urban sources possibly contributed to non-attainment. Downstream from the London WWTP conditions improved dramatically in 1997 compared to sampling done in 1985, with marginal attainment recorded. The lower sections of Oak Run attain WWH criteria and approach EWH.

Causes of Impairment:

Unionized Ammonia - H
Pathogens - H
Nutrients - H
Cause Unknown - H

Sources of Impairment:

Major Municipal Point Source - H
Package Plants (Small Flows) - H
Aquaculture - H
Other Urban Runoff - H
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH41 29	02-317	6.70	0.00	05060002-104	Eastern Corn Belt Plain

WB Name: ***WALNUT RUN*** | County: **MADISON CO**

Aquatic Life Use(s): **WWH** | Segment Length: **6.70**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: One site was sampled in this segment near the mouth. Biological communities were found to be attaining WWH criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH41 30	02-300	74.50	50.18	05060002-	Eastern Corn Belt Plain

WB Name: ***DEER CREEK (HEADWATERS TO OAK RUN)*** | County: **MADISON CO**

Aquatic Life Use(s): **WWH** | Segment Length: **24.32**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 24.32	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			24.32				

Comments: Biological index scores appeared to be unaffected downstream from the Farm Science Review. However, further upstream (downstream from Lake Choctaw) scores were lower compared to the rest of the segment. Ammonia and TKN concentrations were elevated downstream from Lake Choctaw. Additionally, the lowest dissolved oxygen levels were recorded in this reach.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 32	02-319	4.00	0.00	05060002-	Eastern Corn Belt Plain	MADISON CO

WB Name: ***NORTH FORK DEER CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **4.00**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.00				

Comments: One site was sampled in this segment near the mouth. Biological communities were attaining WWH criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 33	02-001	100.80	89.61	05060002-	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***SCIOTO RIVER (BIG DARBY CREEK TO SCIPPO CREEK)***

Aquatic Life Use(s): **EWH,WWH** Segment Length: **11.20**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	9.40	1.80	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.00		8.40		0.80		

Comments: An EWH recommendation for the segment between Walnut Creek and the Penn Central RR trestle near Circleville (RM 106.0-97.7) includes the upper 3.1 miles of this segment. The fish community declines to "good" downstream from Smurfit and the Circleville WWTP, and "fair" downstream from DuPont. Background sedimentation associated with riparian removal and bank erosion are secondary sources of impacts.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Other habitat alterations - M*
- *Other habitat alterations - T*

Sources of Impairment:
- *Major Industrial Point Source - H*
- *Major Municipal Point Source - H*
- *Streambank destabilization - Ag - M*
- *Streambank destabilization - Ag - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 33.1	02-242	2.80	0.00	05060002-	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***TRIB. TO SCIOTO R. (RCA)***

Aquatic Life Use(s): **LRW** Segment Length: **2.80**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.50	0.00	0.00	0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						0.50	0.50

Comments: Impairment of the LRW aquatic life use was indicated downstream from the Thompson Consumer Electronics (TCE) 001 discharge. Given the diversity and relatively high concentration of contaminants in sediments immediately downstream from TCE, it is difficult to segregate the specific causal agent(s), and it is likely that a toxic biological response registered in macrobenthos was the result of a cumulative effect. Regardless, the 1997 results clearly documented highly contaminated sediments (metals and organics), strongly correlated with poor ambient biological performance.

Causes of Impairment:
- *Metals - H*
- *Priority organics - H*

Sources of Impairment:
- *Major Industrial Point Source - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 34	02-069	19.47	0.00	05060002-082	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***SCIPPO CREEK***

Aquatic Life Use(s): **WWH,EWH** Segment Length: **19.47**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 11.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	11.70						

Comments: Three sites within this segment all showed exceptional fish communities. Historically, PPG had impacted fish communities in the lower portion of the segment, but a site at river mile 1.5 (3 miles downstream from the outfall) had an excellent IBI of 52. Just upstream from PPG and further upstream in the segment, IBI scores were well into the exceptional range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 34.1	02-261	2.07	0.00	05060002-	Eastern Corn Belt Plain	FAIRFIELD CO

WB Name: ***TRIB. TO SCIPPO CREEK (RM 16.22)***

Aquatic Life Use(s): **WWH** Segment Length: **2.07**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This unnamed tributary is being recommended for the Warmwater Habitat use designation. No impacts from the general area of Stoutsville were evident. The biological performance at river mile 0.1 reflected very good macroinvertebrates, and exceptional fish (IBI=50).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 34.2	02-262	0.25	0.00	05060002-	Eastern Corn Belt Plain	FAIRFIELD CO

WB Name: ***TRIB. TO SCIPPO CREEK (RM 18.87)***

Aquatic Life Use(s): **LRW** Segment Length: **0.25**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.25

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This unnamed tributary is being recommended for the Limited Resource Water (LRW) use designation. This stream lacks the necessary habitat to support the Warmwater Habitat use designation. Impacts from poorly treated sewage, discharged by the Highlander trailor park, exceeded conditions for the prevention of nuisance conditions. Ammonia-N was extremely elevated and Dissolved Oxygen concentrations violated the LRW criterion.

Causes of Impairment:

Unionized Ammonia - H
Organic enrichment/DO - H

Sources of Impairment:

Package Plants (Small Flows) - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 35	02-070	8.50	0.00	05060002-	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***CONGO CREEK***

Aquatic Life Use(s): **EWH** Segment Length: **8.50**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	6.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The use designation is in the process of being changed to Exceptional Warmwater Habitat. Chronic threats include riparian encroachment from adjacent land use, mostly row crop agriculture. This stream was also a candidate to receive sewage effluent from the Kingston WWTP. Congo Creek exhibited full attainment of the Index of Biotic Integrity (IBI), and Exceptional Warmwater Habitat criterion at three sites sampled in 1993. Congo Creek has a good base flow which likely mitigates some of the nonpoint source impacts (e.g., siltation and sand bedload).

Causes of Impairment:
Other habitat alterations - T

Sources of Impairment:
Removal of riparian vegetation - Ag - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 36	02-071	10.60	0.00	05060002-087	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***YELLOWBUD CREEK***

Aquatic Life Use(s): **EWH,WWH** Segment Length: **10.60**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The lower 3.0 miles are being recommended for the Exceptional Warmwater Habitat use designation. Adjacent and upstream land use is a pervasive threat. Unrestricted livestock access is generally controlled or limited to brief segments. Yellowbud Creek is an exceptionally high quality water resource, and harbors a significant population of Bigeye Chubs, a declining Ohio species.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH41 38	02-073	6.70	0.00	05060002-086	Eastern Corn Belt Plain	PICKAWAY CO

WB Name: ***LICK RUN***

Aquatic Life Use(s): **WWH** Segment Length: **6.70**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
Siltation - H
Other habitat alterations - H
Nutrients - M

Sources of Impairment:
Nonirrigated crop production - H
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH41 39	02-074	6.60	0.00	05060002-	Eastern Corn Belt Plain

WB Name: ***HARGUS CREEK*** | County: **PICKAWAY CO**

Aquatic Life Use(s): **WWH** | Segment Length: **6.60**

Assessment Cycle: **1998** | Field Data Collected From: **199608 to 199608** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.10	Full, But Threatened: 0.00	Partial: 0.00	None 1.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.10		1.20		

Comments: The City of Circleville removed numerous trees from the banks to alleviate local flooding. Some bank stabilization (riprap) was installed, but some banks are rapidly degrading due to vegetation removal. IBI scores declined at 4 of 5 sites compared to sampling done in 1992. Heavy sand deposition is present at Ted Lewis Park, but it is not related to the flood prevention project. Future biological monitoring is recommended.

Causes of Impairment:
- *Other habitat alterations - H*
- *Siltation - H*

Sources of Impairment:
- *Channelization - Development - H*
- *Nonirrigated crop production - M*
- *Other Urban Runoff - M*
- *Removal of riparian vegetation - Dev - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH41 40	02-075	3.70	0.00	05060002-	Eastern Corn Belt Plain

WB Name: ***HOMINY CREEK*** | County: **PICKAWAY CO**

Aquatic Life Use(s): **WWH** | Segment Length: **3.70**

Assessment Cycle: **1998** | Field Data Collected From: **199608 to 199608** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.70		

Comments: This stream runs directly adjacent to State Route 56, and was probably channelized long ago. A good riparian buffer is present on the opposite bank from the road. Septic discharges were observed in the segment. The one site sampled was in attainment of Warmwater Habitat criteria in 1992, but declined in 1996 (IBI=34).

Causes of Impairment:
- *Other habitat alterations - H*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Channelization - Development - S*
- *Onsite wastewater systems (septic tanks) - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH42 1	02-500	51.00	37.12	05060003-	Interior Plateau

WB Name: ***PAINT CREEK (UPPER RESERVOIR TO ROCKY FORK)*** | County: **HIGHLAND CO**

Aquatic Life Use(s): **EWH** | Segment Length: **13.88**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.50	Full, But Threatened: 0.00	Partial: 0.00	None 2.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	4.50		2.20				

Comments: EWH attainment is lost between Paint Creek Lake and Rocky Fork, with hypolimnion releases and flow alteration suspected as sources of impact. Biological quality ranged from marginally good (IBI and ICI) to good (MIwb).

Causes of Impairment:
- *Flow alteration - H*

Sources of Impairment:
- *Upstream Impoundment - H*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH42 4	02-550	9.46	0.00	05060003-	Eastern Corn Belt Plain

WB Name: ***RATTLESNAKE CREEK (LEES CREEK TO PAINT CREEK)***

County: **HIGHLAND CO**

Aquatic Life Use(s): **EWH** Segment Length: **9.46**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.46	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.46				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH42 8	02-554	7.50	0.00	05060003-057	Eastern Corn Belt Plain

WB Name: ***HARDIN CREEK***

County: **HIGHLAND CO**

Aquatic Life Use(s): **WWH** Segment Length: **7.50**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.50				

Comments: Hardin Creek met WWH criteria for fish at river mile 1.1. No obvious signs of impairment were present.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH42 11	02-557	6.10	0.00	05060003-071	Eastern Corn Belt Plain

WB Name: ***WALNUT CREEK***

County: **HIGHLAND CO**

Aquatic Life Use(s): **WWH** Segment Length: **6.10**

Assessment Cycle: **1998** Field Data Collected From: **199609 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 2.10	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	6.10						

Comments: Fish and macroinvertebrates both scored in the Exceptional Warmwater Habitat range even though sampling was done during a long, extended drought. This segment is threatened due to the proposed construction of a large mobile home park.

Causes of Impairment:

Organic enrichment/DO - T

Sources of Impairment:

Package Plants (Small Flows) - T

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH42 12	02-558	15.90	0.00	05060003-034	Eastern Corn Belt Plain

WB Name: ***LEES CREEK*** | County: **HIGHLAND CO**

Aquatic Life Use(s): **WWH** | Segment Length: **15.90**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 15.90	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			15.90				

Comments: The WWH aquatic life use was maintained upstream and downstream from the Leesburg WWTP.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH42 13	02-559	8.50	0.00	05060003-	Eastern Corn Belt Plain

WB Name: ***MIDDLE FORK LEES CREEK*** | County: **HIGHLAND CO**

Aquatic Life Use(s): **WWH** | Segment Length: **8.50**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.50				

Comments: Biological performance was found consistent with the WWH aquatic life use.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH42 15	02-550	26.87	9.46	05060003-	Eastern Corn Belt Plain

WB Name: ***RATTLESNAKE CREEK (WEST BRANCH TO LEES CREEK)*** | County: **HIGHLAND CO**

Aquatic Life Use(s): **EWH** | Segment Length: **17.41**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 8.64	None 8.77

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					8.64	8.77	

Comments: Multiple stressors combine to render Rattlesnake Creek impaired. Continued influence from Octa and surrounding unsewered communities was evident within the upper reach of this segment. The remaining portion was impacted by enriched agricultural drainage from adjacent and upstream areas. Despite improvements in physical habitat through the lower segment, the systemic nature of the habitat deficit throughout most of the Rattlesnake Creek subbbasin simply overwhelmed - in terms of biological performance or instream potential - the positive habitat features encountered within the lower reaches of this segment.

Causes of Impairment:

Nutrients - H
Other habitat alterations - H
Organic enrichment/DO - M
Siltation - M

Sources of Impairment:

Minor Municipal Point Source - H
Other - H
Pasture land - M
Nonirrigated crop production - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH42 16	02-562	11.80	0.00	05060003-033	Eastern Corn Belt Plain

WB Name: ***WEST BRANCH RATTLESNAKE CREEK*** | County: **CLINTON CO**

Aquatic Life Use(s): **WWH** | Segment Length: **11.80**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	8.50	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					8.50		

Comments: Limited physical habitat coupled with intensive agricultural land use rendered the WWH aquatic life use impaired.

Causes of Impairment:
- *Other habitat alterations - H*
- *Siltation - M*
- *Nutrients - S*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Nonirrigated crop production - M*
- *Removal of riparian vegetation - Ag - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH42 19	02-550	42.30	26.87	05060003-	Eastern Corn Belt Plain

WB Name: ***RATTLESNAKE CREEK (HEADWATERS TO W BR RATTLESNAKE)*** | County: **HIGHLAND CO**

Aquatic Life Use(s): **EWH** | Segment Length: **15.43**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.20	0.00	2.70	8.53

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.20		2.70	8.53	

Comments: Multiple stressors combine to render Rattlesnake Creek impaired. Channelization, siltation and intensive agricultural activities were identified as the primary associated causes/sources of impairment. Diel DO regime was indicative of a nutrient enrichment scenario, and included DO exceedences. Bacteriological measures indicated significant contamination, with counts as high as 44,000/100 ml - well in excess of the applicable WQS. Downstream from Octa, the contribution of treated effluent (Octa WWTP) and septic drainage from unsewered areas exacerbated existing impacts, as community performance was further reduced through the release of NH3-N and oxygen demanding wastes. Additional evidence of the severe nature of these sources included a documented fish kill in 1996.

Causes of Impairment:
- *Other habitat alterations - H*
- *Organic enrichment/DO - H*
- *Nutrients - M*
- *Organic enrichment/DO - M*
- *pH - M*
- *Unionized Ammonia - M*
- *Other habitat alterations - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Minor Municipal Point Source - H*
- *Pasture land - M*
- *Onsite wastewater systems (septic tanks) - M*
- *Nonirrigated crop production - M*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH42 24	02-500	60.63	51.00	05060003-	Eastern Corn Belt Plain

WB Name: ***PAINT CREEK (SUGAR CREEK TO UPPER PAINT CREEK RES)***

County: **FAYETTE CO**

Aquatic Life Use(s): **EWH** Segment Length: **9.63**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.63	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	9.63						

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH42 30	02-579	35.70	0.00	05060003-029	Eastern Corn Belt Plain

WB Name: ***SUGAR CREEK***

County: **FAYETTE CO**

Aquatic Life Use(s): **WWH** Segment Length: **35.70**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 17.70	None 12.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					17.70	12.30	

Comments: Based upon the results of the 1997 survey, the entire length of Sugar Creek was classified as impaired. The upper 5.7 miles were primarily impacted by deficient physical habitat and nutrient and organic enrichment from intensive agricultural activities within the basin (row crop and livestock). The middle 12.3 miles were affected by the stressors listed above, as well as the effluent releases from the Jeffersonville WWTP. This faciliy's treatment train consists of aerated facultative lagoons. Wastewater discharge is not continuous, as releases from the facility are dependent on stream flow. Because of the extended holding times, suspended solids (primarily algae) loads can be problematic. Downstream from the Jeffersonville WWTP ambient conditions were worsened, including poor biological performance, a WWH DO exceedence, and highly variable diel DO regime; the latter indicative of a nutrient enrichment scenario. Despite increasing downstream distance from Jeffersonville and much improved physical habitat, the remaining 12.0 miles of Sugar Creek remained impaired. The performance of ambient indicators were improved (WQ and instream biological measures) but recovery was incomplete.

Causes of Impairment:

Other habitat alterations - H
Nutrients - H
Cause Unknown - H
Nutrients - M
Siltation - M
Organic enrichment/DO - M
Other habitat alterations - M

Sources of Impairment:

Channelization - Agriculture - H
Minor Municipal Point Source - H
Source Unknown - H
Removal of riparian vegetation - Ag - M
Nonirrigated crop production - M
Pasture land - M
Channelization - Agriculture - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH42 31	02-500	69.04	60.63	05060003-	Eastern Corn Belt Plain	FAYETTE CO

WB Name: ***PAINT CREEK (E. FK. PAINT CREEK TO SUGAR CREEK)***

Aquatic Life Use(s): **WWH,EWH** Segment Length: **8.41**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	8.41	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.41				

Comments: In comparison with previous evaluations, ambient conditions of Paint Creek downstream from Washington Court House have remained stable. The results from the 1997 survey again indicated moderate aquatic life use impairment. Despite reduced loadings of selected heavy metals achieved by the Washington Court House WWTP since 1994, the facility's loads of oxygen demanding wastes, NH3-N, and total suspended solids have remained stable through time. Moreover, loads of NO3-N have slightly risen between 1996 and 1997, suggesting diminished nitrification at the facility. Pollutant loads from bypass events have sharply increased between 1996 and 1997. The combined effect of treated effluent and bypasses resulted in diminished instream DO, including several WQS exceedences and one violation, and ambient biological performance below the EWH standards. Overall, the impact appeared as organic enrichment in nature.

Causes of Impairment:

Organic enrichment/DO - H
Nutrients - M
Other habitat alterations - M
Siltation - M
Suspended solids - S
Unionized Ammonia - S

Sources of Impairment:

Major Municipal Point Source - H
Nonirrigated crop production - M
Combined Sewer Overflow - M
Other Urban Runoff - S
S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH42 32	02-580	17.50	0.00	05060003-027	Eastern Corn Belt Plain	FAYETTE CO

WB Name: ***EAST FORK PAINT CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **17.50**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.40	0.00	4.20	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.40		4.20		

Comments: Multiple stressors combined to render the WWH aquatic life use for the middle reach of the East Fork Paint Creek impaired. Stream channelization, extensive siltation (and the attendant substrate embeddedness), and effluents discharged by the Bloomingburg WWTP were identified as causes of impairment. Although water quality parameters generally performed within acceptable ranges, fecal coliform counts were highly elevated, with values reaching 24000/100 ml downstream from the WWTP. Also, conduit flow appeared erratic in 1997, as the 50th and 95th percentiles were strongly divergent. Great disparities between median and maximum values are often associated with operational irregularities. However, the impact indicated for the East Fork Paint Creek was primarily derived from deficient stream habitat, and in the absence of this more systematic problem, wastes released from the Bloomingburg WWTP would likely have been assimilation without significant environmental disturbance.

Causes of Impairment:

Other habitat alterations - H
Siltation - M
Suspended solids - S

Sources of Impairment:

Channelization - Agriculture - H
Nonirrigated crop production - M
Minor Municipal Point Source - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH42 35	02-500	81.60	69.04	05060003-	Eastern Corn Belt Plain

WB Name: ***PAINT CREEK (JEFFERSONVILLE TO E. FK. PAINT CREEK)*** | County: **FAYETTE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **12.56**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.40	Full, But Threatened: 0.00	Partial: 11.16	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.40		11.16		

Comments: Multiple chemical and physical stressors combined to render the WWH aquatic life use impaired for 11.16 miles of Paint Creek. Upstream from Washington Court House agricultural activities were the most prominent cause/source of the impact observed in 1997, affecting 10.7 miles. Use impairment through Washington Court House appeared a result of continued influence of the agricultural problems identified upstream, as well as additional stressors associated with urban areas - mainly additional channelization, impoundment, urban runoff, sediment contamination, combined sewer overflow releases and Washington Court House WWTP effluents.

Causes of Impairment:

Nutrients - H
Other habitat alterations - H
Organic enrichment/DO - M
Other habitat alterations - M
Siltation - M
Thermal modifications - M
Nutrients - M
Metals - M

Sources of Impairment:

Nonirrigated crop production - H
Other Urban Runoff - H
Pasture land - M
Nonirrigated crop production - M
Combined Sewer Overflow - M
Major Municipal Point Source - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH42 36	02-500	96.00	81.60	05060003-	Eastern Corn Belt Plain

WB Name: ***PAINT CREEK (HEADWATERS TO JEFFERSONVILLE)*** | County: **MADISON CO**

Aquatic Life Use(s): **WWH** | Segment Length: **14.40**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.50	Full, But Threatened: 0.00	Partial: 6.90	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.50		6.90		

Comments: Multiple chemical and physical stressors combined to render the WWH aquatic life use impaired for 6.9 miles of this segment. Deficient physical habitat, organic and nutrient enrichment, depressed DO, and bacteriological contamination were indicated. The performance of these and the ambient biological indicators were reflective of intensive agricultural land use within the upper Paint Creek basin. Both row crop and livestock production were identified as the primary detrimental activities.

Causes of Impairment:

Siltation - H
Nutrients - M
Organic enrichment/DO - M

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - M
Removal of riparian vegetation - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH43 1	02-500	8.12	0.00	05060003-	Western Allegheny Plateau	ROSS CO

WB Name: ***PAINT CREEK (N. FK. PAINT CREEK TO SCIOTO RIVER)***

Aquatic Life Use(s): **EWH,WWH** Segment Length: **8.12**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.60		2.50				

Comments: Paint Creek is exceptional quality downstream from Mead Paper, and continues to show improvement downstream. Biological conditions continue to suggest an enrichment influence downstream from Mead.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH43 2	02-510	11.95	0.00	05060003-	Eastern Corn Belt Plain	ROSS CO

WB Name: ***NORTH FORK PAINT CREEK (LITTLE CREEK TO PAINT CR.)***

Aquatic Life Use(s): **EWH** Segment Length: **11.95**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.80	Full, But Threatened: 0.00	Partial: 6.70	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.80		6.70				

Comments: In 1997, nearly every measure of ambient condition in the North Fork Paint Creek was found consistent with the EWH use designation. Only the Modified Index of Well-being (MIwb), one of two fish community indices employed by Ohio EPA, failed to achieve the prescribed biological criterion. This deficiency alone resulted in classifying this segment of the North Fork impaired. The cause/source of the deficient performance of the MIwb is not clear at this time. Several stressors are present within the basin and include several minor WWTPs and intensive agriculture (row crop and livestock). The cumulative effect of the sources may have adversely affected instream biological performance.

Causes of Impairment:

Cause Unknown - H
Nonpriority organics - M
Siltation - S

Sources of Impairment:

Source Unknown - H
Nonirrigated crop production - M
Minor Municipal Point Source - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH43 8	02-510	24.57	11.95	05060003-	Eastern Corn Belt Plain	ROSS CO

WB Name: ***NORTH FORK PAINT CREEK (COMPTON CR. TO LITTLE CR.)***

Aquatic Life Use(s): **EWH** Segment Length: **12.62**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 12.62	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			12.62				

Comments: In 1997, nearly every measure of ambient condition in the North Fork Paint Creek was found consistent with the EWH use designation. Only the Modified Index of Well-being (MIwb), one of two fish community indices employed by Ohio EPA, failed to achieve the prescribed biological criterion. This deficiency alone resulted in classifying this segment of the North Fork impaired. The cause/source of the deficient performance of the MIwb is not clear at this time. Several stressors are present within the basin and include several minor WWTPs and intensive agriculture (row crop and livestock). The cumulative effect of the sources may have adversely affected instream biological performance.

Causes of Impairment:

Cause Unknown - H
Nutrients - M
Organic enrichment/DO - M
Other habitat alterations - S

Sources of Impairment:

Source Unknown - H
Pasture land - M
Nonirrigated crop production - M
Minor Municipal Point Source - M
Channelization - Agriculture - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH43 15	02-522	19.90	0.00	05060003-	Eastern Corn Belt Plain

WB Name: ***COMPTON CREEK*** | County: **FAYETTE CO**

Aquatic Life Use(s): **EWH** | Segment Length: **19.90**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	19.90	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	19.90						

Comments: Exceptional conditions have persisted since the original sampling effort in 1983.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH43 17	02-510	46.60	24.57	05060003-	Eastern Corn Belt Plain

WB Name: ***NORTH FORK (HEADWATERS TO COMPTON CREEK)*** | County: **FAYETTE CO**

Aquatic Life Use(s): **EWH** | Segment Length: **22.03**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	7.43	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	7.43						

Comments: The EWH aquatic life use was fully attained within the upper portion of the North Fork Paint Creek.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH43 20	02-500	19.57	8.12	05060003-	Western Allegheny Plateau

WB Name: ***PAINT CREEK (LOWER TWIN CR. TO N. FK. PAINT CR.)*** | County: **ROSS CO**

Aquatic Life Use(s): **EWH** | Segment Length: **11.45**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	11.45	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	11.45						

Comments: Fish and macroinvertebrate communities in lower Paint Creek (upstream from Chillicothe) are among the highest quality of streams in the state of Ohio.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH43 27	02-500	37.12	19.57	05060003-	Western Allegheny Plateau

WB Name: ***PAINT CREEK (ROCKY FORK TO LOWER TWIN CREEK)***

County: **ROSS CO**

Aquatic Life Use(s): **EWH** Segment Length: **17.55**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 17.55	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	17.55						

Comments: This section of Paint Creek is among the highest quality streams in the state of Ohio.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH43 33	02-564	16.40	0.00	05060003-	Eastern Corn Belt Plain

WB Name: ***BUCKSKIN CREEK***

County: **ROSS CO**

Aquatic Life Use(s): **WWH** Segment Length: **16.40**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 16.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	16.40						

Comments: The stream had an exceptional fish community at one site sampled near the mouth.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH43 37	02-568	1.20	0.00	05060003-	Eastern Corn Belt Plain

WB Name: ***MASSIE RUN***

County: **ROSS CO**

Aquatic Life Use(s): **WWH** Segment Length: **1.20**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.70	Full, But Threatened: 0.50	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.20						

Comments: The fish community was well within WWH criteria at one site sampled near the mouth.

Causes of Impairment:	Sources of Impairment:
Siltation - T	*Nonirrigated crop production - T*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH43 38	02-530	9.03	0.00	05060003-	Interior Plateau

WB Name: ***ROCKY FORK (ROCKY FORK LAKE TO PAINT CREEK)*** — County: **HIGHLAND CO**

Aquatic Life Use(s): **EWH** Segment Length: **9.03**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.30	Full, But Threatened: 0.00	Partial: 0.00	None 3.73

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.30		2.70		1.03		

Comments: The tailwaters of Rocky Fork Lake appeared highly enriched downstream from the lake overflow. The biology recovers from fair to exceptional quality 5 miles further downstream. The lake overflow discharges to a second, small impoundment behind an old mill dam. At base flow, discharge from the mill pool tended to seep out the bottom and cracks in the dam. The second impoundment may cause or at least exacerbate biological and chemical (elevated BOD, NH3 and temperature) impacts in the tailwaters.

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Upstream Impoundment - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH43 49	02-540	11.90	0.00	05060003-	Eastern Corn Belt Plain

WB Name: ***CLEAR CREEK*** — County: **HIGHLAND CO**

Aquatic Life Use(s): **EWH** Segment Length: **11.90**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.60	Full, But Threatened: 0.00	Partial: 4.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	6.60		4.00				

Comments: Upgrades at the Hillsboro WWTP have resulted in dramatic improvements in stream quality since the survey done in 1985. Biological communities improved from "very poor" to "exceptional" over the past decade. The current high quality effluent is in stark contrast to the waist-deep blanket of sewage solids encountered in 1985. Slight declines observed in 1997 appear related to flooding, bank destabilization and resultant sedimentation and habitat obliteration.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Streambank destabilization - Ag - H
Natural - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH43 49.3	02-585	2.64	0.00	05060003-	Interior Plateau

WB Name: ***MOBERLY BRANCH CLEAR CREEK*** — County: **HIGHLAND CO**

Aquatic Life Use(s): **WWH** Segment Length: **2.64**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00		

Comments: Moberly Branch had an unusual biological community composition. The fish were clearly "exceptional" while the macroinvertebrates were "poor" (based on ICI), but upgraded to "fair" due to non-detectable current influence. Macroinvertebrates may have been impacted by habitat/substrate destabilization following exceptionally heavy rains in the Spring of 1997. The area is becoming increasingly urbanized as development expands in Hillsboro.

Causes of Impairment:
Cause Unknown - H
Flow alteration - M

Sources of Impairment:
Source Unknown - H
Other Urban Runoff - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH43 51	02-530	27.50	16.88	05060003-	Interior Plateau	HIGHLAND CO

WB Name: ***ROCKY FORK (HEADWATERS TO ROCKY FORK LAKE)***

Aquatic Life Use(s): **EWH** Segment Length: **10.62**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	8.00						

Comments: Rocky Fork is an exceptional quality stream prior to entering Rocky Fork Lake.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH44 1	02-600	4.50	0.00	05060002-	Western Allegheny Plateau	ROSS CO

WB Name: ***SALT CREEK (LITTLE SALT CREEK TO SCIOTO RIVER)***

Aquatic Life Use(s): **EWH** Segment Length: **4.50**

Assessment Cycle: **1994** Field Data Collected From: **199206 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.10	0.00	0.40	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The mouth of Salt Creek is affected by excessive sedimentation in pools, and extensive embeddedness by sand in riffles. The situation is exacerbated by the backwater effect created when the Scioto River floods.

Causes of Impairment:

Siltation - H

Sources of Impairment:

Streambank destabilization - Ag - H

Harvesting,restoration,residue managem't - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH44 22	02-603	5.60	0.00	05060002-069	Western Allegheny Plateau	ROSS CO

WB Name: ***POE RUN***

Aquatic Life Use(s): **EWH** Segment Length: **5.60**

Assessment Cycle: **1994** Field Data Collected From: **199207 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: It is recommended that the aquatic life use be changed to EWH.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH44 25	02-606	9.20	0.00	05060002-068	Western Allegheny Plateau

WB Name: ***PIKE RUN*** County: **VINTON CO**

Aquatic Life Use(s): **WWH** Segment Length: **9.20**

Assessment Cycle: **1994** Field Data Collected From: **199207 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.20	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH44 27	02-608	6.80	0.00	05060002-049	Western Allegheny Plateau

WB Name: ***PRETTY RUN*** County: **VINTON CO**

Aquatic Life Use(s): **EWH** Segment Length: **6.80**

Assessment Cycle: **1994** Field Data Collected From: **199207 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.90	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH44 30	02-625	9.60	0.00	05060002-	Western Allegheny Plateau

WB Name: ***QUEER CREEK*** County: **HOCKING CO**

Aquatic Life Use(s): **EWH** Segment Length: **9.60**

Assessment Cycle: **1994** Field Data Collected From: **199207 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: It is recommended that the aquatic life use be changed to EWH.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH44 32	02-627	6.50	0.00	05060002-052	Western Allegheny Plateau	HOCKING CO

WB Name: ***EAST FORK QUEER CREEK***

Aquatic Life Use(s): **EWH** Segment Length: **6.50**

Assessment Cycle: **1994** Field Data Collected From: **199207 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.50	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: It is recommended that the aquatic life use be changed to EWH.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH44 35	02-630	13.00	0.00	05060002-	Western Allegheny Plateau	HOCKING CO

WB Name: ***PINE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **13.00**

Assessment Cycle: **2000** Field Data Collected From: **199709 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	13.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	13.00						

Comments: Two stations were sampled on Pine Creek to evaluate the release from Blackjack Lake. The WWH use designation did not appear impacted by lake releases.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH44 51	02-600	45.40	33.10	05060002-	Western Allegheny Plateau	PICKAWAY CO

WB Name: ***SALT CREEK (HEADWATERS TO LAUREL CREEK)***

Aquatic Life Use(s): **EWH** Segment Length: **12.30**

Assessment Cycle: **1994** Field Data Collected From: **199206 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.70	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH44 52	02-650	6.97	0.00	05060002-	Western Allegheny Plateau

WB Name: ***BEECH FORK*** | County: **PICKAWAY CO**

Aquatic Life Use(s): **EWH** | Segment Length: **6.97**

Assessment Cycle: **1994** | Field Data Collected From: **199207 to 199209** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: It is recommended that the aquatic life use be changed to EWH.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH44 55	02-648	4.30	0.00	05060002-	Western Allegheny Plateau

WB Name: ***PLUM RUN*** | County: **PICKAWAY CO**

Aquatic Life Use(s): **EWH** | Segment Length: **4.30**

Assessment Cycle: **1994** | Field Data Collected From: **199207 to 199209** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.30	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: It is recommended that the aquatic life use be changed to EWH.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH45 3	02-802	9.50	0.00	05060002-132	Western Allegheny Plateau

WB Name: ***CHENOWETH FORK*** | County: **PIKE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **9.50**

Assessment Cycle: **1992** | Field Data Collected From: **198808 to 199001** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH45 4	02-803	2.50	0.00	05060002-	Western Allegheny Plateau

WB Name: ***BULL RUN***

Aquatic Life Use(s): **WWH** Segment Length: **2.50** County: **PIKE CO**

Assessment Cycle: **1992** Field Data Collected From: **199001 to 199001** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH45 10	02-808	1.90	0.00	05060002-177	Western Allegheny Plateau

WB Name: ***LEETH CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **1.90** County: **PIKE CO**

Assessment Cycle: **1992** Field Data Collected From: **199001 to 199001** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.90	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH45 11	02-809	7.80	0.00	05060002-126	Western Allegheny Plateau

WB Name: ***MORGAN FORK***

Aquatic Life Use(s): **WWH** Segment Length: **7.80** County: **PIKE CO**

Assessment Cycle: **1992** Field Data Collected From: **198808 to 199101** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH45 12	02-810	3.70	0.00	05060002-128	Western Allegheny Plateau

WB Name: ***LEFT FORK MORGAN FORK*** | County: **PIKE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **3.70**

Assessment Cycle: **1992** | Field Data Collected From: **198808 to 199001** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH45 13	02-811	4.00	0.00	05060002-127	Western Allegheny Plateau

WB Name: ***RIGHT FORK MORGAN FORK*** | County: **PIKE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **4.00**

Assessment Cycle: **1992** | Field Data Collected From: **198808 to 199001** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH45 14	02-800	36.00	14.33	05060002-	Western Allegheny Plateau

WB Name: ***SUNFISH CREEK (HEADWATERS TO MORGAN FORK)*** | County: **PIKE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **21.67**

Assessment Cycle: **1996** | Field Data Collected From: **199310 to 199310** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Data from one biological reference site in this segment confirms the continued high quality of this stream.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH45 17	02-814	3.00	0.00	05060002-176	Western Allegheny Plateau	PIKE CO

WB Name: ***GRASSY FORK***

Aquatic Life Use(s): **WWH** Segment Length: **3.00**

Assessment Cycle: **1992** Field Data Collected From: **199001 to 199001** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH45 18	02-815	3.10	0.00	05060002-130	Western Allegheny Plateau	PIKE CO

WB Name: ***KINCAID CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **3.10**

Assessment Cycle: **1998** Field Data Collected From: **199608 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						0.80	0.30

Comments: This stream is mostly affected by natural conditions, probably going intermittent or dry during the summer months. Habitat is excellent, but low flow conditions and possible runoff from Miller Lumber Company, may cause stress to the biological community in the flowing areas.

Causes of Impairment:

Flow alteration - H
Cause Unknown - M

Sources of Impairment:

Natural - H
Silviculture Point Sources - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH45 20	02-022	23.20	0.00	05060002-017	Western Allegheny Plateau	PIKE CO

WB Name: ***BIG BEAVER CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **23.20**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.70	1.80	2.60	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.50		2.60		

Comments: Fine silt was prevalent on the bottom of Big Beaver Creek during 1997. This was particularly evident downstream from a sand and gravel company discharge. Factors contributing to the excessive siltation in the lower 6 miles included a major highway construction project on State Route 32, and the sand and gravel mining operation. Excessive siltation is threatening the full attainment of the WWH use in the lower 1.8 miles of the stream. Fish community results showed a decline from 1992 to 1997, and appeared associated with the increased siltation of Big Beaver Creek.

Causes of Impairment:

Siltation - H
Siltation - T

Sources of Impairment:

Highway/road/bridge/sewer line - H
Highway/road/bridge/sewer line - T
Surface Mining - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH45 21	02-023	5.90	0.00	05060002-	Western Allegheny Plateau

WB Name: ***LITTLE BEAVER CREEK*** County: **PIKE CO**

Aquatic Life Use(s): **WWH** Segment Length: **5.90**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.80	None 0.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.00				0.80	0.60	

Comments: The non-attainment status of the biological sampling locations was attributed to unknown pollution or natural aquatic conditions (intermittent flow conditions) upstream from the X-230-J7 outfall, and physical limitations (lack of an appropriate food base) of the X-230-J7 (east drainage ditch) discharge. The X-230-J7 discharge is outfall 001. Chemical quality of the X-230-J7 discharge did not appear to be a contributing factor in the non or partial attainment status of the upper Little Beaver Creek. The lower 2 miles have exceptional biological communities. The overall trend between 1997 and 1992 (previous survey) biological conditions was stable.

Causes of Impairment:

Low Nutrients - H
Flow alteration - H
Cause Unknown - M

Sources of Impairment:

Major Industrial Point Source - H
Natural - H
Source Unknown - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH45 29	02-001	38.07	26.82	05060002-	Western Allegheny Plateau

WB Name: ***SCIOTO RIVER (PEEPEE CREEK TO SUNFISH CREEK)*** County: **PIKE CO**

Aquatic Life Use(s): **WWH** Segment Length: **11.25**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.25	Full, But Threatened: 0.00	Partial: 3.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.25		3.00		

Comments: The fish community dipped slightly out of attainment (MIwb) near Piketon at a site that lacked riffle habitat. However, all biological indices exhibited a slight declining trend to varying degrees between Salt Creek and Sunfish Creek. Some delayed stresses from the Mead Paper effluent could not be entirely ruled out. The water column remained discolored throughout the lower Scioto River. However, 1997 results show dramatic improvement in this reach compared to 1985.

Causes of Impairment:

Other habitat alterations - H

Sources of Impairment:

Streambank destabilization - Ag - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH45 30	02-031	7.00	0.00	05060002-123	Western Allegheny Plateau

WB Name: ***NO NAME CREEK*** | County: **PIKE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **7.00**

Assessment Cycle: **2000** | Field Data Collected From: **199708 to 199708** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	7.00						

Comments: One site was sampled near the mouth. The fish community scored in the exceptional range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH45 44	02-001	51.18	38.07	05060002-	Western Allegheny Plateau

WB Name: ***SCIOTO RIVER (SALT CREEK TO PEEPEE CREEK)*** | County: **PIKE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **13.11**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 13.11	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			13.11				

Comments: This segment fully attains WWH criteria, although most biological indices show a slight gradual declining trend from Salt Creek through Waverly. The 1997 results represent a dramatic improvement in the fish community compared to 1985, apparently related to improved treatment at Mead Paper.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH45 50	02-050	5.60	0.00	05060002-	Western Allegheny Plateau

WB Name: ***CARS RUN*** | County: **PIKE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **5.60**

Assessment Cycle: **2000** | Field Data Collected From: **199708 to 199708** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.10	Full, But Threatened: 0.50	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.60						

Comments: One site was sampled near the mouth. The fish community scored in the exceptional range.

Causes of Impairment: *Siltation - T*

Sources of Impairment: *Nonirrigated crop production - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH45 56	02-001	63.50	51.18	05060002-	Western Allegheny Plateau	ROSS CO

WB Name: ***SCIOTO RIVER (PAINT CREEK TO SALT CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **12.32**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.32	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			12.32				

Comments: This segment continues to show full attainment and gradual improvement downstream from Paint Creek (Mead Paper discharge).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH46 1	02-001	9.20	0.00	05060002-	Western Allegheny Plateau	SCIOTO CO

WB Name: ***SCIOTO RIVER (SCIOTO BRUSH CREEK TO OHIO RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **9.20**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.00	Full, But Threatened: 0.00	Partial: 2.20	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.00		2.20		

Comments: The fish community drops slightly out of attainment as the river gradually slows and pools up near Portsmouth and the impounded area near the Ohio River.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - M

Sources of Impairment:

Flow reg./mod. - Development - H
Streambank destabilization - Dev - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH46 2	02-002	12.10	0.00	05060002-160	Western Allegheny Plateau	SCIOTO CO

WB Name: ***POND CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **12.10**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	12.10						

Comments: One site was ampled near the mouth. The fish community scored well within the exceptional range. It is recommended that this stream be upgraded from WWH to EWH.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH46 7	02-700	10.20	0.00	05060002-	Western Allegheny Plateau

WB Name: ***SCIOTO BRUSH CREEK (MCCULLOUGH CREEK TO SCIOTO R.)***

County: **SCIOTO CO**

Aquatic Life Use(s): **EWH** Segment Length: **10.20**

Assessment Cycle: **1996** Field Data Collected From: **199410 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 10.20	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH46 18	02-749	1.60	0.00	05060002-188	Western Allegheny Plateau

WB Name: ***STRAIGHT FORK***

County: **ADAMS CO**

Aquatic Life Use(s): **EWH** Segment Length: **1.60**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.60				

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 3.2 was not attaining the criteria for EWH, with an IBI of 40. This stream was previously unassessed, and was designated EWH in 1978 based on BPJ. It is possible that WWH is the appropriate use. Causes of impairment are unknown due to lack of documentation related to the sampling

Causes of Impairment: *Cause Unknown - H*

Sources of Impairment: *Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH46 32	02-719	8.00	0.00	05060002-152	Western Allegheny Plateau

WB Name: ***TURKEY CREEK***

County: **ADAMS CO**

Aquatic Life Use(s): **EWH** Segment Length: **8.00**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.00				

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 2.0 was marginally attaining the EWH use designation based on fish sampling results.

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH46 34.1	**02-773**	**5.25**	**0.00**	**05060002-**	**Western Allegheny Plateau**
WB Name: ***BETTY'S FORK***					County: **ADAMS CO**
Aquatic Life Use(s): **NONE**		Segment Length: **5.25**			

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.20	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.20						

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 1.5 was attaining the EWH use designation based on fish sampling results (IBI=51).

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH46 50	**02-736**	**6.00**	**0.00**	**05060002-157**	**Western Allegheny Plateau**
WB Name: ***CHURN CREEK***					County: **ADAMS CO**
Aquatic Life Use(s): **EWH**		Segment Length: **6.00**			

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 2.8 was not attaining the criteria for EWH, with an IBI of 40. This stream was previously unassessed, and was designated EWH in 1978 based on BPJ. It is possible that WWH is the appropriate use. Causes of impairment are unknown due to lack of documentation related to the sampling

Causes of Impairment: *Cause Unknown - H*

Sources of Impairment: *Source Unknown - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH46 51	**02-737**	**3.70**	**0.00**	**05060002-**	**Western Allegheny Plateau**
WB Name: ***BLUE CREEK***					County: **ADAMS CO**
Aquatic Life Use(s): **EWH**		Segment Length: **3.70**			

Assessment Cycle: **2000** Field Data Collected From: **199607 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		1.00					

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 0.6 was marginally attaining the EWH use designation based on fish sampling results.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH46 78	02-768	4.60	0.00	05060002-	Western Allegheny Plateau

WB Name: ***DUNLAP CREEK*** County: **ADAMS CO**

Aquatic Life Use(s): **EWH** Segment Length: **4.60**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.60	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	4.60						

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 1.2 was attaining the EWH use designation based on fish sampling results (IBI=51).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH46 81.1	02-774	3.30	0.00	05060002-	

WB Name: ***JAYBIRD BRANCH*** County: **ADAMS CO**

Aquatic Life Use(s): **NONE** Segment Length: **3.30**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.40	

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 0.4 was far below the criteria (IBI=24) for WWH. Causes of impairment are unknown due to lack of documentation related to the sampling, but low flow or intermittent conditions are a possibility.

Causes of Impairment: *Cause Unknown - H*

Sources of Impairment: *Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH46 82	02-771	5.40	0.00	05060002-	Western Allegheny Plateau

WB Name: ***CEDAR FORK*** County: **ADAMS CO**

Aquatic Life Use(s): **EWH** Segment Length: **5.40**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.40	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.40						

Comments: One site was sampled in this segment at river mile 2.3. Based on fish sampling results (IBI=50), the stream attains the EWH use designation.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH46 84	02-001	26.82	9.20	05060002-	Western Allegheny Plateau

WB Name: ***SCIOTO RIVER (SUNFISH CREEK TO SCIOTO BRUSH CREEK)***

County:

Aquatic Life Use(s): **WWH** Segment Length: **17.62**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 17.62	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			17.62				

Comments: The water column remains visibly stained from the Mead Paper effluent, but the segment fully attains WWH criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH46 84.1	02-247	3.15	0.00	05060002-	Western Allegheny Plateau

WB Name: ***WEST DITCH (PIKETON D.O.E.)***

County: **PIKE CO**

Aquatic Life Use(s): **WWH** Segment Length: **3.15**

Assessment Cycle: **1996** Field Data Collected From: **199208 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The upper end of West Ditch is a holding pond receiving discharges from outfall 010 and surface runoff. The middle section of the stream is open pasture with cattle and no riparian cover. There are additional data collected by Department of Energy (DOE) and Oak Ridge National Lab (ORNL), but they are not yet available for release.

Causes of Impairment:

Other habitat alterations - H

Sources of Impairment:

Range Grazing - Riparian - H
Pasture land - M
Major Municipal Point Source - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH46 86	02-008	5.00	0.00	05060002-004	Western Allegheny Plateau

WB Name: ***CANDY RUN***

County: **SCIOTO CO**

Aquatic Life Use(s): **WWH** Segment Length: **5.00**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.50	Full, But Threatened: 0.80	Partial: 0.70	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.50	0.80			0.70		

Comments:

Causes of Impairment:

Nutrients - H
Organic enrichment/DO - H
Noxious aquatic plants - M
Nutrients - T

Sources of Impairment:

Feedlots (Confined Animal Feeding Oper.) - H
Range Grazing - Upland - M
Animal holding/management areas - M
Major Municipal Point Source - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH46 87	02-009	4.80	0.00	05060002-	Western Allegheny Plateau

WB Name: ***MILLER RUN*** | County: **SCIOTO CO**

Aquatic Life Use(s): **WWH** | Segment Length: **4.80**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199707** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.30	Full, But Threatened: 1.50	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.30		1.50				

Comments: One site sampled near the mouth was within WWH criteria.

Causes of Impairment:
Siltation - T

Sources of Impairment:
Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH46 90	02-012	5.50	0.00	05060002-162	Western Allegheny Plateau

WB Name: ***BIG RUN*** | County: **SCIOTO CO**

Aquatic Life Use(s): **WWH** | Segment Length: **5.50**

Assessment Cycle: **1996** | Field Data Collected From: **199110 to 199211** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The Portsmouth Gaseous Diffusion Plant had surface runoff and contaminated groundwater. In 1994, the upper end (1000 feet) of Big Run was moved away from a landfill and contaminated groundwater plume. The new channel is lined with limestone riprap. It will take some time for the stream to recover from the relocation, but the possible input of contaminants from the landfill should be reduced. There are additional data collected by Department of Energy (DOE) and Oak Ridge National Lab (ORNL), but they are not yet available for release.

Causes of Impairment:
Other habitat alterations - H
Unknown toxicity - S

Sources of Impairment:
Upstream Impoundment - H
Flow reg./mod. - Development - H
Minor Industrial Point Source - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH46 93	02-015	10.50	0.00	05060002-133	Western Allegheny Plateau

WB Name: ***CAMP CREEK*** | County: **PIKE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **10.50**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199707** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 10.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	10.50						

Comments: One site sampled near the mouth scored well within the EWH criteria. It is recommended that this stream be upgraded from WWH to EWH.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH46 95	02-017	3.80	0.00	05060002-	Western Allegheny Plateau	PIKE CO

WB Name: ***LEFT FORK***

Aquatic Life Use(s): **WWH** Segment Length: **3.80**

Assessment Cycle: **1992** Field Data Collected From: **198510 to 199001** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH47 2	10-300	21.60	0.00	05090201-084	Interior Plateau	BROWN CO

WB Name: ***STRAIGHT CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **21.60**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 10.80	None 6.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					10.80	6.90	

Comments: The biological communities on Straight Creek had good to exceptional macroinvertebrate communities, and only poor to fair fish communities. The Lake Waynoka WWTP land applies its effluent during low flow. The stream reportedly goes intermittent, but it was not observed during sampling done in 1997. Elevated phosphorus, BOD and lead, along with low DO may be due to on-site septic disposal in the small community of Arnheim. This stream does not currently demonstrate EWH potential at two of the three biological sampling locations, and therefor should be redesignated WWH.

Causes of Impairment:

Flow alteration - H
Organic enrichment/DO - M
Nutrients - S
Pathogens - S
Lead - S
Zinc - S
Pesticides - S

Sources of Impairment:

Natural - H
Onsite wastewater systems (septic tanks) - M
Upstream impoundment - S
Pasture land - S
Nonirrigated crop production - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH47 23	10-040	9.50	0.00	05090201-	Interior Plateau	BROWN CO

WB Name: ***REDOAK CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **9.50**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00		

Comments: Macroinvertebrates at river mile 3.1 were found to be good (ICI=42). The fish community downstream at river mile 1.8 was only fair (IBI=30). Habitat differences between the two sites may be the cause for such variation in the attainment status. Chemical sampling at river mile 2.3 showed no elevated parameters except for sediment phosphorus. This stream does not meet the criteria for EWH and should be redesignated WWH.

Causes of Impairment:

Cause Unknown - H

Sources of Impairment:

Land development/Suburbanization - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH47 27	10-100	14.56	0.00	05090201-078	Interior Plateau

WB Name: ***EAGLE CREEK(E/N FORK EAGLE CREEK TO OHIO RIVER)*** County: **BROWN CO**

Aquatic Life Use(s): **WWH** Segment Length: **14.56**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	7.47	0.00	1.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.47		1.00		

Comments: Biological sampling in Eagle Creek showed good to exceptional macroinvertebrate communities, and fair to marginally good fish communities. The furthest downstream site (RM 3.8) had an exceedence of E. Coli., as well as elevated phosphorus and sediment mercury. The ratio of Fecal Coliforms to Fecal Streptococcus indicates livestock runoff.

Causes of Impairment:	Sources of Impairment:
Nutrients - H	*Nonirrigated crop production - H*
Pathogens - S	*Pasture land - S*
Siltation - S	*S*
Mercury - S	*Contaminated sediments - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH47 35	10-110	17.30	0.00	05090201-079	Interior Plateau

WB Name: ***EAST FORK EAGLE CREEK*** County: **ADAMS CO**

Aquatic Life Use(s): **WWH** Segment Length: **17.30**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	2.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: One site was sampled in this stream segment. The macroinvertebrate community was good, while the fish community was only fair to marginally good. The sediments had extremely elevated mercury, which may be from household dumping observed in the area. Phosphorus was highly elevated in the sediments, while the pesticide Dieldrin was detected in water samples. Based on the one station sampled, East Fork Eagle Creek does not meet the criteria for the EWH use designation, and should be redesignated WWH.

Causes of Impairment:	Sources of Impairment:
Cause Unknown - H	*Source Unknown - H*
Mercury - S	*Contaminated sediments - S*
Pesticides - S	*Nonirrigated crop production - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH47 39	10-114	5.10	0.00	05090201-129	Interior Plateau

WB Name: ***HILLS FORK*** | County: **ADAMS CO**

Aquatic Life Use(s): **EWH** | Segment Length: **5.10**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199708** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.40				

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 1.4 was not attaining the criteria for EWH, with an IBI of 45. This stream was previously unassessed and was designated EWH in 1978 based on BPJ. It is possible that this stream should be designated WWH.

Causes of Impairment: *Cause Unknown - H*

Sources of Impairment: *Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH47 43	10-120	16.80	0.00	05090201-	Interior Plateau

WB Name: ***WEST FORK EAGLE CREEK*** | County: **BROWN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **16.80**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	15.80	1.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.45				

Comments: Biological sampling on West Fork Eagle Creek showed very good to exceptional macroinvertebrate communities, and good fish communities. High counts of E. Coli and Fecal Coliforms, along with a high Fecal Coliform/Fecal Streptococcus ratios (all above 4.0) indicate possible dumping of septage upstream from St. Rt. 125. Livestock and row crop agriculture may also be impacting the stream, with elevated BOD and phosphorus recorded at St. Rt. 125.

Causes of Impairment: *Nutrients - T*

Sources of Impairment: *Onsite wastewater systems (septic tanks) - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH47 43.1	10-123	6.45	0.00	05090201-	

WB Name: ***TRIB. TO W. FK. EAGLE CREEK (RM 7.05)*** | County: **BROWN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **6.45**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	6.45	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.45				

Comments: One location was sampled on this stream. The macroinvertebrate community was good, while the fish community was marginally good. Sediment from the construction of the new Russellville WWTP on Honey Creek (upstream from the sampling location) was noticeable in this unnamed tributary. Exceedences of E. Coli and Fecal Coliform, and elevated phosphorus indicate runoff from pasture land within the basin. This stream should be designated WWH.

Causes of Impairment: *Nutrients - T*

Sources of Impairment: *Minor Municipal Point Source - T*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH47 47	10-043	12.20	0.00	05090201-077	Interior Plateau	

WB Name: ***THREEMILE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **12.20**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.00				

Comments: The fish and macroinvertebrate communities in this segment were both good. Water chemistry samples were also good with the exception of exceedences in Dieldrin and E. Coli. Phosphorus was extremely elevated in the sediments. Possible sources of contaminants are livestock runoff within the basin.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH47 54	10-049	3.40	0.00	05090201-	Interior Plateau	BROWN CO

WB Name: ***FISHING GUT CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **3.40**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.00				

Comments: One site was sampled within this stream segment. Fish and macroinvertebrate communities were both good. The only exceedence in water chemistry was an elevated count of fecal streptococcus. Interstitial flow conditions were present during late summer sampling.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH47 74	10-067	5.00	0.00	05090201-142	Western Allegheny Plateau	ADAMS CO

WB Name: ***STOUT RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.00**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.00						

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 1.4 was attaining the EWH use designation based on fish sampling results (IBI=50).

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH47 82	10-075	3.30	0.00	05090201-	Western Allegheny Plateau

WB Name: ***LONG LICK RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **3.30**

Assessment Cycle: **1992** Field Data Collected From: **198808 to 199003** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.30	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH47 89	10-082	7.70	0.00	05090201-057	Western Allegheny Plateau

WB Name: ***LOWER TWIN CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **7.70**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.70				

Comments: One site was sampled within this stream segment. Biological sampling resulted in a very good macroinvertebrate community, and a good fish community. The state endangered fish Rosyside Dace was collected in this stream.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH47115	10-508	13.40	0.00	05090201-	Western Allegheny Plateau

WB Name: ***TURKEY CREEK*** County: SCIOTO CO

Aquatic Life Use(s): **EWH,WWH** Segment Length: **13.40**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 13.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	13.40						

Comments: The one biological sampling location had a very good fish community and an exceptional macroinvertebrate community. There were no coldwater taxa present, therefore the existing use designation of Coldwater Habitat is not appropriate. This stream should be redesignated EWH.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH47131	10-524	3.90	0.00	05090201-	Western Allegheny Plateau

WB Name: ***MACKLETREE RUN*** County: **SCIOTO CO**

Aquatic Life Use(s): **CWH** Segment Length: **3.90**

Assessment Cycle: **1992** Field Data Collected From: **199002 to 199002** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH48 10	10-209	7.40	0.00	05090201-059	Interior Plateau

WB Name: ***CEDAR RUN*** County: **ADAMS CO**

Aquatic Life Use(s): **EWH** Segment Length: **7.40**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		7.40					

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 2.2 was marginally attaining the EWH use designation based on fish sampling results.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH48 11	10-200	28.70	14.10	05090201-060	Interior Plateau

WB Name: ***OHIO BRUSH CREEK (WEST FORK TO SEMPLE CREEK)*** County: **ADAMS CO**

Aquatic Life Use(s): **EWH** Segment Length: **14.60**

Assessment Cycle: **1992** Field Data Collected From: **198707 to 199010** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 14.60	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly to moderately elevated levels of mercury were reported in fish tissue samples.

Causes of Impairment:

Flow alteration - T

Other habitat alterations - T

Sources of Impairment:

Dam construction - Development - T

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH48 23	10-225	4.40	0.00	05090201-075	Interior Plateau	ADAMS CO

WB Name: ***GRACE RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.40**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.90	

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 1.4 was far below the criteria (IBI=27) for WWH. Causes of impairment are unknown due to lack of documentation related to the sampling.

Causes of Impairment: *Cause Unknown - H*

Sources of Impairment: *Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH48 27	10-228	6.70	0.00	05090201-121	Interior Plateau	ADAMS CO

WB Name: ***BUCK RUN***

Aquatic Life Use(s): **WWH** Segment Length: **6.70**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		6.70					

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 3.1 was attaining the WWH use designation based on fish sampling results (IBI=47).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH48 28	10-229	10.20	0.00	05090201-133	Interior Plateau	ADAMS CO

WB Name: ***LITTLE WEST FORK***

Aquatic Life Use(s): **WWH** Segment Length: **10.20**

Assessment Cycle: **1992** Field Data Collected From: **198608 to 198707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH48 29	10-230	4.50	0.00	05090201-124	Interior Plateau

WB Name: ***ELK FORK*** | County: **ADAMS CO**

Aquatic Life Use(s): **WWH** | Segment Length: **4.50**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199708** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					4.50		

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 1.2 was not attaining the criteria for WWH, with an IBI of 36. Causes of impairment are unknown due to lack of documentation related to the sampling. The fish community in this stream has remained stable since 1987, when Ohio EPA results showed an IBI of 35.

Causes of Impairment: *Cause Unknown - H*

Sources of Impairment: *Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH48 31	10-200	41.20	28.70	05090201-	Interior Plateau

WB Name: ***OHIO BRUSH CREEK (BAKER FORK TO WEST FORK)*** | County: **ADAMS CO**

Aquatic Life Use(s): **EWH** | Segment Length: **12.50**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199409** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 12.50	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: A reservoir has been proposed which would be upstream from most of this segment. This will block the migration of fish, and potentially change the water chemistry as a result of the impoundment. Significant improvements are noted since 1987, especially at River miles 37.4 and 31.6. These two areas went from not meeting criteria to EWH attainment. Previous partial EWH attainment based on the 1987 intensive survey results were due to lower ICI scores. These low ICI scores were probably influenced by low or intermittent summer flows in 1987. ICI scores from 1989 and 1990 reflected exceptional macroinvertebrate communities and, in concert with the fish community, suggest full attainment of EWH in this segment. Slightly to moderately elevated levels of mercury were reported in fish tissue samples.

Causes of Impairment: *Flow alteration - T*

Sources of Impairment: *Dam construction - Development - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH48 35	10-218	5.50	0.00	05090201-122	Interior Plateau

WB Name: ***CROOKED CREEK*** | County: **ADAMS CO**

Aquatic Life Use(s): **WWH** | Segment Length: **5.50**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199708** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		5.50					

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 2.2 was attaining the WWH use designation based on fish sampling results (IBI=49).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH48 37	10-240	17.10	0.00	05090201-065	Interior Plateau	ADAMS CO

WB Name: ***BAKER FORK***

Aquatic Life Use(s): **WWH** Segment Length: **17.10**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.70	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	4.70						

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 3.7 was attaining the WWH use designation based on fish sampling results. The IBI of 51 was in the exceptional range.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH48 38	10-241	7.00	0.00	05090201-066	Interior Plateau	HIGHLAND CO

WB Name: ***MIDDLE FORK***

Aquatic Life Use(s): **WWH** Segment Length: **7.00**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	7.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	7.00						

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 5.4 was attaining the WWH use designation based on fish sampling results from 1997 (IBI=52). Ohio EPA sampling done in 1994 at two sites further downstream indicate that high quality fish communities exist throughout the entire segment (RM 0.2, IBI=52; RM 3.3, IBI=50).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH48 42	10-245	3.60	0.00	05090201-143	Interior Plateau	

WB Name: ***STRAIGHT CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **3.60**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.60	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.60						

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 0.6 was attaining the WWH use designation based on fish sampling results (IBI=52). EWH designation is a possibility for this stream.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH48 46	10-232	5.20	0.00	05090201-128	Interior Plateau	ADAMS CO

WB Name: ***FLAT RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.20**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.10				

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 1.1 was attaining the WWH use designation based on fish sampling results (IBI=43).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH48 47	10-234	3.40	0.00	05090201-	Interior Plateau	HIGHLAND CO

WB Name: ***ELK RUN***

Aquatic Life Use(s): **WWH** Segment Length: **3.40**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.40						

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 0.9 was attaining the WWH use designation based on fish sampling results (IBI=50).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH48 48	10-233	5.70	0.00	05090201-068	Interior Plateau	HIGHLAND CO

WB Name: ***ELM RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.70**

Assessment Cycle: **1992** Field Data Collected From: **198608 to 198608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH48 50	10-236	3.30	0.00	05090201-	Interior Plateau	HIGHLAND CO

WB Name: ***ROCK LICK***

Aquatic Life Use(s): **WWH** Segment Length: **3.30**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.30	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.30				

Comments: One site was sampled in this segment by a Miami University graduate student doing research on fish in streams in Adams County. The site at river mile 0.5 was attaining the WWH use designation based on fish sampling results (IBI=45).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH49 4	10-003	6.00	0.00	05090201-144	Interior Plateau	CLERMONT CO

WB Name: ***TENMILE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **6.00**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	6.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.00				

Comments: One site was sampled in the lower portion of this segment. No impacts were found, although one very high sediment concentration of phosphorus was recorded.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH49 5	10-004	4.50	0.00	05090201-	Interior Plateau	CLERMONT CO

WB Name: ***NINEMILE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **4.50**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	1.80	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.80		

Comments: Partial attainment was recorded in this segment, due to the fish community only being fair (IBI=35). The lack of indicators of nutrient enrichment in the water chemistry suggests that the fish community may be responding to the headwaters effect created by low flows and probable intermittent conditions. Development in the headwaters is likely to impact the basin in the future. The Clermont County WWTP in the last five years has had one fish kill and four spills which indicates a problem with plant operations.

Causes of Impairment:

Cause Unknown - H

Sources of Impairment:

Source Unknown - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH49 7	**10-005**	**1.50**	**0.00**	**05090201-**	**Interior Plateau**

WB Name: ***POND RUN*** | County:

Aquatic Life Use(s): **WWH** | Segment Length: **1.50**

Assessment Cycle: **1992** | Field Data Collected From: **198808 to 199003** | Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**1.50**	**0.00**	**0.00**	**0.00**

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:							

Comments:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH49 8	**10-006**	**7.70**	**0.00**	**05090201-092**	**Interior Plateau**

WB Name: ***TWELVEMILE CREEK*** | County: **CLERMONT CO**

Aquatic Life Use(s): **WWH** | Segment Length: **7.70**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**7.70**	**0.00**	**0.00**	**0.00**

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:			**7.70**				

Comments: The fish and macroinvertebrate communities were both in attainment of WWH criteria within this segment. Water chemistry results showed exceedences in Aldrin, Lindane and Dieldrin. Highly elevated sediment concentrations of barium and phosphorus were also recorded.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH49 15	**10-012**	**10.80**	**0.00**	**05090201-091**	**Interior Plateau**

WB Name: ***INDIAN CREEK*** | County: **CLERMONT CO**

Aquatic Life Use(s): **WWH** | Segment Length: **10.80**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**10.80**	**0.00**	**0.00**	**0.00**

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:			**10.80**				

Comments: One biological site and four water chemistry sites within this stream segment found no indication of impacts.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH49 27	10-023	8.90	0.00	05090201-115	Interior Plateau	CLERMONT CO

WB Name: ***BEAR CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **8.90**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.70	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.70				

Comments: No impacts were noted in the fish community and water chemistry near the mouth (river mile 1.7). Nutrients were elevated closer to the Felicity WWTP. Fish sampling done in 1987 showed the fish community was performing in the fair range (IBI=32). Bear Creek downstream from the Felicity WWTP is likely still impacted by nutrient enrichment. There was one recorded sewage spill in the last five years.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH49 31	10-027	13.10	0.00	05090201-090	Interior Plateau	

WB Name: ***BULLSKIN CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **13.10**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	2.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: Partial attainment in this segment was due to the fish community only scoring in the fair range (IBI=32, MIwb=7.2). The lack of indications of nutrient enrichment in the water chemistry and macroinvertebrate community in the lower part of the drainage basin suggests that the fish community may be mimicking a headwaters effect. However, the headwater tributary Painter Fork did have exceedences of DO, E. Coli and Fecal Coliforms. Highly elevated sediment concentrations of aluminum, barium, nickel and phosphorus were also recorded. Nutrient violations are most likely due to unrestricted cattle access to the stream. The source of elevated sediment concentrasions is unknown.

Causes of Impairment:

Cause Unknown - H

Sources of Impairment:

Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH49 42	10-400	20.75	0.00	05090201-085	Interior Plateau	BROWN CO

WB Name: ***WHITEOAK CREEK (STERLING RUN TO OHIO RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **20.75**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	20.75	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			20.75				

Comments: The biological stations on Whiteoak Creek had very good to exceptional macroinvertebrate communities and good fish communities. Elevated nutrients at several locations may be moderately impacting the biological communities. The WWTPs in Sardinia, Mount Orab and Georgetown were the primary sources of nutrients in the basin. High bacterial counts of E. Coli and Fecal Coliforms were present. Additionally, elevated levels of pesticides were present at river miles 12.8 and 6.6. High to moderate siltation was recorded at all sites in the segment.

Causes of Impairment:

Nutrients - H
Pathogens - S
Pesticides - S
Siltation - S

Sources of Impairment:

Minor Municipal Point Source - H
Pasture land - S
Nonirrigated crop production - S

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH49 49	10-407	3.00	0.00	05090201-	Interior Plateau

WB Name: ***TOWN RUN*** | County: **BROWN CO**

Aquatic Life Use(s): **LRW** | Segment Length: **3.00**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.20	Full, But Threatened: 0.00	Partial: 0.80	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.20	0.80

Comments: The biological communities were poor upstream from the Georgetown WWTP, apparently due to periodic intermittent flow conditions. Downstream from the WWTP the macroinvertebrate community was very poor due to high densities of tolerant taxa. High concentrations of nutrients appear to be the primary cause of the community decline. High numbers of E. Coli and Fecal Coliforms indicate the Georgetown WWTP needs to upgrade its treatment.

Causes of Impairment:

Nutrients - H
Pathogens - M
Pesticides - S
Zinc - S
Copper - S

Sources of Impairment:

Minor Municipal Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH49 55	10-413	14.90	0.00	05090201-089	Interior Plateau

WB Name: ***STERLING RUN*** | County: **BROWN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **14.90**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.70	Full, But Threatened: 0.00	Partial: 0.00	None 8.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.70			8.60	

Comments: Upstream from Lake Grant small stream size and possible intermittent flow conditions influence the biological communities. Possible impacts from row crop agriculture and livestock exist as exceedences of phosphorus and E. Coli were recorded. Downstream from Lake Grant and Snapping Turtle Run (Mount Orab WWTP) the macroinvertebrate community was exceptional (ICI=50), and the fish community was good (IBI=44, MIwb=8.4). Runoff from livestock pastures, and sediment embeddedness may be moderately impacting the fish community.

Causes of Impairment:

Flow alteration - H
Nutrients - S
Pathogens - S

Sources of Impairment:

Nonirrigated crop production - H
Natural - M
Pasture land - S

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH49 56	10-414	2.50	0.00	05090201-	Interior Plateau

WB Name: ***SNAPPING TURTLE RUN*** | County: **BROWN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **2.50**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 2.20	Partial: 0.00	None 0.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.20			0.30	

Comments: The biological communities were only marginally attaining WWH criteria upstream from the Mount Orab WWTP. Habitat limitations included heavy siltation and lack of fast current. Exceedences of pesticides, E. Coli and Fecal Coliforms indicate runoff from row crop and livestock pastures may be impacting the stream. Downstream from the Mount Orab WWTP elevated nutrients (phosphorus and nitrates) and a continuation of upstream impacts were affecting the biological communities. This segment should be downgraded from EWH to WWH.

Causes of Impairment:	Sources of Impairment:
Nutrients - H	*Minor Municipal Point Source - H*
Siltation - M	*Nonirrigated crop production - M*
Pathogens - S	*Pasture land - M*
Pesticides - S	*Nonirrigated crop production - T*
Nutrients - T	
Siltation - T	

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH49 58	10-400	29.30	20.75	05090201-	Interior Plateau

WB Name: ***WHITEOAK CREEK (EAST FORK TO STERLING CREEK)*** | County: **BROWN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **8.55**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199709** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 8.55	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.55				

Comments: The one biological station sampled in this segment had an exceptional macroinvertebrate community (ICI=46) and a marginally good fish community (IBI=37, MIwb=7.7). The fish community at this site was probably limited by siltation, lack of cover and no fast current. Exceedences of E. Coli and Fecal Coliforms indicate contamination from livestock runoff.

Causes of Impairment:	Sources of Impairment:
Siltation - H	*Nonirrigated crop production - H*
Pathogens - S	*Pasture land - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH49 60	10-420	20.80	0.00	05090201-087	Interior Plateau

WB Name: ***EAST FORK WHITEOAK CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **20.80**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 20.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			20.80				

Comments: Three stations sampled within this segment supported good fish communities, and good to exceptional macroinvertebrate communities. A few exceedences of E. Coli and total phosphorus suggest the possibility of a mild impact from agricultural and livestock runoff. Downstream from the confluence of Slabcamp Run (Sardinia WWTP) higher exceedences of phosphorus, E. Coli and Fecal Coliforms were recorded, along with low diel DO. The lower 2.8 miles of stream, which are designated EWH, were not sampled.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH49 64	10-424	2.50	0.00	05090201-	Interior Plateau

WB Name: ***SLABCAMP RUN*** County: **BROWN CO**

Aquatic Life Use(s): **WWH** Segment Length: **2.50**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.50	

Comments: Biological communities upstream from the Sardinia WWTP appeared to be limited by low flow conditions, with possibile influence from animal waste runoff as evidenced by exceedences of E. Coli and Fecal Coliforms. Downstream from the Sardinia WWTP there was low DO and elevated phosphous, nitrates, ammonia, BOD, E. Coli and Fecal Coliforms.

Causes of Impairment:

Flow alteration - H
Organic enrichment/DO - H
Nutrients - M
Pathogens - M
Siltation - S
Pathogens - S
Unionized Ammonia - S

Sources of Impairment:

Natural - H
Minor Municipal Point Source - H
Pasture land - S
Nonirrigated crop production - S

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH49 69	10-430	21.00	0.00	05090201-088	Interior Plateau

WB Name: ***NORTH FORK WHITEOAK CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **21.00**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: One site sampled in this segment had an exceptional macroinvertebrate community and a marginally good fish community. Siltation, lack of cover and lack of fast current were limiting factors for the fish community. Based on the biological sampling done in 1997, North Fork Whiteoak Creek should be redesignated WWH.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH50 1	11-001	63.70	50.90	05090202-035	Eastern Corn Belt Plain

WB Name: ***LITTLE MIAMI RIVER (GLADY RUN TO CAESAR CREEK)*** County:

Aquatic Life Use(s): **EWH** Segment Length: **12.80**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.20	0.00	9.60	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.20		9.70				

Comments: Several pesticides were present in concentrations exceeding WQS for the prevention of chronic toxicity and non-drinking water human health. Also, wide diel DO concentrations resulted in violations of EWH WQS, both minimum at any time and 24 hour average. The diel swings are directly attributable to algal productivity stimulated by excess nutrients.

Causes of Impairment:	Sources of Impairment:
Nutrients - H	*Major Municipal Point Source - H*
Siltation - M	*Nonirrigated crop production - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH50 1.1	11-053	2.50	0.00	05090202-	

WB Name: ***TRIB. TO LITTLE MIAMI R. (RM 60.50)*** County: GREENE CO

Aquatic Life Use(s): **NONE** Segment Length: **2.50**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.50	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	0.50						

Comments:

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH50 1.2	11-054	2.30	0.00	05090202-	

WB Name: ***TRIB. TO LITTLE MIAMI R. (RM 62.01)***

Aquatic Life Use(s): **NONE** Segment Length: **2.30**

County: **GREENE CO**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH50 2	11-030	4.00	0.00	05090202-094	Eastern Corn Belt Plain

WB Name: ***NEWMAN RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.00**

County: **WARREN CO**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.00						

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH50 3	11-031	5.80	0.00	05090202-093	Eastern Corn Belt Plain

WB Name: ***MILL RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.80**

County: **WARREN CO**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments:

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH50 4	11-001	72.70	63.70	05090202-035	Eastern Corn Belt Plain

WB Name: ***LITTLE MIAMI RIVER (BEAVER CREEK TO GLADY RUN)*** | County: **GREENE CO**

Aquatic Life Use(s): **EWH** | Segment Length: **9.00**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.20	Full, But Threatened: 0.00	Partial: 5.80	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.20		5.90				

Comments: Wide diel DO concentrations were recorded in this segment, though none fell below WQS.

Causes of Impairment:
- *Nutrients - H*
- *Siltation - M*

Sources of Impairment:
- *Major Municipal Point Source - H*
- *Nonirrigated crop production - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH50 4.1	11-055	2.80	0.00	05090202-	

WB Name: ***TRIB. TO LITTLE MIAMI R. (RM69.85)*** | County: **GREENE CO**

Aquatic Life Use(s): **NONE** | Segment Length: **2.80**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	0.50						

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH50 5	11-032	6.30	0.00	05090202-077	Eastern Corn Belt Plain

WB Name: ***GLADY RUN*** | County: **GREENE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **6.30**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.10	Full, But Threatened: 0.00	Partial: 1.40	None 1.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.10		3.20		

Comments: Several pesticides were detected at concentrations exceeding water quality standards for prevention of chronic toxicity.

Causes of Impairment:
- *Unionized Ammonia - H*
- *Organic enrichment/DO - H*

Sources of Impairment:
- *Major Municipal Point Source - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 5.1	11-050	0.60	0.00	05090202-	Eastern Corn Belt Plain	GREENE CO

WB Name: ***GLADY RUN SWALE***

Aquatic Life Use(s): **WWH** Segment Length: **0.60**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.10	Full, But Threatened: 0.00	Partial: 0.10	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream is now captured by Glady Run due to a wash out in the old railroad grade. The channel shows little recovery from channelization upstream from the railroad grade, but has and is recovering between the grade and confluence with the original mouth and Glady Run.

Causes of Impairment:
Other habitat alterations - H
Nutrients - H

Sources of Impairment:
Channelization - Agriculture - H
Major Municipal Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 6	11-033	9.60	0.00	05090202-	Eastern Corn Belt Plain	

WB Name: ***SUGAR CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **9.60**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 3.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.00				

Comments: Residential and commercial development from the Dayton metropolitan area threaten to impair the stream.

Causes of Impairment:
Siltation - T

Sources of Impairment:
Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 7	11-034	2.10	0.00	05090202-090	Eastern Corn Belt Plain	GREENE CO

WB Name: ***LITTLE SUGAR CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **2.10**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 1.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: Little Sugar Creek is threatened by development from the Dayton metropolitan area.

Causes of Impairment:
Siltation - T

Sources of Impairment:
Land development/Suburbanization - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH50 8	**11-035**	**8.40**	**0.00**	**05090202-**	**Eastern Corn Belt Plain**

WB Name: ***BEAVER CREEK*** County: **GREENE CO**

Aquatic Life Use(s): **WWH** Segment Length: **8.40**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.10	Full, But Threatened: 0.00	Partial: 2.70	None 2.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				2.10	2.40	2.50	

Comments: The Beaver Creek watershed contains a mosaic of various land uses, including suburban residential developments, golf courses, row crop and livestock, nursery and commercial deveopment. All contribute variously to the impairment.

Causes of Impairment:

Natural Limits (Wetlands) - H
Pathogens - H
Siltation - M
Organic enrichment/DO - M
Other habitat alterations - M

Sources of Impairment:

Onsite wastewater systems (septic tanks) - H
Range Grazing - Riparian - M
Nonirrigated crop production - M
Channelization - Development - M
Major Municipal Point Source - S
Specialty crop production - S
Land development/Suburbanization - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH50 9	**11-036**	**9.00**	**0.00**	**05090202-058**	**Eastern Corn Belt Plain**

WB Name: ***LITTLE BEAVER CREEK*** County: **GREENE CO**

Aquatic Life Use(s): **WWH** Segment Length: **9.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 9.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					6.00	3.00	

Comments: Sediments are contaminated with PAHs and organochlorine pesticides at concentrations likely to affect sensitive benthic macroinvertebrates.

Causes of Impairment:

Pathogens - H
Cause Unknown - H
Priority organics - M
Total toxics - M
Organic enrichment/DO - M
Cadmium - S
Mercury - S

Sources of Impairment:

Other Urban Runoff - H
Spills - M
Onsite wastewater systems (septic tanks) - M
Major Municipal Point Source - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH50 9.2	11-056	2.10	0.00	05090202-	

WB Name: ***TRIB. TO LITTLE BEAVER CREEK (RM 6.12)***

County: **GREENE CO**

Aquatic Life Use(s): **WWH** Segment Length: **2.10**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	0.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						0.80	

Comments: This urban stream scored in the poor range for macroinvertebrates. Urban runoff, channelization, industrial effluent and numerous spills combine to degrade this stream significantly.

Causes of Impairment:

Other habitat alterations - H
Oil and grease - H
Flow alteration - M

Sources of Impairment:

Major Industrial Point Source - H
Industrial Permitted - H
Other Urban Runoff - H
Spills - H
Channelization - Development - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH50 10	11-001	79.50	72.70	05090202-	Eastern Corn Belt Plain

WB Name: ***LITTLE MIAMI RIVER (MASSIES CREEK TO BEAVER CREEK)***

County: **GREENE CO**

Aquatic Life Use(s): **EWH** Segment Length: **6.80**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	6.80	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	6.90						

Comments: Excessive nutrients caused wide diel variation in DO concentrations that resulted in WQS violations. Although the aquatic life use was being met, is was only marginally so.

Causes of Impairment:

Nutrients - T
Siltation - T

Sources of Impairment:

Nonirrigated crop production - T
Major Municipal Point Source - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH50 10.1	11-045	8.69	0.00	05090202-	Eastern Corn Belt Plain

WB Name: ***SHAWNEE CREEK***

County: **GREENE CO**

Aquatic Life Use(s): **WWH** Segment Length: **8.69**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 11	11-037	5.35	0.00	05090202-	Eastern Corn Belt Plain	GREENE CO

WB Name: ***LUDLOW CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.35**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.50	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.50				

Comments: The fish and macroinvertebrate communities marginally met the WWH use designation due to the suburbanization in the Dayton metropolitan area.

Causes of Impairment: Sources of Impairment:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 12	11-400	9.95	0.00	05090202-	Eastern Corn Belt Plain	GREENE CO

WB Name: ***MASSIES CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **9.95**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.90	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.90				

Comments: Although Massies Creek is meeting its use designation, and no impairment to the aqutic life use was caused by the Cedarville WWTP, significant contamination from E. coli. was found downstream. Massies Creek has the potential to be restored to EWH if nonpoint agricultural pollution from the headwaters is addressed.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 13	11-401	6.00	0.00	05090202-039	Eastern Corn Belt Plain	GREENE CO

WB Name: ***OLDTOWN CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **6.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.50	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.50				

Comments:

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 14	11-402	5.00	0.00	05090202-063	Eastern Corn Belt Plain	GREENE CO

WB Name: ***CLARK RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.00						

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 15	11-403	12.60	0.00	05090202-043	Eastern Corn Belt Plain	GREENE CO

WB Name: ***NORTH FORK MASSIES CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **12.60**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	7.00	0.00	1.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.00		1.00		

Comments:

Causes of Impairment:

Siltation - H

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 16	11-404	9.60	0.00	05090202-042	Eastern Corn Belt Plain	GREENE CO

WB Name: ***SOUTH FORK MASSIES CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **9.60**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.00				

Comments:

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 17	11-001	91.60	79.50	05090202-	Eastern Corn Belt Plain	GREENE CO

WB Name: ***LITTLE MIAMI RIVER (NORTH FORK TO MASSIES CREEK)***

Aquatic Life Use(s): **EWH** Segment Length: **12.10**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.80	0.00	1.50	7.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.80		9.30				

Comments:

Causes of Impairment:
Nutrients - H
Siltation - M

Sources of Impairment:
Nonirrigated crop production - H
Minor Municipal Point Source - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 18	11-038	1.90	0.00	05090202-	Eastern Corn Belt Plain	GREENE CO

WB Name: ***CONNER BRANCH***

Aquatic Life Use(s): **WWH** Segment Length: **1.90**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.50	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	0.50						

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 19	11-039	3.10	0.00	05090202-	Eastern Corn Belt Plain	GREENE CO

WB Name: ***JACOBY BRANCH***

Aquatic Life Use(s): **WWH** Segment Length: **3.10**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.00						

Comments:

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH50 20	11-040	2.50	0.00	05090202-111	Eastern Corn Belt Plain

WB Name: ***YELLOW SPRINGS CREEK*** | County: **GREENE CO**

Aquatic Life Use(s): **EWH** | Segment Length: **2.50**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.50						

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH50 21	11-041	13.20	0.00	05090202-	Eastern Corn Belt Plain

WB Name: ***NORTH FORK LITTLE MIAMI RIVER*** | County: **CLARK CO**

Aquatic Life Use(s): **WWH** | Segment Length: **13.20**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.50				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH50 22	11-042	3.60	0.00	05090202-053	Eastern Corn Belt Plain

WB Name: ***GOOSE CREEK*** | County: **CLARK CO**

Aquatic Life Use(s): **WWH** | Segment Length: **3.60**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 23	11-001	105.50	91.60	05090202-	Eastern Corn Belt Plain	CLARK CO

WB Name: ***LITTLE MIAMI RIVER (HEADWATERS TO NORTH FORK)***

Aquatic Life Use(s): **EWH** Segment Length: **13.90**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	7.30	6.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.30		5.70	0.90	

Comments: Excessive nutrients resulted in wide diel variations in DO concentrations, with numerous WQS violations. The effects of excess nutrients were exacerbated by the poor habitat due to past channelization.

Causes of Impairment:

Nutrients - H
Siltation - M
Other habitat alterations - M

Sources of Impairment:

Nonirrigated crop production - H
Range Grazing - Riparian - H
Minor Municipal Point Source - M
Channelization - Agriculture - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 24	11-043	6.00	0.00	05090202-050	Eastern Corn Belt Plain	CLARK CO

WB Name: ***LISBON FORK***

Aquatic Life Use(s): **WWH** Segment Length: **6.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH50 25	11-044	7.15	0.00	05090202-049	Eastern Corn Belt Plain	CLARK CO

WB Name: ***GILROY DITCH***

Aquatic Life Use(s): **WWH** Segment Length: **7.15**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	2.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments:

Causes of Impairment:

Organic enrichment/DO - H
Unionized Ammonia - M

Sources of Impairment:

Minor Municipal Point Source - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH51 1	11-300	13.92	0.00	05090202-026	Eastern Corn Belt Plain	WARREN CO

WB Name: ***CAESAR CREEK (CAESAR CREEK LAKE TO LITTLE MIAMI R)***

Aquatic Life Use(s): **WWH** Segment Length: **13.92**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	13.92	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			13.92				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH51 2	11-301	3.70	0.00	05090202-075	Eastern Corn Belt Plain	WARREN CO

WB Name: ***FLAT FORK***

Aquatic Life Use(s): **WWH** Segment Length: **3.70**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	3.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.70				

Comments: Periodic low to intermittent flow conditions naturally limit this stream.

Causes of Impairment: Sources of Impairment:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH51 3	11-302	4.30	0.00	05090202-	Eastern Corn Belt Plain	WARREN CO

WB Name: ***JONAHS RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.30**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	4.30	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.30				

Comments: Periodic low to intermittent flow conditions naturally limit this stream.

Causes of Impairment: Sources of Impairment:

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH51 4	11-303	3.50	0.00	05090202-108	Eastern Corn Belt Plain	CLINTON CO

WB Name: ***TRACE RUN***

Aquatic Life Use(s): **WWH** Segment Length: **3.50**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.00				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH51 6	11-305	4.70	0.00	05090202-	Eastern Corn Belt Plain	CLINTON CO

WB Name: ***BUCK RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.70**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.00				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH51 7	11-306	11.02	0.00	05090202-	Eastern Corn Belt Plain	CLINTON CO

WB Name: ***ANDERSON FORK (GROG RUN TO CAESAR CREEK LAKE)***

Aquatic Life Use(s): **EWH** Segment Length: **11.02**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	8.90	2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			11.02				

Comments: Anderson Fork is impacted by sedimentation from agricultural activities.

Causes of Impairment: Sources of Impairment:

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH51 8	11-307	8.10	0.00	05090202-029	Eastern Corn Belt Plain

WB Name: ***PAINTERS CREEK*** | County: **GREENE CO**

Aquatic Life Use(s): **EWH** | Segment Length: **8.10**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.00				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH51 9	11-306	19.12	11.02	05090202-	Eastern Corn Belt Plain

WB Name: ***ANDERSON FORK (HEADWATERS TO GROG RUN)*** | County: **CLINTON CO**

Aquatic Life Use(s): **WWH** | Segment Length: **8.10**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.20	Full, But Threatened: 0.00	Partial: 1.30	None 2.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.20		3.90		

Comments:

Causes of Impairment:
Siltation - H

Sources of Impairment:
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH51 13	11-300	23.78	13.92	05090202-030	Eastern Corn Belt Plain

WB Name: ***CAESAR CREEK (S. BR. CAESAR CR. TO CAESAR CR LAKE)*** | County: **GREENE CO**

Aquatic Life Use(s): **EWH** | Segment Length: **9.86**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.10	Full, But Threatened: 0.00	Partial: 2.10	None 2.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.10		4.60		

Comments: Golf course construction impaired the fish community at river mile 23.1. Caesar Creek was classified as EWH under the 1978 Water Quality Standards based on BPJ. Biological communities sampled in 1993 and 1998 indicate that WWH is the proper designation. On site septic systems resulted in contamination by pathogens.

Causes of Impairment:
Pathogens - H
Siltation - H

Sources of Impairment:
Onsite wastewater systems (septic tanks) - H
Land development/Suburbanization - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH51 14	11-300	33.98	23.78	05090202-	Eastern Corn Belt Plain

WB Name: ***CAESAR CREEK (HEADWATERS TO S. BR. CAESAR CREEK)***

County: **GREENE CO**

Aquatic Life Use(s): **EWH** Segment Length: **10.20**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.30	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.30				

Comments: Caesar Creek was classified EWH under the 1978 Water Quality Standards based on BPJ. Biological communities sampled in 1998 indicate that WWH is the proper designation for this segment; as such the attainment status is based on the more appropriate WWH use designation. Poor land use practices including the removal of woody riparian and unrestricted livestock access threaten this segment. An unsewered residential community was responsible for the bacteriological contamination.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH51 15	11-311	11.50	0.00	05090202-031	Eastern Corn Belt Plain

WB Name: ***SOUTH BRANCH ANDERSON FORK***

County: **CLINTON CO**

Aquatic Life Use(s): **WWH** Segment Length: **11.50**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 11.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			11.50				

Comments: The macroinvertebrate community showed signs of organic enrichment downstream from the Jamestown WWTP. Land use practices including the removal of woody riparian, in association with silt and nutrient runoff threaten the upper reaches of this segment.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH51 16	11-312	10.00	0.00	05090202-034	Eastern Corn Belt Plain

WB Name: ***NORTH BRANCH ANDERSON FORK***

County: **CLINTON CO**

Aquatic Life Use(s): **EWH** Segment Length: **10.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.00				

Comments: The Caesar Creek basin was classified as EWH in the 1978 Water Quality Standards based on BPJ. After extensive monitoring done in 1998, the appropriate use for this basin has been determined to be WWH; as such the attainment status is based on the more appropriate WWH use designation.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH52 3	11-200	14.07	0.00	05090202-	Interior Plateau	WARREN CO

WB Name: ***TODD FORK (LITTLE EAST FORK TO LITTLE MIAMI RIVER)***

Aquatic Life Use(s): **EWH** Segment Length: **14.07**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 11.47	Full, But Threatened: 0.00	Partial: 2.60	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			14.07				

Comments: Todd Fork was classified as EWH under the 1978 Water Quality Standards based on BPJ. Recent biological sampling indicates WWH is the more appropriate use.

Causes of Impairment: *Nutrients - H*

Sources of Impairment: *Municipal Point Sources - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH52 8	11-200	22.10	14.07	05090202-	Eastern Corn Belt Plain	CLINTON CO

WB Name: ***TODD FORK (DUTCH CREEK TO LITTLE EAST FORK)***

Aquatic Life Use(s): **EWH** Segment Length: **8.03**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.03	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.03				

Comments: Todd Fork was classified as EWH under the 1978 Water Quality Standards based on BPJ. Recent biological sampling indicates WWH is the more appropriate use.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH52 8.1	11-217	2.15	0.00	05090202-	Eastern Corn Belt Plain	CLINTON CO

WB Name: ***EAST FORK TODD FORK***

Aquatic Life Use(s): **WWH** Segment Length: **2.15**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.15	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.15				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH52 11	11-209	22.40	0.00	05090202-021	Eastern Corn Belt Plain	CLINTON CO

WB Name: ***COWAN CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **22.40**

Assessment Cycle: **2000** Field Data Collected From: **199610 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	11.80	0.00	0.90	0.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.00		9.80		1.70		

Comments: The portion of Cowan Creek in non-attainment was due to intermittent stream flow. The portion in partial attainment was due to both low stream flow and de-icing chemicals used at the ABX Airport.

Causes of Impairment:
Flow alteration - H

Sources of Impairment:
Industrial Permitted - H
Natural - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH52 13	11-211	2.00	0.00	05090202-085	Eastern Corn Belt Plain	CLINTON CO

WB Name: ***INDIAN RUN***

Aquatic Life Use(s): **WWH** Segment Length: **2.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00		

Comments:

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Development - H
Industrial Permitted - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH52 14	11-212	11.25	0.00	05090202-023	Eastern Corn Belt Plain	CLINTON CO

WB Name: ***LYTLE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **11.25**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	11.25

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					9.30	1.95	

Comments: De-icing chemicals used at the ABX Airport impair Lytle Creek from its headwaters to the Wilmington WWTP. The Wilmington WWTP acts to delay recovery.

Causes of Impairment:
Organic enrichment/DO - H
Unknown toxicity - S

Sources of Impairment:
Industrial Permitted - H
Major Municipal Point Source - H
Major Municipal Point Source - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH52 14.1	**11-218**	**2.19**	**0.00**		

WB Name: ***TRIB. TO LYTLE CREEK (RM 9.75)***

Aquatic Life Use(s): **NONE** Segment Length: **2.19**

County:

Assessment Cycle: **1998** Field Data Collected From: **199609 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							2.10

Comments: This stream was devoid of fish. Severe impacts are caused by stormwater runoff containing de-icing chemicals from Airborne Express airport.

Causes of Impairment:

Unknown toxicity - H
Flow alteration - M

Sources of Impairment:

Industrial Permitted - H
Land development/Suburbanization - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH53 1	**11-100**	**8.80**	**0.00**	**05090202-002**	**Interior Plateau**

WB Name: ***E. FK. LITTLE MIAMI R. (STONELICK CR. TO L. MIAMI)***

Aquatic Life Use(s): **EWH** Segment Length: **8.80**

County: **CLERMONT CO**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	1.90	6.90	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		1.90	6.90				

Comments: Macroinvertebrate communities were very good to exceptional at all sites in this segment. Partial attainment was due to the fish indices (primarily the IBI) failing to achieve EWH expectations, although at least good communities were present at each location sampled. Good to high quality habitat was present at all sites and was not a contributing factor to the non-attainment status of the fish. Nutrients were elevated in this segment, with additional increases in nitrates and phosphorus downstream from the Lower East Fork WWTP and the Milford WWTP. Clermont County reported phosphorus concentrations highest in their study area downstream from the Lower East Fork WWTP. Biological communities showed little change from those collected in 1993. No obvious impacts were noted downstream from either of the 2 WWTPs.

Causes of Impairment:

Nutrients - H

Sources of Impairment:

Municipal Point Sources - H
Nonirrigated crop production - M
Other Urban Runoff - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 2	11-101	5.70	0.00	05090202-081	Interior Plateau	CLERMONT CO

WB Name: ***HALL RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.70**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	1.50	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.50		

Comments: This is a small stream which drains suburban Cincinnati communities. Besides typical urban NPS impacts, the stream may be subject to flashy hydrology. A sewer line break and spill in late July 1998 indicates the potential for significant nutrients/solids input. A large landscaping business near the mouth is also a concern with regards to runoff (massive amount of mulch).

Causes of Impairment:

Organic enrichment/DO - H
Other habitat alterations - M
Priority organics - M
Other Metal - S

Sources of Impairment:

Sanitary Sewer Overflow - H
Other Urban Runoff - M
Channelization - Development - M
Spills - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 3	11-102	1.00	0.00	05090202-	Interior Plateau	CLERMONT CO

WB Name: ***WOLFPEN RUN***

Aquatic Life Use(s): **WWH** Segment Length: **1.00**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	1.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00		

Comments: Wolfpen Run drains a residential area and flows along side a road in a recovered channel. Clermont County data indicates bacterial problems and large spikes of nutrients and total suspended solids. Instream or streamside interceptor sewers may be the source of the problems.

Causes of Impairment:

Organic enrichment/DO - H
Pathogens - H
Other habitat alterations - M

Sources of Impairment:

Sanitary Sewer Overflow - H
Land development/Suburbanization - M
Onsite wastewater systems (septic tanks) - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 4	11-103	3.00	0.00	05090202-	Interior Plateau	CLERMONT CO

WB Name: ***SALT RUN***

Aquatic Life Use(s): **WWH** Segment Length: **3.00**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	2.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: Stormwater flows appear to have led to unstable banks and moderate to heavy bank erosion. Clermont County data indicates some nutrient elevation, probably due to stormwater inputs.

Causes of Impairment:

Siltation - H
Nutrients - M

Sources of Impairment:

Other Urban Runoff - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 5	11-104	3.80	0.00	05090202-	Interior Plateau	CLERMONT CO

WB Name: ***SUGARCAMP RUN***

Aquatic Life Use(s): **WWH** Segment Length: **3.80**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	1.10	1.20	0.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				1.10	2.10		

Comments: This is a small stream in central Clermont County. Upstream areas of the stream are in non-attainment, while there is full attainment near the mouth. Sampling done in 1994 focused on lift station problems in the upper watershed. High stream gradient and watershed development suggests the potential for flashy hydrology.

Causes of Impairment:
- *Nutrients - H*
- *Thermal modifications - T*
- *Siltation - T*

Sources of Impairment:
- *Other Urban Runoff - H*
- *Other Urban Runoff - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 6	11-105	7.80	0.00	05090202-102	Interior Plateau	CLERMONT CO

WB Name: ***SHAYLER RUN***

Aquatic Life Use(s): **WWH** Segment Length: **7.80**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	3.50	1.50	2.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.50		4.30		

Comments: As in 1991, non-attainment in Shayler Run was centered around areas with sewer lines adjacent to and in the stream channel. Bacteria exceedences throughout the watershed suggest diffuse, widespread inputs of sewage. Biological communities have remained stable in the lower reaches, but have declined somewhat in the upper reaches (previous full attainment declined to partial attainment).

Causes of Impairment:
- *Nutrients - H*
- *Other habitat alterations - M*
- *Flow alteration - M*
- *Nutrients - T*

Sources of Impairment:
- *Sanitary Sewer Overflow - H*
- *Sewer Line Construction - M*
- *Other Urban Runoff - M*
- *Sewer Line Construction - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 6.1	11-161	3.95	0.00	05090202-	Interior Plateau	CLERMONT CO

WB Name: ***Trib. to Shayler Run***

Aquatic Life Use(s): **WWH** Segment Length: **3.95**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.70		

Comments: This small unnamed tributary of Shayler Run was last sampled in 1991. Full attainment was documented at that time. However, 1998 sampling indicated a decline in biological community health to fair conditions (non-attainment) at one location near the mouth. This stream reach has moderate disturbance due to adjacent and instream interceptor sewer construction and maintenance. Bacterial exceedences suggest inputs of sewage to the stream.

Causes of Impairment:
- *Other habitat alterations - H*
- *Nutrients - H*
- *Flow alteration - M*

Sources of Impairment:
- *Sewer Line Construction - H*
- *Sanitary Sewer Overflow - H*
- *Other Urban Runoff - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 8	11-107	22.90	0.00	05090202-	Interior Plateau	CLERMONT CO

WB Name: ***STONELICK CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **22.90**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	5.40	9.10	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		5.40			9.10	2.00	

Comments: Areas of non-attainment occurred upstream from Stonelick Lake and in reaches midway between Stonelick Lake and the mouth. Land use in the upper watershed is primarily agricultural. Impairments seem to be caused by agriculture-related stresses and problems with failing residential onsite sewage systems. Attainment was restricted to the lower reaches of the stream.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Nutrients - H*
- *Cause Unknown - H*
- *Flow alteration - S*
- *Nutrients - T*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Source Unknown - H*
- *Onsite wastewater systems (septic tanks) - M*
- *Upstream Impoundment - S*
- *Nonirrigated crop production - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 9	11-108	0.60	0.00	05090202-087	Interior Plateau	CLERMONT CO

WB Name: ***LICK FORK***

Aquatic Life Use(s): **WWH** Segment Length: **0.60**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.60	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		0.60					

Comments: One location was sampled on this stream, with a very good fish community recorded. Clermont County data revealed significant bacterial exceedences, most likely caused by failing residential onsite sewage systems.

Causes of Impairment:
- *Organic enrichment/DO - T*
- *Pathogens - T*

Sources of Impairment:
- *Onsite wastewater systems (septic tanks) - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 16	11-100	20.50	8.80	05090202-003	Interior Plateau	CLERMONT CO

WB Name: ***E. FK. LITTLE MIAMI (EAST FK LAKE TO STONELICK CR)***

Aquatic Life Use(s): **EWH** Segment Length: **11.70**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	2.50	4.70	4.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.50		3.80	0.90	4.50		

Comments: The macroinvertebrate communities were very good to exceptional at all sites except immediately downstream from East Fork Lake. Fish communities fell short of EWH expectations for at least one index at all but one sampling location. High quality habitat was present at all sites, and was not a contributing factor to the non-attainment status. Nutrients, particularly nitrates, were elevated in this segment beginning downstream from the Middle East Fork WWTP, although neither biological community reflected an immediate impact. Clermont County data showed spikes of nutrients occurring throughout the segment. There was a general increasing trend in phosphorus and nitrate downstream from the Batavia and Middle East Fork WWTPs. The fish communities showed a declining trend compared to sampling done in 1993. Macroinvertebrate data indicated a slight decline.

Causes of Impairment:
- *Flow alteration - H*
- *Nutrients - H*
- *Nutrients - T*

Sources of Impairment:
- *Flow reg./mod. - Development - H*
- *Municipal Point Sources - H*
- *Other Urban Runoff - H*
- *Nonirrigated crop production - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 16	11-100	20.50	8.80	05090202-003	Interior Plateau	CLERMONT CO

WB Name: ***E. FK. LITTLE MIAMI (EAST FK LAKE TO STONELICK CR)***

Aquatic Life Use(s): **EWH** Segment Length: **11.70**

Other Urban Runoff - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 18	11-116	2.40	0.00	05090202-	Interior Plateau	CLERMONT CO

WB Name: ***LUCY RUN***

Aquatic Life Use(s): **WWH** Segment Length: **2.40**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 1.00	Partial: 1.00	None 0.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00		1.00	0.40	

Comments: Biological impairment in this small, urbanizing watershed seems to be linked to habitat modifications in the upper watershed and general urban NPS runoff influences. A sewer line runs through the stream channel in the middle portion of this stream. Highly elevated bacterial parameters indicate raw sewage inputs (from unknown sources). Phosphorus concentrations were elevated above background levels. Aquatic life use attainment was restricted to the lower reach of the stream near the mouth.

Causes of Impairment:

Other habitat alterations - H
Nutrients - M
Nutrients - T
Pathogens - T

Sources of Impairment:

Channelization - Development - H
Other Urban Runoff - H
Other Urban Runoff - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 19	11-117	6.35	0.00	05090202-	Interior Plateau	CLERMONT CO

WB Name: ***FOURMILE RUN***

Aquatic Life Use(s): **WWH** Segment Length: **6.35**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.30		

Comments: A newly constructed golf course near the sampling location had no effective erosion and stormwater controls in place. The stream had a heavy bedload of silt and sand. Clermont County data revealed elevated levels of phosphorus and high suspended sediment, but linked the exceedences to agricultural land uses.

Causes of Impairment:

Siltation - H
Other habitat alterations - H

Sources of Impairment:

Land development/Suburbanization - H
Channelization - Development - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 20	11-100	33.90	20.50	05090202-003	Interior Plateau	CLERMONT CO

WB Name: ***E. FK. LITTLE MIAMI R. (EAST FORK LAKE)***

Aquatic Life Use(s): **EWH** Segment Length: **13.40**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 3.50	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				3.50			

Comments: Most of this segment consists of East Fork Lake. The upper 3.5 miles of the segment are free-flowing, but may become inundated during high flow events. Partial attainment was recorded due to the fish community being only marginally good. Impacts are most likely due to periodic flow modification.

Causes of Impairment:
Flow alteration - H

Sources of Impairment:
Flow reg./mod. - Development - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 22	11-119	3.85	0.00	05090202-110	Interior Plateau	CLERMONT CO

WB Name: ***ULREY RUN***

Aquatic Life Use(s): **WWH** Segment Length: **3.85**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 2.60	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				2.60			

Comments: One site was sampled in this segment. The macroinvertebrate community was marginally good, while the fish community was rated good. Clermont County data revealed significant bacterial exceedences, most likely caused by failing residential onsite sewage systems.

Causes of Impairment:
Organic enrichment/DO - T
Pathogens - T

Sources of Impairment:
Onsite wastewater systems (septic tanks) - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 23	11-120	5.20	0.00	05090202-103	Interior Plateau	CLERMONT CO

WB Name: ***SLABCAMP RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.20**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.00	

Comments: This stream had intermittent flow conditions. Elevated nutrients and high bacterial counts were recorded, indicating additional stress and degradation. The probable cause was failing residential onsite sewage systems. The fish and macroinverterate communities were both rated poor.

Causes of Impairment:
Organic enrichment/DO - H
Flow alteration - M

Sources of Impairment:
Onsite wastewater systems (septic tanks) - H
Natural - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH53 24	11-131	2.00	0.00	05090202-	Interior Plateau

WB Name: ***CABIN RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **2.00**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				2.00			

Comments: This is a small, good quality stream, with most of its drainage area within the East Fork State Park. Some bacterial spikes suggest sewage inputs, probably from residential onsite sewage systems.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH53 25	11-121	10.60	0.00	05090202-069	Interior Plateau

WB Name: ***CLOVERLICK CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **10.60**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 2.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				2.00			

Comments: Macroinvertebrates were collected from one location on this fairly good sized tributary to East Fork Lake. A marginally good community was recorded. Land use in the area is primarily agricultural.

Causes of Impairment:
Siltation - T

Sources of Impairment:
Nonirrigated crop production - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH53 26	11-122	4.40	0.00	05090202-	Interior Plateau

WB Name: ***BARNES RUN*** County: CLERMONT CO

Aquatic Life Use(s): **WWH** Segment Length: **4.40**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.00	

Comments: Though agricultural land use paired with a narrow riparian corridor led to siltation via bank erosion and runoff, the biological communities performed in the poor range, suggesting an impact beyond siltation. Clermont County data suggests serious bacterial problems associated with land use and failing residential onsite sewage systems.

Causes of Impairment:
Organic enrichment/DO - H
Siltation - M

Sources of Impairment:
Onsite wastewater systems (septic tanks) - H
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 27	11-123	8.10	0.00	05090202-	Interior Plateau	

WB Name: ***POPLAR CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **8.10**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	3.70	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				3.70			

Comments: Fish and macroinvertebrate communities in this segment were both evaluated as marginally good. Clermont County data notes potential storm sewer overflow problems, though the water quality data revealed little.

Causes of Impairment:
Organic enrichment/DO - T
Pathogens - T

Sources of Impairment:
Sanitary Sewer Overflow - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 35	11-132	2.90	0.00	05090202-086	Interior Plateau	

WB Name: ***KAIN RUN***

Aquatic Life Use(s): **WWH** Segment Length: **2.90**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.10	1.80	

Comments: The biological performance may be related to low stream flows. Few fish were collected relative to the quality of the habitat. Clermont County data indicates high average concentrations and spikes of nitrates, nitrites and phosphorus. Additionally, significant growths of instream algae probably indicate nutrient enrichment/impacts from agricultural land uses.

Causes of Impairment:
Nutrients - H

Sources of Impairment:
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH53 36	11-100	45.18	33.90	05090202-003	Interior Plateau	CLERMONT CO

WB Name: ***E. FK. LITTLE MIAMI R. (HOWARD RUN TO TODD RUN)***

Aquatic Life Use(s): **EWH** Segment Length: **11.28**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	3.20	8.08	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		3.20	8.08				

Comments: The trend in this segment is stable, but this is based primarily on improved macroinvertebrate communities compared to 1982. Though MIwb scores are stable and achieving expectations, IBI scores continue to fall below the ecoregion EWH biocriterion at all sites, and are responsible for the partial use attainment. Clermont County data indicates occasional spikes in nutrients from the primarily agricultural upper watershed. There are no indications of influences from the CECOS landfill or the Williamsburg WWTP. Highly elevated aluminum, barium and chromium in the sediments are probably due to natural background conditions. There were sediment "hits" of five PAHs at one site upstream from Pleasant Run, originating from an unknown source.

Causes of Impairment:
Siltation - H
Nutrients - H
Nutrients - T

Sources of Impairment:
Nonirrigated crop production - H
Nonirrigated crop production - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH53 37	11-133	3.60	0.00	05090202-107	Interior Plateau

WB Name: ***TODD RUN*** | County:

Aquatic Life Use(s): **WWH** | Segment Length: **3.60**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199809** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	2.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: This is a small rural watershed in eastern Clermont County. Partial attainment was due to a fair fish community collected in 1998. Macroinvertebrate communities were marginally good in 1997. The cause and source of impairment is unknown, although it does not appear to be habitat related.

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH53 41	11-137	5.30	0.00	05090202-097	Interior Plateau

WB Name: ***PLEASANT RUN*** | County: **CLERMONT CO**

Aquatic Life Use(s): **WWH** | Segment Length: **5.30**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199809** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	1.90	3.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.90	1.40	2.00

Comments: Upstream from the CECOS landfill there was significant non-attainment with poor/very poor biological communities. Though intermittent stream flow conditions were present, high bacteria and ammonia levels along with low DO further degraded the communities. Conditions gradually improved to fair/good fish and macroinvertebrate communities in the lower 1.5 miles of the stream. No observable impact was observed from the CECOS landfill.

Causes of Impairment:
Organic enrichment/DO - H
Flow alteration - M
Unionized Ammonia - M

Sources of Impairment:
Onsite wastewater systems (septic tanks) - H
Nonirrigated crop production - M
Natural - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH53 42	11-138	3.50	0.00	05090202-074	Interior Plateau

WB Name: ***FIVEMILE CREEK*** | County:

Aquatic Life Use(s): **WWH** | Segment Length: **3.50**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199809** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	1.50	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.50		

Comments: Partial use attainment was recorded at one location (regional reference site) in this segment. Qualitative macroinvertebrate sampling showed good quality, but the fish community was only fair. The 1998 assessment was complicated somewhat by low flow conditions. Bacterial exceedences suggest inputs of sewage, probably from residential onsite systems. Agricultural sources may also be influence water quality in this rural watershed. Ammonia and phosphorus concentrations were slightly above median background values for the Interior Plateau ecoregion.

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH53 45	11-100	56.50	45.18	05090202-003	Interior Plateau

WB Name: ***E. FK. LITTLE MIAMI R. (SOLOMON RUN TO HOWARD RUN)*** County: **BROWN CO**

Aquatic Life Use(s): **EWH** Segment Length: **11.32**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	2.85	5.32	3.15

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.85		5.32		3.15		

Comments: The trend assessment of this segment is improving, but this is based on improved macroinvertebrate communities compared to sampling done in 1982. The fish communities remain essentially unchanged and not achieving ecoregional expectations. Though QHEI scores were high, there is evidence of heavy siltation and embeddedness at the downstream sampling location in the segment. Clermont County data indicates occasional spikes in nutrients from the upper watershed. There is no indication of influences from the Fayetteville controlled lagoon discharge. The source of highly elevated barium and aluminum concentrations in sediments is unknown, but may be due to natural background conditions.

Causes of Impairment:
Siltation - H
Nutrients - M

Sources of Impairment:
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH53 52	11-100	70.89	56.50	05090202-	Interior Plateau

WB Name: ***E. FK. LITTLE MIAMI R. (DODSON CR. TO SOLOMON RUN)*** County: **BROWN CO**

Aquatic Life Use(s): **EWH** Segment Length: **14.39**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	8.24	6.15	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		8.24	6.15				

Comments: Limited biological sampling in this segment showed that the biological communities were essentially achieving EWH criteria, but mostly by scores within the nonsignificant departure range. The causes and sources of partial attainment are not readily apparent.

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH53 56	11-150	9.00	0.00	05090202-009	Eastern Corn Belt Plain

WB Name: ***WEST FORK E. FK. LITTLE MIAMI RIVER*** County: **CLINTON CO**

Aquatic Life Use(s): **WWH** Segment Length: **9.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: One regional reference site was sampled in this segment near the mouth. The 1998 assessment was complicated somewhat by bridge construction at the site and very low flow conditions. The IBI and qualitative macroinvertebrate results reflected good biological communities.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH53 57	11-151	11.50	0.00	05090202-005	Interior Plateau

WB Name: ***DODSON CREEK*** | County: **HIGHLAND CO**

Aquatic Life Use(s): **EWH** | Segment Length: **11.50**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199809** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00		

Comments: This is a significant tributary to the upper reaches of the East Fork little Miami River, designated EWH with a reference site at the mouth. Reasons for non-attainment in 1998 are unknown. There was a large discrepancy between the July fish sample (fair) and the August sample (good). The macroinvertebrate community rated good. Overall, fish results and qualitative macroinvertebrate results were generally similar to the 1982 results. QHEI scores showed a nearly 20 point decline between 1982 and 1998. In recent years there have been numerous 3-4 inch rainfall events which have caused heavy erosion in the basin, contributing a heavy load of sand to the stream, thus lowering habitat scores.

Causes of Impairment:

Cause Unknown - H

Sources of Impairment:

Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH53 60	11-100	85.58	70.89	05090202-	Eastern Corn Belt Plain

WB Name: ***E. FK. LITTLE MIAMI R. (HEADWATERS TO DODSON CR.)*** | County: **CLINTON CO**

Aquatic Life Use(s): **WWH,EWH** | Segment Length: **14.69**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199809** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 7.96	Partial: 6.73	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
		7.96			6.73		

Comments: The upper reaches of this segment have impaired macroinvertebrate communities. The fish communities marginally achieve WWH criteria throughout the segment. Indications of high nutrients and heavy siltation point to impacts associated with the prevailing land uses. There is little indication of problems associated with the small point sources at New Vienna and Lynchburg. Highly elevated aluminum and barium in the sediments may be due to natural background conditions..

Causes of Impairment:

Nutrients - H
Siltation - H
Flow alteration - M
Siltation - T

Sources of Impairment:

Nonirrigated crop production - H
Range Grazing - Riparian - M
Natural - M
Surface Mining - M
Nonirrigated crop production - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH53 61	11-154	8.50	0.00	05090202-007	Eastern Corn Belt Plain

WB Name: ***TURTLE CREEK*** | County: **HIGHLAND CO**

Aquatic Life Use(s): **WWH** | Segment Length: **8.50**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199809** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 3.00	None 2.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					5.40		

Comments: This is a small, previously unassessed tributary to the upper East Fork Little Miami River. Macroinvertebrates rated very good near the mouth. Fish communities rated fair at locations near the mouth and upstream from a gravel operation. Excessive siltation and turbidity were present at the downstream site, and continued into the East Fork. Upstream from the gravel operation stream substrates were clean and water was clear. The cause/source for non-attainment of the fish at the upstream site is unknown.

Causes of Impairment:
- *Siltation - H*
- *Cause Unknown - H*

Sources of Impairment:
- *Surface Mining - H*
- *Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH54 1	11-001	11.50	0.00	05090202-001	Interior Plateau

WB Name: ***LITTLE MIAMI RIVER (E. FK. L. MIAMI R. TO OHIO R.)*** | County: **HAMILTON CO**

Aquatic Life Use(s): **EWH,WWH** | Segment Length: **11.50**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.10	Full, But Threatened: 0.00	Partial: 7.20	None 1.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	0.10		7.20			1.30	

Comments: A dry weather CSO at river mile 3.5 impaired the fish community. The partial attainment within the reach was a continuation of the trend started upstream, generally coinciding with the discharge of several WWTPs within a short reach (i.e. Sycamore Creek, Polk Run), and the urban/suburban influence of the greater Cincinnati metropolitan area. Additionally, several pesticides exceeded WQS for the prevention of chronic toxicity and non-drinking water human health.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Cause Unknown - H*
- *Nutrients - S*

Sources of Impairment:
- *Combined Sewer Overflow - H*
- *Other Urban Runoff - H*
- *Major Municipal Point Source - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH54 2	11-002	5.70	0.00	05090202-068	Interior Plateau	HAMILTON CO

WB Name: ***CLOUGH CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.70**

Assessment Cycle: **1992** Field Data Collected From: **199109 to 199109** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	3.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
- *Other habitat alterations - H*
- *Flow alteration - H*

Sources of Impairment:
- *Dredging - Development - H*
- *Streambank destabilization - Dev - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH54 4	11-004	8.20	0.00	05090202-072	Interior Plateau	HAMILTON CO

WB Name: ***DUCK CREEK***

Aquatic Life Use(s): **LRW,WWH** Segment Length: **8.20**

Assessment Cycle: **1996** Field Data Collected From: **199409 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.50	0.00	0.00	2.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Priority pollutants were not specifically identified, but could be part of the problem with the unidentified toxicity. Duck Creek is partially modified by the construction of a concrete channel near river mile 2.4. The channel recovers to a more natural state downstream and to the mouth. Biological sampling at river mile 2.8 revealed no fish or other live organisms, which signifies extreme toxicity. Non-attainment of Warmwater Habitat was observed at river mile 0.8, and a fish kill was in progress. The flow at this site was interstitial as large, deep pools were separated by stretches of dry gravel and cobble. This same site exhibited more severe non-attainment in 1983. Duck Creek is extensively impacted by combined sewer overflows, stormwater, and minor industrial discharges.

Causes of Impairment:
- *Unknown toxicity - H*
- *Flow alteration - M*
- *Other habitat alterations - M*

Sources of Impairment:
- *Minor Industrial Point Source - H*
- *Combined Sewer Overflow - H*
- *Other Urban Runoff - M*
- *Channelization - Development - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH54 4.1	11-051	2.85	0.00	05090202-	Interior Plateau	HAMILTON CO

WB Name: ***EAST FORK DUCK CREEK***

Aquatic Life Use(s): **LRW** Segment Length: **4.00**

Assessment Cycle: **1996** Field Data Collected From: **199409 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The East Fork of Duck Creek is in an artificially constructed concrete channel, much of which is culverted beneath buildings, roads and parking lots. This stream has been irreversibly altered and contains little meaningful stream habitat. The use designation is in the process of being changed to Limited Resource Water (LRW).

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH54 7	11-001	24.00	11.50	05090202-	Interior Plateau	HAMILTON CO

WB Name: ***LITTLE MIAMI R. (O'BANNON CR. TO E. FK. L. MIAMI)***

Aquatic Life Use(s): **EWH** Segment Length: **12.50**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.90	0.00	11.60	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	0.90		11.60				

Comments: Two WWTPs discharge to the stream within this reach, coincidental with the increasing urban and suburban development. Additionally, dieldrin was present in concentrations exceeding WQS for the prevention of chronic toxicity and non-drinking water human health.

Causes of Impairment:
- *Cause Unknown - H*
- *Nutrients - M*

Sources of Impairment:
- *Other Urban Runoff - H*
- *Major Municipal Point Source - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH54 9	11-007	4.50	0.00	05090202-	Interior Plateau	HAMILTON CO

WB Name: ***SYCAMORE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **4.50**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	1.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00		

Comments: Several pesticides were present in concentrations exceeding water quality standards for protection of chronic toxicity.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Cause Unknown - M*
- *Total toxics - S*

Sources of Impairment:
- *Major Municipal Point Source - H*
- *Other Urban Runoff - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH54 12	11-010	12.00	0.00	05090202-096	Interior Plateau	CLERMONT CO

WB Name: ***O'BANNON CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **12.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.10	0.00	1.90	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.10		1.90		

Comments: Partial attainment was attributed to natural intermittent conditions.

Causes of Impairment:
- *Flow alteration - H*

Sources of Impairment:
- *Natural - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH54 14	11-012	3.00	0.00	05090202-	Interior Plateau	

WB Name: ***STONY RUN***

Aquatic Life Use(s): **WWH** Segment Length: **3.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH54 16	11-001	33.20	24.00	05090202-013	Interior Plateau	WARREN CO

WB Name: ***LITTLE MIAMI RIVER (TURTLE CR. TO O'BANNON CR.)***

Aquatic Life Use(s): **EWH** Segment Length: **9.20**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.00	0.00	0.20	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	9.00		0.20				

Comments: A malfunctioning sewer line was discharging raw sewage to the river on at least one occasion. Biological communities were impaired in the reach immediately downstream. Additionally, three pesticides were present in concentrations exceeding WQS for prevention of chronic toxicity.

Causes of Impairment:
Organic enrichment/DO - H
Unionized Ammonia - M

Sources of Impairment:
Combined Sewer Overflow - H
Major Municipal Point Source - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH54 20	11-017	4.00	0.00	05090202-	Interior Plateau	WARREN CO

WB Name: ***SIMPSON CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **4.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.10	0.00	0.10	0.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				0.10	0.10	0.90	

Comments:

Causes of Impairment:
Flow alteration - H
Organic enrichment/DO - H

Sources of Impairment:
Upstream Impoundment - H
Major Municipal Point Source - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH54 23	11-020	8.90	0.00	05090202-062	Interior Plateau	WARREN CO

WB Name: ***MUDDY CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **8.90**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.50	Full, But Threatened: 0.00	Partial: 2.50	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.50		2.50		

Comments: Endrin and dieldrin were present in concentrations that exceeded water quality standards for the prevention of toxicity.

Causes of Impairment:

Nutrients - H
Organic enrichment/DO - M
Cause Unknown - S

Sources of Impairment:

Major Municipal Point Source - H
Other Urban Runoff - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH54 24	11-021	12.00	0.00	05090202-	Interior Plateau	WARREN CO

WB Name: ***TURTLE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **12.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.00						

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH54 25	11-022	4.00	0.00	05090202-	Interior Plateau	WARREN CO

WB Name: ***DRY RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.00**

Assessment Cycle: **1996** Field Data Collected From: **199307 to 199310** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Drought conditions may have been responsible for the decline at the reference site location. Land development and septic systems may also be causes or sources. More sampling sites are needed to assess the stream more fully.

Causes of Impairment:

Organic enrichment/DO - H
Siltation - H
Flow alteration - H

Sources of Impairment:

Source Unknown - H
Nonirrigated crop production - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH54 27	11-001	38.50	33.20	05090202-015	Interior Plateau

WB Name: ***LITTLE MIAMI RIVER (TODD FORK TO TURTLE CREEK)*** | County: **WARREN CO**

Aquatic Life Use(s): **EWH** | Segment Length: **5.30**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.40	Full, But Threatened: 0.00	Partial: 4.90	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	0.40		4.90				

Comments:

Causes of Impairment:
Nutrients - H
Siltation - M

Sources of Impairment:
Major Municipal Point Source - H
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH54 30	11-001	50.90	38.50	05090202-025	Eastern Corn Belt Plain

WB Name: ***LITTLE MIAMI RIVER (CAESAR CREEK TO TODD FORK)*** | County: **WARREN CO**

Aquatic Life Use(s): **EWH** | Segment Length: **12.40**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.40	Full, But Threatened: 0.00	Partial: 11.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.40		11.00				

Comments: Secondary effects of nutrients (i.e. wide diel variation in DO) were more apparent, though not resulting in DOs below WQS on the dates sampled.

Causes of Impairment:
Siltation - H
Nutrients - M

Sources of Impairment:
Nonirrigated crop production - H
Major Municipal Point Source - M
Minor Municipal Point Source - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH55 2	14-001	140.10	132.10	05080001-032	Eastern Corn Belt Plain

WB Name: ***GREAT MIAMI RIVER (INDIAN CREEK TO PLUM CREEK)*** | County: **SHELBY CO**

Aquatic Life Use(s): **EWH,WWH** | Segment Length: **8.00**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The Exceptional Warmwater Habitat use designation is recommended upstream of Sidney's dams. Areas impounded are recommended to retain the existing Warmwater Habitat use.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH55 11	14-001	145.98	140.10	05080001-032	Eastern Corn Belt Plain	LOGAN CO

WB Name: ***GREAT MIAMI RIVER (BOKENGEHALAS CR. TO INDIAN CR.)***

Aquatic Life Use(s): **WWH,EWH** Segment Length: **5.88**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.88	0.00	3.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: All partial attainment observed within this stream segment was associated with the Quincy Dam. Both fish and benthos failed to achieve applicable Warmwater Habitat criteria within the Quincy Dam pool. Immediately downstream from the dam, the benthos (alone) integrated the downstream influence of Quincy Dam. No impact was attributed to the Quincy WWTP. Slightly elevated levels of mercury were reported in fish tissue samples. *Note: The Quincy Dam indicates the beginning of the Exceptional Warmwater Habitat recommended use designation. Also, water column and sediment chemistry data were not yet available for this assessment.

Causes of Impairment:

Flow alteration - H

Sources of Impairment:

Upstream Impoundment - H
Flow reg./mod. - Development - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH55 15	14-072	6.80	0.00	05080001-	Eastern Corn Belt Plain	LOGAN CO

WB Name: ***STONY CREEK (HEADWATERS TO LEE/GRAVE CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **6.80**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Agricultural encroachment and riparian removal are percieved threats. Stream performance is likely influenced by groundwater flow augmentation. Agricultural encroachment and riparian removal are considered threats.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH55 16	14-075	10.20	0.00	05080001-	Eastern Corn Belt Plain	LOGAN CO

WB Name: ***MCKEE CREEK***

Aquatic Life Use(s): **EWH** Segment Length: **10.20**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	10.20	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a high quality stream, attaining Exceptional Warmwater Habitat status. Livestock pastures and agricultural encroachment are relevant issues.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH55 17	14-076	15.40	0.00	05080001-064	Eastern Corn Belt Plain	LOGAN CO

WB Name: ***BOKENGEHALAS CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **15.40**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.40	0.00	3.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There is pervasive agricultural land use in the basin. Corresponding to this, there is riparian removal, elevated silt loads, and extensive hydromodification from channelization and field tile installation.

Causes of Impairment:
Other habitat alterations - H
Siltation - S

Sources of Impairment:
Habitat Modifications o/than Hydromod. - H
Channelization - Agriculture - M
Nonirrigated crop production - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH55 18	14-077	7.80	0.00	05080001-	Eastern Corn Belt Plain	LOGAN CO

WB Name: ***BLUEJACKET CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **7.80**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	4.80	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This reach is in urban area, with associated habitat modifications and flashy flows. Possum Run contributes effluent from the Bellefontaine WWTP. Otherwise, the downstream reach is in agricultural area with typical flow modification from tile and channelization.

Causes of Impairment:
Other habitat alterations - H
Flow alteration - S

Sources of Impairment:
Other Urban Runoff - H
Channelization - Agriculture - H
Habitat Modifications o/than Hydromod. - M
Minor Municipal Point Source - S
Nonirrigated crop production - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH55 19	14-085	1.52	0.00	05080001-	Eastern Corn Belt Plain	

WB Name: ***OPOSSUM RUN***

Aquatic Life Use(s): **WWH** Segment Length: **1.52**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.52	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is an urban stream with associated habitat modifications and flashy flows.

Causes of Impairment:
Other habitat alterations - H
Flow alteration - S

Sources of Impairment:
Other Urban Runoff - H
Habitat Modifications o/than Hydromod. - M
Minor Municipal Point Source - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH55 20	14-001	154.44	145.98	05080001-032	Eastern Corn Belt Plain

WB Name: ***GREAT MIAMI R. (MUCHINIPPI CR. TO BOKENGEHALAS CR)*** | County: **LOGAN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **8.46**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 3.46	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Partial attainment of the water use appeared as a result of modest organic enrichment from the Russells Point WWTP. Performance in the fair range was observed within the benthic macroinvertebrate community. Slightly elevated levels of mercury were reported in fish tissue samples. Note: Water column and sediment chemistry data were not available at the time of this assessment.

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Minor Municipal Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH55 27	14-700	13.70	0.00	05080001-035	Eastern Corn Belt Plain

WB Name: ***MUCHINIPPI CREEK*** | County:

Aquatic Life Use(s): **WWH** | Segment Length: **13.70**

Assessment Cycle: **1996** | Field Data Collected From: **199410 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.05	Full, But Threatened: 0.00	Partial: 0.00	None 4.65

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The area of non-attainment was limited to the lower 4.65 miles. This reach failed to support a fish assemblage consistent with the WWH use. The decline of the fish community (in comparision with the upstream reach) appeared to be a result of degraded physical habitat associated with channelized stream segments (i.e., siltation, riparian encroachment, nutrient delivery)

Causes of Impairment:
Siltation - H
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH55 27.1	14-707	4.61	0.00	05080001-	Eastern Corn Belt Plain

WB Name: ***ST. JOE DITCH*** | County: **AUGLAIZE CO**

Aquatic Life Use(s): **MWH-C** | Segment Length: **4.61**

Assessment Cycle: **1996** | Field Data Collected From: **199409 to 199409** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The Warmwater Habita status was full, but only marginally so. St. Joe Ditch has a sustained flow, which probably accounts for a better than expected biological community performance, given the channelized habitat (under maintenance).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH55 33	14-706	6.50	0.00	05080001-	Eastern Corn Belt Plain

WB Name: ***WILLOW CREEK*** | County:

Aquatic Life Use(s): **WWH** | Segment Length: **6.50**

Assessment Cycle: **1996** | Field Data Collected From: **199409 to 199409** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Willow Creek, also known as Metz Ditch, is a channelized and maintained tributary of Muchinnippi Creek. Full attainment occurs despite the channelized condition (no recovery), and is the result of a sustained flow regime which is atypical of most channelized streams. Under more natural channel and riparian conditions, this stream would likely exhibit exceptional performance.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH55 34	14-001	159.44	154.44	05080001-033	Eastern Corn Belt Plain

WB Name: ***GREAT MIAMI R. (CHER. MANS RUN TO MUCHINIPPI CR.)*** | County: **LOGAN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **5.00**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.45	Full, But Threatened: 0.00	Partial: 3.55	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Partial attainment observed downstream of Russells Point WWTP appeared a result of several factors, and was a result of the failure of the fish community to perform at a Warmwater Habitat level. The fish community appeared reflective of modified flow regime (downstream of Indian lake impoundment), marginal habitat, and modest organic enrichment from Russel's Point WWTP. These factors, in concert, reduced fish community performance below the Warmwater Habitat standard. Slightly elevated levels of mercury were reported in fish tissue samples. * Note: Water column, sediment and loadings data were not available at the time of this assessment.

Causes of Impairment:

Siltation - H
Flow alteration - M
Organic enrichment/DO - M

Sources of Impairment:

Nonirrigated crop production - H
Upstream Impoundment - M
Minor Municipal Point Source - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH55 35	14-084	10.80	0.00	05080001-	Eastern Corn Belt Plain

WB Name: ***CHEROKEE MANS RUN*** | County: **LOGAN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **10.80**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream is in an agricultural region, and is performing in the good quality range.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH55 36	14-800	10.20	0.00	05080001-	Eastern Corn Belt Plain	LOGAN CO

WB Name: ***SOUTH FORK GREAT MIAMI RIVER***

Aquatic Life Use(s): **WWH** Segment Length: **10.20**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				1.00			

Comments: One site was sampled in this stream segment by Ohio Northern University in 1997. Based on the IBI results (IBI=36) the stream appears to be marginally attaining WWH criteria for the ECBP ecoregion. Results may be on the low end due to the collection being made with a seine and a backpack shocker.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH55 37	14-806	6.80	0.00	05080001-	Eastern Corn Belt Plain	

WB Name: ***NEW RICHLAND TRIBUTARY***

Aquatic Life Use(s): **EWH** Segment Length: **6.80**

Assessment Cycle: **1998** Field Data Collected From: **199509 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	6.80						

Comments: Two regional reference sites were sampled in 1995. Macroinvertebrate data indicate excellent quality near the mouth, and very good quality in the middle portion of the segment. Fish data from 1994 scored in the Exceptional Warmwater Habitat range at both sites.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH55 41	14-804	3.62	0.00	05080001-	Eastern Corn Belt Plain	LOGAN CO

WB Name: ***VAN HORN CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **3.62**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 3.62	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Pervasive agricultural land use is present within the basin. Corresponding to this, there is riparian removal, elevated silt load, and extensive hydromodification from upstream channelization and field tile installation.

Causes of Impairment:

Other habitat alterations - H
Siltation - M
Organic enrichment/DO - S

Sources of Impairment:

Removal of riparian vegetation - Ag - H
Nonirrigated crop production - M
Channelization - Agriculture - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH55 42	14-803	3.40	0.00	05080001-	Eastern Corn Belt Plain

WB Name: ***BLACKHAWK RUN*** County: **LOGAN CO**

Aquatic Life Use(s): **WWH** Segment Length: **3.40**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The downstreram reach is in the backwaters of Indian Lake. Development and agricultural encroachment issues are prevalent. Stream quality is generally good.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH55 43	14-802	14.95	0.00	05080001-	Eastern Corn Belt Plain

WB Name: ***NORTH FORK GREAT MIAMI RIVER*** County:

Aquatic Life Use(s): **WWH** Segment Length: **14.95**

Assessment Cycle: **1998** Field Data Collected From: **199509 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: Land use improvement projects within the Indian Lake watershed have improved the biological quality at the one regional reference site sampled on the North Fork in 1995. Macroinvertebrate data indicate good water quality.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH56 1	14-001	100.00	82.60	05080001-	Eastern Corn Belt Plain

WB Name: ***GREAT MIAMI RIVER (LOST CREEK TO STILLWATER RIVER)*** County:

Aquatic Life Use(s): **EWH,WWH** Segment Length: **17.40**

Assessment Cycle: **1998** Field Data Collected From: **199407 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 16.70	Full, But Threatened: 0.00	Partial: 0.70	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	13.40		3.30		0.70		

Comments: The 1994 study report recommended a change from Warmwater Habitat (WWH) to Exceptional Warmwater Habitat (EWH) from river miles 143.4 to 84.5. Partial attainment of WWH occurred due to flow alterations caused by the Steele Dam in Dayton (river miles 84.5 to 82.1).

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H

Sources of Impairment:

Dam construction - Development - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH56 3	14-043	18.60	0.00	05080001-	Eastern Corn Belt Plain

WB Name: ***HONEY CREEK*** | County:

Aquatic Life Use(s): **EWH** Segment Length: **18.60**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 10.50	Full, But Threatened: 0.00	Partial: 4.90	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The area of partial attainment of the Exceptional Warmwater Habitat use was limited to the 4.9 mile reach downstream of the New Carlisle Waste Water Treatment Plant. Failure of the benthic invertebrate community to perform at an Exceptional Warmwater Habitat level was the cause for partial attainment. The invertebrate fauna was indicative of moderate nutrient enrichment. The fish community maintained a level of performance consistent with the Exceptional Warmwater Habitat use throughout the reach. *Note: The water column and sediment chemistry were not available for this assessment.

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Minor Municipal Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH56 8	14-048	17.40	0.00	05080001-024	Eastern Corn Belt Plain

WB Name: ***LOST CREEK*** | County: MIAMI CO

Aquatic Life Use(s): **EWH** Segment Length: **17.40**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 10.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Partial attainment of Exceptional Warmwater Habitat aquatic life use designation was influenced by pervasive agricultural land use in basin. Riparian removal, encroachment, tile drainage, irrigated crop production, and diked channelization are considered factors causing the partial attainment.

Causes of Impairment:
Other habitat alterations - H
Flow alteration - M

Sources of Impairment:
Nonirrigated crop production - H
Irrigated crop production - H
Habitat Modifications o/than Hydromod. - H
Channelization - Agriculture - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH56 10	14-001	109.28	100.00	05080001-025	Eastern Corn Belt Plain

WB Name: ***GREAT MIAMI RIVER (SPRING CREEK TO LOST CREEK)*** | County: MIAMI CO

Aquatic Life Use(s): **EWH,WWH,EWH** Segment Length: **9.28**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.28	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly to moderately elevated levels of mercury were reported in fish tissue samples.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH56 11	14-050	12.40	0.00	05080001-026	Eastern Corn Belt Plain	MIAMI CO

WB Name: ***SPRING CREEK***

Aquatic Life Use(s): **EWH** Segment Length: **12.40**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Non-attainment of Exceptional Warmwater Habitat aquatic life use designation was influenced by pervasive agricultural land use within basin. Riparian removal, encroachment, tile drainage, and development are considered factors causing the non-attainment.

Causes of Impairment:
Other habitat alterations - H
Flow alteration - M

Sources of Impairment:
Nonirrigated crop production - H
Habitat Modifications o/than Hydromod. - H
Channelization - Agriculture - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH56 12	14-001	119.89	109.28	05080001-027	Eastern Corn Belt Plain	MIAMI CO

WB Name: ***GREAT MIAMI RIVER (LORAMIE CREEK TO SPRING CREEK)***

Aquatic Life Use(s): **EWH,WWH,EWH** Segment Length: **10.61**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.90	Full, But Threatened: 0.00	Partial: 0.70	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The area of partial attainment was limited to the sampling stations placed within the Piqua Dam pool. Departure from applicable criteria was a result of a failure of the benthic invertebrate community to perform at an exceptional warmwater habitat level. This response is fairly typical for lentic (impounded) stream segments. The fish assemblage performed at Exceptional Warmwater Habitat levels throughout this water body. Slightly to moderately elevated levels of mercury were reported in fish tissue samples. * Note: Water column and sediment chemistry data were not yet available at the time of this assessment.

Causes of Impairment:
Flow alteration - H

Sources of Impairment:
Upstream Impoundment - H
Flow reg./mod. - Development - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH56 20	14-600	4.09	0.00	05080001-036	Eastern Corn Belt Plain	SHELBY CO

WB Name: ***LORAMIE CREEK (TURTLE CREEK TO GREAT MIAMI RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **4.10**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This segment is the most downstream reach of Loramie Creek. There is some influence from the Great Miami River into which Loramie Creek flows. This segment is stable, with very good to exceptional quality. Slightly elevated levels of mercury were reported in fish tissue samples.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH56 26	14-600	19.46	4.10	05080001-038	Eastern Corn Belt Plain

WB Name: ***LORAMIE CREEK (MILE CREEK TO TURTLE CREEK)*** County: **SHELBY CO**

Aquatic Life Use(s): **WWH** Segment Length: **15.45**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	3.40	12.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This reach is in agricultural region heavily modified and maintained by the Miami Valley Conservation District. Stream quality is generally fair to poor.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H
Siltation - M
Organic enrichment/DO - S

Sources of Impairment:

Channelization - Agriculture - H
Streambank destabilization - Ag - H
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH56 32	14-600	37.24	19.47	05080001-038	Eastern Corn Belt Plain

WB Name: ***LORAMIE CREEK (HEADWATERS TO MILE CREEK)*** County: **SHELBY CO**

Aquatic Life Use(s): **WWH** Segment Length: **17.77**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	17.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This reach contains Lake Loramie, a ten mile impoundment, in an agricultural watershed. The combination of upstream crop production and subsequent habitat modifications with elevated silt loads nelatively influences downstream aquatic life in the stream and impounded reach where organic enrichment is likely a limiting factor generally fair to poor quality. Slightly to moderately elevated levels of mercury were reported in fish tissue samples.

Causes of Impairment:

Other habitat alterations - H
Flow alteration - H
Siltation - M
Organic enrichment/DO - S

Sources of Impairment:

Flow regulation/modification - Ag - H
Removal of riparian vegetation - Ag - H
Nonirrigated crop production - M
Channelization - Agriculture - S
Upstream Impoundment - S

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH56 32.3	14-616	2.95	0.00	05080001-	Eastern Corn Belt Plain

WB Name: ***WHITE FEATHER CREEK*** | County: **SHELBY CO**

Aquatic Life Use(s): **NONE** | Segment Length: **2.95**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.95

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There is pervasive agricultural land use in the basin. Corresponding to this, there is riparian removal, elevated silt loads, and extensive hydromodification from channelization and field tile installation.

Causes of Impairment:

Other habitat alterations - H
Flow alteration - H
Siltation - M
Organic enrichment/DO - S

Sources of Impairment:

Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - H
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH56 36	14-001	132.10	119.89	05080001-028	Eastern Corn Belt Plain

WB Name: ***GREAT MIAMI RIVER (PLUM CREEK TO LORAMIE CREEK)*** | County: **SHELBY CO**

Aquatic Life Use(s): **WWH,EWH** | Segment Length: **12.21**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.00	Full, But Threatened: 0.00	Partial: 6.21	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The area of partial attainment of the proposed exceptional warmwater habitat use was a result of a failure of the benthic invertebrate community to perform at an exceptional warmwater habitat level. Causes/sources can be broken into types. The first 3.5 miles are a result of the downstream influence of the Sidney Water Works dam. The condition of the benthic fauna appeared typical of downstream impoundment influences. The second "partial" reach (2.8 miles) was a result of organic enrichment from Sidney Waste Water Treatment Plant. The fish assemblage through out this water body consistently performed at an exceptional warmwater habitat level. * Note: Water column and sediment chemistry was not yet available for this analysis.

Causes of Impairment:

Flow alteration - H
Organic enrichment/DO - H

Sources of Impairment:

Upstream Impoundment - H
Flow reg./mod. - Development - H
Major Municipal Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH57 1	14-200	14.20	0.00	05080001-	Eastern Corn Belt Plain	MONTGOMERY CO

WB Name: ***STILLWATER RIVER (BRUSH CREEK TO GREAT MIAMI R.)***

Aquatic Life Use(s): **EWH** Segment Length: **14.20**

Assessment Cycle: **1992** Field Data Collected From: **199006 to 199010** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.60	Full, But Threatened: 0.00	Partial: 10.60	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Other habitat alterations - M*

Sources of Impairment:
- *Municipal Point Sources - H*
- *Combined Sewer Overflow - H*
- *Dam construction - Development - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH57 3	14-202	5.70	0.00	05080001-086	Eastern Corn Belt Plain	MONTGOMERY CO

WB Name: ***MILL CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.70**

Assessment Cycle: **1998** Field Data Collected From: **199508 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.60	Full, But Threatened: 0.00	Partial: 0.00	None 3.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.60			3.30	0.50

Comments: Severe biological degradation associated with spills from the Dayton Airport retention basin is an ongoing problem. Biological results showed improvement since 1994, but complete recovery is contingent upon eliminating discharges from the retention basin. The stream channel upstream from the retention basin was re-directed, the result of airport expansion and improved de-icing facilities.

Causes of Impairment:
- *Unionized Ammonia - H*
- *Organic enrichment/DO - H*
- *Other habitat alterations - S*

Sources of Impairment:
- *Spills - H*
- *Wastewater - H*
- *Channelization - Development - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH57 5	14-200	21.00	14.20	05080001-	Eastern Corn Belt Plain	

WB Name: ***STILLWATER RIVER (LUDLOW CREEK TO BRUSH CREEK)***

Aquatic Life Use(s): **EWH** Segment Length: **6.80**

Assessment Cycle: **1996** Field Data Collected From: **199006 to 199411** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The fish and macroinvertebrate communities are indicative of good water quality conditions. Sediments indicated no contamination problems. Slightly to moderately elevated levels of mercury were reported in fish tissue samples (10 of 11 samples).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH57 8	14-211	8.00	0.00	05080001-067	Eastern Corn Belt Plain	MIAMI CO

WB Name: ***BRUSH CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **8.00**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	8.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00	7.00	

Comments: This stream is channelized for all but the lower 1 mile. Habitat modification is the major cause of non-attainment in the upper reaches. Nitrate levels are very high throughout the length of the stream. Though habitat is excellent near the mouth, nutrient enrichment from the upper reaches carries over and affects the biological community.

Causes of Impairment:
- *Nutrients - H*
- *Other habitat alterations - H*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Channelization - Agriculture - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH57 14	14-200	32.40	21.00	05080001-	Eastern Corn Belt Plain	MIAMI CO

WB Name: ***STILLWATER RIVER (GREENVILLE CR. TO LUDLOW CR.)***

Aquatic Life Use(s): **EWH** Segment Length: **11.40**

Assessment Cycle: **1992** Field Data Collected From: **199006 to 199010** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.60	0.00	2.80	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
- *Other habitat alterations - H*
- *Cause Unknown - H*

Sources of Impairment:
- *Dam construction - Development - H*
- *Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH57 18	14-208	19.75	0.00	05080001-060	Eastern Corn Belt Plain	DARKE CO

WB Name: ***PAINTER CREEK***

Aquatic Life Use(s): **MWH-C,EWH** Segment Length: **19.75**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.75	0.00	0.00	15.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.75		1.30	13.70	

Comments: The entire length of stream in Darke County is under a stream maintenance program by the County Engineer. The lower 2 miles in Miami County is natural, flowing through a forested, bedrock area into the Stillwater River valley. Channelization highly influences the biological quality of the stream. Impacts were also documented related to the Arcanum WWTP. Good groundwater influx was noted in the headwaters. Sedimentation appears to be a problem in the middle portion of the basin.

Causes of Impairment:
- *Other habitat alterations - H*
- *Organic enrichment/DO - M*
- *Nutrients - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Minor Municipal Point Source - H*
- *Natural - M*
- *Nonirrigated crop production - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH57 37	14-200	45.88	32.40	05080001-	Eastern Corn Belt Plain

WB Name: ***STILLWATER RIVER (SWAMP CREEK TO GREENVILLE CREEK)***

County: **DARKE CO**

Aquatic Life Use(s): **EWH** Segment Length: **13.50**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 13.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	13.50						

Comments: The biological community is diverse and healthy. Turbidity and high nitrates are negative factors, but do not appear to be having impacts.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH57 38	14-218	9.10	0.00	05080001-050	Eastern Corn Belt Plain

WB Name: ***HARRIS CREEK***

County: **DARKE CO**

Aquatic Life Use(s): **WWH** Segment Length: **9.10**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.30	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.30				

Comments: The fish community attains Warmwater Habitat, while the macroinvertebrates scored in the fair range. Cattle have direct access to the stream, and some riparian damage was noted. The middle and upper portions of the basin are channelized. Some residual effects may be present. The Bradford WWTP, located several miles upstream, apparently has little or no effect on this segment.

Causes of Impairment:

Nutrients - H

Sources of Impairment:

Nonirrigated crop production - H
Range Grazing - Riparian - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH57 39	14-219	4.60	0.00	05080001-062	Eastern Corn Belt Plain

WB Name: ***BALLINGER RUN***

County: **DARKE CO**

Aquatic Life Use(s): **WWH** Segment Length: **4.60**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					4.60		

Comments: The entire length of this stream has been channelized in the past. The biological quality downstream from the Bradford WWTP improved significantly from previous sampling done in 1982. Upstream from the town of Bradford the stream had poor habitat, and was heavily silted from agricultural runoff.

Causes of Impairment:

Nutrients - H
Other habitat alterations - H
Siltation - H

Sources of Impairment:

Channelization - Agriculture - H
Nonirrigated crop production - H
Minor Municipal Point Source - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH57 40	14-234	4.80	0.00	05080001-	Eastern Corn Belt Plain	MIAMI CO

WB Name: ***TROTTERS CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **4.80**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.80				

Comments: The fish and macroinvertebrate communities were both in attainment of WWH criteria. Nutrients in the water column were relatively high, but apparently not significantly affecting the biological communities.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH57 41	14-235	13.80	0.00	05080001-044	Eastern Corn Belt Plain	DARKE CO

WB Name: ***SWAMP CREEK***

Aquatic Life Use(s): **MWH-C,WWH** Segment Length: **13.80**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 13.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			13.80				

Comments: The entire length of the stream has been channelized in the past. The upper reaches are maintained regularly. The lower portion has riparian which is intact. The biological community appears to be healthy. Nutrients in the water column were somewhat elevated. Improvement was noted in IBI scores compared to sampling done in previous years.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH57 42	14-236	5.20	0.00	05080001-	Eastern Corn Belt Plain	DARKE CO

WB Name: ***INDIAN CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.20**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.85

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					4.85		

Comments: A major fish kill occurred from fertilizer runoff in August, 1995. The stream was meeting Warmwater Habitat criteria before the spill. One month after the spill fish were present, but the IBI score was in the poor range. Habitat and flow are sufficient that full recovery will probably occur in the near future. Future monitoring is recommended as a follow-up to the fish kill.

Causes of Impairment:	Sources of Impairment:
Other inorganics - H	*Spills - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH57 45	**14-200**	**67.64**	**57.97**	**05080001-048**	**Eastern Corn Belt Plain**

WB Name: ***STILLWATER RIVER (HEADWATERS TO NORTH FORK)*** County: **DARKE CO**

Aquatic Life Use(s): **WWH** Segment Length: **9.67**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	9.67

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					9.67		

Comments: Habitat was marginally good, but showed effects of past channelization. Very high nitrates were present in the water column. The fish community scored in the fair range.

Causes of Impairment:
Other habitat alterations - H
Nutrients - M

Sources of Impairment:
Nonirrigated crop production - H
Channelization - Agriculture - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH57 48	**14-240**	**3.50**	**0.00**	**05080001-**	**Eastern Corn Belt Plain**

WB Name: ***SOUTH FORK STILLWATER RIVER*** County: **DARKE CO**

Aquatic Life Use(s): **WWH** Segment Length: **3.50**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.50	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.50				

Comments: This stream scored exceptionally well considering it is a channelized ditch with poor habitat. Nutrients in the water column were high.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 1	**14-100**	**10.07**	**0.00**	**05080001-001**	**Eastern Corn Belt Plain**

WB Name: ***MAD RIVER (MUD RUN TO GREAT MIAMI RIVER)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **10.07**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	7.55	0.00	2.52	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly to moderately elevated levels of mercury were reported in fish tissue samples (5 of 5 samples).

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Source Unknown - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 1.1	**14-147**	**10.70**	**0.00**	**05080001-**	**Eastern Corn Belt Plain**

WB Name: ***HEBBLE CREEK*** County: **GREENE CO**

Aquatic Life Use(s): **MWH-C** Segment Length: **10.70**

Assessment Cycle: **1994** Field Data Collected From: **198910 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.00	**0.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Limited sampling revealed that Hebble Creek biological communities are attaining the MWH use. Wright Patterson Air Force Base surface runoff is a significant nonpoint source within this segment.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 4	**14-100**	**18.38**	**10.07**	**05080001-001**	**Eastern Corn Belt Plain**

WB Name: ***MAD RIVER (DONNELS CREEK TO MUD RUN)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **8.31**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.31	**0.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly elevated levels of mercury were reported in fish tissue samples (3 of 3 samples).

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 7	**14-141**	**1.70**	**0.00**	**05080001-**	**Eastern Corn Belt Plain**

WB Name: ***MEDWAY CREEK*** County: **CLARK CO**

Aquatic Life Use(s): **CWH** Segment Length: **1.70**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**0.00**	**1.70**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a cold water tributary to the Mad River which is impacted by rural development and agricultural land use encroachment.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H
Siltation - M

Sources of Impairment:

Channelization - Agriculture - H
Habitat Modifications o/than Hydromod. - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 9	14-106	11.60	0.00	05080001-017	Eastern Corn Belt Plain

WB Name: ***DONNELS CREEK*** County: **CLARK CO**

Aquatic Life Use(s): **EWH** Segment Length: **11.60**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.00	Full, But Threatened: 0.00	Partial: 0.00	None 5.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Villages of North Hampton and Donnelsville were suspected of contributing large amounts of septic discharges to the stream. The stream however, was a high quality stream.

Causes of Impairment:
Organic enrichment/DO - H
Flow alteration - S

Sources of Impairment:
Combined Sewer Overflow - H
Flow regulation/modification - Ag - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 11	14-100	26.15	18.38	05080001-002	Eastern Corn Belt Plain

WB Name: ***MAD RIVER (BUCK CREEK TO DONNELS CREEK)*** County: **CLARK CO**

Aquatic Life Use(s): **WWH** Segment Length: **7.77**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 7.77	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly to moderately elevated levels of mercury were reported in fish tissue samples (5 of 5 samples).

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 15	14-110	6.00	0.00	05080001-003	Eastern Corn Belt Plain

WB Name: ***BUCK CREEK (BEAVER CREEK TO MAD RIVER)*** County: **CLARK CO**

Aquatic Life Use(s): **WWH** Segment Length: **6.00**

Assessment Cycle: **1996** Field Data Collected From: **199506 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.80	Full, But Threatened: 0.00	Partial: 1.20	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly elevated levels of mercury were reported in fish tissue samples (4 of 4 samples).

Causes of Impairment:
Other habitat alterations - H
Nutrients - M

Sources of Impairment:
Channelization - Development - H
Upstream Impoundment - M
Combined Sewer Overflow - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH58 16	14-111	14.50	0.00	05080001-004	Eastern Corn Belt Plain

WB Name: ***BEAVER CREEK*** | County: **CLARK CO**

Aquatic Life Use(s): **CWH,WWH** | Segment Length: **14.50**

Assessment Cycle: **1996** | Field Data Collected From: **199410 to 199406** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 14.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH58 18	14-110	12.81	6.00	05080001-005	Eastern Corn Belt Plain

WB Name: ***BUCK CREEK (EAST FORK BUCK CREEK TO BEAVER CREEK)*** | County: **CLARK CO**

Aquatic Life Use(s): **CWH,WWH** | Segment Length: **6.81**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.81	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly elevated levels of mercury were reported in fish tissue samples (2 of 2 samples).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH58 21	14-100	32.58	26.15	05080001-006	Eastern Corn Belt Plain

WB Name: ***MAD RIVER (CHAPMAN CREEK TO BUCK CREEK)*** | County: **CLARK CO**

Aquatic Life Use(s): **CWH** | Segment Length: **6.43**

Assessment Cycle: **1996** | Field Data Collected From: **199406 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.53	None 3.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly to moderately elevated levels of mercury were reported in fish tissue samples (4 of 4 samples).

Causes of Impairment:

Other habitat alterations - H
Noxious aquatic plants - M
Nutrients - M

Sources of Impairment:

Channelization - Agriculture - H
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH58 24	14-117	8.10	0.00	05080001-	Eastern Corn Belt Plain

WB Name: ***MOORE RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **8.10**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 8.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
- *Siltation - H*
- *Other habitat alterations - M*

Sources of Impairment:
- *Source Unknown - H*
- *Channelization - Agriculture - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH58 25	14-120	10.00	0.00	05080001-016	Eastern Corn Belt Plain

WB Name: ***CHAPMAN CREEK*** County:

Aquatic Life Use(s): **CWH** Segment Length: **10.00**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.55	Full, But Threatened: 0.00	Partial: 2.45	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly elevated levels of mercury were reported in fish tissue samples (3 of 4 samples).

Causes of Impairment:
- *Other habitat alterations - H*
- *Nutrients - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Nonirrigated crop production - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH58 29	14-100	37.18	32.58	05080001-018	Eastern Corn Belt Plain

WB Name: ***MAD RIVER (NETTLE CREEK TO CHAPMAN CREEK)*** County:

Aquatic Life Use(s): **CWH** Segment Length: **4.60**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 4.60	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly elevated levels of mercury were reported in fish tissue samples (2 of 3 samples).

Causes of Impairment:
- *Other habitat alterations - H*
- *Noxious aquatic plants - M*
- *Nutrients - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Nonirrigated crop production - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH58 30	14-119	4.80	0.00	05080001-099	Eastern Corn Belt Plain	CHAMPAIGN CO

WB Name: ***STORMS CREEK***

Aquatic Life Use(s): **CWH** Segment Length: **4.80**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a cold water tributary to the Mad River that is impacted by agricultural land use encroachment.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH58 31	14-118	4.00	0.00	05080001-	Eastern Corn Belt Plain	CHAMPAIGN CO

WB Name: ***CEDAR RUN***

Aquatic Life Use(s): **CWH** Segment Length: **4.00**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a cold water tributary to the Mad River with high quality cold water taxa. It is an outlet for Cedar Bog.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH58 31.1	14-158	0.73	0.00	05080001-	Eastern Corn Belt Plain	CHAMPAIGN CO

WB Name: ***EAST BRANCH CEDAR RUN***

Aquatic Life Use(s): **CWH** Segment Length: **0.73**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.70	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a cold water tributary to the Mad River with high quality cold water taxa. There are natural outlets to Cedar Bog.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 31.2	**14-167**	**6.80**	**0.00**	**05080001-**	**Eastern Corn Belt Plain**

WB Name: ***WEST BRANCH CEDAR RUN*** County: **CHAMPAIGN CO**

Aquatic Life Use(s): **CWH** Segment Length: **6.80**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a cold water tributary to the Mad River. It was historically channelized, but is essentially recovered. It is a good quality cold water stream, which is the outlet for Cedar Bog.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 36	**14-130**	**11.50**	**0.00**	**05080001-015**	**Eastern Corn Belt Plain**

WB Name: ***NETTLE CREEK*** County: **CHAMPAIGN CO**

Aquatic Life Use(s): **CWH,WWH** Segment Length: **11.50**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.50	Full, But Threatened: 0.00	Partial: 4.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The Saint Paris WWTP needs to be evaluated for treatment upgrade. The Saint Paris WWTP was suspected of contributing to organic enrichment in the upper reach of the stream. The stream has improved since 1986.

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Minor Municipal Point Source - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 37	**14-131**	**8.60**	**0.00**	**05080001-014**	**Eastern Corn Belt Plain**

WB Name: ***ANDERSON CREEK*** County: **CHAMPAIGN CO**

Aquatic Life Use(s): **CWH** Segment Length: **8.60**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a cold water tributary to the Mad River which is impacted by agricultural land use encroachment.

Causes of Impairment:
Other habitat alterations - H
Flow alteration - M

Sources of Impairment:
Habitat Modifications o/than Hydromod. - H
Channelization - Agriculture - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH58 43	14-100	43.82	37.18	05080001-009	Eastern Corn Belt Plain

WB Name: ***MAD RIVER (KINGS CREEK TO NETTLE CREEK)*** County: **CHAMPAIGN CO**

Aquatic Life Use(s): **CWH** Segment Length: **6.64**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 6.64	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly elevated levels of mercury were reported in fish tissue samples.

Causes of Impairment:
- *Other habitat alterations - H*
- *Noxious aquatic plants - M*
- *Nutrients - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Nonirrigated crop production - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH58 47	14-136	9.00	0.00	05080001-010	Eastern Corn Belt Plain

WB Name: ***KINGS CREEK*** County: **CHAMPAIGN CO**

Aquatic Life Use(s): **CWH** Segment Length: **9.00**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.00	Partial: 5.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This a cold water tributary to the Mad River which is influenced by agricultural land use encroachment.

Causes of Impairment:
- *Other habitat alterations - H*
- *Flow alteration - M*

Sources of Impairment:
- *Habitat Modifications o/than Hydromod. - H*
- *Channelization - Agriculture - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH58 47.1	14-170	6.82	0.00	05080001-	Eastern Corn Belt Plain

WB Name: ***TRIB. TO KINGS CREEK (RM 0.46)*** County: **CHAMPAIGN CO**

Aquatic Life Use(s): **CWH** Segment Length: **6.82**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199407** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There was thick growth of aquatic vegetation in this cold water stream. Cold water taxa dominated the biological community.

Causes of Impairment:
- *Flow alteration - H*
- *Other habitat alterations - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Habitat Modifications o/than Hydromod. - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH58 48	14-100	51.75	43.82	05080001-011	Eastern Corn Belt Plain	CHAMPAIGN CO

WB Name: ***MAD RIVER (MACOCHEE CREEK TO KINGS CREEK)***

Aquatic Life Use(s): **CWH** Segment Length: **7.93**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	1.35	6.58

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH58 49	14-137	7.70	0.00	05080001-076	Eastern Corn Belt Plain	CHAMPAIGN CO

WB Name: ***GLADY CREEK***

Aquatic Life Use(s): **CWH** Segment Length: **7.70**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a cold water Mad River tributary, influenced by rural development and agricultural land use encroachment.

Causes of Impairment:
Other habitat alterations - H
Siltation - M

Sources of Impairment:
Habitat Modifications o/than Hydromod. - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH58 51	14-100	65.92	51.75	05080001-011	Eastern Corn Belt Plain	LOGAN CO

WB Name: ***MAD RIVER (HEADWATERS TO MACOCHEE CREEK)***

Aquatic Life Use(s): **CWH** Segment Length: **14.17**

Assessment Cycle: **1996** Field Data Collected From: **199408 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	10.20	0.00	0.40	3.57

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH58 52	14-139	8.20	0.00	05080001-	Eastern Corn Belt Plain

WB Name: ***MACOCHEE CREEK*** | County: **LOGAN CO**

Aquatic Life Use(s): **CWH** | Segment Length: **8.20**

Assessment Cycle: **2000** | Field Data Collected From: **199708 to 199708** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				1.00			

Comments: One site was sampled in this stream segment by Ohio Northern University in 1997. Based on the IBI results (IBI=36) the stream appears to be marginally attaining WWH criteria for the ECBP ecoregion. Results may be on the low end due to the collection being made with a seine and a backpack shocker.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH59 1	14-500	6.70	0.00	05080002-015	Eastern Corn Belt Plain

WB Name: ***TWIN CREEK (LITTLE TWIN CREEK TO GREAT MIAMI R.)*** | County: **MONTGOMERY CO**

Aquatic Life Use(s): **EWH** | Segment Length: **6.70**

Assessment Cycle: **1998** | Field Data Collected From: **199507 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	6.70						

Comments: This segment is in full attainment of Exceptional Warmwater Habitat criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH59 2	14-501	7.80	0.00	05080002-016	Eastern Corn Belt Plain

WB Name: ***LITTLE TWIN CREEK*** | County: **MONTGOMERY CO**

Aquatic Life Use(s): **EWH** | Segment Length: **7.80**

Assessment Cycle: **1998** | Field Data Collected From: **199507 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.80	Full, But Threatened: 0.00	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	6.80		1.00				

Comments: This segment is recommended for upgrade to Exceptional Warmwater Habitat. There were slight impacts downstream from the confluence of Reigle Ditch, which the Farmersville WWTP discharges to.

Causes of Impairment:	Sources of Impairment:
Nutrients - H	*Municipal Point Sources - H*
	Nonirrigated crop production - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH59 2.1	14-516	4.66	0.00	05080002-	Eastern Corn Belt Plain

WB Name: ***REIGLE DITCH***

County: **MONTGOMERY CO**

Aquatic Life Use(s): **WWH** Segment Length: **4.66**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.66	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.66				

Comments: The Farmersville WWTP discharges to this segment. Some influences from elevated nutrients were observed, but the segment fully attains Warmwater Habitat criteria.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH59 3	14-500	24.30	6.70	05080002-	Eastern Corn Belt Plain

WB Name: ***TWIN CREEK (BANTAS FORK TO LITTLE TWIN CREEK)***

County:

Aquatic Life Use(s): **EWH** Segment Length: **17.60**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	17.60	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	17.60						

Comments: This segment is in full attainment of Exceptional Warmwater Habitat criteria. The Gratis WWTP has little to no impact on the stream.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH59 4	14-502	15.40	0.00	05080002-018	Eastern Corn Belt Plain

WB Name: ***TOMS RUN***

County:

Aquatic Life Use(s): **WWH** Segment Length: **15.40**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	6.00	0.00	9.40	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	6.00				9.40		

Comments: The lower portion of this segment has natural habitat and a high quality biological community. The upper reaches are impacted by agricultural runoff.

Causes of Impairment:	Sources of Impairment:
Nutrients - H	*Nonirrigated crop production - H*

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH59 4.1	**14-517**	**4.80**	**0.00**	**05080002-**	**Eastern Corn Belt Plain**

WB Name: ***TRIB. TO TOMS RUN (RM 5.34)*** County: **MONTGOMERY CO**

Aquatic Life Use(s): **WWH** Segment Length: **4.80**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199306** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 4.80	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Siltation - T
Other habitat alterations - T

Sources of Impairment:

Landfills - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH59 6	**14-504**	**5.60**	**0.00**	**05080002-039**	**Eastern Corn Belt Plain**

WB Name: ***AUKERMAN CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **5.60**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.60	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.60				

Comments: Some influences from agricultural land use were evident, but the segment still attains Warmwater Habitat criteria.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH59 7	**14-505**	**16.80**	**0.00**	**05080002-**	**Eastern Corn Belt Plain**

WB Name: ***BANTAS FORK*** County: **PREBLE CO**

Aquatic Life Use(s): **EWH** Segment Length: **16.80**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 16.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	16.80						

Comments: This stream is in full attainment of Exceptional Warmwater Habitat criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH59 8	14-506	5.10	0.00	05080002-	Eastern Corn Belt Plain	PREBLE CO

WB Name: ***GOOSE RUN***

Aquatic Life Use(s): **WWH,EWH** Segment Length: **5.10**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.35	4.75	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.00		2.10				

Comments: It is recommended that the lower 3.0 miles be upgraded to the use designation Exceptional Warmwater Habitat. The upper reaches have potential threats from 2 small WWTPs at truck stops on Interstate 70.

Causes of Impairment:	Sources of Impairment:
Organic enrichment/DO - T	*Minor Industrial Point Source - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH59 10	14-500	29.70	24.30	05080002-020	Eastern Corn Belt Plain	PREBLE CO

WB Name: ***TWIN CREEK (PRICE CREEK TO BANTAS FORK)***

Aquatic Life Use(s): **EWH** Segment Length: **5.40**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.30	0.00	1.10	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	4.30		1.10				

Comments: Runoff from agricultural sources was the main cause of partial attainment of Exceptional Warmwater Habitat in this segment.

Causes of Impairment:	Sources of Impairment:
Nutrients - H	*Nonirrigated crop production - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH59 11	14-508	8.50	0.00	05080002-059	Eastern Corn Belt Plain	PREBLE CO

WB Name: ***LESLEY RUN***

Aquatic Life Use(s): **WWH** Segment Length: **8.50**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	6.00	0.00	2.50	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.00		2.50		

Comments: The upper reaches of this segment are impacted by agricultural runoff.

Causes of Impairment:	Sources of Impairment:
Nutrients - H	*Nonirrigated crop production - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH59 13	14-510	14.60	0.00	05080002-023	Eastern Corn Belt Plain	PREBLE CO

WB Name: ***PRICE CREEK***

Aquatic Life Use(s): **WWH,EWH** Segment Length: **14.60**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.50	Full, But Threatened: 0.00	Partial: 2.10	None 6.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.00		3.00		8.60		

Comments: The upper reach is impaired by nutrients from the Eldorado WWTP and agricultural runoff. The lower 6.5 miles is recommended for upgrading to the use designation Exceptional Warmwater Habitat.

Causes of Impairment:
Nutrients - H

Sources of Impairment:
Municipal Point Sources - H
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH59 15	14-500	47.03	29.74	05080002-022	Eastern Corn Belt Plain	

WB Name: ***TWIN CREEK (HEADWATERS TO PRICE CREEK)***

Aquatic Life Use(s): **EWH** Segment Length: **17.29**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 14.79	Full, But Threatened: 0.00	Partial: 2.50	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	14.79		2.50				

Comments: Attainment of Exceptional Warmwater Habitat was narrowly missed in this wetland reach of the headwaters of Twin Creek. Habitat influences were the cause of partial attainment.

Causes of Impairment:
Natural Limits (Wetlands) - H

Sources of Impairment:
Natural - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH59 16	14-512	7.30	0.00	05080002-	Eastern Corn Belt Plain	

WB Name: ***SWAMP CREEK***

Aquatic Life Use(s): **WWH,EWH** Segment Length: **7.30**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.30	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	4.00		1.30		2.00		

Comments: The unsewered town of Verona impacts approximately 2 miles of stream due to poorly treated home wastes. The lower 4.0 miles is recommended for upgrading to the use designation Exceptional Warmwater Habitat.

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Onsite wastewater systems (septic tanks) - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH59 17	14-513	10.60	0.00	05080002-021	Eastern Corn Belt Plain	

WB Name: ***MILLERS FORK***

Aquatic Life Use(s): **EWH** Segment Length: **10.60**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.00	0.00	0.60	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	8.00		0.60		2.00		

Comments: Golf course development which had no erosion controls impacted approximately 2 miles of this segment due to siltation.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Land development/Suburbanization - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH60 1	14-001	38.38	26.60	05080002-005	Eastern Corn Belt Plain	

WB Name: ***GREAT MIAMI RIVER (FOURMILE CREEK TO RM 26.6)***

Aquatic Life Use(s): **WWH** Segment Length: **11.78**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.50	0.00	6.28	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.91		8.87		

Comments: From river mile 38.4 to 26.3 the macroinvertebrate community was very good to exceptional, and fair to exceptional for the fish community. Partial attainment of Warmwater Habitat criteria occurred from river miles 38.4 to 36.9 due to flow alterations caused by the Hamilton Municipal power dam. Partial attainment also occurred downstream from the Hamilton WWTP and combined sewer overflows in Hamilton, and downstream from the Fairfield WWTP. Both WWTPs had numerous NPDES violations. Slightly to moderately elevated levels of PCBs were detected in fish tissue fillet samples.

Causes of Impairment:
Nutrients - H
Organic enrichment/DO - M
Flow alteration - M

Sources of Impairment:
Combined Sewer Overflow - H
Municipal Point Sources - H
Combined Sewer Overflow - M
Dam construction - Development - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH60 2	14-010	22.90	0.00	05080002-034	Eastern Corn Belt Plain	BUTLER CO

WB Name: ***INDIAN CREEK***

Aquatic Life Use(s): **EWH** Segment Length: **22.90**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	22.90	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			22.90				

Comments: Three regional reference sites were sampled on this stream in 1996. The site upstream from Millville showed a modest decline in the fish community compared to sampling done in 1985. The two sites downstream from the Queen Acres WWTP have remained stable since 1983.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH60 6	**14-014**	**3.60**	**0.00**	**05080002-**	**Eastern Corn Belt Plain**

WB Name: ***CRAWFORD RUN*** County: **BUTLER CO**

Aquatic Life Use(s): **WWH** Segment Length: **3.60**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199706** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.60	

Comments: One site (river mile 2.0) was sampled as a result of an application for a 401 permit. The stream was found to be in non-attainment of WWH criteria with an IBI score of 26. Habitat was very good (QHEI=70), but other factors appear to limit the fish community. The lower 1.5 miles of the stream flow through storm sewers in the city of Hamilton, thus eliminating migration of fish from the Great Miami River. Urban runoff in the vicinity of the site may have a negative impact on the stream, as well as agricultural activities in the headwaters.

Causes of Impairment:
- *Flow alteration - H*
- *Other habitat alterations - H*

Sources of Impairment:
- *Other Urban Runoff - H*
- *Removal of riparian vegetation - Dev - M*
- *Nonirrigated crop production - M*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH60 9	**14-001**	**47.60**	**38.40**	**05080002-006**	**Eastern Corn Belt Plain**

WB Name: ***GREAT MIAMI RIVER (DICKS CREEK TO FOURMILE CREEK)*** County: **BUTLER CO**

Aquatic Life Use(s): **WWH** Segment Length: **9.20**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.85	Full, But Threatened: 0.00	Partial: 7.35	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.85		7.35		

Comments: Partial attainment of Warmwater Habitat criteria occurred due to flow alterations caused by the Hamilton Municipal Power dam (river mile 39.0). Fish community scores were below expectation downstream from the Butler County Lesourdesville WWTP (river mile 45.5). This corresponds to increased loadings of ammonia, total suspended solids, and CBOD5 between 1993 and 1995. The Lesourdesville WWTP was the second highest contributer of ammonia of all the dischargers evaluated in the 1995 survey. Inconsistency in effluent loadings should decline in the near future due to recent upgrades at the plant. Slightly elevated PCBs were detected in fish tissue fillet samples at river mile 38.5.

Causes of Impairment:
- *Nutrients - H*
- *Flow alteration - H*
- *Organic enrichment/DO - M*
- *Pesticides - M*

Sources of Impairment:
- *Municipal Point Sources - H*
- *Dam construction - Development - H*
- *Major Municipal Point Source - M*

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH60 12.1	**14-173**	**1.47**	**0.00**	**05080002-**	

WB Name: ***TRIB. TO GREGORY CREEK (RM 4.85)***

Aquatic Life Use(s): **NONE** Segment Length: **1.47**

County: **BUTLER CO**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199706** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.47

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							1.47

Comments: This site was sampled as a result of a 401 permit application. One site at river mile 0.9 had a poor fish community (IBI=16).

Causes of Impairment:

Siltation - H
Flow alteration - M

Sources of Impairment:

Land development/Suburbanization - H
Other Urban Runoff - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH60 14	**14-018**	**10.50**	**0.00**	**05080002-**	**Eastern Corn Belt Plain**

WB Name: ***DICKS CREEK***

Aquatic Life Use(s): **WWH,MWH-C,W** Segment Length: **10.50**

County: **BUTLER CO**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	5.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							5.20

Comments: Aquatic life use status in this segment has declined since 1987. Fish and macroinvertebrate communities were both in the poor range. The macroinvertebrates were severely impacted by several outfalls from AK Steel. AK Steel has had numerous violations of its NPDES permit, as well as spills which have caused fish kills. Nonpoint source runoff is also present, originating from a concrete company and numerous landfills.

Causes of Impairment:

pH - H
Metals - H
Unionized Ammonia - H
Selenium - H
Priority organics - H
Suspended solids - H
Unknown toxicity - M
Copper - M
Zinc - M
Lead - M

Sources of Impairment:

Industrial Point Sources - H
Spills - H
Combined Sewer Overflow - H
Landfills - M
Industrial Point Sources - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH60 17	14-019	5.60	0.00	05080002-	Eastern Corn Belt Plain

WB Name: ***NORTH BRANCH DICKS CREEK*** County: **BUTLER CO**

Aquatic Life Use(s): **WWH,MWH-C** Segment Length: **5.60**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							1.00

Comments: The 1995 survey results indicated non-attainment of the Modified Warmwater Habitat (MWH) criteria due to very poor macroinvertebrate scores. The macroinvertebrates were severely impacted by the AK Steel 004 outfall, indicating toxicity in the effluent. The community was also impacted upstream from the 004 discharge, most likely a response to organic enrichment from urban runoff.

Causes of Impairment:

Metals - H
Organic enrichment/DO - H
pH - H
Copper - H
Zinc - H
Selenium - H
Nickel - H
Organic enrichment/DO - H
Suspended solids - M

Sources of Impairment:

Industrial Point Sources - H
Other Urban Runoff - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH60 18	14-001	57.42	47.60	05080002-007	Eastern Corn Belt Plain

WB Name: ***GREAT MIAMI RIVER (TWIN CREEK TO DICKS CREEK)*** County: **BUTLER CO**

Aquatic Life Use(s): **WWH** Segment Length: **9.82**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.62	0.00	3.80	0.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.62		4.20		

Comments: Non-attainment of WWH criteria occurred due to flow alterations caused by the Middletown dam. Biological scores declined downstream from AK Steel (river mile 51.4), possibly due to elevated levels of PAHs, heavy metals in the sediments, and organic enrichment from combined sewer overflows in Middletown. Slightly elevated levels of PCBs were detected in several fish tissue fillet samples.

Causes of Impairment:

Organic enrichment/DO - H
Priority organics - H
Copper - M
Iron - M
Chromium - M
Arsenic - M
Cadmium - M
Lead - M
Mercury - M
Zinc - M
Organic enrichment/DO - M
Other habitat alterations - M

Sources of Impairment:

Dam construction - Development - H
Major Industrial Point Source - H
Combined Sewer Overflow - H
Removal of riparian vegetation - Dev - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH60 19	14-022	12.60	0.00	05080002-024	Eastern Corn Belt Plain

WB Name: ***ELK CREEK*** | County: **BUTLER CO**

Aquatic Life Use(s): **EWH** | Segment Length: **12.60**

Assessment Cycle: **1998** | Field Data Collected From: **199507 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.60	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			12.60				

Comments: The macroinvertebrate community was attaining Exceptional Warmwater Habitat criteria. The fish community IBI scores were non-significant departure from EWH criteria. Water quality appears to be good to very good. However, large amounts of filamentous algae in the stream channel indicated nutrient enrichment. Supplemental fish data collected by a Miami University student indicate good biological quality in the headwaters.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH60 19.1	14-176	4.64	0.00	05080002-	

WB Name: ***DRY CREEK*** | County: **BUTLER CO**

Aquatic Life Use(s): **NONE** | Segment Length: **4.64**

Assessment Cycle: **1998** | Field Data Collected From: **199507 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.60		

Comments: The macroinvertebrate community scored in the fair range, primarily due to low flow conditions.

Causes of Impairment:
Flow alteration - H

Sources of Impairment:
Natural - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH60 21	14-001	67.60	57.42	05080002-008	Eastern Corn Belt Plain

WB Name: ***GREAT MIAMI RIVER (BEAR CREEK TO TWIN CREEK)*** | County:

Aquatic Life Use(s): **WWH** | Segment Length: **10.18**

Assessment Cycle: **1998** | Field Data Collected From: **199507 to 199510** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.58	Full, But Threatened: 0.00	Partial: 1.60	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.58		1.60		

Comments: Partial attainment of Warmwater Habitat criteria occurred due to flow alterations from the Dayton Power & Light dam. Slightly elevated levels of PCBs were found in fish tissue fillet samples.

Causes of Impairment:
Flow alteration - H
Other habitat alterations - H
Nutrients - M

Sources of Impairment:
Dam construction - Development - H
Major Municipal Point Source - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH60 21.1	14-171	0.50	0.00	05080002-	Eastern Corn Belt Plain	MONTGOMERY CO

WB Name: ***MOUND OVERFLOW CREEK***

Aquatic Life Use(s): **MWH-C** Segment Length: **0.50**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.50	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.50		

Comments: The fish and macroinvertebrate community performed in the fair range. The 1995 report recommended that the Mound overflow creek should be designated as Modified Warmwater Habitat (MWH) due to the modified nature of the channel. These modifications include channelization, impoundment (Great Miami River backwaters), and flow comprised partly of effluent from the Mound 002 outfall.

Causes of Impairment:
- *Flow alteration - H*
- *Other habitat alterations - H*

Sources of Impairment:
- *Industrial Permitted - H*
- *Channelization - Development - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH60 27	14-029	14.40	0.00	05080002-014	Eastern Corn Belt Plain	MONTGOMERY CO

WB Name: ***BEAR CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **14.40**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.60	0.00	4.80	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.60		4.80		

Comments: The fish community was exceptional upstream and downstream from the New Lebanon WWTP (river miles 12.1 and 9.9). However, the WWTP was significantly impacting the macroinvertebrate community. Based on these results, the upper portion of Bear Creek was only achieving partial attainment of Warmwater Habitat criteria . The macroinvertebrate community improved at the two most downstream sites into the range of good to exceptional. The fish declined from exceptional to fair and poor. This correlates to the decline in habitat scores (QHEI of only 46 near the mouth).

Causes of Impairment:
- *Other habitat alterations - H*
- *Organic enrichment/DO - H*

Sources of Impairment:
- *Removal of riparian vegetation - Ag - H*
- *Channelization - Agriculture - H*
- *Municipal Point Sources - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH60 33	14-001	80.20	67.60	05080002-009	Eastern Corn Belt Plain	MONTGOMERY CO

WB Name: ***GREAT MIAMI RIVER (WOLF CREEK TO BEAR CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **12.60**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.90	0.00	1.20	1.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.90		2.70		

Comments: This segment of river receives discharges from WWTPs and industrial point sources. Partial attainment of Warmwater Habitat criteria resulted from flow alterations caused by the West Carrollton dam, from river mile 75.0 to 72.5. Nutrient problems within the dam pool resulted in low dissolved oxygen levels, and a high number of DELT anomalies in the fish. The river appeared to be impacted by discharges from a paper company on Owl Creek (very low D.O. and toxicity were found in Owl Creek). There may be cumulative impacts from Appleton Paper and Montgomery County WWTP. Slightly to moderately elevated levels of PCBs were found in the fish tissue fillet samples.

Causes of Impairment:
- *Nutrients - H*
- *Organic enrichment/DO - H*
- *Flow alteration - H*
- *Other habitat alterations - H*
- *Priority organics - H*

Sources of Impairment:
- *Dam construction - Development - H*
- *Channelization - Development - H*
- *Major Industrial Point Source - H*
- *Major Municipal Point Source - H*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH60 33	14-001	80.20	67.60	05080002-009	Eastern Corn Belt Plain	MONTGOMERY CO

WB Name: ***GREAT MIAMI RIVER (WOLF CREEK TO BEAR CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **12.60**

Pesticides - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH60 33.1	14-089	3.33	0.00	05080002-	Eastern Corn Belt Plain	MONTGOMERY CO

WB Name: ***OWL CREEK***

Aquatic Life Use(s): **LRW** Segment Length: **3.33**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.50	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							0.50

Comments: Miami Paper Co. and West Carrollton Parchment are both located in this segment. The fish community was marginally good. The macroinvertebrates however, were severely impaired, indicating instream toxicity.

Causes of Impairment:
Priority organics - H
Other inorganics - H
Chromium - S

Sources of Impairment:
Major Industrial Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH60 35	14-036	9.00	0.00	05080002-058	Eastern Corn Belt Plain	MONTGOMERY CO

WB Name: ***HOLES CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **9.00**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.70	Full, But Threatened: 0.00	Partial: 0.00	None 1.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.70		1.90		

Comments: This stream scored in the fair range throughout most of its length. Impacts are caused by several sources including storm sewer runoff, disruption of substrates from sewer line construction, excessive sedimentation, and embeddedness of the substrates.

Causes of Impairment:
Other habitat alterations - H
Siltation - H
Nutrients - H

Sources of Impairment:
Highway/road/bridge/sewer line - H
Other Urban Runoff - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH60 36	14-037	19.30	0.00	05080002-	Eastern Corn Belt Plain	MONTGOMERY CO

WB Name: ***WOLF CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **19.30**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.80	0.00	2.60	0.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.50	1.30	1.40	0.80	1.60		

Comments: Problems with gasoline spills and PCB leachate from industries in the lower portion of the segment plagued the stream in 1998. Poor water quality and contaminated sediments led to non-attainment of biological communities in the lower 2.8 miles. Fish and macroinvertebrate communities upstream from several CSOs in the area were significantly better, achieving WWH criteria.

Causes of Impairment:
- *Priority organics - H*
- *Oil and grease - H*
- *Flow alteration - H*

Sources of Impairment:
- *Other Urban Runoff - H*
- *Contaminated sediments - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH60 37	14-038	3.20	0.00	05080002-053	Eastern Corn Belt Plain	MONTGOMERY CO

WB Name: ***DRY RUN***

Aquatic Life Use(s): **WWH** Segment Length: **3.20**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.20	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.20						

Comments: The quality of this stream appears to be very good. The fish community scored in the exceptional range near the mouth.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH60 41	14-001	82.60	80.20	05080002-	Eastern Corn Belt Plain	MONTGOMERY CO

WB Name: ***GREAT MIAMI RIVER (STILLWATER RIVER TO WOLF CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **2.40**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.90	0.00	0.50	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.90		0.50		

Comments: Partial attainment of Warmwater Habitat criteria occurred from river mile 82.6 to 82.1 due to flow alterations caused by the Steele Dam in Dayton. This section of river flows through urbanized areas of Dayton. Fish results indicate good to fair quality of water.

Causes of Impairment:
- *Flow alteration - H*
- *Other habitat alterations - H*

Sources of Impairment:
- *Dam construction - Development - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH61 11	14-400	3.74	0.00	05080002-025	Eastern Corn Belt Plain

WB Name: ***FOURMILE CREEK (SEVENMILE CREEK TO GREAT MIAMI R.)***

Aquatic Life Use(s): **EWH,WWH** Segment Length: **3.74** County: **BUTLER CO**

Assessment Cycle: **1998** Field Data Collected From: **199605 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 3.74	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.39		0.35				

Comments: This segment meets Warmwater Habitat criteria. The lower 0.3 miles is impounded from a dam on the Great Miami River.

Causes of Impairment:
- *Pesticides - T*
- *Organic enrichment/DO - T*
- *Flow alteration - T*

Sources of Impairment:
- *Nonirrigated crop production - T*
- *Dam construction - Development - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH61 12	14-410	15.20	0.00	05080002-	Eastern Corn Belt Plain

WB Name: ***SEVENMILE CREEK (PAINT CREEK TO FOURMILE CREEK)***

Aquatic Life Use(s): **EWH** Segment Length: **15.20** County:

Assessment Cycle: **1994** Field Data Collected From: **199106 to 199110** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 10.00	Full, But Threatened: 0.00	Partial: 5.20	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: It is recommended that the aquatic life use be changed from WWH to EWH.

Causes of Impairment:
- *Organic enrichment/DO - H*

Sources of Impairment:
- *Municipal Point Sources - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH61 24	14-400	23.90	3.74	05080002-031	Eastern Corn Belt Plain

WB Name: ***FOURMILE CREEK (L. FOURMILE CR. TO SEVENMILE CR.)***

Aquatic Life Use(s): **WWH,EWH** Segment Length: **20.16** County:

Assessment Cycle: **1998** Field Data Collected From: **199605 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 10.00	Full, But Threatened: 8.18	Partial: 1.98	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	10.26		7.92		0.48	1.50	

Comments: Some impact was caused by hypolimnetic water releases from Acton Lake. Low dissolved oxygen and high ammonia affected macroinvertebrate populations upstream from the Oxford WWTP. Partial attainment of Warmwater Habitat occurred downstream from the Oxford WWTP. High total suspended solids, CBOD5 and copper were recorded. Sewer overflows and bypasses also affect the stream.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Suspended solids - H*
- *Unionized Ammonia - M*
- *Total toxics - M*
- *Copper - S*
- *Organic enrichment/DO - T*
- *Pesticides - T*
- *Flow alteration - T*
- *Total toxics - T*

Sources of Impairment:
- *Upstream impoundment - H*
- *Nonirrigated crop production - H*
- *Major Municipal Point Source - H*
- *Other Urban Runoff - M*
- *Nonirrigated crop production - T*
- *Upstream impoundment - T*
- *Channelization - Agriculture - T*
- *Other Urban Runoff - T*
- *Major Municipal Point Source - T*
- *Dam construction - Development - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH61 28	14-423	2.68	0.00	05080002-	Eastern Corn Belt Plain

WB Name: ***ELAMS RUN*** County: **BUTLER CO**

Aquatic Life Use(s): **WWH** Segment Length: **2.68**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.55	0.00	0.00	0.61

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.55		0.20	0.20	0.21

Comments: Water quality in this segment is affected by Square D. Ammonia and metals toxicity affect the biological communites. The fish and macroinvertebrate communities recover near the mouth to the ranges of good to very good. Elams Run has no apparent effect on the biological communities in Fourmile Creek.

Causes of Impairment:
Unionized Ammonia - H
Metals - M

Sources of Impairment:
Major Industrial Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH61 31	14-400	38.20	23.90	05080002-	Eastern Corn Belt Plain

WB Name: ***FOURMILE CREEK (HEADWATERS TO LITTLE FOURMILE CR.)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **14.30**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	14.30	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			14.30				

Comments: Poor agricultural practices and riparian encroachment are two main problems in this segment. Violations of Aldrin and Dieldrin were recorded. Erosion and streambank slumping are occurring in places.

Causes of Impairment:
Other habitat alterations - T
Siltation - T
Pesticides - T

Sources of Impairment:
Nonirrigated crop production - T
Streambank destabilization - Ag - T
Removal of riparian vegetation - Ag - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH62 1	14-001	15.00	0.00	05080002-	Interior Plateau

WB Name: ***GREAT MIAMI RIVER (TAYLOR CREEK TO OHIO RIVER)*** County: **HAMILTON CO**

Aquatic Life Use(s): **WWH** Segment Length: **15.00**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.20	0.00	3.70	2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.20		5.80		

Comments: The Taylor Creek Regional WWTP began discharging in 1996. Future monitoring is recommended to determine if the biological community is impacted. Partial attainment and non-attainment of Warmwater Habitat criteria occurred near the mouth due to impounded conditions caused by the backwaters of the Ohio River (Markland Dam pool).

Causes of Impairment:
Flow alteration - H
Nutrients - M
Priority organics - M

Sources of Impairment:
Channelization - Development - H
Dam construction - Development - H
Major Municipal Point Source - M
Other Urban Runoff - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH62 3	14-300	8.26	0.00	05080003-	Interior Plateau	HAMILTON CO

WB Name: ***WHITEWATER RIVER (OHIO/INDIANA TO GREAT MIAMI R.)***

Aquatic Life Use(s): **WWH** Segment Length: **8.26**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.26	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	8.26						

Comments: The 1995 study report recommended a change from Warmwater Habitat (WWH) to Exceptional Warmwater Habitat (EWH) for this segment. The fish and macroinvertebrates communities were both indicative of exceptional quality. The Harrison WWTP had no impact on the biological community.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH62 5	14-302	19.60	0.00	05080003-002	Interior Plateau	

WB Name: ***DRY FORK WHITEWATER RIVER***

Aquatic Life Use(s): **EWH,WWH** Segment Length: **19.60**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.60	Full, But Threatened: 11.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	4.30		15.30				

Comments: This stream was originally designated Exceptional Warmwater Habitat (EWH) in 1978 without any field data to verify it. The 1996 assessment showed that the stream is indicative of Warmwater Habitat (WWH). Interstitial flow conditions during the summer months is a limiting factor for the fish community. Past and recent channelization affect the habitat in some sections of the stream. Some agricultural nonpoint source influences could threaten water quality in the lower 11 miles.

Causes of Impairment:

Other habitat alterations - T
Siltation - T
Nutrients - T

Sources of Impairment:

Nonirrigated crop production - T
Channelization - Agriculture - T
Removal of riparian vegetation - Ag - T
Streambank destabilization - Ag - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH62 13	14-001	26.60	14.98	05080002-	Interior Plateau	HAMILTON CO

WB Name: ***GREAT MIAMI RIVER (RM 26.6 TO TAYLOR CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **11.62**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 11.62	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					11.62		

Comments: The aquatic communities from river mile 26.6 to 15.0 were in the very good range (macroinvertebrates) and fair range (fish). The fish scores were significantly below regional expectations, falling into partial attainment of Warmwater Habitat criteria. No pesticides or PCBs were detected in the sediments. Mercury, Dieldrin, and gama-Hexachlorocyclohexane were detected in the water column.

Causes of Impairment:

Organic enrichment/DO - H
Nutrients - H
Other habitat alterations - S

Sources of Impairment:

Major Municipal Point Source - H
Minor Municipal Point Source - H
Dredging - Development - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH62 14	14-005	8.80	0.00	05080002-064	Interior Plateau

WB Name: ***PADDY'S RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **8.80**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.10	Full, But Threatened: 0.00	Partial: 0.00	None 2.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.10		0.20	2.60	

Comments: Macroinvertebrate scores were in the fair range upstream from the D.O.E. Fernald 006 outfall (river mile 4.9). This was most likely caused by low flow conditions and/or nonpoint sources of pollution. The fish community scored poor to very poor at two sites downstream from the outfall. This was a result of intermittent or totally dry stream conditions. Based on the 1995 study, the D.O.E. Fernald outfall did not impact the biological community. Natural, low flow conditions were the contributing cause of degradation in both the fish and macroinvertebrate communities.

Causes of Impairment:
Flow alteration - H
Organic enrichment/DO - M

Sources of Impairment:
Natural - H
Industrial Permitted - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH62 15	14-006	3.00	0.00	05080002-	Interior Plateau

WB Name: ***BLUEROCK CREEK*** County: HAMILTON CO

Aquatic Life Use(s): **WWH** Segment Length: **3.00**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199607** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						0.50	

Comments: The city of Cincinnati is undergoing much development.

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Land development/Suburbanization - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH62 19.1	23-019	3.26	0.00	05090203-	

WB Name: ***INDIAN CREEK*** County: HAMILTON CO

Aquatic Life Use(s): **NONE** Segment Length: **3.26**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199607** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.26

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.26		

Comments: This is a high gradient, small drainage area stream which is intermittent at times of the year. Residential development is occurring within the basin.

Causes of Impairment:
Flow alteration - H

Sources of Impairment:
Natural - H
Land development/Suburbanization - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH62 19.2	23-020	1.18	0.00	05090203-		HAMILTON CO

WB Name: ***TRIB. TO INDIAN CREEK (RM 1.02)***

Aquatic Life Use(s): **NONE** Segment Length: **1.18**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199606** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.18

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.30		0.88

Comments: This is a high gradient, small drainage area stream which is intermittent at times of the year. Residential development is occurring within the basin.

Causes of Impairment:
Flow alteration - H

Sources of Impairment:
Natural - H
Land development/Suburbanization - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH62 23	23-001	11.57	0.00	05090203-014	Interior Plateau	HAMILTON CO

WB Name: ***MILL CREEK (WEST FORK MILL CREEK TO OHIO RIVER)***

Aquatic Life Use(s): **WWH,MWH-C** Segment Length: **11.57**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.00	None 10.57

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						5.80	5.77

Comments: Aquatic life use redesignations were originally proposed in the 1994 Mill Creek TSD and the 305(b) report. Within this segment WWH would extend downstream from the West Branch of Mill Creek to Center Rd. (RM 7.8). The section from Center Rd. to the mouth would be designated MWH.

Causes of Impairment:
Organic enrichment/DO - H
Other habitat alterations - H
Unknown toxicity - H
Pesticides - M
Metals - M
Priority organics - M
Oil and grease - M
Unionized Ammonia - M

Sources of Impairment:
Combined Sewer Overflow - H
Industrial Point Sources - H
H
M
Landfills - M
Contaminated sediments - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH62 23.2	23-017	3.90	0.00	05090203-	Interior Plateau	HAMILTON CO

WB Name: ***BLOODY RUN***

Aquatic Life Use(s): **LRW** Segment Length: **3.90**

Assessment Cycle: **1994** Field Data Collected From: **199207 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Low dissolved oxygen levels were observed in Bloody Run, with several values below 0.6 mg/l. There were numerous Fecal coliform and E. coli exceedances of secondary contact criteria. Exceedances of several pesticide WWH criteria were also documented. This stream receives frequent color discharges (red, green) from CSOs in the area which receive industrial discharges. It is recommended that the aquatic life use be changed to LRW.

Causes of Impairment:
Organic enrichment/DO - H
Priority organics - M
Pesticides - M

Sources of Impairment:
Combined Sewer Overflow - H
Industrial Point Sources - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH62 24.1	23-013	2.05	0.00	05090203-	Interior Plateau	HAMILTON CO

WB Name: ***Trib to West Fk***

Aquatic Life Use(s): **NONE** Segment Length: **2.05**

Assessment Cycle: **1994** Field Data Collected From: **199211 to 199211** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The headwaters of Daly Creek have been sewered and are now part of the CSO system just upstream from the site evaluated. The discharge from the CSO is the only source of flow in the headwater region. The day the evaluation was conducted the creek was black with raw sludge. This portion of Daly Creek is scheduled for permanent modification: (1) the Cross County Highway project is going right through the area, (2) Hamilton County MSD will be installing a CSO treatment facility in the present stream channel, essentially removing the stream. Neither of these projects have begun as of 1/94.

Causes of Impairment:

Organic enrichment/DO - H
Taste and odor - H
Suspended solids - H
Flow alteration - H
Nutrients - H
Unknown toxicity - H
Siltation - M

Sources of Impairment:

Combined Sewer Overflow - H
Flow reg./mod. - Development - H
Highway/road/bridge/sewer line - M
Removal of riparian vegetation - Dev - M
Highway maintenance and runoff - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH62 26	23-004	15.20	0.00	05090203-	Interior Plateau	HAMILTON CO

WB Name: ***WEST FORK MILL CREEK (UPSTREAM)***

Aquatic Life Use(s): **WWH** Segment Length: **15.20**

Assessment Cycle: **1994** Field Data Collected From: **199201 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Extremely elevated levels of lead were reported in sediment samples. High levels of ammonia-N (max. = 21.4 mg/l) were also documented in this segment. Numerous CSOs and storm sewers discharge into the West Fork of Mill Creek. Also, several landfills are located along the West Fork. Due to elevated levels of Fecal coliforms, public contact of surface water is not recommended.

Causes of Impairment:

Unionized Ammonia - H
Organic enrichment/DO - H

Sources of Impairment:

Combined Sewer Overflow - H
Hazardous waste - S
Contaminated sediments - S

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH62 27	23-001	15.63	11.57	05090203-014	Interior Plateau	HAMILTON CO

WB Name: ***MILL CREEK (SHARON CREEK TO WEST FORK MILL CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **4.06**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	4.06

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						4.06	

Comments: Biological communities are poor quality in this stretch of stream. Impacts are from extensive urban and industrial land usage, CSOs, SSOs, spills, historic habitat modification, and residual impacts from upstream point sources. Legacy impacts from old industrial and municipal landfills, superfund sites, PCB contamination from General Electric, and historical land use also play a significant role.

Causes of Impairment:

Organic enrichment/DO - H
Other habitat alterations - M
Nutrients - M
Priority organics - M

Sources of Impairment:

Combined Sewer Overflow - H
Major Municipal Point Source - M
M
Landfills - M
Contaminated sediments - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH62 28	23-005	5.50	0.00	05090203-	Interior Plateau	HAMILTON CO

WB Name: ***SHARON CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.50**

Assessment Cycle: **1994** Field Data Collected From: **199207 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fish sampling near the mouth recorded a poor biological community. Macroinvertebrates were rated marginally good. Surface water monitoring revealed numerous exceedances of the fecal coliform and E. coli recreational criteria. No known sources were documented for the impairment, although storm sewers and probably CSOs occur in the drainage.

Causes of Impairment:

Cause Unknown - H

Sources of Impairment:

Other Urban Runoff - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH62 30	23-001	28.35	15.64	05090203-014	Interior Plateau	

WB Name: ***MILL CREEK (HEADWATERS TO SHARON CREEK)***

Aquatic Life Use(s): **WWH,LWH** Segment Length: **12.72**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.42	0.00	1.00	7.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.42		1.00	7.30	

Comments: Habitat modification has a pervasive influence throughout the lower 9 miles, but is most recent and severe in the Rialto Rd. area upstream from I-75 (approx. RM 24 to 19). Improvement to partial attainment upstream from the East Fork may be related to repairs to a sewer overflow at river mile 19. Biological communities continue in non-attainment downstream from the East Branch. Nutrient increases associated with the Upper Mill Creek WWTP are noticeable for several miles downstream in Mill Creek.

Causes of Impairment:

Other habitat alterations - H
Nutrients - H
Other habitat alterations - M
Organic enrichment/DO - S

Sources of Impairment:

Major Municipal Point Source - H
H
M
Land development/Suburbanization - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH62 30.3	23-023	4.31	0.00	05090203-	

WB Name: ***BEAVER CREEK*** | County: **HAMILTON CO**

Aquatic Life Use(s): **NONE** | Segment Length: **4.31**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.50	

Comments: This is a small urban tributary in northern Cincinnati. Extremely low macroinvertebrate densities suggest flashy stream flow.

Causes of Impairment: *Flow alteration - H*

Sources of Impairment:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH62 31	23-006	7.10	0.00	05090203-	Interior Plateau

WB Name: ***EAST FORK MILL CREEK*** | County: **HAMILTON CO**

Aquatic Life Use(s): **WWH** | Segment Length: **7.10**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.00	Full, But Threatened: 0.00	Partial: 0.50	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.00		1.00		

Comments: Significant improvement in biological performance downstream from the Upper Mill Creek WWTP is attributable to an upgrade and expansion of the WWTP in 1993. However, continued partial and non-attainment is strongly linked to elevated nutrients. A risk analysis for phosphorus, nitrate-nitrite and ammonia revealed that all three increase into the high risk range downstream from the WWTP, and extended at least 3 miles downstream in Mill Creek. Further evidence of a nutrient based stress were compositional shifts in the macroinvertebrates and the biostimulatory effect manifested in a recent algal bioassay. Increased flow at existing nutrient levels may cause this problem to extend further downstream in Mill Creek.

Causes of Impairment: *Nutrients - H*

Sources of Impairment: *Major Municipal Point Source - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH64 12	04-510	13.40	0.00	04100004-	Huron Erie Lake Plain

WB Name: ***TWELVEMILE CREEK*** | County: **MERCER CO**

Aquatic Life Use(s): **WWH** | Segment Length: **13.40**

Assessment Cycle: **1998** | Field Data Collected From: **199609 to 199610** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.20	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.20		

Comments: One regional reference site was sampled near the mouth. The fish community has remained stable since 1983, but is below ecoregional expectations. The macroinvertebrates were rated good based on qualitative sampling results.

Causes of Impairment: *Other habitat alterations - H*; *Siltation - M*

Sources of Impairment: *Channelization - Agriculture - H*; *Nonirrigated crop production - M*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH64 29	**04-517**	**13.50**	**0.00**	**04100004-**	**Eastern Corn Belt Plain**

WB Name: ***CLEAR CREEK*** County: **AUGLAIZE CO**

Aquatic Life Use(s): **WWH** Segment Length: **13.50**

Assessment Cycle: **1996** Field Data Collected From: **199409 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 13.50	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Clear Creek is extensively channelized and will be recommended for the Modified Warmwater Habitat (MWH) use. The 1994 sampling results demonstrate attainment of the biocriteria associated with the MWH use.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH64 30	**04-518**	**12.30**	**0.00**	**04100004-**	**Eastern Corn Belt Plain**

WB Name: ***CENTER BRANCH*** County: **AUGLAIZE CO**

Aquatic Life Use(s): **WWH** Segment Length: **12.30**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199607** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 12.30	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					12.30		

Comments: This segment is channelized. The IBI results in 1996 were significantly lower than sampling done in 1987. The cause for the decline is unknown. The macroinvertebrates were rated good based on qualitative sampling results.

Causes of Impairment:
Other habitat alterations - H
Cause Unknown - S

Sources of Impairment:
Channelization - Agriculture - H
Source Unknown - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH65 1	**04-001**	**81.48**	**65.76**	**04100005-001**	**Huron Erie Lake Plain**

WB Name: ***MAUMEE RIVER (GORDON CREEK TO TIFFIN RIVER)*** County: **DEFIANCE CO**

Aquatic Life Use(s): **WWH** Segment Length: **15.72**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 4.24	None 11.48

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					4.24	11.48	

Comments: The Maumee River enters Ohio in partial attainment of the WWH aquatic life use but declines downstream. This is especially apparent where it is impounded. The water remains turbid throughout the year. The low gradient and lack of flow augmentation due to tile installation combine to create an almost stagnant quality during the summer. Dissolved oxygen availability is limited and habitat conditions are influenced by a near absence of riffles

Causes of Impairment:
Turbidity - H
Flow alteration - H
Organic enrichment/DO - M
Siltation - M

Sources of Impairment:
Nonirrigated crop production - H
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH65 4	04-050	4.40	0.00	04100005-009	Huron Erie Lake Plain	DEFIANCE CO

WB Name: ***SULPHUR CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **4.40**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.40	Full, But Threatened: 0.00	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				3.40	1.00		

Comments: Sulphur Creek drains an agricultural area before it flows through the village of Sherwood. The Sherwood WWTP discharges toxic concentrations of ammonia and creates organically enriched conditions downstream. Consequently, the multiple influences of polluted runoff and WWTP effluent were sufficient to prevent attainment of the WWH aquatic life use.

Causes of Impairment:
Unionized Ammonia - H
Siltation - H

Sources of Impairment:
Minor Municipal Point Source - H
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH65 6	04-052	8.36	0.00	04100005-002	Huron Erie Lake Plain	DEFIANCE CO

WB Name: ***GORDON CREEK***

Aquatic Life Use(s): **MWH-C** Segment Length: **8.36**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.36	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				8.36			

Comments: Gordon Creek is extensively channelized. Little riparian vegetation exists along a well maintained ditch. Despite the habitat limitations, the MWH aquatic life use was achieved.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH65 7	04-053	12.10	0.00	04100005-	Huron Erie Lake Plain	DEFIANCE CO

WB Name: ***SOUTH FORK GORDON CREEK***

Aquatic Life Use(s): **MWH-C** Segment Length: **12.10**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				12.10			

Comments: The most upstream reach of the South Fork of Gordon Creek retains some natural character. Otherwise, the stream is extensively channelized. Little riparian vegetation exists along a rather well maintained ditch. Despite the habitat limitations, the MWH aquatic life use was achieved.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH65 9	04-055	8.50	0.00	04100005-	Huron Erie Lake Plain	DEFIANCE CO

WB Name: ***MIDDLE FORK GORDON CREEK***

Aquatic Life Use(s): **MWH-C** Segment Length: **8.50**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.50	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				8.50			

Comments: The Middle Fork of Gordon Creek is extensively channelized. Little riparian vegetation exists along a rather well maintained ditch. The Hicksville WWTP discharges toxic concentrations of ammonia and creates organically enriched conditions downstream. Despite this influence, the MWH aquatic life use was achieved.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH65 10	04-001	94.47	81.49	04100005-003	Huron Erie Lake Plain	PAULDING CO

WB Name: ***MAUMEE RIVER (ZUBER CUTOFF DITCH TO GORDON CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **12.98**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	12.98

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					12.98		

Comments: The Maumee River enters Ohio in partial attainment of the WWH aquatic life use but declines downstream. This is especially apparent where it is impounded. The water remains turbid throughout the year. The low gradient and lack of flow augmentation due to tile installation combine to create an almost stagnant quality during the summer. Dissolved oxygen availability is limited and habitat conditions are influenced by a near absence of riffles.

Causes of Impairment:

Turbidity - H
Flow alteration - H
Siltation - M

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH65 11	04-056	10.50	0.00	04100005-	Huron Erie Lake Plain	PAULDING CO

WB Name: ***MARIE DELARME CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **10.50**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	1.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				1.00			

Comments: Marie Delarme Creek is extensively channelized. The lower part of the stream flows through a natural area although the stream itself is modified. Despite the physical limitations, the stream almost attained the WWH aquatic life use. This designation remains warranted.

Causes of Impairment:

Siltation - H
Other habitat alterations - H
Flow alteration - H

Sources of Impairment:

Nonirrigated crop production - H
Streambank destabilization - Ag - H
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH65 17	04-001	107.87	94.48	04100005-005	Huron Erie Lake Plain	PAULDING CO

WB Name: ***MAUMEE RIVER (OH./IND. BORDER TO ZUBER CUTOFF D.)***

Aquatic Life Use(s): **WWH** Segment Length: **13.39**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	4.87	8.52

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					13.39		

Comments: The Maumee River enters Ohio in partial attainment of the WWH aquatic life use but declines downstream. This is especially apparent where it is impounded. The water remains turbid throughout the year. The low gradient and lack of flow augmentation due to tile installation combine to create an almost stagnant quality during the summer. Dissolved oxygen availability is limited and habitat conditions are influenced by a near absence of riffles.

Causes of Impairment:

Turbidity - H
Flow alteration - H
Siltation - M

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH65 17.1	04-077	1.72	0.00	04100005-		PAULDING CO

WB Name: ***ZUBER CUTOFF DITCH***

Aquatic Life Use(s): **NONE** Segment Length: **1.72**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.72	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				1.72			

Comments: Zuber Cutoff Ditch was created to drain a portion of the North Creek subbasin to the Maumee River. It has better gradient than many other streams in the region and consequently has better sediment transport. In 1997 it demonstrated attainment of the WWH aquatic life use.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH65 18	04-061	4.20	0.00	04100005-	Huron Erie Lake Plain	PAULDING CO

WB Name: ***NORTH CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **4.20**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	4.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					4.20		

Comments: North Creek is extensively channelized. Little riparian vegetation exists along a rather well maintained ditch. The Antwerp WWTP discharge provides some organic enrichment as well as a continuous source of water to the stream. Otherwise, the stream fails to meet the WWH aquatic life use due to habitat limitations.

Causes of Impairment:

Siltation - H
Flow alteration - H
Other habitat alterations - H
Organic enrichment/DO - S

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Municipal Point Sources - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH65 21	04-400	52.93	41.68	04100003-002	Eastern Corn Belt Plain

WB Name: ***ST. JOSEPH RIVER (FISH CREEK TO OH/IND. BORDER)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **11.25**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 5.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						5.00	

Comments: One site near the Ohio/Indiana border was sampled as part of the U.S. Geological Survey NAWQA program. This segment had the unusual occurrence of macroinvertebrates scoring in the exceptional range while the fish scored in the poor to very poor range. Poor habitat with heavy silt is the probable cause of impairment to the fish community.

Causes of Impairment:
Siltation - H
Other habitat alterations - M

Sources of Impairment:
Nonirrigated crop production - H
Channelization - Agriculture - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH65 26	04-405	5.57	0.00	04100003-008	Eastern Corn Belt Plain

WB Name: ***FISH CREEK (OH./IND. BORDER TO ST. JOSEPH RIVER)*** County: WILLIAMS CO

Aquatic Life Use(s): **EWH,WWH** Segment Length: **5.57**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 5.57	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.57		1.00		

Comments: A 1993 diesel fuel spill reached Fish Creek in the lower section of this segment. Improvements in the biological communities have occurred since the spill, although siltation is still an over-riding concern in the entire segment. A decline in the fish community performance between 1997 and previous years appears to be associated with a heavy silt layer covering the stream bottom. The pervasive level of heavy silt cover encountered during 1997 was the most extensive observed during the last three sampling years (1994, 1995, 1997). Fine-grained sediment constitutes a major environmental factor in the degradation of stream fisheries. An extensive, mature riparian corridor exists along Fish Creek.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH65 26.1	04-405	30.37	5.57	04100003-008	Eastern Corn Belt Plain

WB Name: ***FISH CREEK (INDIANA PORTION)*** County:

Aquatic Life Use(s): **EWH** Segment Length: **24.80**

Assessment Cycle: **2000** Field Data Collected From: **199708 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 17.03	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			17.03				

Comments: A 1993 diesel fuel spill reached Fish Creek in the lower section of this segment. Improvements in the biological communities have occurred since the spill, although siltation is still an over-riding concern in the entire segment. A decline in the fish community performance between 1997 and previous years appears to be associated with a heavy silt layer covering the stream bottom. The pervasive level of heavy silt cover encountered during 1997 was the most extensive observed during the last three sampling years (1994, 1995, 1997). Fine-grained sediment constitutes a major environmental factor in the degradation of stream fisheries. An extensive, mature riparian corridor exists along Fish Creek.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Nonirrigated crop production - H
Feedlots (Confined Animal Feeding Oper.) - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH65 28	04-400	60.98	52.93	04100003-003	Eastern Corn Belt Plain

WB Name: ***ST. JOSEPH RIVER (BEAR CREEK TO FISH CREEK)***

County: **WILLIAMS CO**

Aquatic Life Use(s): **WWH** Segment Length: **8.05**

Assessment Cycle: **1994** Field Data Collected From: **199207 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	8.05	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fair performance within the fish community appeared related to the lack of quality habitat. Macroinvertebrate community performance was consistent with WWH use throughout the study area. Water Quality problems associated with point source discharges was not evident.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Nonirrigated crop production - H
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH65 31	04-409	11.20	0.00	04100003-	Eastern Corn Belt Plain

WB Name: ***BEAR CREEK***

County: **WILLIAMS CO**

Aquatic Life Use(s): **MWH-C,WWH** Segment Length: **11.20**

Assessment Cycle: **1994** Field Data Collected From: **199109 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	10.00	0.00	1.20	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream is highly channel modified in upper and middle segments. The stream is maintained under Ohio Drainage Law. The upper 10 miles have been subject to recent channelization, while the lower 1.2 miles have not been modified in approximately 40 years, and have shown recovery. Bedload of sediments (sand and clayey silts) appeared to be impacting the lower reach. It is recommended that the upper 10 miles be redesignated MWH, while the lower 1.2 miles should retain WWH.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH65 33	04-400	80.37	60.98	04100003-003	Eastern Corn Belt Plain

WB Name: ***ST. JOSEPH RIVER (NETTLE CREEK TO BEAR CREEK)***

County: **WILLIAMS CO**

Aquatic Life Use(s): **WWH** Segment Length: **19.39**

Assessment Cycle: **1994** Field Data Collected From: **199207 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	19.39	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fair performance within the fish community appears related to the lack of quality habitat. Macroinvertebrate community performance consistantly attained WWH biocriteria, indicating water quality problems associated with point source discharges was not significant. The Montpelier WWTP appeared to have no significant influence upon biological performance. Slightly to moderately elevated levels of mercury were reported in fish tissue samples.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Nonirrigated crop production - H
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH65 37	04-400	84.57	80.37	04100003-003	Eastern Corn Belt Plain

WB Name: ***ST. JOSEPH RIVER (HEADWATERS TO NETTLE CREEK)*** County: **WILLIAMS CO**

Aquatic Life Use(s): **WWH** Segment Length: **4.20**

Assessment Cycle: **1994** Field Data Collected From: **199207 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 4.20	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fair performance within the fish community appears related to the lack of quality habitat. Macroinvertebrate community performance consistantly attained WWH biocriteria, indicating water quality problems associated with point source discharges was not significant. Slightly to moderately elevated levels of mercury were reported in fish tissue samples.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Nonirrigated crop production - H
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH65 38	04-418	3.05	0.00	04100003-	Eastern Corn Belt Plain

WB Name: ***JOHN LATTANER DITCH*** County: **WILLIAMS CO**

Aquatic Life Use(s): **LRW** Segment Length: **4.00**

Assessment Cycle: **2000** Field Data Collected From: **199709 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						4.00	

Comments: Macroinvertebrate communities in this small ditch were rated poor. An industrial facility (metals) in the headwaters contributes high concentrations of metals to the stream. Combined with channelization and agricultural activities, the stream was significantly degraded.

Causes of Impairment:
Other habitat alterations - H
Metals - M

Sources of Impairment:
Channelization - Agriculture - H
Industrial Point Sources - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH65 39	04-414	11.00	0.00	04100003-005	Eastern Corn Belt Plain

WB Name: ***WEST BRANCH ST. JOSEPH RIVER*** County: **WILLIAMS CO**

Aquatic Life Use(s): **WWH** Segment Length: **11.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 11.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The station at RM 10.5 likely represents the most undisturbed stream reach in northwest Ohio. The upper portion was characteristic of cool water, low nutrient conditions, and was tanin-stained during low flow. In contrast, the station at RM 3.2 appears more typical of warm water streams. The change likely represented the export of plankton from Seneca Lake, most apparent in the benthic community. Despite observed changes, the West Branch St. Joseph River fully supported the WWH use designation. Slightly to moderately elevated levels of mercury were reported in fish tissue samples.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH65 42	04-417	2.90	0.00	04100003-020	Eastern Corn Belt Plain	WILLIAMS CO

WB Name: ***SILVER CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **2.90**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199209** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.90	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH66 3	04-160	58.10	45.64	04100008-003	Huron Erie Lake Plain	HANCOCK CO

WB Name: ***BLANCHARD (EAGLE CREEK TO OTTAWA CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **12.46**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 12.46	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.36		8.10		

Comments: Instream conditions are influenced by several factors. The Findlay WWTP contributes high nutrient levels, with low dissolved oxygen resulting in the lower end of the segment. Urban runoff is a factor, as well as flow alteration from a dam in Findlay upstream from the WWTP. Biological conditions have improved compared to previous sampling done in this segment.

Causes of Impairment:

Nutrients - H
Flow alteration - H
Other habitat alterations - H
Organic enrichment/DO - M

Sources of Impairment:

Major Municipal Point Source - H
Dam construction - Development - H
Channelization - Development - H
Other Urban Runoff - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH66 5	04-185	22.28	0.00	04100008-012	Huron Erie Lake Plain	HANCOCK CO

WB Name: ***EAGLE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **22.28**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: One regional reference site was sampled at River Mile 11.8. Good habitat and riparian buffer were present, but for unknown reasons the IBI results declined significantly compared to sampling done in 1984. The macroinvertebrates were rated good based on qualitative sampling results. Future monitoring is recommended to follow the downward trend in the fish community.

Causes of Impairment:

Cause Unknown - H

Sources of Impairment:

Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH66 10	04-160	63.63	58.10	04100008-004	Eastern Corn Belt Plain	HANCOCK CO

WB Name: ***BLANCHARD (THE OUTLET TO EAGLE CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **5.53**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.53	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.00		4.53				

Comments: This segment is upstream from the major infuences of Findlay. Habitat is natural, and water quality is good. The City of Findlay withdraws water to an upground reservoir in this segment. Some improvement in the fish community was observed compared to sampling done in 1991. Historical records show the macroinvertebrates to be very good.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH66 13	04-160	76.27	63.63	04100008-004	Eastern Corn Belt Plain	HANCOCK CO

WB Name: ***BLANCHARD RIVER (POTATO RUN TO THE OUTLET)***

Aquatic Life Use(s): **WWH** Segment Length: **12.64**

Assessment Cycle: **1998** Field Data Collected From: **199609 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: One regional reference site was sampled within this segment.

Causes of Impairment: *Nutrients - H*

Sources of Impairment: *Nonirrigated crop production - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH66 18	04-160	90.94	76.27	04100008-004	Eastern Corn Belt Plain	

WB Name: ***BLANCHARD (THE OUTLET TO POTATO RUN)***

Aquatic Life Use(s): **WWH** Segment Length: **14.67**

Assessment Cycle: **1998** Field Data Collected From: **199609 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.00				

Comments: One regional reference site was sampled in this segment. Modest improvement was noted in the fish results compared to sampling done in 1983. The macroinvertebrates were good based on qualitative sampling results.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH66 21	04-160	104.20	90.94	04100008-004	Eastern Corn Belt Plain

WB Name: ***BLANCHARD RIVER (HEADWATERS TO THE OUTLET)*** County: **HARDIN CO**

Aquatic Life Use(s): **WWH** Segment Length: **13.26**

Assessment Cycle: **1998** Field Data Collected From: **199609 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 7.26

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					7.26		

Comments: One reference site was sampled in this segment. Conditions have remained stable since 1983.

Causes of Impairment: *Nutrients - H*

Sources of Impairment: *Nonirrigated crop production - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH67 1	04-160	17.30	0.00	04100008-001	Huron Erie Lake Plain

WB Name: ***BLANCHARD RIVER (CRANBERRY CREEK TO AUGLAIZE R.)*** County: **PUTNAM CO**

Aquatic Life Use(s): **WWH** Segment Length: **17.30**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 5.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					5.00		

Comments: Industrial and municipal point sources in Ottawa caused low dissolved oxygen levels downstream from town. Inputs from Glandorf (via Cranberry Creek) may increase nutrient enrichment. Agricultural nonpoint source inputs, combined with monotonous habitat and sluggish flow, result in impaired biological communities near the mouth. Future monitoring is recommended in Tawa Run (City of Ottawa) to determine CSO impacts.

Causes of Impairment:
Flow alteration - H
Organic enrichment/DO - H

Sources of Impairment:
Channelization - Agriculture - H
Nonirrigated crop production - M
Minor Municipal Point Source - M
Natural - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH67 6	04-160	30.08	17.30	04100008-001	Huron Erie Lake Plain

WB Name: ***BLANCHARD RIVER (RILEY CREEK TO CRANBERRY CREEK)*** County: **PUTNAM CO**

Aquatic Life Use(s): **WWH** Segment Length: **12.78**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.08	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.08				

Comments: Biological sampling was done upstream from the Ottawa WWTP. Only dissolved oxygen levels were recorded downstream from the plant. The biological community is meeting Warmwater Habitat criteria upstream from the WWTP. Locally higher gradient may be a factor for attainment in this segment (compared to more sluggish flows in other segments). This segment has shown improvement compared to sampling done in previous years.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH67 20	04-160	45.64	30.08	04100008-003	Huron Erie Lake Plain	

WB Name: ***BLANCHARD RIVER (OTTAWA CREEK TO RILEY CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **15.56**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 15.56	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			15.56				

Comments: Nutrient levels are high due to the Findlay WWTP, agricultural inputs, and tributaries carrying wastes from unsewered communities. Habitat is a limiting factor (heavy silt and past channelization).

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH67 21	04-177	12.20	0.00	04100008-011	Huron Erie Lake Plain	HANCOCK CO

WB Name: ***DUTCH RUN***

Aquatic Life Use(s): **WWH** Segment Length: **12.20**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199707** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.30	

Comments: One site near the mouth was sampled as the result of a 401 permit application. The stream was found to be in non-attainment of WWH criteria with an IBI score of 22 (poor).

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Flow alteration - M

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH68 1	04-200	6.57	0.00	04100007-018	Huron Erie Lake Plain	PUTNAM CO

WB Name: ***OTTAWA RIVER (SUGAR CREEK TO AUGLAIZE RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **6.57**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.57	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.57				

Comments: Biological index scores show recovery from point sources in Lima. Macroinvertebrate communities scored very good to exceptional, but the fish communities lagged behind with only good to marginally good IBI scores. Future monitoring is recommended to track improvements in stream quality.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH68 2	04-201	14.40	0.00	04100007-040	Huron Erie Lake Plain	PUTNAM CO

WB Name: ***PLUM CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **14.40**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	14.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.00		3.00	6.40	

Comments: Impacts from combined sewer overflows (CSOs) were noted in Columbus Grove upstream from the WWTP. High fecal coliforms and nutrient loads were recorded.

Causes of Impairment:
Organic enrichment/DO - H
Unionized Ammonia - H
Pathogens - H

Sources of Impairment:
Combined Sewer Overflow - H
Municipal Point Sources - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH68 4	04-203	28.90	0.00	04100007-020	Huron Erie Lake Plain	

WB Name: ***SUGAR CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **28.90**

Assessment Cycle: **1998** Field Data Collected From: **199609 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.20	0.00	3.30	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.20		3.30		

Comments: Two regional reference sites were sampled in this segment. The site at river mile 0.7 showed improvement compared to sampling done in 1984. However, the site at river mile 3.5 declined from attainment of Warmwater Habitat in 1985 to scores in the fair range in 1996. The cause of this decline is unknown. Habitat was poor at both sites.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH68 8	04-200	22.93	6.57	04100007-018	Huron Erie Lake Plain	

WB Name: ***OTTAWA RIVER (HONEY RUN TO SUGAR CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **16.36**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.43	0.00	5.90	9.03

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.43		5.90	9.03	

Comments: Municipal and industrial point sources in Lima, along with smaller WWTPs downstream from Lima, were causes of non-attainment and partial attainment of Warmwater Habitat criteria. This segment has shown improvements in the biological communities compared to sampling done in previous years.

Causes of Impairment:
Unknown toxicity - H
Pathogens - M
Pesticides - S

Sources of Impairment:
Municipal Point Sources - H
Industrial Point Sources - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH68 9	04-207	9.30	0.00	04100007-	Huron Erie Lake Plain

WB Name: ***LEATHERWOOD DITCH*** County:

Aquatic Life Use(s): **WWH** Segment Length: **9.30**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.10	

Comments: This segment is a channelized ditch. One regional reference site near the mouth was sampled in 1996. IBI scores declined since 1983, falling from the fair range into the poor range. The cause of this decline is unknown. Habitat quality has remained unchanged for 13 years.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH68 10	04-208	9.45	0.00	04100007-039	Huron Erie Lake Plain

WB Name: ***PIKE RUN*** County: ALLEN CO

Aquatic Life Use(s): **MWH-C** Segment Length: **9.45**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 9.45

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						9.45	

Comments: Combined sewer overflows from Lima in the headwaters impact Pike Run upstream from the American Bath WWTP discharge. Sediment concentrations of cadmium were very high. Impact in the lower mile was due to septic drainage from the village of Gomer.

Causes of Impairment:
Pathogens - H
Cadmium - M

Sources of Impairment:
Combined Sewer Overflow - H
Municipal Point Sources - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH68 11	04-200	35.30	22.93	04100007-018	Eastern Corn Belt Plain

WB Name: ***OTTAWA RIVER (LITTLE OTTAWA RIVER TO HONEY RUN)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **12.37**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 5.87	None 6.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					5.87	6.50	

Comments: This segment is still showing impacts from municipal and industrial point sources in Lima. Bypasses from the Shawnee #2 WWTP are also contributing to pollutant loadings. Sediments in the upper portion of the segment had elevated levels of PAHs. The macroinvertebrate communities showed some improvement compared to previous surveys, but fish communities are still in the poor range.

Causes of Impairment:
Organic enrichment/DO - H
Unknown toxicity - H
Pesticides - S

Sources of Impairment:
Municipal Point Sources - H
Industrial Point Sources - H
Spills - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH68 13	04-210	5.90	0.00	04100007-028	Huron Erie Lake Plain	ALLEN CO

WB Name: ***DUG RUN***

Aquatic Life Use(s): **WWH** Segment Length: **5.90**

Assessment Cycle: **1998** Field Data Collected From: **199510 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.80	Full, But Threatened: 0.00	Partial: 5.10	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.80	5.10	

Comments: Stormwater runoff from the city of Lima, and development in the extreme headwaters have impacts on the quality of this stream. The stream channel and banks are intact throughout most of the segment, but biological quality is not in attainment of Warmwater Habitat criteria.

Causes of Impairment:
Organic enrichment/DO - H
Flow alteration - M

Sources of Impairment:
Other Urban Runoff - H
Land development/Suburbanization - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH68 16	04-213	6.40	0.00	04100007-	Eastern Corn Belt Plain	ALLEN CO

WB Name: ***LITTLE OTTAWA RIVER***

Aquatic Life Use(s): **WWH** Segment Length: **6.40**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 6.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						6.40	

Comments: Water quality in this segment appeared to be good. However, fish communities were in the poor range and the macroinvertebrates were in the fair range.

Causes of Impairment:
Nutrients - H
Pesticides - S

Sources of Impairment:
Other Urban Runoff - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH68 17	04-200	50.70	35.30	04100007-019	Eastern Corn Belt Plain	ALLEN CO

WB Name: ***OTTAWA RIVER (HOG CREEK TO LITTLE OTTAWA RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **15.40**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.30	Full, But Threatened: 0.00	Partial: 4.20	None 4.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.30		4.20	4.90	

Comments: Biological communities are in the good to exceptional range in the upper portion of this segment. Partial and non-attainment upstream from the Lima CSOs may be attributed to poor septic systems. Five major CSOs in Lima contribute low D.O, high ammonia and total suspended solids during rainfall events. A series of lowhead dams is also responsible for partial and non-attainment within the City of Lima. Impacts in the lower portion of the segment are from the Lima WWTP, BP Refinery, and PCS Nitrogen (BP Chemical). Improvements at the Lima WWTP, and the possibility of BP Refinery reducing loads by 50%, create great potential for improvements in the stream. Areas near PCS continue to be the most degraded. Oil spills and pipeline leaks are a problem.

Causes of Impairment:
Unionized Ammonia - H
Organic enrichment/DO - H
Other habitat alterations - M
Oil and grease - M
Unknown toxicity - M
Metals - S
Pesticides - S
Priority organics - S

Sources of Impairment:
Industrial Point Sources - H
Municipal Point Sources - H
Combined Sewer Overflow - H
Other Urban Runoff - H
Dam construction - Development - M
Spills - M
Onsite wastewater systems (septic tanks) - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH68 17.3	04-261	1.82	0.00			

WB Name: ***ZURMEHLY CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **1.82**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.82

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.82		

Comments: Sediment samples contained elevated levels of PAHs, cadmium and chromium. Macroinvertebrate communities were fair, while the fish communities were fair to poor.

Causes of Impairment:
Priority organics - H
Pathogens - M

Sources of Impairment:
Other Urban Runoff - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH68 20	04-216	14.20	0.00	04100007-	Eastern Corn Belt Plain	

WB Name: ***HOG CREEK***

Aquatic Life Use(s): **MWH-C,WWH** Segment Length: **14.20**

Assessment Cycle: **1994** Field Data Collected From: **199106 to 199109** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	5.60	8.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: It is recommended that the aquatic life use be changed to MWH from the headwaters to river mile 5.6.

Causes of Impairment:
Other habitat alterations - H
Organic enrichment/DO - H

Sources of Impairment:
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH68 26	04-221	4.80	0.00	04100007-033	Eastern Corn Belt Plain	ALLEN CO

WB Name: ***LITTLE HOG CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **4.80**

Assessment Cycle: **1994** Field Data Collected From: **199106 to 199109** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.50	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH69 5	04-134	26.00	0.00	04100007-	Huron Erie Lake Plain

WB Name: ***HOAGLIN CREEK*** County:

Aquatic Life Use(s): **MWH-C** Segment Length: **26.00**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	1.60	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.60		

Comments: This segment is channelized. Fish communities were not in attainment of ecoregional expectations. The macroinvertebrates were rated good based on qualitative sampling results.

Causes of Impairment:
Other habitat alterations - H
Flow alteration - M

Sources of Impairment:
Channelization - Agriculture - H
Natural - M
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH69 8	04-137	17.20	0.00	04100007-010	Huron Erie Lake Plain

WB Name: ***HAGERMAN CREEK*** County:

Aquatic Life Use(s): **MWH-C** Segment Length: **17.20**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199607** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	17.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					17.20		

Comments: Poor habitat is present throughout the entire length of the stream. Fish communities were in the poor range, while the macroinvertebrates were moderately good.

Causes of Impairment:
Other habitat alterations - H
Nutrients - M

Sources of Impairment:
Channelization - Agriculture - H
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH69 9	04-131	23.34	11.11	04100007-009	Huron Erie Lake Plain

WB Name: ***PRAIRIE CREEK (HEADWATERS TO HAGERMAN CREEK)*** County:

Aquatic Life Use(s): **MWH-C** Segment Length: **13.99**

Assessment Cycle: **1998** Field Data Collected From: **199609 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: This segment has been channelized. One regional reference site was sampled in 1996. Fish communities showed modest improvement compared to sampling done in 1983. Macroinvertebrate communities scored moderately good based on qualitative sampling results.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH69 15	04-143	31.10	0.00	04100007-	Huron Erie Lake Plain

WB Name: ***TOWN CREEK*** | County: **VAN WERT CO**

Aquatic Life Use(s): **MWH-C** | Segment Length: **31.10**

Assessment Cycle: **1998** | Field Data Collected From: **199609 to 199609** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 12.30	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					12.30		

Comments: One regional reference site was sampled upstream from Van Wert. Poor habitat is the major cause of non-attainment for the fish communities. The macroinvertebrates rated significantly higher (very good to exceptional) based on qualitative sampling results.

Causes of Impairment:
Other habitat alterations - H
Flow alteration - M

Sources of Impairment:
Channelization - Agriculture - H
Natural - M
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH69 20	04-130	35.37	8.45	04100007-013	Huron Erie Lake Plain

WB Name: ***LITTLE AUGLAIZE RIVER (EVANS DITCH TO DOG CREEK)*** | County:

Aquatic Life Use(s): **MWH-C** | Segment Length: **26.92**

Assessment Cycle: **1998** | Field Data Collected From: **199609 to 199609** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 26.92	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					26.92		

Comments: The entire Little Auglaize River mainstem has been channelized. One regional reference site upstream from the Ottoville WWTP was sampled in 1996. A noticeable decline was observed in the fish results compared to sampling done in 1983. The cause of this decline is unknown. Macroinvertebrate communities were good based on qualitative sampling results. Chemical results showed nutrient levels to be low for the Huron Erie Lake Plain ecoregion.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH69 25	04-130	46.34	35.37	04100007-013	Huron Erie Lake Plain

WB Name: ***LITTLE AUGLAIZE RIVER (HEADWATERS TO EVANS DITCH)*** | County:

Aquatic Life Use(s): **MWH-C** | Segment Length: **19.02**

Assessment Cycle: **1998** | Field Data Collected From: **199609 to 199609** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 6.72	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					6.72		

Comments: The entire Little Auglaize River mainstem has been channelized. Fish sampling done in 1996 showed non-attainment of Modified Warmwater Habitat criteria. Macroinvertebrate communities were rated very good based on qualitative sampling results.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH70 3	04-100	33.26	26.20	04100007-022	Huron Erie Lake Plain	PUTNAM CO

WB Name: ***AUGLAIZE RIVER (OTTAWA RIVER TO BLANCHARD RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **7.06**

Assessment Cycle: **1994** Field Data Collected From: **199106 to 199110** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	7.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The fish community appeared to be threatened by siltation.

Causes of Impairment: *Siltation - T*

Sources of Impairment: *Nonirrigated crop production - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH70 5	04-100	47.02	33.26	04100007-015	Huron Erie Lake Plain	PUTNAM CO

WB Name: ***AUGLAIZE RIVER (JENNINGS CREEK TO OTTAWA RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **13.76**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	13.76	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			13.76				

Comments: One site was sampled near Fort Jennings as part of the U.S. Geological Survey NAWQA program. Fish and macroinvertebrate scores were both in attainment of Warmwater Habitat criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH70 7	04-230	14.50	0.00	04100007-031	Huron Erie Lake Plain	

WB Name: ***JENNINGS CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **14.50**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	7.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						7.40	

Comments: This segment is channelized, and has poor instream substrates. One regional reference site upstream from Delphos was sampled. A poor to fair biological community was present, apparently related to habitat. Water chemistry results showed water quality to be good.

Causes of Impairment: *Other habitat alterations - H*

Sources of Impairment: *Channelization - Agriculture - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH70 12	04-100	62.31	47.02	04100007-015	Huron Erie Lake Plain

WB Name: ***AUGLAIZE RIVER (SIXMILE CREEK TO JENNINGS CREEK)*** County: **ALLEN CO**

Aquatic Life Use(s): **WWH** Segment Length: **15.29**

Assessment Cycle: **1994** Field Data Collected From: **199106 to 199110** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	15.29	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Sedimentation, and possibly some lingering dissolved oxygen problems from influence from Sixmile Creek, were affecting this stream segment in 1991. DELT anomalies exceeded 0.5% downstream from Sixmile Creek. It is recommended that the aquatic life use of this segment be changed to WWH.

Causes of Impairment:
Siltation - H
Organic enrichment/DO - M

Sources of Impairment:
Industrial Point Sources - H
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH70 13	04-100	72.28	62.31	04100007-015	Eastern Corn Belt Plain

WB Name: ***AUGLAIZE RIVER (TWOMILE CREEK TO SIXMILE CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **9.97**

Assessment Cycle: **1994** Field Data Collected From: **199106 to 199110** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.20	0.00	1.70	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Rcommend ALU change to WWH
Full attainment was documented in the biological communities at RM 67.0/67.3 and RM 65.0. At RM 63.1/63.4 the was heavily impaired due to sedimentation.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH70 16	04-234	11.60	0.00	04100007-	Eastern Corn Belt Plain

WB Name: ***TWOMILE CREEK*** County: **AUGLAIZE CO**

Aquatic Life Use(s): **WWH** Segment Length: **11.60**

Assessment Cycle: **2000** Field Data Collected From: **199306 to 199704** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.70	0.00	0.00	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.70		2.00		

Comments: This stream was previously channelized and not routinely maintained, allowing the recovery of some natural habitat features, and thus judged capable of supporting WWH biological communities. Subsequent activities by landowners may have changed this situation.

Causes of Impairment:
Other habitat alterations - H
Flow alteration - M

Sources of Impairment:
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH70 16.3	04-258	2.67	0.00	04100007-	Eastern Corn Belt Plain	AUGLAIZE CO

WB Name: ***SHEARER DITCH***

Aquatic Life Use(s): **NONE** Segment Length: **3.00**

Assessment Cycle: **1996** Field Data Collected From: **199409 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	3.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Shearer Ditch is a channelized headwater tributary to the Auglaize River. During fish sampling a fish kill was in progress, and the live fish collected were under stress. The stream originates in Wapakoneta, which is probably where the problem originates. Shearer Ditch is maintained and has very little potential. This will likely be recommended as Modified Warmwater Habitat (MWH) or Limited Resource Water (LRW) in the next Water Quality Standard (WQS) use designation rulemaking.

Causes of Impairment:
Unknown toxicity - H

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH70 18	04-235	13.70	0.00	04100007-	Eastern Corn Belt Plain	AUGLAIZE CO

WB Name: ***PUSHETA CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **13.70**

Assessment Cycle: **1996** Field Data Collected From: **199107 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	10.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Intensive agricultural drainage activities and chronic riparian encroachment are threats to the already marginal attainment of Warmwater Habitat (WWH) criteria in the upper reaches. Many streams in this area are channelized. Pusheta Creek attained the WWH use in 1991 (river mile 0.3) and in 1994 (river mile 8.8). The full attainment at river mile 8.8 was marginal and is the result of periodic riparian encroachment and bedload exported from the channelized (maintained) headwaters. This condition contributed to the near complete lack of deep pools at river mile 8.8.

Causes of Impairment:
Other habitat alterations - T

Sources of Impairment:
Removal of riparian vegetation - Ag - T
Channelization - Agriculture - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH70 24	04-240	3.30	0.00	04100007-	Eastern Corn Belt Plain	AUGLAIZE CO

WB Name: ***HUFFMAN CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **3.30**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199607** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.30	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.30				

Comments: One regional reference site was sampled at river mile 1.7. The fish results showed significant improvement compared to sampling done in 1987, with the IBI score improving from 44 to 50. The macroinvertebrates were rated good based on qualitative sampling results. The Uniopolis WWTP is located upstream from this site. Water chemistry results showed nutrient levels to be slightly elevated. Future monitoring is recommended.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH70 25	04-100	101.90	93.09	04100007-015	Eastern Corn Belt Plain

WB Name: ***AUGLAIZE RIVER (HEADWATERS TO BLACKHOOF CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **8.81**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.81	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.81				

Comments: This segment showed significant improvement compared to sampling done in 1983. Biological and chemical water quality appear to be good.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH71 1	04-100	11.08	0.00	04100007-	Huron Erie Lake Plain

WB Name: ***AUGLAIZE RIVER (FLATROCK CREEK TO MAUMEE RIVER)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **11.08**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 4.10	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.90			3.20	

Comments: One regional reference site was sampled in this segment, located downstream from the dam near Harding Road. Fish sampling resulted in low species diversity and low numbers of fish. Macroinvertebrate communities were in the good range based on qualitative sampling results.

Causes of Impairment:
Flow alteration - H
Other habitat alterations - M

Sources of Impairment:
Channelization - Agriculture - H
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH71 19	04-100	16.45	11.08	04100007-	Huron Erie Lake Plain

WB Name: ***AUGLAIZE RIVER (L. AUGLAIZE R. TO FLATROCK CREEK)*** County: PAULDING CO

Aquatic Life Use(s): **WWH** Segment Length: **5.37**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 5.37

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					5.37		

Comments: This segment is impounded from the dam at Defiance. IBI scores were in the fair range, but still below ecoregional expectations.

Causes of Impairment:
Flow alteration - H

Sources of Impairment:
Flow reg./mod. - Development - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH71 20	04-120	16.27	0.00	04100007-005	Huron Erie Lake Plain	PAULDING CO

WB Name: ***BLUE CREEK (CUNNINGHAM CREEK TO AUGLAIZE RIVER)***

Aquatic Life Use(s): **MWH-C** Segment Length: **16.27**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: Most of the length of this stream is channelized with poor habitat. There was a noticeable decline in the IBI score compared to sampling done in 1983. The cause is unknown. Macroinvertebrate communities remained stable.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH72 1	04-600	8.18	0.00	04100006-001	Huron Erie Lake Plain	DEFIANCE CO

WB Name: ***TIFFIN RIVER (LICK CREEK TO MAUMEE RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **8.18**

Assessment Cycle: **1994** Field Data Collected From: **199206 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 8.10	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Biological communities have shown gradual improvement since 1984, but are limited by historical channelization, siltation, low gradient and impoundment effects from the Maumee River in the lower few miles of the reach. Increased conservation tillage in the upper basin may further reduce silt loadings in the future.

Causes of Impairment:
Siltation - H
Other habitat alterations - H
Flow alteration - S

Sources of Impairment:
Nonirrigated crop production - H
Channelization - Agriculture - H
Dam construction - Development - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH72 3	04-602	7.30	0.00	04100006-	Huron Erie Lake Plain	DEFIANCE CO

WB Name: ***MATTOCK DITCH***

Aquatic Life Use(s): **WWH** Segment Length: **7.30**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.00				

Comments: This is a nice, small stream with good, rocky substrates and a good riparian zone. This serves as a refugia for the Tiffin River (ghost shiner collected). There are some signs of the stream becoming scoured out.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 6	04-605	12.00	0.00	04100006-011	Huron Erie Lake Plain

WB Name: ***MUD CREEK*** | County: **DEFIANCE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **12.00**

Assessment Cycle: **2000** | Field Data Collected From: **199806 to 199809** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.50	Full, But Threatened: 0.00	Partial: 0.00	None 1.75

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					8.50	1.75	

Comments: Good flow was observed in this stream, with primarily log and stick riffles. The riparian progressively becomes more intact heading downstream. The upstream area is still hampered by shifting sand in the main channel. Suspended clay/silt was common. In the park area gradient was good with some gravel, and the fish community was improved compared to the upper reaches. Macroinvertebrate communities were good upstream, with some good water quality indicator species present. In the park macroinvertebrate communities were very good, with several sensitive species of bivalve mussels found.

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Flow alteration - M
Suspended solids - M
Nutrients - S
Organic enrichment/DO - S

Sources of Impairment:

Flow regulation/modification - Ag - H
Channelization - Agriculture - H
Streambank destabilization - Ag - M
Nonirrigated crop production - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 7	04-606	14.10	0.00	04100006-	Huron Erie Lake Plain

WB Name: ***LOST CREEK*** | County: **DEFIANCE CO**

Aquatic Life Use(s): **WWH** | Segment Length: **14.10**

Assessment Cycle: **2000** | Field Data Collected From: **199806 to 199809** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 10.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						10.50	

Comments: The upper watershed was dominated by agricultural influences including sedimentation, elevated nutrients, high total suspended solids and embedded substrates. A good riparian was present along the stream. In the lower 5.5 miles the stream had been historically channelized. Much of the riparian had recovered (mature trees on banks), but shifting sandy sediments and poor development were present in the stream channel. Some nutrient enrichment from agricultural runoff was noted (fecal coliforms violation).

Causes of Impairment:

Siltation - H
Other habitat alterations - H
Nutrients - M
Flow alteration - M

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - H
Flow regulation/modification - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 10	04-609	10.14	0.00	04100006-010	Huron Erie Lake Plain

WB Name: ***LICK CREEK (LITTLE LICK CREEK TO TIFFIN RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **10.14** County: **DEFIANCE CO**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 8.50	None 1.64

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					8.50	1.64	

Comments: The community of Ney has a problem with unsewered inputs (low DO and high fecal coliforms) and a dump at an old elementary school. Little Lick Creek also has an influence on this segment (sedimentation, recorded spills, and nutrient inputs). Dissolved oxygen and fecal coliforms violations are symptomatic of high nutrients from agriculture and the unsewered community of Ney. Siltation originating from the upper portion of the watershed is a problem. Slight improvements were noted downstream from Ney compared to 1984 results. Some metals were recorded in the sediments downstream from Ney and near the mouth. At river mile 0.2 atrazine and metachlor were indicative of nonpoint source agricultural inputs throughout the basin.

Causes of Impairment:

Organic enrichment/DO - H
Siltation - H
Flow alteration - M
Metals - S
Suspended solids - S

Sources of Impairment:

Nonirrigated crop production - H
Flow regulation/modification - Ag - M
Sanitary Sewer Overflow - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 11	04-633	12.75	0.00	04100006-	Eastern Corn Belt Plain

WB Name: ***PRAIRIE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **12.75** County:

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 9.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					9.50		

Comments: Upstream from the Bryan WWTP stormwater runoff overflows and CSOs/SSOs impact Prairie Creek (via Pigeon Creek, Joe Run and Lynn Run). Some habitat limitations are present due to past channelization. Fish and macroinvertebrate communities from the Bryan WWTP to RM 9.1 were poor to fair. The Bryan WWTP caused increased nutrients and organic enrichment, as evidenced by low DO levels and high fecal coliforms. Habitat conditions slightly improve in the lower section of the stream. Fish communities improved further downstream, but were still dominated by pollution tolerant species. Macroinvertebrate communities improved to exceptional between river miles 9.0 and 3.5. Prairie Creek has shown dramatic improvement in fish and macroinvertebrate communities since 1984 due to the WWTP upgrade and treatment improvements. Improving the WWTP treatment along with decreasing the CSO/SSO inputs and allowing the stream to develop natural habitat will continue to improve the water quality and biological communities in Prairie Creek.

Causes of Impairment:

Organic enrichment/DO - H
Other habitat alterations - H
Siltation - H
Pathogens - M
Flow alteration - M
Nutrients - M

Sources of Impairment:

Major Municipal Point Source - H
Nonirrigated crop production - H
Combined Sewer Overflow - M
Non-industrial Permitted - M
Industrial Permitted - M
Other Urban Runoff - M
Channelization - Agriculture - M
Flow regulation/modification - Ag - M
Flow reg./mod. - Development - M

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH72 11.7	**04-639**	**2.38**	**0.00**	**04100006-**	**Eastern Corn Belt Plain**

WB Name: ***TRIB. TO PRAIRIE CREEK (RM 11.0)*** County: **WILLIAMS CO**

Aquatic Life Use(s): **MWH-C** Segment Length: **2.38**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						0.50	

Comments: This is a channelized ditch in the City of Bryan with poor physical habitat, riprap in places, and possible intermittent conditions during summer low flow periods. Yearly maintenance is performed to remove sand bars. Fish and macroinvertebrate communities were both poor, with tolerant species dominating.

Causes of Impairment:

Organic enrichment/DO - H
Other habitat alterations - H
Siltation - H
Total toxics - M
Pathogens - S
Metals - S

Sources of Impairment:

Combined Sewer Overflow - H
Other Urban Runoff - H
Dredging - Development - H
Dredging - Agriculture - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH72 13	**04-609**	**28.07**	**10.14**	**04100006-010**	**Eastern Corn Belt Plain**

WB Name: ***LICK CREEK (HEADWATERS TO LITTLE LICK CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **17.93**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	11.14	0.00	4.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			11.14		4.00		

Comments: The Lick Creek watershed was impacted by nutrient enrichment and low diel DO concentrations. In the upper portion there were nonpoint pollution sources, subdivision WWTP discharges and unsewered communities. Livestock affected stream banks and added organic nutrients in a small portion of the stream. Siltation from agricultural activities has caused substrates to be embedded. Low DO and high fecal coliform bacteria exceedences were symptomatic of high nutrients from agricultural activities, unsewered communities and housing developments.

Causes of Impairment:

Nutrients - H
Organic enrichment/DO - H
Siltation - H
Other habitat alterations - M
Flow alteration - M
Suspended solids - S

Sources of Impairment:

Nonirrigated crop production - H
Range Grazing - Riparian - H
Onsite wastewater systems (septic tanks) - M
Flow regulation/modification - Ag - M
Removal of riparian vegetation - Ag - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 14	**04-611**	**8.80**	**0.00**	**04100006-**	**Eastern Corn Belt Plain**

WB Name: ***LITTLE LICK CREEK***

County: **DEFIANCE CO**

Aquatic Life Use(s): **WWH** Segment Length: **8.80**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.30	Full, But Threatened: 5.50	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.40		3.90		

Comments: The upstream most site on the stream had the potential to be affected by row crop agriculture NPS runoff. There were silty and sandy sediments, and riparian was eliminated on one side and grass-lined on the other, leaving erosion a definite probability. Downstream, in the HELP ecoregion but upstream from Ney, the stream had a deep channel with hardpan, sand and gravel substrates and cover consisting primarily of woody debris. Flow alteration for drainage and flood control could also affect the stream and threaten biological attainment.

Causes of Impairment:

Organic enrichment/DO - T
Unionized Ammonia - T
Pathogens - T
Suspended solids - T
Siltation - T
Nutrients - T

Sources of Impairment:

Onsite wastewater systems (septic tanks) - T
Minor Industrial Point Source - T
Removal of riparian vegetation - Ag - T
Streambank destabilization - Ag - T
Nonirrigated crop production - T
Manure lagoons - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 15	**04-612**	**7.00**	**0.00**	**04100006-022**	**Eastern Corn Belt Plain**

WB Name: ***MILLER CREEK***

County: **WILLIAMS CO**

Aquatic Life Use(s): **WWH** Segment Length: **7.00**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 3.80	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.80		

Comments: This is a nice stream with good substrates and riffle/run/pool development. There is a slight impact from agricultural NPS (sedimentation, siltation, suspended solids). Nutrient enrichment was evident based on the large number of stoneroller minnows present. Low numbers of Tanytarsini midges could be indicative of infrequent pulses of lower water quality. There are several unsewered subdivisions and one small subdivision WWTP within the Miller Creek basin. Future collection of chemical data might reveal impacts from the unsewered areas.

Causes of Impairment:

Siltation - H
Nutrients - M
Organic enrichment/DO - M
Cause Unknown - M

Sources of Impairment:

Nonirrigated crop production - H
Source Unknown - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 16	04-600	36.34	8.18	04100006-	Huron Erie Lake Plain

WB Name: ***TIFFIN RIVER (LEATHERWOOD CREEK TO LICK CREEK)***

County:

Aquatic Life Use(s): **WWH** Segment Length: **28.16**

Assessment Cycle: **1994** Field Data Collected From: **199206 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	27.70	0.46

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Biological communities have improved since 1984, but are limited by historical channelization, siltation and low gradient. The 1992 survey indicated the importance of dead-wood snags in providing localized areas of strong current and improved habitat. Continued implementation of conservation tillage should reduce siltation and further improve biology in the future. Retention of snags is critical. Slightly elevated levels of mercury were reported in fish tissue samples.

Causes of Impairment:

Siltation - H
Other habitat alterations - H

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - H
Highway/road/bridge/sewer line - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 18	04-614	21.40	0.00	04100006-004	Huron Erie Lake Plain

WB Name: ***BRUSH CREEK***

County: **WILLIAMS CO**

Aquatic Life Use(s): **WWH** Segment Length: **21.40**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	7.68	0.00	4.20	9.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.40		6.48	9.50	

Comments: Much of the upper reach was previously channelized. Some riparian recovery was evident. Agricultural activites and nonpoint source runoff affect the stream upstream from the Archbold WWTP. The Archbold WWTP discharge caused some nutrient enrichment and low DO within Brush Creek. Suspended solids (organic and algal) caused diel DO sags, impacting the biota. Fecal coliform problems were also evident. The same scenario also occured downstream from "east" Owl Creek (confluence at RM 9.88) where in Brush Creek at RM 9.11 the lowest DOs were recorded (downstream from the Ridgeville Corners WWTP). Nonpoint source agricultural activities continued downstream from "west" Owl Creek, with continued flow alteration and embedded substrates in the subbasin. Some recovery in the fish community occurred in the lowest reach, though silt loads were very high. High concentrations of 3 herbicides were present (Atrazine, Cyanazine, Metolachlor).

Causes of Impairment:

Siltation - H
Other habitat alterations - H
Organic enrichment/DO - H
Flow alteration - M
Suspended solids - M
Nutrients - M

Sources of Impairment:

Nonirrigated crop production - H
Major Industrial Point Source - H
Minor Municipal Point Source - H
Removal of riparian vegetation - Ag - H
Flow regulation/modification - Ag - H
Channelization - Development - M
Flow reg./mod. - Development - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 20	04-616	5.10	0.00	04100006-017	Huron Erie Lake Plain

WB Name: ***COON CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **5.10**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.00	

Comments: The lower and middle reaches of the stream were wooded with a good riparian width. There was evidence of high flows/scouring that seems to indicate flow alteration from tiled agricultural fields. Substrates were heavily silted and embedded. Turbid conditions persisted. There are possible nutirent inputs to the Tiffin River from this subbasin due to agricultural runoff. Colder water was present near the mouth due to good riparian cover.

Causes of Impairment:

Siltation - H
Flow alteration - M
Suspended solids - S
Nutrients - S

Sources of Impairment:

Nonirrigated crop production - H
Flow regulation/modification - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 21	04-617	23.00	0.00	04100006-009	Eastern Corn Belt Plain

WB Name: ***BEAVER CREEK*** County: WILLIAMS CO

Aquatic Life Use(s): **WWH** Segment Length: **23.00**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 18.70	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					18.70		

Comments: Sources of upstream impacts are not clearly evident. Sources could be point or nonpoint oriented. Habitat was excellent upstream, but in the fish community not a single darter was collected. Downstream, exceedences were recorded for fecal coliforms and iron. High ammonia and zinc were also present, indicating the possibility of nonpoint source effects from agricultural runoff and possibly the unsewered areas of several communities. Future chemical and biological sampling would help to adequately determine the nonpoint source effects within the basin.

Causes of Impairment:

Siltation - H
Cause Unknown - H
Nutrients - M
Organic enrichment/DO - M
Flow alteration - M
Suspended solids - S

Sources of Impairment:

Nonirrigated crop production - H
Source Unknown - H
Onsite wastewater systems (septic tanks) - M
Flow regulation/modification - Ag - M
Package Plants (Small Flows) - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH72 23	04-600	50.82	36.34	04100006-	Eastern Corn Belt Plain	FULTON CO

WB Name: ***TIFFIN RIVER (MILL/BEAN CR. TO LEATHERWOOD CR.)***

Aquatic Life Use(s): **WWH** Segment Length: **14.48**

Assessment Cycle: **1994** Field Data Collected From: **199206 to 199210** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	1.10	0.00	0.00	0.00

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:							

Comments: This was the only segment with full attainment of the WWH use designation (marginal for fish). Future monitoring is needed to assess continued implementation of conservation tillage in the upper portion of the basin.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH72 24	04-619	6.70	0.00	04100006-	Eastern Corn Belt Plain	WILLIAMS CO

WB Name: ***LEATHERWOOD CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **6.70**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	0.00	0.00	0.00	2.50

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:					2.50		

Comments: This is a small stream flowing primarily through agricultural land. Substrates consisted of sand and pea gravel, and were heavily silted and embedded. Possible impacts are related to nonpoint source effects.

Causes of Impairment:

Siltation - H
Flow alteration - H
Nutrients - M

Sources of Impairment:

Nonirrigated crop production - H
Flow regulation/modification - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH72 26	04-621	4.60	0.00	04100006-	Eastern Corn Belt Plain	WILLIAMS CO

WB Name: ***WALNUT RUN***

Aquatic Life Use(s): **WWH** Segment Length: **4.60**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	2.00	2.50	0.00	0.00

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:			4.50				

Comments: Walnut Run was a nice developed stream with sand and gravel substrates, and somewhat less silt than other streams in the area. The West Unity WWTP was operating over capacity, and had ammonia and fecal coliforms violations. Current expansion at the facility should improve the situation. Large variances in diel DO indicated excessive nutrient enrichment in 1997. BOD concentrations were also high, indicating excessive organic matter. Completion of the WWTP expansion, along with the tying in of an unpermitted mobile home park, should allow improvements to occur in the biological communities, and reduce the nutrient loads to the stream.

Causes of Impairment:

Unionized Ammonia - T
Organic enrichment/DO - T
Pathogens - T
Siltation - T
Other habitat alterations - T

Sources of Impairment:

Minor Municipal Point Source - T
Package Plants (Small Flows) - T
Removal of riparian vegetation - Ag - T
Removal of riparian vegetation - Dev - T
Nonirrigated crop production - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 27	04-622	5.30	0.00	04100006-015	Eastern Corn Belt Plain

WB Name: **BATES CREEK** County:

Aquatic Life Use(s): **WWH** Segment Length: **5.30**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: Heavy sedimentation from agricultural runoff limits this stream from attaining WWH criteria.

Causes of Impairment:
- *Siltation - H*
- *Flow alteration - M*
- *Natural Limits (Wetlands) - S*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Flow regulation/modification - Ag - M*
- *Natural - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 28	04-623	3.00	0.00	04100006-	Eastern Corn Belt Plain

WB Name: **CLEAR CREEK** County: **FULTON CO**

Aquatic Life Use(s): **WWH** Segment Length: **3.00**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.50		

Comments: This is a small stream which may go intermittent during some years. Extensive silt and high suspended solids were present in the lower reach near the Tiffin River. The small size of the stream and low flow may limit it from attaining WWH criteria.

Causes of Impairment:
- *Siltation - H*
- *Flow alteration - M*
- *Suspended solids - S*
- *Natural Limits (Wetlands) - S*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Flow regulation/modification - Ag - M*
- *Natural - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 29	04-624	15.50	0.00	04100006-008	Eastern Corn Belt Plain

WB Name: **MILL CREEK** County:

Aquatic Life Use(s): **WWH** Segment Length: **15.50**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 8.20	None 7.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.00		4.20	7.30	

Comments: Extensive amounts of nutrients in upper Mill Creek caused excessive nutient enrichment conditions, resulting in massive amounts of fish (>6000 in one sampling pass) in this headwaters stream. Agricultural runoff was the primary source. Other potential sources in the area include beef and hog operations. The excessive nutrient enrichment caused low diel DOs. Heavy siltation was occurring upstream from Harrison Lake, but as habitat improved closer to the lake, the amount decreased somewhat. Corresponding with this, there was a slight improvement in the biological scores as siltation and nutrients showed some decrease. Metachlor and Atrazine were detected, symptomatic of agricultural nutrient inputs.

Causes of Impairment:
- *Nutrients - H*
- *Organic enrichment/DO - H*
- *Siltation - M*
- *Other habitat alterations - M*
- *Flow alteration - M*
- *Pathogens - S*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Channelization - Agriculture - H*
- *Removal of riparian vegetation - Ag - H*
- *Animal holding/management areas - M*
- *Flow regulation/modification - Ag - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 31	04-626	9.80	0.00	04100006-007	Eastern Corn Belt Plain

WB Name: ***BEAN CREEK*** County: **FULTON CO**

Aquatic Life Use(s): **WWH** Segment Length: **9.80**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.80				

Comments: This stream had the highest IBI scores and the most diverse fish community of any of the Tiffin River basin tributaries sampled in 1997. This is a large ditch with fast flow, good runs, and wide shallow riffles. Silt was heavy and substrates were embedded, but the good flow over-rides many of the negative habitat features.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH72 33	04-628	8.80	0.00	04100006-012	Eastern Corn Belt Plain

WB Name: ***DEER CREEK*** County: **FULTON CO**

Aquatic Life Use(s): **WWH** Segment Length: **8.80**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.10		

Comments: The pervasive basin problems of flow alteration (field tiles), siltation, loss of riparian habitat, and nutrient runoff has been superceded by effluent problems from the Fayette WWTP. This was caused by over-capacity by 250% and from 14 CSOs (into Spring Creek). There were fecal coliforms and DO exceedences at river mile 4.5, along with elevated ammonia, COD and total dissolved solids. The fish community was comprised of a large percentage of pioneering species, possibly indicating periodic impacts.

Causes of Impairment:

Organic enrichment/DO - H
Suspended solids - M
Siltation - M
Other habitat alterations - M
Flow alteration - M
Pathogens - S

Sources of Impairment:

Minor Municipal Point Source - H
Combined Sewer Overflow - H
Nonirrigated crop production - M
Removal of riparian vegetation - Ag - M
Flow regulation/modification - Ag - M
Range Grazing - Upland - S
Streambank destabilization - Ag - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH72 37	04-632	8.40	0.00	04100006-	Eastern Corn Belt Plain	FULTON CO

WB Name: ***OLD BEAN CREEK***

Aquatic Life Use(s): **MWH-C** Segment Length: **8.40**

Assessment Cycle: **1994** Field Data Collected From: **199206 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	8.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream has shown little or no recovery from historic channelization. It is recommended that the aquatic life use designation be changed to MWH.

Causes of Impairment:
- *Other habitat alterations - H*
- *Siltation - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Nonirrigated crop production - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH73 1	04-026	14.43	0.00	04100009-007	Huron Erie Lake Plain	

WB Name: ***BAD CREEK (UNNAMED TRIB. S. OF DELTA TO MAUMEE R.)***

Aquatic Life Use(s): **WWH** Segment Length: **14.43**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	7.50	6.93

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					14.43		

Comments: Bad Creek flows through Delta and drains an agricultural area. The village of Delta's WWTP has a history of poor performance and delivers toxic concentrations of ammonia to the stream. Bad Creek is channelized and maintained with limited or no riparian vegetation. Polluted agricultural runoff, an excessive sediment bedload, and poor habitat conditions influenced non and partial attainment of the WWH aquatic life use.

Causes of Impairment:
- *Unionized Ammonia - H*
- *Siltation - H*
- *Flow alteration - H*
- *Other habitat alterations - H*

Sources of Impairment:
- *Municipal Point Sources - H*
- *Nonirrigated crop production - H*
- *Channelization - Agriculture - H*
- *Removal of riparian vegetation - Ag - H*
- *Streambank destabilization - Ag - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH73 2	04-026	30.70	14.43	04100009-007	Huron Erie Lake Plain	FULTON CO

WB Name: ***BAD CREEK (HEADWATERS TO UNNAMED TRIB. S OF DELTA)***

Aquatic Life Use(s): **WWH** Segment Length: **16.27**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	16.27

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					16.27		

Comments: Bad Creek flows through Delta and drains an agricultural area. The stream is channelized and maintained with limited or no riparian vegetation. Polluted agricultural runoff, an excessive sediment bedload, and poor habitat conditions influenced non-attainment of the WWH aquatic life use.

Causes of Impairment:
- *Siltation - H*
- *Flow alteration - H*
- *Other habitat alterations - H*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Channelization - Agriculture - H*
- *Streambank destabilization - Ag - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH73 4	04-001	37.92	36.20	04100009-008	Huron Erie Lake Plain	HENRY CO

WB Name: ***MAUMEE RIVER (NORTH TURKEYFOOT CREEK TO BAD CREEK)***

Aquatic Life Use(s): **MWH** Segment Length: **1.72**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.72	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.72		

Comments: The Maumee River is impounded in this reach. Habitat conditions are influenced by an absence of riffles. The water remains turbid throughout the year.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH73 5	04-028	7.70	0.00	04100009-	Huron Erie Lake Plain	

WB Name: ***DRY CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **7.70**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 7.70	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					7.70		

Comments: Dry Creek drains an agricultural area and receives effluent from the Liberty Center WWTP. The stream is channelized and maintained with limited or no riparian vegetation. Polluted agricultural runoff, an excessive sediment bedload, and poor habitat conditions influenced partial attainment of the WWH aquatic life use.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H
Siltation - M

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - H
Removal of riparian vegetation - Ag - M
Streambank destabilization - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH73 6	04-029	10.29	0.00	04100009-011	Huron Erie Lake Plain	HENRY CO

WB Name: ***SOUTH TURKEYFOOT CR. (SCHOOL CR. TO MAUMEE R.)***

Aquatic Life Use(s): **WWH** Segment Length: **10.29**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.00	Full, But Threatened: 0.00	Partial: 7.29	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				10.29			

Comments: South Turkeyfoot Creek drains an agricultural area. Most of the upstream reach is channelized and maintained with limited or no riparian vegetation. Polluted agricultural runoff, an excessive sediment bedload, and poor habitat conditions prevented the attainment of the WWH aquatic life use.

Causes of Impairment:

Flow alteration - H
Siltation - M

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH73 14	04-029	24.00	10.30	04100009-013	Huron Erie Lake Plain

WB Name: ***SOUTH TURKEYFOOT CR.(HEADWATERS TO SCHOOL CR.)*** | County: **HENRY CO**

Aquatic Life Use(s): **WWH** | Segment Length: **13.70**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.50	None 12.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					14.30		

Comments: South Turkeyfoot Creek drains an agricultural area and flows through the villages of Hamler and Malinta. Most of the stream is channelized and maintained with limited or no riparian vegetation. Polluted agricultural runoff, an excessive sediment bedload, and poor habitat conditions prevented attainment of the WWH aquatic life use.

Causes of Impairment:
- *Siltation - H*
- *Flow alteration - H*
- *Other habitat alterations - H*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Channelization - Agriculture - H*
- *Removal of riparian vegetation - Ag - H*
- *Streambank destabilization - Ag - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH73 15	04-036	8.80	0.00	04100009-	Huron Erie Lake Plain

WB Name: ***BRINKMAN DITCH*** | County: **HENRY CO**

Aquatic Life Use(s): **WWH** | Segment Length: **8.80**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 8.80	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					8.80		

Comments: Brinkman Ditch flows into School Creek which is a tributary to South Turkeyfoot Creek. It drains an agricultural area and receives effluent from the Village of Holgate WWTP. The stream is channelized and devoid of vegetation. Polluted agricultural runoff and an excessive sediment bedload acted to prevent attainment of the WWH aquatic life use.

Causes of Impairment:
- *Siltation - H*
- *Flow alteration - H*
- *Other habitat alterations - H*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Channelization - Agriculture - H*
- *Removal of riparian vegetation - Ag - H*
- *Streambank destabilization - Ag - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH73 16	04-037	21.90	0.00	04100009-	Huron Erie Lake Plain

WB Name: ***NORTH TURKEYFOOT CREEK*** | County:

Aquatic Life Use(s): **WWH** | Segment Length: **21.90**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 17.00	Full, But Threatened: 0.00	Partial: 1.50	None 3.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
				17.00	4.90		

Comments: North Turkeyfoot Creek flows through Wauseon and drains an agricultural area. The stream is channelized and maintained with little or no riparian vegetation. Polluted agricultural runoff, an excessive sediment bedload, and poor habitat conditions prevented attainment of the WWH aquatic life use. Additionally, the Wauseon WWTP is a source of organic enrichment that also influences attainment status.

Causes of Impairment:
- *Siltation - H*
- *Flow alteration - H*
- *Other habitat alterations - H*
- *Organic enrichment/DO - M*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Streambank destabilization - Ag - H*
- *Municipal Point Sources - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH73 17	04-038	11.60	0.00	04100009-	Huron Erie Lake Plain	HENRY CO

WB Name: ***KONZEN DITCH***

Aquatic Life Use(s): **MWH-C** Segment Length: **11.60**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199609** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.70	

Comments: This stream is a channelized ditch. Fish and macroinvertebrate sampling results showed scores below the ecoregional expectations for channelized streams.

Causes of Impairment: *Other habitat alterations - H*

Sources of Impairment: *Channelization - Agriculture - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH73 18	04-001	45.59	37.92	04100009-009	Huron Erie Lake Plain	HENRY CO

WB Name: ***MAUMEE RIVER (VAN HYNING CR. TO N. TURKEYFOOT CR.)***

Aquatic Life Use(s): **MWH** Segment Length: **7.67**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.67	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					7.67		

Comments: The Maumee River is impounded in this reach. Habitat conditions are influenced by an absence of riffles. The water remains turbid throughout the year.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH73 21	04-001	52.18	45.59	04100009-009	Huron Erie Lake Plain	HENRY CO

WB Name: ***MAUMEE RIVER (WADE CREEK TO VAN HYNING CREEK)***

Aquatic Life Use(s): **MWH** Segment Length: **6.59**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.59	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					6.59		

Comments: The Maumee River is impounded in this reach. Habitat conditions are influenced by an absence of riffles. The water remains turbid throughout the year. The Napoleon WWTP and Campbell Soups are sources of toxic concentrations of ammonia.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH73 26	04-001	64.04	52.18	04100009-009	Huron Erie Lake Plain	

WB Name: ***MAUMEE RIVER (AUGLAIZE RIVER TO WADE CREEK)***

Aquatic Life Use(s): **MWH,WWH,MW** Segment Length: **11.86**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.82	0.00	3.04	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					11.86		

Comments: The Maumee River enters Ohio in partial attainment of the WWH aquatic life use but declines downstream. This is especially apparent where it is impounded. The water remains turbid throughout the year. The low gradient and lack of flow augmentation due to tile installation combine to create an almost stagnant quality during the summer. Dissolved oxygen availability is limited and habitat conditions are influenced by a near absence of riffles. The Defiance WWTP is a source of toxic concentrations of ammonia.

Causes of Impairment:
- *Turbidity - H*
- *Flow alteration - H*
- *Unionized Ammonia - H*
- *Siltation - M*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Channelization - Agriculture - H*
- *Municipal Point Sources - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH73 27	04-045	4.80	0.00	04100009-	Huron Erie Lake Plain	DEFIANCE CO

WB Name: ***WADE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **4.80**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	4.80	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					4.80		

Comments: Wade Creek drains an agricultural area. Most of the upper reaches of the stream are channelized and devoid of riparian vegetation. Polluted agricultural runoff and an excessive sediment bedload acted to prevent attainment of the WWH aquatic life use.

Causes of Impairment:
- *Siltation - H*
- *Flow alteration - H*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Channelization - Agriculture - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH74 1	04-001	24.06	20.69	04100009-005	Huron Erie Lake Plain	LUCAS CO

WB Name: ***MAUMEE RIVER (TONTOGANY CREEK TO WATERVILLE)***

Aquatic Life Use(s): **WWH** Segment Length: **3.38**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.38	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.38				

Comments: The Maumee River flows down the Bowling Green escarpment in this reach. It is a wide shallow limestone base river with an aquatic community that is influenced downstream by Lake Erie and upstream by agricultural drainage. The water remains turbid throughout the year.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH74 3	04-001	31.22	24.06	04100009-005	Huron Erie Lake Plain	LUCAS CO

WB Name: ***MAUMEE RIVER (BEAVER CREEK TO TONTOGANY CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **7.16**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	7.16	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.16				

Comments: The Maumee River flows down the Bowling Green escarpment in this reach. It is a wide shallow limestone base river with an aquatic community that is influenced downstream by Lake Erie and upstream by agricultural drainage. The water remains turbid throughout the year.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH74 5	04-015	7.50	0.00	04100009-014	Huron Erie Lake Plain	WOOD CO

WB Name: ***BEAVER CREEK (JACKSON CUTOFF DITCH TO MAUMEE R.)***

Aquatic Life Use(s): **WWH** Segment Length: **7.50**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.50	0.00	0.00	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					7.50		

Comments: Beaver Creek drains an agricultural area. A high sediment bedload and habitat limitations prevented the biological community from achieving the WWH aquatic life use in the lower gradient reach. The Grand Rapids WWTP is a source of organic enrichment, but this influence did not impair the aquatic community in Beaver Creek.

Causes of Impairment:
Siltation - H
Flow alteration - H

Sources of Impairment:
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH74 7	04-017	8.76	0.00	04100009-016	Huron Erie Lake Plain	WOOD CO

WB Name: ***JACKSON CUTOFF DITCH***

Aquatic Life Use(s): **WWH** Segment Length: **8.76**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.76	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					8.76		

Comments: Jackson Cutoff severs the North Branch of the Portage River and delivers the flow to Beaver Creek and subsequently to the Maumee River. It has better gradient than many other streams in the region, although it is deeply incised. Full attainment of the WWH aquatic life use was documented. Hence, this designation is appropriate for this man-made waterway.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH74 14	04-015	25.14	7.50	04100009-015	Huron Erie Lake Plain

WB Name: ***BEAVER CREEK (HEADWATERS TO JACKSON CUTOFF DITCH)*** | County:

Aquatic Life Use(s): **WWH** | Segment Length: **17.64**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: Beaver Creek drains an agricultural area. Despite high sediment bedload and habitat limitations, the stream achieved the WWH aquatic life use.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH74 16	04-001	36.20	31.22	04100009-006	Huron Erie Lake Plain

WB Name: ***MAUMEE RIVER (BAD CREEK TO BEAVER CREEK)*** | County:

Aquatic Life Use(s): **WWH,MWH** | Segment Length: **4.98**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.98	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					4.98		

Comments: The Maumee River is impounded in this reach . Habitat conditions are influenced by an absence of riffles. The water remains turbid throughout the year.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH75 1	04-001	20.68	5.22	04100009-005	Huron Erie Lake Plain

WB Name: ***MAUMEE RIVER (WATERVILLE TO SWAN CREEK)*** | County: LUCAS CO

Aquatic Life Use(s): **WWH** | Segment Length: **15.46**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.68	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.68				

Comments: The Maumee River flows down the Bowling Green escarpment in this reach. It is a wide shallow limestone base river with an aquatic community that is influenced downstream by Lake Erie and upstream by agricultural drainage. The water remains turbid throughout the year. The Lucas County WWTP is a source of toxic concentrations of ammonia.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH75 3	04-003	22.17	0.00	04100009-	Huron Erie Lake Plain	LUCAS CO

WB Name: ***SWAN CREEK (BLUE CREEK TO MAUMEE RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **22.17**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.00	0.00	10.40	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Swan Creek has potential if certain problems can be overcome including limiting polluted urban runoff, removal of trash, reducing silt inputs, and restoring habitat. PCBs and pesticides are a problem in fish tissue. This is probably due to a variety of sources including spills and urban nonpoint source pollution runoff. Slightly elevated levels of mercury were reported in fish tissue samples (1 of 3 samples).

Causes of Impairment:

Siltation - H
Pesticides - M
Priority organics - M
Metals - M
Other habitat alterations - M

Sources of Impairment:

Other Urban Runoff - H
Channelization - Development - M
Land development/Suburbanization - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH75 3.1	04-098	3.81	0.00	04100009-	Huron Erie Lake Plain	

WB Name: ***HEILMAN DITCH***

Aquatic Life Use(s): **LRW** Segment Length: **3.81**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	0.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Stream habitat was good in this segment, but there were not many fish. Highly variable flow and impacts from urban nonpoint source pollution probably keep this stream from performing higher.

Causes of Impairment:

Other habitat alterations - H
Unknown toxicity - M
Flow alteration - M

Sources of Impairment:

Other Urban Runoff - H
Highway maintenance and runoff - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH75 4	04-004	7.00	0.00	04100009-031	Huron Erie Lake Plain	

WB Name: ***WOLF CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **7.00**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Habitat and riparian cover were good in this segment. The fish and macroinvertebrate communities were poor. There appears to be a problem with the urbanized nature of the watershed (i.e., toxic inputs, variable flow, etc.).

Causes of Impairment:

Total toxics - H
Siltation - M
Flow alteration - S
Other habitat alterations - S

Sources of Impairment:

Other Urban Runoff - H
Land development/Suburbanization - M
Highway/road/bridge/sewer line - S
Streambank destabilization - Dev - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH75 6	04-006	11.90	0.00	04100009-	Huron Erie Lake Plain	

WB Name: **BLUE CREEK**

Aquatic Life Use(s): **WWH** Segment Length: **11.90**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.70	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream seems to be on the borderline of supporting attainment. Further development, increased silt load, and increased storm runoff can potentially reduce the quality of the stream. Fish are slighlty contaminated with PCB's, pesticides and metals. This probably is a problem in the whole stream, but it was only documented in the lower reaches.

Causes of Impairment:

Other habitat alterations - H
Siltation - M
Flow alteration - M
Pesticides - S
Metals - S
Priority organics - S
Other habitat alterations - T

Sources of Impairment:

Other Urban Runoff - H
Land development/Suburbanization - M
Removal of riparian vegetation - Dev - M
Streambank destabilization - Dev - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH75 9	04-003	30.57	22.17	04100009-	Huron Erie Lake Plain	

WB Name: **SWAN CREEK (AI CREEK TO BLUE CREEK)**

Aquatic Life Use(s): **WWH** Segment Length: **8.40**

Assessment Cycle: **1992** Field Data Collected From: **198906 to 198910** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 4.50	None 3.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Siltation - H

Sources of Impairment:

Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH75 14	04-012	5.50	0.00	04100009-	Huron Erie Lake Plain	WOOD CO

WB Name: **GRASSY CREEK**

Aquatic Life Use(s): **WWH** Segment Length: **5.50**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.90	Full, But Threatened: 0.00	Partial: 0.00	None 2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: PCBs and pesticides were found in fish tissue samples. Slightly elevated levels of mercury were also reported in fish tissue samples. The source is probably from urban runoff, spills ,etc. This was generally a good stream., but it could improve if the urban problems were remedied. Trash and debris were common in the stream. A decent riparian was present in many places.

Causes of Impairment:

Other habitat alterations - H
Pesticides - M
Priority organics - M
Metals - M
Siltation - M
Nutrients - M
Organic enrichment/DO - S

Sources of Impairment:

Habitat Modifications o/than Hydromod. - H
Land development/Suburbanization - M
Other Urban Runoff - M
Onsite wastewater systems (septic tanks) - S

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH75 16.1	**04-307**	**3.75**	**0.00**	**04100001-**	**Huron Erie Lake Plain**

WB Name: ***HILL DITCH*** | County: **LUCAS CO**

Aquatic Life Use(s): **LRW** | Segment Length: **3.75**

Assessment Cycle: **1996** | Field Data Collected From: **199306 to 199309** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is an urban stream, modified to channel water away. Stormwater inputs are from numerous sources (roof, street, parking). Possible impacts include urban nonpoint source pollution (oil, chemicals, highly variable flow regime, silt, trash). There is possible dumping of oily wastes instream. Oily sediments were noted in the stream. It is possible that dumping is occurring from nearby business.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - M
Siltation - M
Unknown toxicity - S

Sources of Impairment:

Removal of riparian vegetation - Dev - H
Streambank destabilization - Dev - H
Highway/road/bridge/sewer line - M
Land development/Suburbanization - M
Other Urban Runoff - M
Dredging - Development - M
Highway maintenance and runoff - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH75 16.2	**04-306**	**5.50**	**0.00**	**04100001-**	**Huron Erie Lake Plain**

WB Name: ***HELDMAN DITCH*** | County: **LUCAS CO**

Aquatic Life Use(s): **MWH-C** | Segment Length: **5.50**

Assessment Cycle: **1996** | Field Data Collected From: **199306 to 199309** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 5.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a stream which has been modified for drainage purposes. Urban stormwater and other inputs impact the stream (i.e.,oil, chemicals, silt, highly variable flow, trash).

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H
Nutrients - M
Siltation - M

Sources of Impairment:

Removal of riparian vegetation - Dev - H
Streambank destabilization - Dev - H
Highway/road/bridge/sewer line - M
Land development/Suburbanization - M
Other Urban Runoff - M
Channelization - Development - M
Highway maintenance and runoff - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH75 16.3	**04-302**	**4.40**	**0.00**	**04100001-**	**Huron Erie Lake Plain**

WB Name: ***HAEFNER DITCH*** County: **LUCAS CO**

Aquatic Life Use(s): **LRW** Segment Length: **4.40**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	4.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The source of the pollutants is unknown but could possibly be attributed to urban nonpoint source runoff. This stream has been modified to conform to city layout and to carry storm runoff efficiently.

Causes of Impairment:

Other habitat alterations - H
Unknown toxicity - M
Siltation - M

Sources of Impairment:

Removal of riparian vegetation - Dev - H
Land development/Suburbanization - M
Other Urban Runoff - M
Streambank destabilization - Dev - M
Highway maintenance and runoff - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH75 16.4	**04-303**	**5.80**	**0.00**	**04100001-**	**Huron Erie Lake Plain**

WB Name: ***HILL DITCH*** County: **LUCAS CO**

Aquatic Life Use(s): **MWH-C** Segment Length: **5.80**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Hill Ditch is possibly impacted by urban nonpoint source runoff. This stream has been extensively modified. Massive inputs of stormwater are possible via drains of all kinds. There are possible impacts from urban stormwater components (oil, chemicals, flashy flow, silt, trash).

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H
Siltation - M
Nutrients - S

Sources of Impairment:

Removal of riparian vegetation - Dev - H
Streambank destabilization - Dev - H
Other Urban Runoff - M
Highway/road/bridge/sewer line - M
Land development/Suburbanization - M
Channelization - Development - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH75 17	04-310	5.20	0.00	04100001-	Huron Erie Lake Plain

WB Name: ***SIBLEY CREEK*** | County: **LUCAS CO**

Aquatic Life Use(s): **LRW** | Segment Length: **5.20**

Assessment Cycle: **1998** | Field Data Collected From: **199608 to 199610** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 5.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						0.50	4.70

Comments: No fish were captured in the upper section of this stream in 1993 or 1996. Near the mouth, some fish were present. A strong creosote odor was present in the sediments as were elevated PCBs. The substrates at river mile 0.8 were hot (temperature).

Causes of Impairment:
- *Priority organics - H*
- *Thermal modifications - H*

Sources of Impairment:
- *Contaminated sediments - H*
- *Landfills - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH75 18	04-320	25.47	0.00	04100001-	Huron Erie Lake Plain

WB Name: ***TENMILE CREEK*** | County: **LUCAS CO**

Aquatic Life Use(s): **WWH** | Segment Length: **25.47**

Assessment Cycle: **1996** | Field Data Collected From: **199206 to 199309** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 10.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: PCB's were found in carp tissue samples. Additionally, DDT breakdown products, chlordane isomers, dieldrin and small amounts of heptachlorepoxide,selenium,mercury,and lead were reported. Fillets of northern pike were also slightly contaminated with DDT breakdown products, dieldrin, mercury and selenium. The pesticide problem is due to agriculture input. Tenmile Creek is affected somewhat by agricultural inputs. The stream scores well compared to other streams in the ecoregion. Nonpoint source pollution inputs are probably the cause of most of the lingering problems.

Causes of Impairment:
- *Other habitat alterations - H*
- *Pesticides - M*
- *Priority organics - M*
- *Siltation - S*
- *Metals - S*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Land development/Suburbanization - M*
- *Removal of riparian vegetation - Dev - S*
- *Dam construction - Development - S*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH75 19	04-321	6.50	0.00	04100001-017	Huron Erie Lake Plain

WB Name: ***NORTH BRANCH TENMILE CREEK*** County: **LUCAS CO**

Aquatic Life Use(s): **WWH** Segment Length: **6.50**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Creek chubs were found to contain significant concentrations of pesticides (DDT breakdown products, chlordane isomers, dieldrin) and PCBs. The metals cadmium, mercury and selenium were also noted. Flow seems to be a major problem, probably due to urbanization of the watershed. Contaminants seem like typical agriculture and suburban sources of pesticides. It is unknown where the PCB's are coming from; possibly from spillage over the years.

Causes of Impairment:

Flow alteration - H
Pesticides - M
Priority organics - M
Metals - S
Other habitat alterations - S

Sources of Impairment:

Flow reg./mod. - Development - H
Land development/Suburbanization - M
Other Urban Runoff - M
Highway/road/bridge/sewer line - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH75 25	04-068	6.00	0.00	04100001-	Huron Erie Lake Plain

WB Name: ***SHANTEE CREEK*** County: **LUCAS CO**

Aquatic Life Use(s): **LRW,MWH-C** Segment Length: **6.00**

Assessment Cycle: **1996** Field Data Collected From: **199206 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 6.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fish tissue is contaminated with PCBs, pesticides and metals. Sediments contained oily material that leaves a sheen on the surface of the water. Sources are probably urban nonpoint source runoff, along with spills and dumping from numerous industrial plants located along the stream.

Causes of Impairment:

Priority organics - H
Other habitat alterations - H
Unknown toxicity - M
Pesticides - M
Metals - M
Organic enrichment/DO - M
Flow alteration - M
Oil and grease - M

Sources of Impairment:

Minor Industrial Point Source - H
Removal of riparian vegetation - Dev - H
Other Urban Runoff - M
Onsite wastewater systems (septic tanks) - M
Channelization - Development - M
Streambank destabilization - Dev - M
Contaminated sediments - M

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH75 25.1	**04-089**	**2.05**	**0.00**	**04100001-**	**Huron Erie Lake Plain**

WB Name: ***TIFFT DITCH*** County: **LUCAS CO**

Aquatic Life Use(s): **LRW** Segment Length: **2.05**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is an urban, channelized ditch. It has heavy silt, no riparian, no habitat, and highly variable flows.

Causes of Impairment:

Other habitat alterations - H
Siltation - M
Flow alteration - M

Sources of Impairment:

Land development/Suburbanization - H
Streambank destabilization - Dev - H
Other Urban Runoff - M
Channelization - Development - M
Removal of riparian vegetation - Dev - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH75 26	**04-069**	**6.90**	**0.00**	**04100001-**	**Huron Erie Lake Plain**

WB Name: ***SILVER CREEK*** County: **LUCAS CO**

Aquatic Life Use(s): **LRW** Segment Length: **7.30**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 7.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream is channelized, with the channel having been relocated in spots. Heavy silt was present. Many storm sewers and other pipes discharge to the stream. Little riparian cover was present, along with little instream habitat other than trash. The flow regime is highly variable. Sediments were full of oily residues. Fish tissue samples contain PCBs, pesticides and metals. Sources may include urban nonpoint source pollution or illegal dumping.

Causes of Impairment:

Priority organics - H
Other habitat alterations - H
Pesticides - M
Metals - M
Nutrients - M
Flow alteration - M
Oil and grease - M
Organic enrichment/DO - S

Sources of Impairment:

Land development/Suburbanization - H
Channelization - Development - M
Removal of riparian vegetation - Dev - M
Streambank destabilization - Dev - M
Contaminated sediments - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH75 26.1	04-088	1.43	0.00	04100001-	Huron Erie Lake Plain

WB Name: ***KETCHAM DITCH*** | County: **LUCAS CO**

Aquatic Life Use(s): **LRW** | Segment Length: **1.43**

Assessment Cycle: **1996** | Field Data Collected From: **199306 to 199309** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.43

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is an urban drainage ditch. It is heavily silted and channelized, with little upstream cover and no riparian corridor.

Causes of Impairment:
- *Other habitat alterations - H*
- *Siltation - M*
- *Flow alteration - M*

Sources of Impairment:
- *Land development/Suburbanization - H*
- *Streambank destabilization - Dev - H*
- *Other Urban Runoff - M*
- *Channelization - Development - M*
- *Removal of riparian vegetation - Dev - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH76 4	16-215	17.85	0.00	04100010-004	Huron Erie Lake Plain

WB Name: ***TOUSSAINT CREEK (TRIB. E. OF GENOA TO TOUSSAINT R)*** | County:

Aquatic Life Use(s): **WWH** | Segment Length: **17.85**

Assessment Cycle: **1996** | Field Data Collected From: **199306 to 199309** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Channelization in the past has destroyed the morphology. Little instream habitat and high siltation limit the fish community. Agricultural runoff (chemicals) may also be a problem. Slightly elevated levels of mercury were reported in fish tissue samples.

Causes of Impairment:
- *Other habitat alterations - H*
- *Siltation - M*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Channelization - Agriculture - M*
- *Highway/road/bridge/sewer line - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH76 5	16-215	38.32	17.85	04100010-004	Huron Erie Lake Plain

WB Name: ***TOUSSAINT CREEK (HEADWATERS TO TRIB. E. OF GENOA)*** | County:

Aquatic Life Use(s): **WWH** | Segment Length: **20.47**

Assessment Cycle: **1996** | Field Data Collected From: **199306 to 199309** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Some large storm sewer inputs provide deep pools for fish. Channelization and little riparian cover, along with heavy silt and minimal habitat, result in a degraded fish community. Agricultural inputs (chemicals) hinder the situation further.

Causes of Impairment:
- *Other habitat alterations - H*
- *Siltation - M*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Other Urban Runoff - M*
- *Channelization - Agriculture - M*
- *Dredging - Agriculture - M*
- *Removal of riparian vegetation - Ag - M*
- *Streambank destabilization - Ag - M*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH76 9	**16-212**	**6.40**	**0.00**	**04100010-**	**Huron Erie Lake Plain**

WB Name: ***SOUTH BRANCH TURTLE CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **6.40**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Sewage sludge is present in the stream, with the source is unknown. There was little to no habitat due to dredging and channelization. No riparian zone was present. Agricultural inputs and siltation limit the stream community.

Causes of Impairment:

Other habitat alterations - H
Siltation - M
Organic enrichment/DO - M
Flow alteration - M

Sources of Impairment:

Channelization - Agriculture - H
Nonirrigated crop production - M
Removal of riparian vegetation - Ag - M
Streambank destabilization - Ag - M
Source Unknown - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH76 11	**16-205**	**28.07**	**0.00**	**04100010-**	**Huron Erie Lake Plain**

WB Name: ***CRANE CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **28.07**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 7.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: PCBs and pesticides were reported in fish tissue samples at significant concentrations. The source is probably agricultural, or the railroad yard. Agricultural runoff probably contributes to the chemical contaminants found in the fish. Consistant flow is also a problem.

Causes of Impairment:

Other habitat alterations - H
Siltation - M
Pesticides - S
Priority organics - S
Metals - S
Flow alteration - S

Sources of Impairment:

Nonirrigated crop production - H
Removal of riparian vegetation - Ag - M
Land development/Suburbanization - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH76 13	16-207	3.50	0.00	04100010-	Huron Erie Lake Plain	

WB Name: ***LITTLE CRANE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **3.50**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	3.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a typical northwest Ohio drainage ditch. The flow regime is quite variable (dry at second fish sampling pass). Agricultural inputs probably impact the stream as well, either toxic or otherwise.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H
Siltation - M

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - M
Removal of riparian vegetation - Ag - M
Streambank destabilization - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH76 14	16-208	9.00	0.00	04100010-	Huron Erie Lake Plain	

WB Name: ***HENRY CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **9.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	7.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Sewage sludge and grey water impacts are significant pollutans inputs. Poor habitat, and evidence of wide variation in flow, also contribute to stream's demise . Large amounts of trash were in the stream.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H
Siltation - M
Organic enrichment/DO - M

Sources of Impairment:

Nonirrigated crop production - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Package Plants (Small Flows) - M
Channelization - Agriculture - M
Onsite wastewater systems (septic tanks) - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH76 18	16-202	23.95	0.00	04100010-	Huron Erie Lake Plain	

WB Name: ***CEDAR CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **23.95**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	8.00	8.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: PCBs and pesticides were detected in fish tissue samples. Contamination was significant. The probable sources are the railroad yards, the village of Wallbridge, and agricultural sources. There was a combination of habitat degradation, probable toxic inputs of chemicals via NPS runoff, and possible point sources. Much trash and other materials (i.e.,railroad ties, railroad paraphenalia) were in the stream. The fish community was poor, with macroinvertebrates better in some spots. There may be a polycyclic aromatic hydrocarbons (PAH) problem with all of the railroad ties found in the stream.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H
Pesticides - M
Priority organics - M
Metals - M

Sources of Impairment:

Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Nonirrigated crop production - M
Channelization - Agriculture - M
Flow regulation/modification - Ag - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH76 18	**16-202**	**23.95**	**0.00**	**04100010-**	**Huron Erie Lake Plain**

WB Name: ***CEDAR CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **23.95**

Siltation - M *Minor Municipal Point Source - S*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH76 19	**16-203**	**11.50**	**0.00**	**04100010-**	**Huron Erie Lake Plain**

WB Name: ***DRY CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **11.50**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 0.00**	**Partial: 0.00**	**None 7.50**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: PCBs and pesticides are apparent in carp tissue samples. The source could be runoff from railroad yard operations and agriculture. It probably extends through the whole stream, but was not documented. The habitat is destroyed, runoff is most likely toxic, sedimentation is filling in the stream, and much trash was present.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H
Pesticides - M
Priority organics - M
Metals - M
Siltation - M
Organic enrichment/DO - S

Sources of Impairment:

Nonirrigated crop production - H
Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - M
Dredging - Agriculture - M
Land development/Suburbanization - M
Other Urban Runoff - S
Onsite wastewater systems (septic tanks) - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH76 21.1	**16-221**	**2.43**	**0.00**	**04100010-**	**Huron Erie Lake Plain**

WB Name: ***DRIFTMEYER DITCH*** County: **LUCAS CO**

Aquatic Life Use(s): **NONE** Segment Length: **2.43**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 0.00**	**Partial: 0.00**	**None 2.43**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream is an agricultural drainage ditch. Channelization and siltation severely limit the potential of the stream. There are some problems with poorly performing septic systems along the end of the segment. Nutrient enrichment is obvious from the upstream farms.

Causes of Impairment:

Other habitat alterations - H
Nutrients - M
Siltation - M
Organic enrichment/DO - S

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - H
Removal of riparian vegetation - Ag - M
Streambank destabilization - Ag - M
Land development/Suburbanization - S
Onsite wastewater systems (septic tanks) - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH76 21.11	**16-222**	**4.40**	**0.00**	**04100010-**	**Huron Erie Lake Plain**

WB Name: ***AMLOSCH DITCH*** County: **LUCAS CO**

Aquatic Life Use(s): **NONE** Segment Length: **4.40**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	4.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream is a channelized, silted, deforested ditch. Field tiles drain into it in numerous places.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H
Nutrients - M
Siltation - M

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - H
Specialty crop production - M
Dredging - Agriculture - M
Removal of riparian vegetation - Ag - M
Streambank destabilization - Ag - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH76 23	**16-201**	**8.25**	**0.00**	**04100010-**	**Huron Erie Lake Plain**

WB Name: ***WOLF CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **8.25**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream is a channelized ditch, containing a tolerant fish community. Farm runoff probably has the most direct impact, with lack of habitat a secondary cause.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H
Nutrients - H
Siltation - M

Sources of Impairment:

Removal of riparian vegetation - Ag - H
Streambank destabilization - Ag - H
Channelization - Agriculture - H
Dredging - Agriculture - H
Nonirrigated crop production - H
Land development/Suburbanization - M
Highway/road/bridge/sewer line - S

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH77 3	16-102	14.30	0.00	04100010-010	Huron Erie Lake Plain

WB Name: ***BULL CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **14.30**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 14.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The segment assessed was recently channelized. No riparian vegetation existed except a narrow filter strip.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H
Removal of riparian vegetation - Ag - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH77 4	16-103	22.90	0.00	04100010-	Huron Erie Lake Plain

WB Name: ***ROCKY FORD*** County:

Aquatic Life Use(s): **WWH** Segment Length: **22.90**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.40	Full, But Threatened: 0.00	Partial: 0.00	None 9.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Unsewered residential areas, stream dewatering, and combined sewer overflows are the major sources of impairment in Rocky Ford.

Causes of Impairment:
Organic enrichment/DO - H
Flow alteration - M
Metals - S

Sources of Impairment:
Combined Sewer Overflow - H
Onsite wastewater systems (septic tanks) - H
Upstream Impoundment - M
Minor Municipal Point Source - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH77 4.1	16-106	1.40	0.00	04100010-	Huron Erie Lake Plain

WB Name: ***KOA TRIB.*** County:

Aquatic Life Use(s): **NONE** Segment Length: **2.00**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199407** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The KOA tributary is a channelized ditch.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH77 5	16-101	19.60	0.00	04100010-	Huron Erie Lake Plain	

WB Name: ***MIDDLE BR. PORTAGE R.(HEADWATERS TO ROCKY FORD)***

Aquatic Life Use(s): **WWH** Segment Length: **19.60**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.70	Full, But Threatened: 0.00	Partial: 10.90	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The Wood County Engineers does routine channelization and maintenance work in the upper portion of the Middle Branch Portage River watershed. The effects of channelization and riparian removal impair aquatic life uses in this segment.

Causes of Impairment:

Other habitat alterations - H

Sources of Impairment:

Channelization - Agriculture - H
Removal of riparian vegetation - Ag - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH77 6	16-104	10.70	0.00	04100010-	Huron Erie Lake Plain	

WB Name: ***NEEDLES CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **10.70**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 10.70	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The entire length of Needles Creek is subject to channelization. Row crop agriculture and channelization were both sources of non-attainment.

Causes of Impairment:

Other habitat alterations - T

Sources of Impairment:

Channelization - Agriculture - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH77 8	16-105	24.37	0.00	04100010-009	Huron Erie Lake Plain	

WB Name: ***EAST BRANCH PORTAGE RIVER***

Aquatic Life Use(s): **WWH** Segment Length: **24.37**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.87	None 22.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Combined sewer overflows are located in Fostoria. Several large industries are located in Fostoria. Because much of the contamination was present in the area upstream from the Fostoria WWTP, the industries are implicated as the source of the Polycyclic aromatic hydrocarbons (PAHs) and metals.

Causes of Impairment:

Priority organics - H
Metals - H
Organic enrichment/DO - H
Other habitat alterations - M
Nonpriority organics - S

Sources of Impairment:

Major Municipal Point Source - H
Combined Sewer Overflow - H
Onsite wastewater systems (septic tanks) - H
Channelization - Development - M
Nonirrigated crop production - S
Pasture land - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH77 9	16-100	19.60	7.87	04100010-008	Huron Erie Lake Plain	

WB Name: ***SOUTH BRANCH (HEADWATERS TO E. BR. PORTAGE R.)***

Aquatic Life Use(s): **WWH** Segment Length: **11.73**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	11.73	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Low flows were primarily responsible for the fair performance of the macroinvertebrate community. The low flows may result from water appropriations (i.e., irrigation and livestock).

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Flow alteration - H*

Sources of Impairment:
- *Pasture land - H*
- *Nonirrigated crop production - H*
- *Onsite wastewater systems (septic tanks) - S*
- *Streambank destabilization - Ag - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH77 10	16-007	25.80	0.00	04100010-006	Huron Erie Lake Plain	

WB Name: ***NORTH BRANCH PORTAGE RIVER***

Aquatic Life Use(s): **WWH** Segment Length: **25.80**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	14.70	2.00	0.00	9.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The fish community at river mile 6.6 marginally supported the existing use designation. The Bowling Green Wastewater Treatment Plant discharges into Poe Ditch, and inputs high levels of nutrients to the North Branch Portage River. Channelizaton in the headwaters, combined with intensive agricultural practices and nutrient enrichment from the city of Bowling Green, were the causes of marginal performance.

Causes of Impairment:
- *Other habitat alterations - H*
- *Nutrients - T*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Municipal Point Sources - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH78 4	16-002	9.10	0.00	04100010-013	Huron Erie Lake Plain	

WB Name: ***LITTLE PORTAGE RIVER***

Aquatic Life Use(s): **WWH** Segment Length: **9.10**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	3.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The lower 3.8 miles of the Little Portage River are influenced by Lake Erie. The river in this portion is heavily silted and nutrient enriched. It is shallow and becomes depleted of oxygen at night.

Causes of Impairment:
- *Siltation - H*
- *Organic enrichment/DO - H*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Channelization - Agriculture - H*
- *Drainage/filling of wetlands - Ag - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH78 8	**16-006**	**17.80**	**0.00**	**04100010-**	**Huron Erie Lake Plain**

WB Name: ***SUGAR CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **17.80**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 8.91	Full, But Threatened: 8.89	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The upper half of the Sugar Creek watershed is channelized, and the channels are actively maintained on a 3 to 4 year cycle. Nutrient enrichment is from nonpoint sources, chiefly row crop agriculture and dairy operations.

Causes of Impairment:

Other habitat alterations - T
Nutrients - T

Sources of Impairment:

Channelization - Agriculture - T
Nonirrigated crop production - T
Feedlots (Confined Animal Feeding Oper.) - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH78 9	**16-001**	**35.21**	**17.50**	**04100010-**	**Huron Erie Lake Plain**

WB Name: ***PORTAGE RIVER (NORTH BRANCH TO SUGAR CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **17.71**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 16.51	Full, But Threatened: 1.00	Partial: 0.20	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Nutrient enrichment currently impairs 0.2 miles of the stream. Increases in the load could expand the miles of non-attainment or partial attainment. Nutrient loadings from the city of Bowling Green Wastewater Treatment Plant contribute to the nutrient enrichment in the Portage River mainstem. The Bowling Green Wastewater Treatment Plant contributes high levels of phosphorous. The city of Woodville contributes NH3, with the resulting mix causing algal blooms.

Causes of Impairment:

Nutrients - H
Organic enrichment/DO - M
Nutrients - T

Sources of Impairment:

Major Municipal Point Source - H
Nonirrigated crop production - M
Specialty crop production - S
Combined Sewer Overflow - S
Municipal Point Sources - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH79 16	**05-300**	**42.30**	**26.74**	**04100011-011**	**Eastern Corn Belt Plain**

WB Name: ***TYMOCHTEE CREEK (L. TYMOCHTEE CR. TO WARPOLE CR.)*** County: **WYANDOT CO**

Aquatic Life Use(s): **WWH** Segment Length: **15.56**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199808** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 15.56

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					14.00	1.56	

Comments: The middle portion of the Tymochtee Creek mainstem retains much of its natural condition with a good riparian buffer. However, substrates are silty and muddy. Sluggish flow and poor instream habitat contribute to degraded biological conditions. The fish and macroinvertebrate communities both scored in the fair range throughout most of this segment. Manure spreading in the region is a concern, but sampling done in Tymochtee Creek before the construction of the BEF facilities showed similar results to post-construction sampling. Much of the impairment is due to the natural soils of the region.

Causes of Impairment:

Siltation - H
Suspended solids - M
Nutrients - S

Sources of Impairment:

Nonirrigated crop production - H
Natural - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH79 16.1	**05-327**	**3.13**	**0.00**	**04100011-**	

WB Name: ***TRIB. TO TYMOCHTEE CREEK (RM 40.30)*** County: **WYANDOT CO**

Aquatic Life Use(s): **MWH-C** Segment Length: **3.13**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199808** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.00	

Comments: This is a small, highly modified stream. A Buckeye Egg Farm facilty is located in the headwaters. Instream biological conditions were found to be poor. Heavy silt and poor habitat were causes of impairment.

Causes of Impairment:

Siltation - H
Organic enrichment/DO - H
Flow alteration - H
Other habitat alterations - H
Nutrients - S

Sources of Impairment:

Channelization - Agriculture - H
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH79 19	05-316	12.50	0.00	04100011-	Eastern Corn Belt Plain

WB Name: ***LITTLE TYMOCHTEE CREEK (UPSTREAM)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **12.50**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199808** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00		

Comments: One site was sampled in this segment at river mile 5.5. The stream appears to have been historically channelized, but showed no signs of instream recovery. A riparian of mature trees was present, but substrates were very mucky, with no riffles present. Poor habitat and sluggish flow contributed to the impairment of the biological communities.

Causes of Impairment:
Siltation - H
Organic enrichment/DO - H

Sources of Impairment:
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH79 22	05-300	54.80	42.30	04100011-011	Eastern Corn Belt Plain

WB Name: ***TYMOCHTEE CREEK (HEADWATERS TO L. TYMOCHTEE CR.)*** County: MARION CO

Aquatic Life Use(s): **WWH** Segment Length: **12.50**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199808** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 12.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						12.50	

Comments: This entire segment of Tymochtee Creek was not attaining its use designation. Historical channelization has left the stream with long pools, mucky substrates and few riffles. Despite a riparian of mature trees, along with woody debris cover within the stream, the segment scored in the poor range biologically.

Causes of Impairment:
Suspended solids - H
Siltation - H
Organic enrichment/DO - H
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH79 22.1	05-324	4.44	0.00	04100011-	Eastern Corn Belt Plain

WB Name: ***BLOOD RUN*** County: MARION CO

Aquatic Life Use(s): **WWH** Segment Length: **4.44**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.44

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						4.44	

Comments: This stream had very good habitat for a small headwaters stream in the area. Good riparian, sustained flow, and sufficient cover were all present, forming the potential for the biological community to meet Warmwater Habitat criteria. However, very few fish were captured. The cause or source of these results is unknown. Manure spreading activities are scheduled for fields within the basin. Future biological monitoring is recommended.

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH79 23	05-319	7.40	0.00	04100011-	Eastern Corn Belt Plain

WB Name: ***PAWPAW RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **7.40**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199808** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00		

Comments: Pawpaw Run has portions which are channelized inter-mixed with natural sections. Habitat at river mile 4.3 was marginally good (QHEI=56). Negative influences from land use apparently impair the fish community, as tolerant species were dominant. The macroinvertebrates did not appear to be affected, with an assessment rated as good.

Causes of Impairment:
Other habitat alterations - H
Siltation - H

Sources of Impairment:
Nonirrigated crop production - H
Channelization - Agriculture - H
Natural - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH79 24	05-320	3.60	0.00	04100011-	Eastern Corn Belt Plain

WB Name: ***CARROLL DITCH*** County: MARION CO

Aquatic Life Use(s): **MWH-C** Segment Length: **3.60**

Assessment Cycle: **1998** Field Data Collected From: **199509 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.60	

Comments: This stream is a channelized ditch which flows near the Killdeer Plains Wildlife Area. Low flow and poor habitat account for the non-attainment status.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H
Removal of riparian vegetation - Ag - H
Natural - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH79 25	05-321	2.90	0.00	04100011-	Eastern Corn Belt Plain

WB Name: ***ENOCH CREEK*** County: MARION CO

Aquatic Life Use(s): **WWH** Segment Length: **2.90**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.90		

Comments: This stream may have been channelized many years ago. Riparian consisted of mature trees, but riffle/pool development was lacking. Low flow and poor habitat probably account for non-attainment status. The high percentage of herbivores in the fish community suggests nutrient enrichment. Future manure spreading activities are scheduled for fields within the basin.

Causes of Impairment:
Nutrients - H

Sources of Impairment:
Nonirrigated crop production - H
Natural - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH79 26	05-322	7.10	0.00	04100011-	Eastern Corn Belt Plain	MARION CO

WB Name: ***PRAIRIE RUN***

Aquatic Life Use(s): **WWH** Segment Length: **7.10**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	7.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						7.10	

Comments: Channelization is the major cause of non-attainment for the entire length of the this stream. Stream maintenance is performed regularly in the upper watershed. The lower portion was channelized historically, but had a good riparian consisting of mature trees. No recovery of the riffle/pool development was observed. The biological community was poor.

Causes of Impairment:
- *Siltation - H*
- *Other habitat alterations - H*
- *Nutrients - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Removal of riparian vegetation - Ag - H*
- *Nonirrigated crop production - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH79 27	05-323	4.20	0.00	04100011-	Eastern Corn Belt Plain	MARION CO

WB Name: ***THOMPSON DITCH***

Aquatic Life Use(s): **MWH-C** Segment Length: **4.20**

Assessment Cycle: **1998** Field Data Collected From: **199509 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	4.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						4.20	

Comments: This is a small, channelized headwaters stream which flows near the Killdeer Plains Wildlife Area. The fish community scored in the poor range. Low flow and poor habitat are contributing factors to the non-attainment status. The water had a bluish-gray cast to it, possibly from suspended clay particles.

Causes of Impairment:
- *Other habitat alterations - H*
- *Nutrients - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Natural - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH80 9	05-001	94.48	77.40	04100011-012	Eastern Corn Belt Plain	WYANDOT CO

WB Name: ***SANDUSKY RIVER (BROKEN SWORD CREEK TO ROCK RUN)***

Aquatic Life Use(s): **WWH** Segment Length: **17.08**

Assessment Cycle: **1992** Field Data Collected From: **199007 to 199010** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	11.58	5.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
- *Siltation - H*
- *Organic enrichment/DO - M*
- *Unionized Ammonia - S*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Municipal Point Sources - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH80 11	05-033	12.50	0.00	04100011-032	Eastern Corn Belt Plain

WB Name: ***LITTLE SANDUSKY RIVER*** County:

Aquatic Life Use(s): **WWH** Segment Length: **12.50**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 9.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					6.80	2.50	

Comments: The upper site in this segment had knee-deep black muck, and was choked with arrowleaf plants. The lower site had habitat more suitable for supporting a Warmwater Habitat biological community. Silt load and fine-grained substrates are probably limiting factors.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Siltation - H*
- *Noxious aquatic plants - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Nonirrigated crop production - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH80 11.1	05-070	4.63	0.00	04100011-	Eastern Corn Belt Plain

WB Name: ***TRIB. TO LITTLE SANDUSKY R. (RM 8.93)*** County: MARION CO

Aquatic Life Use(s): **MWH-C** Segment Length: **4.63**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.63

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						4.63	

Comments: This stream is a channelized ditch with little to no tree cover and grass banks. The channel was filled with thigh-deep black muck. The fish and macroinvertebrate communities both scored in the poor range.

Causes of Impairment:
- *Siltation - H*
- *Organic enrichment/DO - H*
- *Other habitat alterations - H*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Channelization - Agriculture - H*
- *Removal of riparian vegetation - Ag - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH80 17	05-001	116.32	94.48	04100011-013	Eastern Corn Belt Plain

WB Name: ***SANDUSKY RIVER (UNNAMED TRIB. TO BROKEN SWORD CR.)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **21.84**

Assessment Cycle: **1992** Field Data Collected From: **199007 to 199010** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.84	Full, But Threatened: 0.00	Partial: 10.80	None 3.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Siltation - H*
- *Priority organics - S*

Sources of Impairment:
- *Municipal Point Sources - H*
- *Nonirrigated crop production - H*
- *Other Urban Runoff - M*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH81 1	**05-001**	**42.98**	**22.73**	**04100011-008**	**Eastern Corn Belt Plain**

WB Name: ***SANDUSKY RIVER (BELLS RUN TO WOLF CREEK)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **20.25**

Assessment Cycle: **1992** Field Data Collected From: **199007 to 199010** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**18.05**	**Full, But Threatened:**	**0.00**	**Partial:**	**2.00**	**None** **0.20**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Municipal Point Sources - H
Combined Sewer Overflow - H
Upstream impoundment - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH81 23	**05-001**	**57.71**	**42.90**	**04100011-009**	**Eastern Corn Belt Plain**

WB Name: ***SANDUSKY RIVER (SYCAMORE CREEK TO BELLS RUN)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **14.81**

Assessment Cycle: **1992** Field Data Collected From: **199007 to 199010** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**9.30**	**Full, But Threatened:**	**0.00**	**Partial:**	**5.51**	**None** **0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
Siltation - H

Sources of Impairment:
Nonirrigated crop production - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH82 15	**05-005**	**23.90**	**0.00**	**04100011-007**	**Huron Erie Lake Plain**

WB Name: ***WOLF CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **23.90**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199208** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**1.90**	**Partial:**	**0.00**	**None** **0.70**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: A 401 project was proposed within the study reach. Additional habitat modification is a threat to the attaining portion of the segment. The biosurvey was performed in a response to a 401 application to modify the channel of Wolf Creek. The recommendation was to prohibit in-channel modification. The fish community was on the edge of attainment (both full and non), suggesting recovery from past modification is underway.

Causes of Impairment:
Other habitat alterations - H
Other habitat alterations - T

Sources of Impairment:
Channelization - Agriculture - H
Channelization - Agriculture - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH82 21.1	05-223	12.14	0.00	04100011-	Huron Erie Lake Plain	SANDUSKY CO

WB Name: ***GRIES DITCH***

Aquatic Life Use(s): **WWH** Segment Length: **12.14**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 12.14

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						12.14	

Comments: Past channelization greatly disturbed the habitat of this stream by scraping it down to the bedrock. Fracturing of the bedrock substrate is gradually allowing the stream to return to natural conditions. Cattle have direct access to the stream, resulting in heavy nutrient enrichment.

Causes of Impairment:

Nutrients - H
Organic enrichment/DO - H
Other habitat alterations - H

Sources of Impairment:

Pasture land - H
Channelization - Agriculture - H
Nonirrigated crop production - H
Onsite wastewater systems (septic tanks) - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH83 3.3	05-058	5.70	0.00	04100011-	Huron Erie Lake Plain	ERIE CO

WB Name: ***CASWELL DITCH***

Aquatic Life Use(s): **WWH** Segment Length: **5.70**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.70	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.70				

Comments: This stream is a channelized ditch. Good groundwater flow helps this stream meet its use designation.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH83 11	05-045	14.90	0.00	04100011-	Huron Erie Lake Plain	SANDUSKY CO

WB Name: ***RACCOON CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **14.90**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.50	Full, But Threatened: 0.00	Partial: 1.00	None 11.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.50	11.00	0.40

Comments: This stream is impacted by sewer overflows and poor performance by the Clyde WWTP. Whirlpool Corporation contributes to the problems by adding significant loads of nitrate-nitrite to the Clyde WWTP. The fish and macroinvertebrate communities were both severely impaired.

Causes of Impairment:

Organic enrichment/DO - H
Other habitat alterations - H
Organic enrichment/DO - M
Siltation - M
Metals - M
Nutrients - S

Sources of Impairment:

Major Municipal Point Source - H
Channelization - Development - H
Major Municipal Point Source - M
Onsite wastewater systems (septic tanks) - M
Contaminated sediments - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH83 11.1	05-053	7.29	0.00	04100011-	Huron Erie Lake Plain

WB Name: ***LITTLE RACCOON CREEK*** County: **SANDUSKY CO**

Aquatic Life Use(s): **WWH** Segment Length: **7.29**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	7.29

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						7.29	

Comments: This segment is a channelized headwaters stream.

Causes of Impairment:
- *Other habitat alterations - H*
- *Organic enrichment/DO - S*
- *Siltation - S*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Onsite wastewater systems (septic tanks) - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH84 1	12-001	14.70	0.00	04100012-004	Huron Erie Lake Plain

WB Name: ***HURON RIVER*** County: **ERIE CO**

Aquatic Life Use(s): **WWH** Segment Length: **14.70**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	4.90	0.00	0.00	9.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.40		2.50			9.80	

Comments: The upper 4.9 miles of the Huron River was found to support a community of aquatic organisms fully consistent with the WWH biological criteria. Several factors combine to render the WWH aquatic life use impaired for the lower 9.8 miles. The low gradient (lake affected) characteristics created ideal conditions for sediment deposition from upstream agricultural areas. Additionally, nutrient inputs from these and other upstream sources are retained within this segment due to protracted flushing rates, resulting in highly enriched conditions evidenced by elevated phosphorus, BOD and ammonia concentrations and highly erratic DO. Extensive sedimentation and hyper eutrophic conditions were identified as the primary associated stressors. These problems were further exacerbated by harbor/marina development and treated effluent discharged from the Erie County WWTP within the lower mile of the study area.

Causes of Impairment:
- *Siltation - H*
- *Other habitat alterations - M*
- *Nutrients - M*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Marina(s) - M*
- *Channelization - Agriculture - M*
- *Major Municipal Point Source - M*
- *Marina(s) - S*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH84 3	12-102	10.88	0.00	04100012-	Huron Erie Lake Plain

WB Name: ***RATTLESNAKE CREEK*** | County: **HURON CO**

Aquatic Life Use(s): **WWH** | Segment Length: **10.88**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.00				

Comments: Biological sampling within this segment found fish and macroinvertebrate communities both attaining WWH criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH84 3.1	12-104	2.90	0.00	04100012-	Huron Erie Lake Plain

WB Name: ***TRIB. TO RATTLESNAKE CREEK*** | County: **HURON CO**

Aquatic Life Use(s): **NONE** | Segment Length: **6.50**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 6.50	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					6.50		

Comments: Several factors combine to render the WWH use designation impaired. Upstream from the Norwalk WWTP, degraded physical habitat, urban land use and nutrients were identified as primary associated stressors. Similar factors were observed downstream from the WWTP. However, numerous water quality and NPDES permit exceedences were recorded and included ammonia, copper, aluminum and lead. Elevated concentrations of these parameters appeared associated with the WWTP.

Causes of Impairment:

Other habitat alterations - H
Cause Unknown - H
Siltation - M
Nutrients - M
Copper - M
Lead - M
Aluminum - M
Oil and grease - S

Sources of Impairment:

Channelization - Development - H
Major Municipal Point Source - H
Nonirrigated crop production - M
Other Urban Runoff - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH84 4	12-100	6.28	0.00	04100012-006	Eastern Corn Belt Plain

WB Name: ***EAST BRANCH HURON R. (NORWALK CREEK TO HURON R.)*** | County: **HURON CO**

Aquatic Life Use(s): **WWH** | Segment Length: **6.28**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.50	Full, But Threatened: 0.00	Partial: 4.78	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.50		4.78		

Comments: The results from the 1998 survey found that nearly every indicator of environmental quality was within acceptable ranges throughout the upper 4.78 miles of this segment. Partial attainment was a result of the fish community falling short of the WWH criteria. Lack of habitat quality was generally the main cause of departure from the criteria. Commonly encountered negative habitat features included channelization, embedded substrates, and fair to poor channel development. The remaining 1.5 miles of this stream segment had fish and macroinvertebrates communities which met WWH criteria.

Causes of Impairment:

Other habitat alterations - H
Siltation - M

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH84 5	12-103	11.43	0.00	04100012-	Eastern Corn Belt Plain	HURON CO

WB Name: ***NORWALK CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **11.43**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.20	7.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.80	6.20	

Comments: Multiple factos combined to render the WWH aquatic life use impaired. Nutrient enrichment from agricultural and urban sources, and segments of limited habitat were identified as the principal associated stressors.

Causes of Impairment:

Nutrients - H
Other habitat alterations - M

Sources of Impairment:

Nonirrigated crop production - H
Other Urban Runoff - M
Combined Sewer Overflow - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH84 6	12-101	11.00	0.00	04100012-	Eastern Corn Belt Plain	HURON CO

WB Name: ***COLE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **11.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	11.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			11.00				

Comments: Biological sampling locations within this segment contained fish and macroinvertebrate communities which attained WWH critieria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH84 7	12-100	30.64	6.28	04100012-006	Eastern Corn Belt Plain	HURON CO

WB Name: ***EAST BRANCH HURON R. (HEADWATERS TO NORWALK CR.)***

Aquatic Life Use(s): **WWH** Segment Length: **24.36**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	24.36	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					24.36		

Comments: The results from the 1998 survey found that nearly every indicator of environmental quality was within acceptable ranges. Only total phosphorus was found elevated, and this observation was limited to two stations. Partial attainment was a result of the fish community falling short of the WWH criteria. Lack of habitat quality was generally the main cause of departure from the criteria. Commonly encountered negative habitat features included channelization, embedded substrates, and fair to poor channel development.

Causes of Impairment:

Other habitat alterations - H
Siltation - M
Nutrients - S

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH84 8	12-200	10.52	0.00	04100012-005	Eastern Corn Belt Plain

WB Name: ***WEST BRANCH HURON R. (SLATE RUN TO EAST BRANCH)***

County: **HURON CO**

Aquatic Life Use(s): **WWH** Segment Length: **10.52**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 10.52	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			10.52				

Comments: All stations within this segment were found to contain fish and macroinvertebrate communities attaining WWH criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH84 9	12-201	11.20	0.00	04100012-008	Huron Erie Lake Plain

WB Name: ***SEYMOUR CREEK***

County: **HURON CO**

Aquatic Life Use(s): **WWH** Segment Length: **11.20**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.00				

Comments: One station in this segment was sampled near the mouth. The fish community attained WWH criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH84 10	12-202	5.00	0.00	04100012-	Huron Erie Lake Plain

WB Name: ***MEGGINSON CREEK***

County: **HURON CO**

Aquatic Life Use(s): **WWH** Segment Length: **5.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 5.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					5.00		

Comments: Macroinvertebrate communities and chemical indicators were within water quality standards. Impairment within this segment was caused by the fish community falling short of criteria. The structural and functional organization of the fish community indicated moderate nutrient enrichment.

Causes of Impairment:

Nutrients - H

Sources of Impairment:

Nonirrigated crop production - H
Natural - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH84 11	12-203	16.10	0.00	04100012-	Eastern Corn Belt Plain	HURON CO

WB Name: ***FRINK RUN***

Aquatic Life Use(s): **WWH** Segment Length: **16.10**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	16.10	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			16.10				

Comments: Despite modified habitat and agricultural enrichment, Frink Run was found to contain fish and macroinvertebrate communities which attained WWH criteria.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH84 14	12-206	19.50	0.00	04100012-009	Eastern Corn Belt Plain	HURON CO

WB Name: ***SLATE RUN***

Aquatic Life Use(s): **WWH** Segment Length: **19.50**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	15.40	0.00	4.10	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			15.40		4.10		

Comments: Only the lower 4.1 miles of Slate Run failed to meet WWH criteria. Departure from the criteria was a result of the fish community falling short of the WWH criteria. Habitat quality appeared to be the primary cause of impairment. Limited habitat features were a result of past channelization and natural conditions. Similar conditions were indicated during the original evaluation done in 1984.

Causes of Impairment:

Natural Limits (Wetlands) - H
Other habitat alterations - M

Sources of Impairment:

Natural - H
Dredging - Agriculture - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH84 15	12-207	10.20	0.00	04100012-	Eastern Corn Belt Plain	HURON CO

WB Name: ***MUD RUN***

Aquatic Life Use(s): **WWH** Segment Length: **10.20**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	5.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						5.00	

Comments: The East Branch of Mud Run was found to be impaired in 1998. Highly degraded physical habitat was identified as the primary cause/source of impairment. The portion of the segment which was assessed had been channelized, and had fine-particle substrates and high embeddedness. Nutrient enrichment, combined with the habitat conditions, resulted in multiple DO exceedences.

Causes of Impairment:

Other habitat alterations - H
Siltation - M
Nutrients - M

Sources of Impairment:

Channelization - Agriculture - H
Nonirrigated crop production - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH84 16	12-208	2.00	0.00	04100012-	Eastern Corn Belt Plain

WB Name: ***MUD RUN*** County:

Aquatic Life Use(s): **WWH** Segment Length: **2.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: Impairment in this segment was due to the macroinvertebrate community falling short of WWH criteria. Nutrient enrichment appeared to be the main cause. Agricultural land use and the channelized condition of the stream contributed to the impairment.

Causes of Impairment:
- *Other habitat alterations - H*
- *Organic enrichment/DO - M*
- *Nutrients - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Removal of riparian vegetation - Ag - M*
- *Nonirrigated crop production - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH84 18	12-200	35.84	10.52	04100012-005	Eastern Corn Belt Plain

WB Name: ***WEST BRANCH HURON RIVER (MARSH RUN TO SLATE RUN)*** County: HURON CO

Aquatic Life Use(s): **WWH** Segment Length: **25.32**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.60	Full, But Threatened: 0.00	Partial: 12.72	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			12.60		12.72		

Comments: Two portions of this stream segment fell short of WWH criteria. Impairment of the upper 6.64 miles of this segment represented incomplete recovery from the impact identified from the Plymouth WWTP. The remaining 6.08 miles of impairment were a result of poor habitat. This segment represents the only channel modified portion of the West Branch Huron River. All remaining portions of this segment were attaining WWH biological criteria.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Other habitat alterations - H*
- *Nutrients - M*

Sources of Impairment:
- *Major Municipal Point Source - H*
- *Channelization - Agriculture - H*
- *Nonirrigated crop production - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH84 18.1	12-213	7.00	0.00	04100012-	

WB Name: ***WALNUT CREEK*** County: HURON CO

Aquatic Life Use(s): **NONE** Segment Length: **7.00**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.80				

Comments: Walnut Creek was found to contain a community of aquatic organisms which fully attained WWH criteria.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH84 18.2	**12-214**	**3.50**	**0.00**	**04100012-**	

WB Name: ***TRIB. TO W. BR. HURON R. (RM 23.09)***

Aquatic Life Use(s): **NONE** Segment Length: **3.50**

County: **HURON CO**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	3.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.00	

Comments: Impairment in this segment (Holiday Lake tributary) was associated with the effects of impoundments upstream such as modified flow regime, export of organic material and nutrients, and anoxic releases.

Causes of Impairment:
- *Flow alteration - H*
- *Siltation - M*
- *Nutrients - M*

Sources of Impairment:
- *Upstream Impoundment - H*
- *Flow reg./mod. - Development - M*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH84 19	**12-210**	**11.00**	**0.00**	**04100012-**	**Eastern Corn Belt Plain**

WB Name: ***MARSH RUN***

Aquatic Life Use(s): **WWH** Segment Length: **11.00**

County: **HURON CO**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	5.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						5.00	

Comments: The combined effects of nutrient inputs from agricultural areas and channel modifications resulted in biological communities in this segment falling short of WWH criteria. Additional evidence of nutrient inputs included highly elevated phosphorus concentrations.

Causes of Impairment:
- *Nutrients - H*
- *Other habitat alterations - M*

Sources of Impairment:
- *Nonirrigated crop production - H*
- *Channelization - Agriculture - M*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH84 20	**12-200**	**53.20**	**35.84**	**04100012-005**	**Eastern Corn Belt Plain**

WB Name: ***WEST BRANCH HURON RIVER (HEADWATERS TO MARSH RUN)***

Aquatic Life Use(s): **WWH** Segment Length: **17.36**

County: **HURON CO**

Assessment Cycle: **2000** Field Data Collected From: **199807 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	14.80	0.00	0.46	2.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			14.80		0.46	2.10	

Comments: The lower 2.56 miles of the West Branch Huron River were found to be impaired. The biological communities fell short of WWH criteria, with the Plymouth WWTP identified as the primary stressor. Numerous NPDES permit violations were recorded which included BOD, total suspended solids and DO. Additionally, elevated phosphorus and ammonia were recorded.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Nutrients - M*

Sources of Impairment:
- *Major Municipal Point Source - H*
- *Nonirrigated crop production - M*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH84 21	12-211	2.10	0.00	04100012-	Eastern Corn Belt Plain

WB Name: ***JACOB CREEK*** | County: **HURON CO**

Aquatic Life Use(s): **WWH** | Segment Length: **2.10**

Assessment Cycle: **2000** | Field Data Collected From: **199807 to 199810** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	2.10	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.10	

Comments: Many factors combined to render the WWH use designation impaired. Channel modifications, sediment bedload, effluent from the Willard WWTP, and a spill or leak of petroleum (likely diesel fuel) were all contributing factors.

Causes of Impairment:
- *Oil and grease - H*
- *Other habitat alterations - H*
- *Siltation - M*
- *Nutrients - M*

Sources of Impairment:
- *Waste storage/storage tank leaks - H*
- *Channelization - Development - H*
- *Other Urban Runoff - M*
- *Natural - M*
- *Major Municipal Point Source - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH85 3	20-003	12.20	0.00	04110001-	Erie-Ontario Lake Plain

WB Name: ***BEAVER CREEK*** | County: **LORAIN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **12.20**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199707** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.30	0.00	6.10	3.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.30		6.10	3.40	1.40

Comments: Poor performance of the Amherst WWTP continues to impact Beaver Creek.

Causes of Impairment:
- *Unionized Ammonia - H*
- *Organic enrichment/DO - H*
- *Nutrients - M*
- *Siltation - M*

Sources of Impairment:
- *Major Municipal Point Source - H*
- *Onsite wastewater systems (septic tanks) - H*
- *Streambank destabilization - Ag - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH85 9	21-001	29.60	15.90	04110012-007	Eastern Corn Belt Plain

WB Name: ***VERMILION RIVER (EAST BRANCH TO EAST FORK)*** | County:

Aquatic Life Use(s): **WWH,EWH** | Segment Length: **13.70**

Assessment Cycle: **2000** | Field Data Collected From: **199707 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.80	0.00	0.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.80		1.00		

Comments:

Causes of Impairment:
- *Flow alteration - H*

Sources of Impairment:
- *Channelization - Agriculture - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH85 12	21-001	47.70	29.60	04110012-007	Erie-Ontario Lake Plain	HURON CO

WB Name: ***VERMILION RIVER (SOUTHWEST BRANCH TO EAST BRANCH)***

Aquatic Life Use(s): **WWH** Segment Length: **18.10**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	18.10	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			18.10				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH85 16	21-006	8.30	0.00	04110012-	Erie-Ontario Lake Plain	ASHLAND CO

WB Name: ***BUCK CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **8.30**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00		

Comments: The stream was channelized within the sampling reach between passes. The results between passes were not substantially different as the length channelized was fairly small (approximately 100 meters), and contiguous upstream and downstream reaches had intact habitat. A high fecal coliform count was noted in one chemical grab sample.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Channelization - Agriculture - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 2	20-001	15.65	0.00	04110001-004	Erie-Ontario Lake Plain	LORAIN CO

WB Name: ***BLACK RIVER***

Aquatic Life Use(s): **WWH,WWH-E** Segment Length: **15.65**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.70	0.00	4.20	7.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.70		4.20	0.90	6.80

Comments: Pollutant loadings to the lacusturine portion of the river contribute to anoxia. Residual and current sources of toxics, including metals and PAHs, continue to impair aquatic life in the Black River. CSOs and SSOs in Elyria contribute to the impairment in the free-flowing section of the mainstem, as well as contribute organic loads to the lacusturine portion.

Causes of Impairment:
Nutrients - H
Organic enrichment/DO - H
Total toxics - M

Sources of Impairment:
Major Municipal Point Source - H
Combined Sewer Overflow - H
Major Municipal Point Source - M
Major Industrial Point Source - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 3	20-002	15.80	0.00	04110001-018	Erie-Ontario Lake Plain	LORAIN CO

WB Name: ***FRENCH CREEK***

Aquatic Life Use(s): **WWH,WWH-E** Segment Length: **15.80**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.60	Full, But Threatened: 0.00	Partial: 2.00	None 13.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.60		2.00	11.20	2.00

Comments: An unknown source of toxicity is causing impairment in French Creek. A fish kill was observed by field personnel while sampling, but no source of toxicity could be traced. Several golf courses and nurseries line the creek. Sediment organics and pesticide scans should be collected upstream from North Ridgeville .

Causes of Impairment:
Unknown toxicity - H
Organic enrichment/DO - M

Sources of Impairment:
Source Unknown - H
Onsite wastewater systems (septic tanks) - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 4	20-010	12.00	0.00	04110001-006	Erie-Ontario Lake Plain	LORAIN CO

WB Name: ***EAST BRANCH (HILL SPAULDING DITCH TO W BR BLACK R)***

Aquatic Life Use(s): **WWH** Segment Length: **12.00**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.20	Full, But Threatened: 0.00	Partial: 4.80	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.20		4.80		

Comments: The partial attainment is in response to over-enrichment of phosphorus by the Grafton WWTP.

Causes of Impairment:
Nutrients - H
Organic enrichment/DO - M

Sources of Impairment:
Minor Municipal Point Source - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 4.2	20-018	8.93	0.00	04110001-	Erie-Ontario Lake Plain	LORAIN CO

WB Name: ***WILLOW CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **8.93**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 8.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					8.90		

Comments:

Causes of Impairment:
Other habitat alterations - H
Siltation - M
Organic enrichment/DO - M

Sources of Impairment:
Channelization - Agriculture - H
Source Unknown - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 5	20-010	24.39	12.00	04110001-006	Erie-Ontario Lake Plain	LORAIN CO

WB Name: ***EAST BRANCH (CROW CR. TO HILL SPAULDING DITCH)***

Aquatic Life Use(s): **WWH** Segment Length: **12.39**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.39	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			12.39				

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 5.1	20-030	7.57	0.00	04110001-	Erie-Ontario Lake Plain	LORAIN CO

WB Name: ***TRIB. TO EAST BRANCH BLACK R. (RM 22.65)***

Aquatic Life Use(s): **NONE** Segment Length: **7.57**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199607** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.57	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.57				

Comments: The fish community scored well within the Warmwater Habitat criteria (IBI=48). Mottled sculpin and Redside dace (cool-water species) were both present in significant numbers. Sampling done in 1977 by NOACA indicated the stream was below WWH criteria, while sampling by Ohio EPA in 1996 showed results close to Exceptional Warmwater Habitat. Future monitoring is recommended to follow the upward trend of the biological community.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 6	20-011	5.80	0.00	04110001-022	Erie-Ontario Lake Plain	LORAIN CO

WB Name: ***SALT CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.80**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199606** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 5.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					5.80		

Comments: General agriculture consisting of a mixture of row crop and pasture land is present throughout the basin. Silt was heavy in the stream channel. Habitat was available to support a Warmwater Habitat fish community, but silt is probably the limiting factor. Redside dace and Brook stickleback (cool-water species) were present in the fish community. Fish sampling done by NOACA in 1977 scored an IBI of 44, compared to an IBI of 34 in 1996 from EPA sampling. Future monitoring is recommended to see if the downward trend is continuing.

Causes of Impairment:	Sources of Impairment:
Siltation - H	*Nonirrigated crop production - H*

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH86 7	**20-010**	**45.07**	**24.39**	**04110001-006**	**Erie-Ontario Lake Plain**

WB Name: ***EAST BRANCH BLACK R. (W. FK. E. BR. TO CROW CR.)***

County:

Aquatic Life Use(s): **WWH** Segment Length: **20.68**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.50	**0.00**	**11.18**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.50		**11.18**		

Comments: The fine grained lacusturine and glacial deposits in the upper East Branch Black River watershed are susceptible to erosion, and because the soils are fine grained, removal of the riparian vegetation leads to bank destabilization. The bedload of sediment caused by bank erosion and some channelization to headwaters tributaries is the cause of partial attainment.

Causes of Impairment:

Siltation - H
Other habitat alterations - M

Sources of Impairment:

Nonirrigated crop production - H
Channelization - Agriculture - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH86 7.1	**20-031**	**7.65**	**0.00**	**04110001-**	**Erie-Ontario Lake Plain**

WB Name: ***TRIB. TO EAST BRANCH BLACK R. (RM 39.06)***

County: **MEDINA CO**

Aquatic Life Use(s): **NONE** Segment Length: **7.65**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199606** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	7.65	**0.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			7.65				

Comments: The fish results were well within the Warmwater Habitat criteria. The stream has excellent riparian for most of its length, and is very aesthetic. Cool-water fish species were abundant. No impacts were observed.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH86 7.2	**20-019**	**2.93**	**0.00**	**04110001-**	**Erie-Ontario Lake Plain**

WB Name: ***TRIB. TO EAST BRANCH BLACK R. (RM 41.4)***

County: **MEDINA CO**

Aquatic Life Use(s): **NONE** Segment Length: **2.93**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199606** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.93	**0.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.93						

Comments: The fish community was excellent (IBI=50). The presence of Southern redbelly dace, Redside dace, and Mottled sculpin in very large numbers indicates high quality water.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH86 7.3	**20-037**	**6.23**	**0.00**		County:

WB Name: ***TRIB. TO E. BR. BLACK R. (RM 28.50)***

Aquatic Life Use(s): **NONE** Segment Length: **6.23**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199607** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00		

Comments: This stream has been channelized in the past, and is in the stage of recovering. Habitat alteration is the primary cause of non-attainment. Tolerant species dominated the fish community. However, water quality is apparently not a major issue based on the presence of Mottled sculpin, Redside dace, and Brook stickleback (cool-water fish species).

Causes of Impairment: *Other habitat alterations - H*

Sources of Impairment: *Channelization - Agriculture - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH86 7.4	**20-038**	**8.61**	**0.00**		County:

WB Name: ***TRIB. TO E. BR. BLACK R. (RM 28.65)***

Aquatic Life Use(s): **NONE** Segment Length: **8.61**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199607** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	8.61	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			8.61				

Comments: There are no apparent problems in this stream. Cool-water fish species were present in large numbers. Land use in the basin is sparse residential and general agriculture. There is a good riparian of mature trees along much of the length of the stream.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH86 8	**20-012**	**5.40**	**0.00**	**04110001-015**	**Erie-Ontario Lake Plain**
					County:

WB Name: ***CROW CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.40**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199607** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	5.40	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.40				

Comments: This stream was borderline attaining Warmwater Habitat criteria. Marginal habitat, fine-grained substrates, and low flow all contribute to moderate IBI scores. Mottled sculpin and Brook stickleback (cool-water fish species) were present.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 9	20-013	7.70	0.00	04110001-	Erie-Ontario Lake Plain	MEDINA CO

WB Name: ***COON CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **7.70**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199606** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.80	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.80				

Comments: The sampling site was located just downstream from the dam at the City of Spencer lake. The fish community was highly influenced by the lake, with sunfish being very abundant. Habitat was good despite historical channelization of the north bank. Large cobble and shale chunks were abundant in the bedrock substrates. There was no change in the IBI score compared to sampling done in 1977 by NOACA.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 10	20-014	9.30	0.00	04110001-	Erie-Ontario Lake Plain	MEDINA CO

WB Name: ***EAST FORK EAST BRANCH BLACK RIVER***

Aquatic Life Use(s): **WWH** Segment Length: **9.30**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	9.30	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.30				

Comments: The East Fork East Branch Black River has a high quality fish assemblage. The potential exists for this stream to meet EWH with watershed protection and rehabilitation.

Causes of Impairment:
Other habitat alterations - T
Siltation - T

Sources of Impairment:
Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 11	20-015	17.20	0.00	04110001-	Erie-Ontario Lake Plain	MEDINA CO

WB Name: ***WEST FORK EAST BRANCH BLACK RIVER***

Aquatic Life Use(s): **WWH** Segment Length: **17.20**

Assessment Cycle: **1994** Field Data Collected From: **199206 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 12	20-016	5.40	0.00	04110001-	Erie-Ontario Lake Plain	MEDINA CO

WB Name: ***CLEAR CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.40**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199606** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.40	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.40				

Comments: The fish community appeared to be healthy (IBI=44). However, sampling done by NOACA in 1977 showed scores well into the Exceptional Warmwater Habitat range (IBI=56). The reason for the decline is unknown. Habitat was very good. Cool-water fish species were present in large numbers in 1996. Future biological monitoring is recommended to see if the downward trend is continuing.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 13	20-020	14.59	0.00	04110001-005	Erie-Ontario Lake Plain	LORAIN CO

WB Name: ***WEST BRANCH BLACK R. (ELK CR. TO E. BR. BLACK R.)***

Aquatic Life Use(s): **WWH** Segment Length: **14.59**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: A failing on-site septic system from a trailer park was observed within the sampling reach.

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Onsite wastewater systems (septic tanks) - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 13.1	20-027	5.40	0.00	04110001-	Erie-Ontario Lake Plain	LORAIN CO

WB Name: ***KELLNER DITCH***

Aquatic Life Use(s): **NONE** Segment Length: **5.40**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The stream is in partial attainment of WWH criteria. Siltation from agriculture and land development are the predominant problems.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Nonirrigated crop production - H
Land development/Suburbanization - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 14	**20-021**	**9.72**	**0.00**	**04110001-021**	**Erie-Ontario Lake Plain**	**LORAIN CO**

WB Name: ***PLUM CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **9.72**

Assessment Cycle: **2000** Field Data Collected From: **199707 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.60	None 8.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.60	8.10	

Comments: Sources of organic enrichment upstream from the Oberlin WWTP need to be remediated.

Causes of Impairment:
Organic enrichment/DO - H
Other habitat alterations - M

Sources of Impairment:
Onsite wastewater systems (septic tanks) - H
Channelization - Development - M
Source Unknown - M
Channelization - Agriculture - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 15	**20-022**	**5.70**	**0.00**	**04110001-017**	**Erie-Ontario Lake Plain**	**LORAIN CO**

WB Name: ***ELK CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.70**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 2.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The stream is in partial attainment of WWH criteria. There is siltation from pasture land and crop production.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Pasture land - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 16	**20-023**	**17.60**	**0.00**	**04110001-**	**Erie-Ontario Lake Plain**	**LORAIN CO**

WB Name: ***WELLINGTON CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **17.60**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 9.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Siltation is the cause of non-attainment within this segment.

Causes of Impairment:
Siltation - H
Nutrients - M

Sources of Impairment:
Nonirrigated crop production - H

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 17	20-020	26.65	14.59	04110001-005	Erie-Ontario Lake Plain	LORAIN CO

WB Name: ***WEST BRANCH BLACK R. (CHARLEMONT CR. TO ELK CR.)***

Aquatic Life Use(s): **WWH** Segment Length: **12.06**

Assessment Cycle: **1994** Field Data Collected From: **199206 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 12.06

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Heavy sediment and silt load in the stream are from row crop agriculture. It appears to be showing a declining trend.

Causes of Impairment:	Sources of Impairment:
Siltation - H	*Nonirrigated crop production - H*
Nutrients - H	

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 17.1	20-033	8.75	0.00	04110001-	Erie-Ontario Lake Plain	LORAIN CO

WB Name: ***TRIB. TO WEST BRANCH BLACK RIVER (RM 21.32)***

Aquatic Life Use(s): **NONE** Segment Length: **8.75**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream is in non-attainment of WWH criteria. Siltation was the major cause of impairment. The source of the siltation is presumed to be agriculture, but the stream had a good, woody riparian buffer.

Causes of Impairment:	Sources of Impairment:
Siltation - H	*Nonirrigated crop production - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH86 18	20-024	11.50	0.00	04110001-013	Erie-Ontario Lake Plain	LORAIN CO

WB Name: ***CHARLEMONT CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **11.50**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 7.00	None 3.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The partial and non attainment status is due to siltation from agriculture.

Causes of Impairment:	Sources of Impairment:
Siltation - H	*Nonirrigated crop production - H*
Nutrients - M	

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH86 18.1	20-036	5.70	0.00	04110001-	Erie-Ontario Lake Plain

WB Name: ***TRIB. TO CHARLEMONT CREEK (RM 9.06)*** | County: **LORAIN CO**

Aquatic Life Use(s): **NONE** | Segment Length: **5.70**

Assessment Cycle: **1996** | Field Data Collected From: **199407 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
Cause Unknown - H

Sources of Impairment:
Source Unknown - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH86 19	20-020	53.25	26.65	04110001-005	Erie-Ontario Lake Plain

WB Name: ***WEST BRANCH BLACK R. (HEADWATERS TO CHARLEMONT CR)*** | County: **LORAIN CO**

Aquatic Life Use(s): **WWH** | Segment Length: **26.60**

Assessment Cycle: **1996** | Field Data Collected From: **199407 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 6.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Siltation from agriculture and bedload deposition from bank erosion are causes of impairment.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Nonirrigated crop production - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH86 19.1	20-034	4.99	0.00	04110001-	Erie-Ontario Lake Plain

WB Name: ***GUTHRIE CREEK*** | County: **LORAIN CO**

Aquatic Life Use(s): **NONE** | Segment Length: **4.99**

Assessment Cycle: **1996** | Field Data Collected From: **199407 to 199410** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This stream segment is not attaining Warmwater Habitat criteria, although the use is unlisted. Siltation, nutrient enrichment from pasture land, and cattle with direct access to the stream (with resultant riparian damage) are causes of impairment.

Causes of Impairment:
Siltation - H
Nutrients - M

Sources of Impairment:
Pasture land - H
Range Grazing - Riparian - M

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH86 19.2	**20-035**	**6.63**	**0.00**	**04110001-**	**Erie-Ontario Lake Plain**

WB Name: ***EAST CREEK*** County: **LORAIN CO**

Aquatic Life Use(s): **NONE** Segment Length: **6.63**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	1.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The stream is in partial attainment of Warmwater Habitat criteria, although it is unlisted for stream use. The stream is intermittent during low rainfall periods.

Causes of Impairment:
Cause Unknown - H
Flow alteration - M

Sources of Impairment:
Source Unknown - H
Habitat Modifications o/than Hydromod. - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH86 20	**20-025**	**7.50**	**0.00**	**04110001-**	**Erie-Ontario Lake Plain**

WB Name: ***BUCK CREEK*** County: **LORAIN CO**

Aquatic Life Use(s): **WWH** Segment Length: **7.50**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Siltation from agriculture is a problem within this stream.

Causes of Impairment:
Siltation - H

Sources of Impairment:
Nonirrigated crop production - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH87 2	**13-001**	**12.07**	**0.00**	**04110001-007**	**Erie-Ontario Lake Plain**

WB Name: ***ROCKY RIVER*** County: **CUYAHOGA CO**

Aquatic Life Use(s): **WWH,WWH-E** Segment Length: **12.07**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	8.70	3.37

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					8.70	3.37	

Comments: The stream flows through a metropark, but is in a largely urban watershed. The cumulative effects of a high proportion of treated effluent and impacts associated with urban runoff, CSOs, and dry weather sanitary sewer overflows continued to limit full attainment of the WWH use. These same sources also contribute to the frequent exceedences of the Primary Contact Recreation fecal coliform bacteria criteria.

Causes of Impairment:
Nutrients - H
Siltation - H
Other habitat alterations - H
Pathogens - M
Flow alteration - M

Sources of Impairment:
Municipal Point Sources - H
Other Urban Runoff - H
Marina(s) - H
Combined Sewer Overflow - M

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH87 3	13-002	7.40	0.00	04110001-010	Erie-Ontario Lake Plain

WB Name: ***ABRAM CREEK*** | County: **CUYAHOGA CO**

Aquatic Life Use(s): **WWH** | Segment Length: **7.40**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.70

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							3.70

Comments: Upstream from Grayton Rd. (RM 1.9) habitat limitations and stormwater runoff from the surrounding urban area were the principal suspected sources of impairment. The primary cause of low biological performance in Abram Creek downstream from Grayton Rd. to the mouth was elevated ammonia-N concentrations originating from de-icing operations at Cleveland Hopkins Airport. The ammonia-N enters Abram Creek via a number of stormwater outfalls in concentrations as much as 10 times the acute toxicity standard. As a result, the stream was nearly devoid of fish downstream from river mile 2.9. **See Table 9 of the Rocky River 1997 TSD.

Causes of Impairment:

Unionized Ammonia - H
Organic enrichment/DO - H
Pathogens - M
Organic enrichment/DO - M

Sources of Impairment:

Industrial Permitted - H
Channelization - Development - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH87 4	13-100	17.00	0.00	04110001-009	Erie-Ontario Lake Plain

WB Name: ***EAST BRANCH ROCKY RIVER (HEALEY CREEK TO ROCKY R.)*** | County: **CUYAHOGA CO**

Aquatic Life Use(s): **WWH** | Segment Length: **17.00**

Assessment Cycle: **2000** | Field Data Collected From: **199706 to 199710** | Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 12.30	Full, But Threatened: 0.00	Partial: 4.70	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			12.30		4.70		

Comments: Impacts were noted beginning downstream from the Strongsville B WWTP tributary and extended to the mouth of the stream, evidenced by declining fish communities and increases in nutrients and fecal coliform exceedences.

Causes of Impairment:

Nutrients - H
Flow alteration - M
Pathogens - M

Sources of Impairment:

Municipal Point Sources - H
Other Urban Runoff - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH87 5	13-101	9.20	0.00	04110001-012	Erie-Ontario Lake Plain	CUYAHOGA CO

WB Name: ***BALDWIN CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **9.20**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	8.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					8.00		

Comments: Altered habitat and urban runoff largely mask impacts from WWTPs. Continuing development within the basin will likely limit attainment.

Causes of Impairment:
- *Other habitat alterations - H*
- *Flow alteration - H*
- *Nutrients - H*
- *Pathogens - M*

Sources of Impairment:
- *Other Urban Runoff - H*
- *Channelization - Development - H*
- *Streambank destabilization - Dev - H*
- *Municipal Point Sources - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH87 7	13-103	3.30	0.00	04110001-	Erie-Ontario Lake Plain	CUYAHOGA CO

WB Name: ***NORTH ROYALTON "A" TRIB.***

Aquatic Life Use(s): **WWH** Segment Length: **3.30**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					0.60	0.40	

Comments: Habitat impacts brought about by development and construction site runoff impacted the stream upstream from the North Royalton A WWTP. The fish assemblage downstream from the facility in 1997 was severely impacted by stormwater discharges and WWTP effluent.

Causes of Impairment:
- *Siltation - H*
- *Other habitat alterations - H*
- *Nutrients - M*

Sources of Impairment:
- *Municipal Point Sources - H*
- *Land development/Suburbanization - H*
- *Other Urban Runoff - H*
- *Channelization - Development - H*
- *Streambank destabilization - Dev - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH87 8	13-100	34.50	17.00	04110001-009	Erie-Ontario Lake Plain	MEDINA CO

WB Name: ***EAST BRANCH ROCKY RIVER (HEADWATERS TO HEALEY CR.)***

Aquatic Life Use(s): **WWH** Segment Length: **17.50**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	12.80	0.00	0.20	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			12.80		0.20		

Comments: This segment is largely in good condition. The portion which was in partial attainment was the result of localized habitat alteration associated with bridge construction.

Causes of Impairment:
- *Other habitat alterations - H*

Sources of Impairment:
- *Highway/road/bridge/sewer line - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH87 9	13-104	5.75	0.00	04110001-019	Erie-Ontario Lake Plain	CUYAHOGA CO

WB Name: ***HEALEY CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.75**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00		

Comments: Fish and macroinvertebrate communities in Healey Creek were in fair condition largely due to stream flow becoming intermittent during the summer. Development within the basin may be increasing the occurrence of interstitial or intermittent stream flow.

Causes of Impairment:
Flow alteration - H

Sources of Impairment:
Flow reg./mod. - Development - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH87 10	13-200	3.10	0.00	04110001-008	Erie-Ontario Lake Plain	CUYAHOGA CO

WB Name: ***WEST BRANCH ROCKY RIVER (PLUM CR. TO EAST BRANCH)***

Aquatic Life Use(s): **WWH** Segment Length: **3.10**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	2.60	0.50	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.60		0.50		

Comments: Fish sampling done in 1997 suggested a toxic event occurred between sampling passes, originating in Blodgett Creek. Overall, the segment is in better condition compared to the last survey done in 1992.

Causes of Impairment:
Nutrients - H
Nutrients - T

Sources of Impairment:
Municipal Point Sources - H
Other Urban Runoff - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH87 11	13-201	14.80	0.00	04110001-	Erie-Ontario Lake Plain	

WB Name: ***PLUM CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **14.80**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	3.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.00	

Comments: The entire assessed reach of Plum Creek was in non-attainment of the WWH aquatic life use. Fish and macroinvertebrates both reflected gross organic enrichment. Chemical sampling demonstrated a significant increase in nutrient parameters and an exceedence of the total OMZA criterion near the mouth of Plum Creek. Plum Creek was the only tributary that showed any heavy metals exceedences during the 1997 survey, but the specific source(s) for lead was unknown. The secondary contact recreation (SCR) criterion for fecal coliform bacteria was exceeded in eight of the ten samples. Potential sources of impact included three WWTP discharges (all are now closed), unsewered areas, construction site runoff and polluted stormwater runoff.

Causes of Impairment:
Organic enrichment/DO - H
Lead - M
Pathogens - M

Sources of Impairment:
Municipal Point Sources - H
Other Urban Runoff - H
Land development/Suburbanization - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH87 12	13-200	19.60	3.10	04110001-008	Erie-Ontario Lake Plain

WB Name: ***WEST BRANCH ROCKY RIVER (COSSETT CR. TO PLUM CR.)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **16.50**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 16.00	Full, But Threatened: 0.00	Partial: 0.50	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			16.00		0.50		

Comments: Fish sampling done in 1997 suggested a toxic event occurred between sampling passes, originating from Blodgett Creek (confluence at RM 3.6). Overall, the segment was improved compared to results from the survey done in 1992.

Causes of Impairment:
Nutrients - H

Sources of Impairment:
Municipal Point Sources - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH87 13	13-209	4.88	0.00	04110001-	Erie-Ontario Lake Plain

WB Name: ***STRONGSVILLE "A" TRIB.*** County: CUYAHOGA CO

Aquatic Life Use(s): **WWH** Segment Length: **4.88**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.50	Partial: 0.00	None 0.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.50		0.90		

Comments: It appeared that a toxic impact was affecting the monitored portion of this segment. A disparity in results between individual passes suggests that Blodgett Creek had been subjected to an acutely toxic pollution event prior to the initial fish sampling, and was recolonized by fishes from the East Branch in the interim. The source of the suspected toxicity is unknown. The fact that, in aggregate, the biocriteria were in full attainment at river mile 0.1 shows that the elimination of the Strongsville A and Versailles WWTP discharges since the last survey has brought about an improvement in water quality. Additionally, chemical sampling at river mile 0.1 demonstrated a significant decline in ammonia-N concentration compared with the 1992 results.

Causes of Impairment:
Unknown toxicity - H
Cause Unknown - T

Sources of Impairment:
Source Unknown - H
Source Unknown - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH87 14	13-202	8.20	0.00	04110001-011	Erie-Ontario Lake Plain

WB Name: ***BAKER CREEK*** County:

Aquatic Life Use(s): **WWH** Segment Length: **8.20**

Assessment Cycle: **1994** Field Data Collected From: **199206 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 1.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The stream was degraded, apparently by on-site waste treatment systems that affected both fish and benthic assemblages.

Causes of Impairment:
Pathogens - H
Organic enrichment/DO - H
Unionized Ammonia - S

Sources of Impairment:
Onsite wastewater systems (septic tanks) - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH87 15	13-200	34.00	19.59	04110001-008	Erie-Ontario Lake Plain	MEDINA CO

WB Name: ***WEST BRANCH ROCKY RIVER (NORTH BR. TO COSSETT CR.)***

Aquatic Life Use(s): **WWH** Segment Length: **14.41**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	5.35	9.05	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.36		9.05		

Comments: Fish populations were impacted by habitat modification related to residential construction. These areas fully met the WWH criteria in 1992. Increasing development in the headwaters and within this segment threaten the stream with a "death by a thousand cuts" (Rankin circa 1995).

Causes of Impairment:

Other habitat alterations - H
Siltation - H
Pathogens - M
Siltation - T

Sources of Impairment:

Land development/Suburbanization - H
Other Urban Runoff - M
Other Urban Runoff - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH87 16	13-203	5.20	0.00	04110001-014	Erie-Ontario Lake Plain	MEDINA CO

WB Name: ***COSSETT CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **5.20**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.70	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.70				

Comments: A district office survey of Cossett Creek indicated that the stream at river mile 0.2 was marginally attaining the WWH aquatic life use designation, with no obvious signs of significant pollutant loadings. This marginal attainment may be partly explained by the marginal QHEI value of 59.5. The water chemistry data indicated that the stream was nutrient poor, with total phosphorus below 0.05 mg/l and nitrate-nitrite below 0.1 mg/l. Cadmium was detected at 0.5 ug/l, which is unusual for a small headwater stream.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH87 17	13-204	11.40	0.00	04110001-020	Erie-Ontario Lake Plain	MEDINA CO

WB Name: ***MALLET CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **11.40**

Assessment Cycle: **1994** Field Data Collected From: **199206 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	1.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Limited amount of sampling produced a relatively diverse fish assemblage, but primarily pollution-tolerant or ubiquitous benthic fauna.

Causes of Impairment:

Cause Unknown - H

Sources of Impairment:

Source Unknown - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH87 19	**13-205**	**5.79**	**0.00**	**04110001-**	**Erie-Ontario Lake Plain**

WB Name: ***NORTH BRANCH ROCKY RIVER***

Aquatic Life Use(s): **WWH** Segment Length: **5.79** County: **MEDINA CO**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.79	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.79				

Comments: The North Branch Rocky River at Remsen Rd. (RM 5.6(has consistently supported diverse biological communities including good numbers of pollution sensitive taxa. The 1997 sampling results were no exception. Given the history of lower biological quality associated with increased urban land use exhibited elsewhere in the Rocky River basin and throughout the state, attention needs to be paid to construction practices and storm water quality and retention in this subwatershed in order to protect this stream.

Causes of Impairment:	Sources of Impairment:
Siltation - T	*Other Urban Runoff - T*
Nutrients - T	

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH87 20	**13-206**	**7.10**	**0.00**	**04110001-**	**Erie-Ontario Lake Plain**

WB Name: ***PLUM CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **7.10** County: **MEDINA CO**

Assessment Cycle: **2000** Field Data Collected From: **199706 to 199710** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					1.00		

Comments: A district office site survey of Plum Creek indicated that the stream at river mile 2.5 was not in attainment of its aquatic life WWH potential, most likely due to a combination of excessive siltation and nutrient enrichment. Urban runoff from the Brunswick area was a possible source of the in-stream siltation. The stream water was turbid during the collection of samples, even though the water stage was low. The water chemistry indicated that the stream was slightly nutrient enriched.

Causes of Impairment:	Sources of Impairment:
Siltation - H	*Other Urban Runoff - H*
Nutrients - H	

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 1	19-030	11.00	0.00	04110002-002	Erie-Ontario Lake Plain	SUMMIT CO

WB Name: ***L. CUYAHOGA R. (WINGFOOT LAKE OUT. TO CUYAHOGA R.)***

Aquatic Life Use(s): **WWH** Segment Length: **11.00**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 11.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00	7.00	2.00

Comments: This segment is impacted by urban runoff and stormsewer discharges. Much pollution enters the streams during storm events. Two dams prevent recolonization from downstream areas. Some improvement in the macroinvertebrate community was documented in the upper 3 miles of the segment. No future biological monitoring is warranted unless the combined sewer overflow situation is remediated.

Causes of Impairment:

Organic enrichment/DO - H
Other habitat alterations - H
Zinc - M
Total toxics - M

Sources of Impairment:

Other Urban Runoff - H
Dam construction - Development - H
Combined Sewer Overflow - M
Highway maintenance and runoff - M
Contaminated sediments - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 1.1	19-051	4.48	0.00	04110002-	Erie-Ontario Lake Plain	SUMMIT CO

WB Name: ***CAMP CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **4.48**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 4.48

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						4.48	

Comments: This segment is impacted by urban runoff and combined sewer overflows from the City of Akron.

Causes of Impairment:

Unknown toxicity - H
Organic enrichment/DO - H

Sources of Impairment:

Combined Sewer Overflow - H
Other Urban Runoff - H
Land development/Suburbanization - M
Source Unknown - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 1.2	19-049	5.84	0.00	04110002-	Erie-Ontario Lake Plain	SUMMIT CO

WB Name: ***OHIO CANAL***

Aquatic Life Use(s): **MWH-C,LRW,M** Segment Length: **5.84**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.50	

Comments: The Ohio Canal is a man-made channel. Combined sewer overflows (CSOs) enter this segment. The biological quality of this segment is poor. No future biological sampling is needed unless the CSOs are remediated.

Causes of Impairment:

Organic enrichment/DO - H
Total toxics - H

Sources of Impairment:

Combined Sewer Overflow - H
Other Urban Runoff - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 1.5	19-075	2.35	0.00			

WB Name: ***ROOSEVELT DITCH***

Aquatic Life Use(s): **NONE** Segment Length: **2.35**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.35

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.35		

Comments: This segment currently does not have a use designation. Warmwater Habitat is recommended. Future monitoring is recommended to assess the stream after sewer line construction is completed and the stream has had a chance to recover.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Siltation - M*
- *Total toxics - M*

Sources of Impairment:
- *Sewer Line Construction - H*
- *Other Urban Runoff - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 2	19-031	3.56	0.00	04110002-	Erie-Ontario Lake Plain	SUMMIT CO

WB Name: ***SPRINGFIELD LAKE OUTLET***

Aquatic Life Use(s): **WWH** Segment Length: **3.56**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.56

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.56	

Comments: High fecal coliform levels were recorded in the stream. There are no known combined sewer overflows in this segment, so the source of coliforms is unknown.

Causes of Impairment:
- *Total toxics - H*
- *Organic enrichment/DO - M*

Sources of Impairment:
- *Other Urban Runoff - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 3	19-032	3.42	0.00	04110002-	Erie-Ontario Lake Plain	PORTAGE CO

WB Name: ***WINGFOOT LAKE OUTLET***

Aquatic Life Use(s): **WWH** Segment Length: **3.42**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 3.42

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.42		

Comments: This segment is not meeting Warmwater Habitat criteria. Combined sewer overflows and dams in the Little Cuyahoga River prevent recolonization into Wingfoot Lake Outlet. Recovery is not expected unless these problems are remediated.

Causes of Impairment:
- *Siltation - H*
- *Other habitat alterations - H*
- *Organic enrichment/DO - M*

Sources of Impairment:
- *Channelization - Development - H*
- *Onsite wastewater systems (septic tanks) - H*
- *Combined Sewer Overflow - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 4	19-030	17.40	11.00	04110002-002	Erie-Ontario Lake Plain	PORTAGE CO

WB Name: ***L. CUYAHOGA R. (HEADWATERS TO WINGFOOT LAKE OUT.)***

Aquatic Life Use(s): **WWH** Segment Length: **6.40**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.00	

Comments: One site downstream from Mogadore Reservoir was sampled in 1996. Results fell short of Warmwater Habitat criteria.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Nutrients - M*

Sources of Impairment:
- *Natural - H*
- *Land development/Suburbanization - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 4.1	19-050	3.05	0.00	04110002-	Erie-Ontario Lake Plain	SUMMIT CO

WB Name: ***UNION OIL TRIB.***

Aquatic Life Use(s): **WWH** Segment Length: **3.05**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	3.05

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.05		

Comments: This segment is not meeting Warmwater Habitat criteria. Recovery is not expected unless combined sewer overflows and dams in the Little Cuyahoga River are remediated.

Causes of Impairment:
- *Other habitat alterations - H*
- *Organic enrichment/DO - M*

Sources of Impairment:
- *Channelization - Development - H*
- *Onsite wastewater systems (septic tanks) - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 5	19-001	56.80	42.30	04110002-004	Erie-Ontario Lake Plain	

WB Name: ***CUYAHOGA RIVER (CONGRESS LAKE OUT. TO L. CUYAHOGA)***

Aquatic Life Use(s): **WWH** Segment Length: **14.50**

Assessment Cycle: **1998** Field Data Collected From: **199696 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.30	0.00	11.20	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.30		13.50		

Comments: This segment flows through Kent and Akron. Some residual effects are seen from Lake Rockwell hypolimnetic discharges, and flow from Breakneck Creek. Additional inputs are received from urban runoff, combined sewer overflows (CSOs), and 2 major WWTPs. Biological communities scored in the fair to good ranges, reflecting the effects of nutrient enrichment. Impacts are compounded by a series of impoundments throughout the segment. High gradient in the gorge area downstream from the Ohio Edison dam helps reduce some of the CSO influences. Full attainment of Warmwater Habitat was achieved at River mile 44.0.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Nutrients - H*
- *Flow alteration - H*
- *Metals - S*
- *Salinity/TDS/chlorides - S*
- *Priority organics - S*

Sources of Impairment:
- *Major Municipal Point Source - H*
- *Dam construction - Development - H*
- *Flow reg./mod. - Development - M*
- *Combined Sewer Overflow - M*
- *Other Urban Runoff - M*
- *Minor Municipal Point Source - S*
- *Spills - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 6	19-026	5.40	0.00	04110002-017	Erie-Ontario Lake Plain	SUMMIT CO

WB Name: ***FISH CREEK***

Aquatic Life Use(s): **MWH-C,WWH** Segment Length: **5.40**

Assessment Cycle: **1994** Field Data Collected From: **199108 to 199210** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fish Creek showed fair performance based on fish, macroinvertebrate and habitat sampling results. Habitat is not a limiting factor. Upstream from river mile 1.3 the stream has been completely channelized to reduce flooding. Urban runoff are present from Stow and Kent. Low pH from swamps may also be a factor. It is recommended that the aquatic life use be changed to MWH from river miles 1.3-5.4, and WWH from 1.3 to the mouth.

Causes of Impairment:

Cause Unknown - H

Sources of Impairment:

Other Urban Runoff - H
Highway maintenance and runoff - S
Spills - S
Natural - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 8	19-028	18.50	0.00	04110002-005	Erie-Ontario Lake Plain	PORTAGE CO

WB Name: ***BREAKNECK CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **18.50**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.50	Full, But Threatened: 0.00	Partial: 2.00	None 3.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.50		2.00	3.80	

Comments: The fish communities showed impacts from the Ravenna WWTP. Further declines were noted downstream from the Franklin Hills WWTP. The results suggest intermittently toxic conditions downstream from Ravenna which are increased as a result of the discharge from the Franklin Hills WWTP. Future monitoring is recommended to try to more clearly define causes and sources of biological impairment.

Causes of Impairment:

Unknown toxicity - H
Flow alteration - H
Organic enrichment/DO - M

Sources of Impairment:

Major Municipal Point Source - H
Minor Municipal Point Source - H
Natural - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 9	19-042	2.15	0.00	04110002-	Erie-Ontario Lake Plain	PORTAGE CO

WB Name: ***WAHOO DITCH***

Aquatic Life Use(s): **MWH-C** Segment Length: **2.15**

Assessment Cycle: **1998** Field Data Collected From: **199696 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.15

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.15	

Comments: This segment has been extensively modified by channelization. The stream channel was choked with macrophytes, and substrates were several feet deep in silt and muck. Ammonia concentrations were elevated due to the Ravenna WWTP which discharges to Hommon Avenue Ditch. Sampling done in 1984 showed similar poor conditions upstream and downstream from Hommon Avenue Ditch.

Causes of Impairment:
- *Other habitat alterations - H*
- *Organic enrichment/DO - M*

Sources of Impairment:
- *Channelization - Development - H*
- *Major Municipal Point Source - M*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 10	19-029	6.43	0.00	04110002-	Erie-Ontario Lake Plain	PORTAGE CO

WB Name: ***POTTER CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **6.43**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00		

Comments: This segment is recovering from the effects of past channelization. Sedimentation from agricultural runoff, and poor channel development are factors of non-attainment status.

Causes of Impairment:
- *Other habitat alterations - H*
- *Siltation - H*
- *Organic enrichment/DO - M*

Sources of Impairment:
- *Channelization - Agriculture - H*
- *Nonirrigated crop production - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 11	19-001	76.64	56.82	04110002-010	Erie-Ontario Lake Plain	

WB Name: ***CUYAHOGA RIVER (BLACK BROOK TO CONGESS LAKE OUT.)***

Aquatic Life Use(s): **WWH** Segment Length: **19.82**

Assessment Cycle: **1998** Field Data Collected From: **199609 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	12.00	1.00	0.90

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			12.00		1.90		

Comments: The most severe section of non-attainment was immediately downstream from Lake Rockwell, associated with hypolimnetic dam releases. Upstream from Lake Rockwell there was a slight depression in the fish community. This may be a result of the Mantua WWTP discharge, or residual effects from the wetlands and dam releases in the next segment upstream.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Other habitat alterations - T*

Sources of Impairment:
- *Flow reg./mod. - Development - H*
- *Minor Municipal Point Source - S*
- *Land development/Suburbanization - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 12	19-033	4.60	0.00	04110002-	Erie-Ontario Lake Plain	GEAUGA CO

WB Name: ***BLACK BROOK***

Aquatic Life Use(s): **WWH** Segment Length: **4.60**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	2.60	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.60				

Comments: The biological communities were in full attainment of Warmwater Habitat criteria. Macroinvertebrate densities were extremely high, reflective of high background levels of suspended solids. Similar sharp increases in densities were observed in the Cuyahoga River immediately downstream from Black Brook.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 13	19-001	101.10	76.64	04110002-011	Erie-Ontario Lake Plain	GEAUGA CO

WB Name: ***CUYAHOGA RIVER (HEADWATERS TO BLACK BROOK)***

Aquatic Life Use(s): **WWH** Segment Length: **24.46**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	12.40	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					14.40		

Comments: Several factors were responsible for non-attainment and partial attainment status within this segment. Hypolimnetic dam releases, wetland drainage, sluggish flow, and historic channelization were major influences on biological and water quality conditions. Dissolved oxygen violations were common throughout the segment.

Causes of Impairment:

Organic enrichment/DO - H
Other habitat alterations - H
Flow alteration - S

Sources of Impairment:

Flow reg./mod. - Development - H
Natural - H
Channelization - Development - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 13.4	19-073	1.47	0.00			

WB Name: ***TRIB. TO CUYAHOGA R. (RM 93.65)***

Aquatic Life Use(s): **NONE** Segment Length: **1.47**

Assessment Cycle: **1998** Field Data Collected From: **199610 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	1.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.00						

Comments: This stream is a small headwaters stream which flows through pastures and wetlands. A large (11 acre) beaver dam pond is located near its origin. This segment is threatened due to proposed power line construction and right-of-way maintenance.

Causes of Impairment:

Siltation - T
Other habitat alterations - T

Sources of Impairment:

Highway/road/bridge/sewer line - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 15	19-035	14.70	0.00	04110002-	Erie-Ontario Lake Plain	GEAUGA CO

WB Name: ***BRIDGE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **14.70**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.50	0.00	0.00	4.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.50		4.50		

Comments: Biological and water quality conditions are primarily influenced by wetlands in the headwaters. Water releases and wetland conditions are influences downstream from LaDue Reservoir in the lower 2.2 miles.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Flow alteration - M*

Sources of Impairment:
- *Flow reg./mod. - Development - H*
- *Natural - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 16	19-036	14.60	0.00	04110002-	Erie-Ontario Lake Plain	GEAUGA CO

WB Name: ***WEST BRANCH CUYAHOGA RIVER***

Aquatic Life Use(s): **WWH** Segment Length: **14.60**

Assessment Cycle: **1998** Field Data Collected From: **199309 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	3.50	0.00	2.00	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.50		4.00		

Comments: Full attainment in the upper portion of this segment is based on sampling done in 1993. The lower portion near the mouth was sampled in 1996. Fish and macroinvertebrate communities were both rated good. Wetlands throughout the basin have significant influence on the biological communities.

Causes of Impairment:
- *Flow alteration - H*
- *Organic enrichment/DO - H*

Sources of Impairment:
- *Natural - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH88 17	19-037	4.60	0.00	04110002-	Erie-Ontario Lake Plain	GEAUGA CO

WB Name: ***BUTTERNUT CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **4.60**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
- *Organic enrichment/DO - H*

Sources of Impairment:
- *Onsite wastewater systems (septic tanks) - H*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH89 1- 02	19-001	7.20	0.00	04110002-001	Erie-Ontario Lake Plain

WB Name: ***CUYAHOGA RIVER (BIG CREEK TO SHIP CHANNEL)*** County: **CUYAHOGA CO**

Aquatic Life Use(s): **WWH,WWH-E** Segment Length: **7.20**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.59	0.00	4.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.59	4.00

Comments: Chemical water quality has shown improvements since the closing of the LTV coking facilities. However, biological communities remain in the poor and very poor range as a result of severe habitat limitations associated with the stream channel being dredged to a depth of 25 feet. Elevated background levels of ammonia appear to be related to ammoniafication of nitrates in the anoxic, soft sediments of the deep channel.

Causes of Impairment:

Unionized Ammonia - H
Other habitat alterations - H
Organic enrichment/DO - M
Zinc - S

Sources of Impairment:

Dredging - Development - H
Contaminated sediments - H
Combined Sewer Overflow - M
Spills - M
Major Industrial Point Source - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH89 5	19-005	12.00	0.00	04110002-014	Erie-Ontario Lake Plain

WB Name: ***BIG CREEK*** County: **CUYAHOGA CO**

Aquatic Life Use(s): **WWH** Segment Length: **12.00**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	8.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.00	5.00	

Comments: Water quality has improved compared to the grossly polluted conditions documented in the early 1980's. The biological communities are still in non-attainment of Warmwater Habitat criteria. Urban runoff and spills continue to be a major problem within the basin. Sanitary sewer overflows have been recorded, but many are due to breaks or blockages. Oil contamination from Research Oil Company may contribute to impacts near the mouth.

Causes of Impairment:

Organic enrichment/DO - H
Flow alteration - M
Oil and grease - M
Cause Unknown - S

Sources of Impairment:

Combined Sewer Overflow - H
Other Urban Runoff - H
Non-industrial Permitted - M
Spills - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH89 6	19-001	16.40	7.20	04110002-001	Erie-Ontario Lake Plain	CUYAHOGA CO

WB Name: ***CUYAHOGA RIVER (TINKERS CREEK TO BIG CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **9.20**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 9.20

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						9.20	

Comments: Point source influences in this segment include Cleveland Southerly WWTP, miscellaneous sources throughout the Cleveland metropolitan area, and residual effects from Akron. The fish communities throughout the segment were poor. Slight recovery was observed upstream from the Southerly WWTP, but impacts were again noted downstream. Nutrient and zinc concentrations increased downstream from the WWTP, above the already elevated levels present in the stream.

Causes of Impairment:

Organic enrichment/DO - H
Unknown toxicity - H
Zinc - M
Siltation - S

Sources of Impairment:

Municipal Point Sources - H
Combined Sewer Overflow - H
Spills - M
Other Urban Runoff - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH89 7	19-006	12.20	0.00	04110002-019	Erie-Ontario Lake Plain	CUYAHOGA CO

WB Name: ***MILL CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **12.20**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 5.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						5.00	

Comments: This segment has improved compared to the grossly polluted conditions documented in the early 1980's. A sanitary sewer line break that influenced biological communities in 1991 was repaired, but fish and macroinvertebrates remained in non-attainment status in 1996. Combined sewer overflows, urban runoff and spills are still significant sources of impacts.

Causes of Impairment:

Organic enrichment/DO - H
Other habitat alterations - H
Cause Unknown - M

Sources of Impairment:

Combined Sewer Overflow - H
Spills - H
Other Urban Runoff - H
Landfills - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH89 8	19-007	22.50	0.00	04110002-021	Erie-Ontario Lake Plain

WB Name: ***TINKERS CREEK (POND BROOK TO CUYAHOGA RIVER)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **22.50**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 22.50	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					22.50		

Comments: Stream conditions have remained consistent with the 1991 survey results. Only one site near the mouth was sampled in 1996.

Causes of Impairment:
- *Organic enrichment/DO - H*
- *Nutrients - S*
- *Siltation - S*
- *Cause Unknown - S*
- *Suspended solids - S*

Sources of Impairment:
- *Municipal Point Sources - H*
- *Other Urban Runoff - S*
- *Source Unknown - S*
- *Spills - S*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH89 10.2	19-070	2.58	0.00	04110002-	County: PORTAGE CO

WB Name: ***TRIB. TO TRIB. TO POND BROOK (ROTEK TRIBUTARY)***

Aquatic Life Use(s): **NONE** Segment Length: **2.58**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.50

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.50	

Comments: This small stream was sampled because of oily sediments in the channel originating from the Rotek Co. The stream was degraded in 1993, but showed signs of recovery in 1995 after oily sediments were removed.

Causes of Impairment:
- *Oil and grease - H*
- *Flow alteration - M*

Sources of Impairment:
- *Other Urban Runoff - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH89 10.3	19-071	2.92	0.00	04110002-	County: PORTAGE CO

WB Name: ***TRIB. TO TRIB. TO POND BROOK (AURORA COMMONS)***

Aquatic Life Use(s): **NONE** Segment Length: **2.92**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 2.90	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.90		

Comments: Development in the area has sent large amounts of silt into the stream, resulting in negative impacts on the macroinvertebrate community.

Causes of Impairment:
- *Siltation - T*

Sources of Impairment:
- *Land development/Suburbanization - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH89 11	19-001	24.20	16.40	04110002-001	Erie-Ontario Lake Plain

WB Name: ***CUYAHOGA RIVER (BRANDYWINE CREEK TO TINKERS CREEK)***

County: **SUMMIT CO**

Aquatic Life Use(s): **WWH** Segment Length: **7.80**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 7.80

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						7.80	

Comments: The biological quality in this segment has remained constant since 1991. The macroinvertebrate communities continue to recover downstream from Akron, but the fish communities remain in the poor and very poor ranges. Nutrient levels were elevated well downstream from Akron. Increasing levels of suspended solids suggest nonpoint source inputs from adjacent watersheds. Increased incidences of DELT anomalies in the fish suggest continued chronic influences originating from the Akron area.

Causes of Impairment:

Organic enrichment/DO - H
Unknown toxicity - H
Zinc - M
Siltation - S

Sources of Impairment:

Municipal Point Sources - H
Combined Sewer Overflow - H
Other Urban Runoff - M
Natural - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH89 12	19-009	8.20	0.00	04110002-	Erie-Ontario Lake Plain

WB Name: ***CHIPPEWA CREEK***

County:

Aquatic Life Use(s): **WWH** Segment Length: **8.20**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.30	Full, But Threatened: 0.00	Partial: 0.00	None 4.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.30		2.30	2.00	

Comments: This segment was evaluated in a cooperative study between Ohio EPA and the Cuyahoga County Health Department. The Health Department attributed lack of attainment in the upper watershed to bacteria from septic systems, although no violations of water quality standards were noted. No improvements were observed in the upper watershed despite the elimination of some small WWTPs. Waterfalls along the stream may prevent the recolonization of fish. The fish community near the mouth (downstream from migration barriers) has improved significantly since 1984.

Causes of Impairment:

Organic enrichment/DO - H
Cause Unknown - H
Other habitat alterations - H

Sources of Impairment:

Onsite wastewater systems (septic tanks) - H
Natural - H
Other Urban Runoff - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH89 12.1	19-069	3.80	0.00	04110002-	Erie-Ontario Lake Plain	CUYAHOGA CO

WB Name: ***TRIB. TO CHIPPEWA CREEK (RM 6.36)***

Aquatic Life Use(s): **NONE** Segment Length: **3.80**

Assessment Cycle: **1996** Field Data Collected From: **199407 to 199410** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 2.40	Partial: 0.00	None 1.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Rapid urban development has changed the flow hydrology of this small stream resulting in a much more flashy stream, prone to dessication. Small areas of gray water give evidence of septic tank failure.

Causes of Impairment:

Flow alteration - H
Nutrients - M
Organic enrichment/DO - M
Flow alteration - T

Sources of Impairment:

Land development/Suburbanization - H
Other Urban Runoff - M
Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH89 13	19-010	11.50	0.00	04110002-015	Erie-Ontario Lake Plain	SUMMIT CO

WB Name: ***BRANDYWINE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **11.50**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 8.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					8.00		

Comments: The Hudson WWTP is the major source of impacts in this segment. Historical sampling in 1984 showed the entire length of stream to be in non-attainment status. After upgrades to the WWTP in 1990, water quality conditions improved substantially. However, biological sampling done in 1996 downstream from the WWTP showed impacts and non-attainment similar to 1984 levels. Future monitoring is recommended after the Hudson WWTP ties into the NEORSD interceptor sewer.

Causes of Impairment:

Organic enrichment/DO - H
Organic enrichment/DO - H
Salinity/TDS/chlorides - M
Salinity/TDS/chlorides - M

Sources of Impairment:

Major Municipal Point Source - H
Major Municipal Point Source - H
Source Unknown - M
Source Unknown - S

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH89 14	19-001	37.20	24.20	04110002-001	Erie-Ontario Lake Plain

WB Name: ***CUYAHOGA RIVER (YELLOW CREEK TO BRANDYWINE CREEK)***

County: **SUMMIT CO**

Aquatic Life Use(s): **WWH** Segment Length: **13.00**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 13.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						13.00	

Comments: The biological and water quality of this segment have remained constant, with no significant changes since 1991. The macroinvertebrates show recovery downstream from the Akron WWTP, but the fish community remains in the poor range.

Causes of Impairment:

Organic enrichment/DO - H
Unknown toxicity - H
Zinc - M
Siltation - S
Priority organics - S

Sources of Impairment:

Major Municipal Point Source - H
Combined Sewer Overflow - H
Other Urban Runoff - M
Natural - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH89 24	19-020	10.40	0.00	04110002-018	Erie-Ontario Lake Plain

WB Name: ***FURNACE RUN***

County: **SUMMIT CO**

Aquatic Life Use(s): **WWH** Segment Length: **10.40**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 2.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	2.00						

Comments: The biological communities continue to score in the very good to exceptional ranges. Sediment sampling revealed low levels of most metals except copper. Copper was among the most commonly elevated metal in sediments in the Cuyahoga River basin. No specific source of copper in Furnace Run is known.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH89 24.1	19-076	1.38	0.00		

WB Name: ***TRIB. TO FURNACE RUN (RM 7.90)***

County:

Aquatic Life Use(s): **NONE** Segment Length: **1.38**

Assessment Cycle: **1998** Field Data Collected From: **199607 to 199607** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 1.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: This is a small, high-gradient stream which previously had no use designation. Fish communities scored in the very good range (IBI=48). Habitat was sufficient to support a Warmwater Habitat biological community. This forested watershed is threatened by land application of sewage from a proposed housing project.

Causes of Impairment:

Nutrients - T

Sources of Impairment:

Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH89 25	19-021	10.30	0.00	04110002-022	Erie-Ontario Lake Plain	SUMMIT CO

WB Name: ***YELLOW CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **10.30**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 4.60	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.60				

Comments: The lower portion of this segment has remained stable, attaining Warmwater Habitat criteria and being indicative of good water quality.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH89 26	19-022	6.40	0.00	04110002-	Erie-Ontario Lake Plain	SUMMIT CO

WB Name: ***NORTH FORK YELLOW CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **6.40**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199507** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 6.10	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			6.10				

Comments: This segment was sampled at one location upstream from the Robinwood Hills WWTP. Fish results indicate significant improvement since 1991. The macroinvertebrates were rated good based on qualitative sampling results. The North Fork downstream from the WWTP was not monitored, but slight impacts were noted on Yellow Creek downstream from this tributary.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH89 27	19-001	42.30	37.20	04110002-001	Erie-Ontario Lake Plain	SUMMIT CO

WB Name: ***CUYAHOGA RIVER (LITTLE CUYAHOGA R. TO YELLOW CR.)***

Aquatic Life Use(s): **WWH** Segment Length: **5.10**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 5.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					2.00	3.10	

Comments: The biological communities are reflective of organic enrichment and chronic toxic influences, originating from urban runoff and combined sewer overflows from Akron, along with the Akron WWTP. Sewer overflows and bypasses contribute significant loadings of metals, solids, and fecal coliform bacteria. Conditions in this segment were similar to those recorded in 1991, and have remained impaired for decades.

Causes of Impairment:

Organic enrichment/DO - H
Unknown toxicity - H
Zinc - M
Priority organics - S

Sources of Impairment:

Combined Sewer Overflow - H
Major Municipal Point Source - H
Other Urban Runoff - M
Spills - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH89 27.2	19-072	2.81	0.00		

WB Name: ***SAND RUN*** — County:

Aquatic Life Use(s): **WWH** Segment Length: **2.81**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						2.00	

Comments: This stream is a small, flashy, high-gradient headwaters stream. Though it flows through a metropark in the lower reaches, it is highly influenced by urbanization from the suburb of Fairlawn in the uplands. Poor biological communities were present. Severe bank erosion, embedded substrates and channel destabilization were evidence of flashy flows from urban runoff.

Causes of Impairment:
Flow alteration - H

Sources of Impairment:
Other Urban Runoff - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH89 29	19-024	11.00	0.00	04110002-020	Erie-Ontario Lake Plain

WB Name: ***MUD BROOK*** — County: SUMMIT CO

Aquatic Life Use(s): **WWH** Segment Length: **11.00**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: The lower section of this stream is one of the few Akron area streams which attains Warmwater Habitat criteria (near the mouth). Historical sampling in the headwaters showed poor water quality in the vicinity of Powers Brook and the Summit County #6 WWTP.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH90 5	15-001	5.00	0.00	04110003-005	Erie-Ontario Lake Plain

WB Name: ***CHAGRIN RIVER (EAST BRANCH TO LAKE ERIE)*** — County: LAKE CO

Aquatic Life Use(s): **WWH,WWH-E** Segment Length: **5.00**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 3.00	Partial: 0.00	None 2.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.00			2.00	

Comments: In the free-flowing section from the East Branch to river mile 1.4, the main concerns are related to suburbanization. Stormwater runoff contributes high levels of fecal coliforms and suspended solids. The estuary portion is threatened by widespread habitat destruction from marina construction, dredging, riparian vegetation removal, and channelization.

Causes of Impairment:
Other habitat alterations - H
Siltation - S
Organic enrichment/DO - S
Pathogens - T
Organic enrichment/DO - T

Sources of Impairment:
Marina(s) - H
Other Urban Runoff - M
Dredging - Development - M
Removal of riparian vegetation - Dev - M
Land development/Suburbanization - M
Contaminated sediments - S
Other Urban Runoff - T
Onsite wastewater systems (septic tanks) - T
Contaminated sediments - T
Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH90 6	15-002	19.40	0.00	04110003-	Erie-Ontario Lake Plain

WB Name: ***EAST BRANCH CHAGRIN RIVER*** County:

Aquatic Life Use(s): **CWH** Segment Length: **19.40**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 19.40	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Coldwater habitat communities continue to exist in the entirety of the East Branch with most recent sampling documenting fish communities meeting exceptional warmwater habitat criteria. However, downstream reaches were less distinct in their own attributes. This corresponds well with areas of more intense suburban development. As such, the continued presence of coldwater habitat communities must be considered seriously threatened as more and more widespread development occurs in the basin. The whole basin is rapidly being developed. The widening of U.S. Rt. 422 has accelerated that process. Areas currently sustaining coldwater habitat communities are coming under increasing pressure with suburban encroachment.

Causes of Impairment:

Other habitat alterations - T

Sources of Impairment:

Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH90 7	15-001	27.10	5.00	04110003-005	Erie-Ontario Lake Plain

WB Name: ***CHAGRIN RIVER (AURORA BRANCH TO EAST BRANCH)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **22.10**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 15.20	Partial: 6.90	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			15.20		6.90		

Comments: The Chagrin Falls WWTP and Ivex both discharge to the stream immediately upstream from this segment. Both outfalls contributes loads of organic matter and nutrients to the stream. Urban and suburban runoff is contributing heavier silt loads than in the past. Erosion is becoming more of a problem due to the flashy nature of stormwater runoff. The stream is currently attaining Warmwater Habitat standards. Habitat, and potential within the existing ecological community, suggest it could be supporting a biological community of higher quality.

Causes of Impairment:

Organic enrichment/DO - H
Mercury - M
Siltation - S
Organic enrichment/DO - T
Siltation - T
Metals - T
Pathogens - T
Nutrients - T

Sources of Impairment:

Land development/Suburbanization - H
Other Urban Runoff - H
Major Municipal Point Source - H
Major Industrial Point Source - M
Onsite wastewater systems (septic tanks) - M
Minor Municipal Point Source - M
Major Municipal Point Source - S
Major Industrial Point Source - T
Land development/Suburbanization - T
Other Urban Runoff - T
Onsite wastewater systems (septic tanks) - T
Minor Municipal Point Source - T
Major Municipal Point Source - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH90 7.3	15-012	3.65	0.00	04110003-	Erie-Ontario Lake Plain	

WB Name: ***TRIB TO CHAGRIN 15.4***

Aquatic Life Use(s): **CWH** Segment Length: **3.65**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.00	Full, But Threatened: 2.65	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.65						

Comments: This is a small Coldwater Habitat stream with many sensitive macroinvertebrate taxa and young rainbow trout in it. It is threatened by suburban expansion and the subsequent stormwater runoff which will occur.

Causes of Impairment:
- *Siltation - T*
- *Thermal modifications - T*
- *Metals - T*

Sources of Impairment:
- *Land development/Suburbanization - T*
- *Onsite wastewater systems (septic tanks) - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH90 7.4	15-017	3.10	0.00	04110003-	Erie-Ontario Lake Plain	CUYAHOGA CO

WB Name: ***TRIB. TO CHAGRIN R. (RM 14.88)***

Aquatic Life Use(s): **WWH** Segment Length: **3.10**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 3.10	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						3.10	

Comments: This stream is highly influenced by stormwater runoff. Metals contamination in the sediments is strongly suspected as a cause of impairment. Future monitoring is recommended to assess the impacts within this stream.

Causes of Impairment:
- *Flow alteration - H*
- *Cause Unknown - H*

Sources of Impairment:
- *Other Urban Runoff - H*
- *Source Unknown - H*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH90 7.5	15-018	5.94	0.00	04110003-	Erie-Ontario Lake Plain	CUYAHOGA CO

WB Name: ***TRIB. TO CHAGRIN R. (RM 22.81)***

Aquatic Life Use(s): **WWH** Segment Length: **5.94**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 5.94	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.94				

Comments: Several small WWTPs are located in this basin, some of which are operating poorly. Urban and suburban development threaten this segment. The fish community scored in the exceptional range. Macroinvertebrates only scored marginally good.

Causes of Impairment:
- *Siltation - T*
- *Nutrients - T*
- *Pathogens - T*
- *Chlorine - T*
- *Organic enrichment/DO - T*
- *Suspended solids - T*

Sources of Impairment:
- *Land development/Suburbanization - T*
- *Minor Municipal Point Source - T*
- *Package Plants (Small Flows) - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH90 7.51	15-019	1.74	0.00	04110003-	Erie-Ontario Lake Plain

WB Name: ***TRIB. TO TRIB. TO CHAGRIN R.(RM 22.81/2.17)***

County: **CUYAHOGA CO**

Aquatic Life Use(s): **WWH** Segment Length: **1.74**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	1.74	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.74				

Comments: This stream is threatened by urban/suburban development. Flashy runoff from storm sewers is causing erosion problems.

Causes of Impairment:

Siltation - T
Flow alteration - T
Nutrients - T
Organic enrichment/DO - T

Sources of Impairment:

Minor Municipal Point Source - T
Other Urban Runoff - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH90 8	15-003	6.10	0.00	04110003-009	Erie-Ontario Lake Plain

WB Name: ***GRISWOLD CREEK***

County:

Aquatic Life Use(s): **CWH** Segment Length: **6.10**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	5.20	0.90	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.20		0.90		

Comments: Failing septic systems were noted by the Ohio EPA at river mile 0.9. A recent report by a consulting firm also noted septic systems as a problem at sites further upstream.

Causes of Impairment:

Organic enrichment/DO - H
Flow alteration - S
Nutrients - S
Pathogens - S
Organic enrichment/DO - T
Flow alteration - T
Nutrients - T
Pathogens - T

Sources of Impairment:

Onsite wastewater systems (septic tanks) - H
Streambank destabilization - Dev - M
Land development/Suburbanization - S
Minor Municipal Point Source - T
Dredge mining - T
Onsite wastewater systems (septic tanks) - T
Land development/Suburbanization - T
Other Urban Runoff - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH90 9	15-004	5.58	0.00	04110003-	Erie-Ontario Lake Plain	

WB Name: ***WILLEY CREEK***

Aquatic Life Use(s): **CWH** Segment Length: **5.58**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	5.58	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.58				

Comments: Willey Creek drains the west side of the Chagrin River in the area where urban/suburban development is the highest. This segment is threatened due to increasing loads from WWTPs and runoff from development.

Causes of Impairment:

Siltation - T
Other habitat alterations - T
Flow alteration - T
Thermal modifications - T
Organic enrichment/DO - T
Suspended solids - T
Nutrients - T
Chlorine - T

Sources of Impairment:

Highway/road/bridge/sewer line - T
Land development/Suburbanization - T
Minor Municipal Point Source - T
Package Plants (Small Flows) - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH90 10	15-005	18.44	0.00	04110003-006	Erie-Ontario Lake Plain	

WB Name: ***AURORA BRANCH***

Aquatic Life Use(s): **WWH** Segment Length: **18.44**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	13.75	2.28	1.27

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			13.75		2.88	0.67	

Comments: Increased discharges from 2 WWTPs in this segment are effecting the streams assimilative capacity. Numerous residential lots, along with small farms, are encroaching on or eliminating the riparian vegetation. On-site sewage disposal systems are also causing problems. In the upper reaches, a sewer line break from the Aurora Central WWTP caused impairment to the biological community. A small campground in the headwaters likely affects chemical and biological quality of the stream.

Causes of Impairment:

Organic enrichment/DO - H
Chlorine - H
Nutrients - M
Other habitat alterations - M
Siltation - M
Nutrients - M
Noxious aquatic plants - M
Pesticides - S
Other habitat alterations - T

Sources of Impairment:

Onsite wastewater systems (septic tanks) - H
Package Plants (Small Flows) - H
Streambank destabilization - Dev - M
Removal of riparian vegetation - Dev - M
Major Municipal Point Source - S
Streambank destabilization - Dev - T
Removal of riparian vegetation - Dev - T
Major Municipal Point Source - T
Recreational activities - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH90 10.2	**15-023**	**3.31**	**0.00**	**04110003-**	County:

WB Name: ***SUNNY LAKE OUTLET***

Aquatic Life Use(s): **WWH** Segment Length: **3.31**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	2.10	1.21	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.10		1.21		

Comments: Periodic algal blooms occur in this segment. The disappearance or avoidance of darter species in Sunny Lake Outlet, as well as on Aurora Branch downstream from the confluence, indicate problems in Sunny Lake Outlet. Sensitive fish species were noted upstream from the confluence, but tolerant fish and macroinvertebrates were collected downstream.

Causes of Impairment:

Noxious aquatic plants - H
Flow alteration - S
Organic enrichment/DO - T

Sources of Impairment:

Upstream impoundment - H
Natural - M
Other Urban Runoff - T
Waste storage/storage tank leaks - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH90 10.3	**15-022**	**2.60**	**0.00**	**04110003-**	County:

WB Name: ***LINTON CREEK***

Aquatic Life Use(s): **CWH** Segment Length: **2.60**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	2.60	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.60				

Comments: This is a small wooded stream which has many coldwater attributes. Poor sewage treatment by the Pilgrim Village WWTP was causing impacts in the upper portion of this segment. This plant is scheduled to be diverted to the McFarland Creek WWTP. Living Homes WWTP also discharges in this segment and will not be diverted. Despite the two treatment plants, coldwater and sensitive macroinvertebrate taxa were collected near the mouth. Kenston Lake dam recently broke, sending sediments downstream and knocking down trees (debris was observed at the mouth).

Causes of Impairment:

Organic enrichment/DO - T
Nutrients - T
Pathogens - T

Sources of Impairment:

Minor Municipal Point Source - T
Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH90 11	15-006	5.80	0.00	04110003-010	Erie-Ontario Lake Plain

WB Name: ***MCFARLAND CREEK*** County:

Aquatic Life Use(s): **EWH** Segment Length: **5.80**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 5.80	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.80				

Comments: Heavy sedimentation occurred during the construction of Route 422. Embeddedness of instream substrates, and riffle instability were problems during the time of sampling. Continued development within the basin threatens the biological and water quality of this stream. The stream was dry for 4 weeks in 1994 during the time Cannon Lake was being filled.

Causes of Impairment:

Other habitat alterations - H
Flow alteration - H
Filling and draining - H
Siltation - M
Pathogens - S

Sources of Impairment:

Highway/road/bridge/sewer line - H
Upstream impoundment - H
Drainage/filling of wetlands - Dev - H
Land development/Suburbanization - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH90 12	15-001	51.47	27.09	04110003-007	Erie-Ontario Lake Plain

WB Name: ***CHAGRIN RIVER (HEADWATERS TO AURORA BRANCH)*** County:

Aquatic Life Use(s): **WWH** Segment Length: **24.38**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 23.78	Partial: 0.60	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			23.78		0.60		

Comments: The effluent discharge from Ivex is the prime cause of partial attainment in the lower end of this segment. Suburban development in the upper portion threatens biological communities. The upper reaches exhibit characteristics of Coldwater Habitat. Development, coupled with riparian losses, could affect instream temperatures and thus become a critical factor. Future biological monitoring is recommended to track potential impacts from development.

Causes of Impairment:

Mercury - H
Organic enrichment/DO - H
Unionized Ammonia - H
Pathogens - M
Chlorine - M
Suspended solids - M
Siltation - T
Nutrients - T
Nutrients - T
Pathogens - T

Sources of Impairment:

Major Industrial Point Source - H
Onsite wastewater systems (septic tanks) - M
Contaminated sediments - M
Major Industrial Point Source - T
Onsite wastewater systems (septic tanks) - T
Land development/Suburbanization - T
Contaminated sediments - T

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH90 13	15-007	6.60	0.00	04110003-011	Erie-Ontario Lake Plain

WB Name: ***SILVER CREEK*** County:

Aquatic Life Use(s): **CWH** Segment Length: **6.60**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 3.30	Partial: 3.30	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	3.30		3.30				

Comments: This stream showed many characteristics of Coldwater Habitat.

Causes of Impairment:
- *Thermal modifications - H*
- *Flow alteration - M*
- *Siltation - M*
- *Thermal modifications - T*
- *Flow alteration - T*
- *Siltation - T*

Sources of Impairment:
- *Natural - H*
- *Removal of riparian vegetation - Dev - S*
- *Other Urban Runoff - T*
- *Land development/Suburbanization - T*
- *Upstream impoundment - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH90 13.1	15-025	4.64	0.00	04110003-	

WB Name: ***SOUTH BRANCH SILVER CREEK*** County: GEAUGA CO

Aquatic Life Use(s): **WWH** Segment Length: **4.64**

Assessment Cycle: **1998** Field Data Collected From: **199407 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 4.64	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			4.64				

Comments: Development in the upper portion of this stream have resulted in a slight decrease in water quality. Impoundments and suburban development have changed the flow dynamics. Riparian protection should allow Silver Creek to remain a coldwater stream. Brook trout (stocked) are present in this stream.

Causes of Impairment:
- *Nutrients - T*
- *Flow alteration - T*
- *Organic enrichment/DO - T*
- *Thermal modifications - T*

Sources of Impairment:
- *Upstream impoundment - T*
- *Land development/Suburbanization - T*
- *Removal of riparian vegetation - Dev - T*

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH90 14	15-008	5.00	0.00	04110003-	Erie-Ontario Lake Plain

WB Name: ***BEAVER CREEK*** County:

Aquatic Life Use(s): **CWH** Segment Length: **5.00**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 5.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.00						

Comments: This stream flows through wetlands, and contains beaver dams. It is a coldwater stream with sensitive macroinvertebrate taxa. The lower 1 mile near Bass Lake was channelized in the past. Proposed residential development in the area threatens this segment.

Causes of Impairment:
- *Thermal modifications - T*
- *Siltation - T*
- *Other habitat alterations - T*

Sources of Impairment:
- *Land development/Suburbanization - T*
- *Channelization - Development - T*

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH91 1	03-130	9.64	0.00	04110004-017	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***ROCK CREEK (LEBANON CREEK TO GRAND RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **9.64**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00				

Comments: No impacts were observed in the lower 1 mile of stream. Conditions appear to be stable.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH91 8	03-001	60.23	50.59	04110004-002	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***GRAND RIVER (HOSKINS CREEK TO ROCK CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **9.64**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.64	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.64				

Comments: This segment is fully meeting its use designation of Warmwater Habitat.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH91 14	03-001	75.89	60.23	04110004-002	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***GRAND RIVER (COFFEE CREEK TO HOSKINS CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **15.66**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	15.66	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			15.66				

Comments:

Causes of Impairment:	Sources of Impairment:
Flow alteration - H	*Natural - H*
Flow alteration - H	

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH91 15	03-150	13.00	0.00	04110004-	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***PHELPS CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **13.00**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 13.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			13.00				

Comments: The presence of Redside dace and Mottled sculpin (cool-water fish species) and coldwater aquatic insect taxa indicate that this segment is possibly a Coldwater Habitat stream. Future monitoring is recommended to follow up on this potential use designation.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH91 20	03-160	14.10	0.00	04110004-018	Erie-Ontario Lake Plain	TRUMBULL CO

WB Name: ***SWINE CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **14.10**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 7.90	Full, But Threatened: 6.20	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			14.10				

Comments: This segment was fully meeting its use designation of Warmwater Habitat. Some evidence of past channelization was present. Farming to the edges of the stream, and riparian removal are concerns.

Causes of Impairment:

Siltation - T

Other habitat alterations - T

Sources of Impairment:

Removal of riparian vegetation - Ag - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH91 25	03-001	84.90	75.89	04110004-002	Erie-Ontario Lake Plain	TRUMBULL CO

WB Name: ***GRAND RIVER (MUD CREEK TO COFFEE CREEK)***

Aquatic Life Use(s): **WWH** Segment Length: **9.01**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.01	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.01				

Comments: This segment is fully meeting its use designation of Warmwater Habitat.

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WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH91 26	03-022	9.80	0.00	04110004-007	Erie-Ontario Lake Plain

WB Name: ***BAUGHMAN CREEK*** County: **TRUMBULL CO**

Aquatic Life Use(s): **WWH** Segment Length: **9.80**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 9.80	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.80				

Comments: A regional reference site on this stream still supports a population of northern brook lamprey. Cattle have unrestricted access to the stream.

Causes of Impairment:
Other habitat alterations - T

Sources of Impairment:
Pasture land - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH91 28	03-001	102.70	84.90	04110004-003	Erie-Ontario Lake Plain

WB Name: ***GRAND RIVER (HEADWATERS TO MUD CREEK)*** County:

Aquatic Life Use(s): **WWH,EWH,WWH** Segment Length: **17.80**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 10.10	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.00		5.10				

Comments: This segment is fully meeting its use designation of Warmwater Habitat, but is being recommended for upgrading to Exceptional Warmwater Habitat. The Village of Parkman has little effect on the river.

Causes of Impairment:
Nutrients - T

Sources of Impairment:
Minor Municipal Point Source - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion
OH92 1	03-001	14.31	0.00	04110004-001	

WB Name: ***GRAND RIVER (PAINE CREEK TO MOUTH)*** County: **LAKE CO**

Aquatic Life Use(s): **EWH,WWH,EWH** Segment Length: **14.31**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 1.50	Full, But Threatened: 5.00	Partial: 1.60	None 0.60

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	6.50				1.60	0.60	

Comments: The Diamond Shamrock waste lagoons continue to impact the biological communities in the lower Grand River. Upstream from Painesville the stream is exceptional in biological quality, recreational opportunities, and aesthetics.

Causes of Impairment:
Salinity/TDS/chlorides - H
Salinity/TDS/chlorides - M
Priority organics - M
Mercury - M
Nutrients - T
Siltation - T
Flow alteration - T

Sources of Impairment:
Waste storage/storage tank leaks - H
Waste storage/storage tank leaks - M
Atmospheric deposition - M
Source Unknown - M
Minor Municipal Point Source - T
Land development/Suburbanization - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH92 7	03-100	17.20	0.00	04110004-008	Erie-Ontario Lake Plain	LAKE CO

WB Name: ***BIG CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **17.20**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.60	0.00	7.50	0.10

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			14.90		2.20	0.10	

Comments: Upgrades to the Chardon WWTP have resulted in improvements in the biological communities downstream from the plant. Impacts are still present though. On-site sewage disposal and urban runoff contribute to non-attainment upstream from the Chardon WWTP. Excessive flows through the Chardon WWTP, and chlorine cause impairment downstream from the plant.

Causes of Impairment:
Organic enrichment/DO - H
Nutrients - M

Sources of Impairment:
Minor Municipal Point Source - H
Onsite wastewater systems (septic tanks) - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH92 11	03-104	3.40	0.00	04110004-	Erie-Ontario Lake Plain	GEAUGA CO

WB Name: ***JENKS CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **3.40**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.50	2.30	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			2.80				

Comments: The presence of coldwater fish species and macroinvertebrate taxa indicate that this stream may be Coldwater Habitat. Future monitoring is recommended to follow up on this status.

Causes of Impairment:
Organic enrichment/DO - T

Sources of Impairment:
Package Plants (Small Flows) - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH92 12	03-105	2.80	0.00	04110004-	Erie-Ontario Lake Plain	GEAUGA CO

WB Name: ***CUTTS CREEK***

Aquatic Life Use(s): **CWH** Segment Length: **2.80**

Assessment Cycle: **1998** Field Data Collected From: **199610 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	1.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.00						

Comments: This segment is threatened by proposed construction of a power line. Follow-up sampling is recommended to confirm the Coldwater Habitat/Exceptional Warmwater Habitat use designation.

Causes of Impairment:
Siltation - T
Other habitat alterations - T

Sources of Impairment:
Highway/road/bridge/sewer line - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH92 13	03-110	17.50	0.00	04110004-014	Erie-Ontario Lake Plain

WB Name: ***PAINE CREEK*** County: **LAKE CO**

Aquatic Life Use(s): **WWH,EWH** Segment Length: **17.50**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	17.50	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	17.50						

Comments: This segment is currently designated Warmwater Habitat, but is recommended for upgrading to Exceptional Warmwater Habitat. Development in LeRoy Township threatens the high quality of this stream.

Causes of Impairment:
Siltation - T
Other habitat alterations - T

Sources of Impairment:
Land development/Suburbanization - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH92 14	03-111	10.00	0.00	04110004-	Erie-Ontario Lake Plain

WB Name: ***BATES CREEK*** County: **LAKE CO**

Aquatic Life Use(s): **WWH** Segment Length: **10.00**

Assessment Cycle: **1998** Field Data Collected From: **199610 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	1.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	1.00						

Comments: This segment is threatened by the proposed construction of a power line. Macroinvertebrate results suggest it is a high quality stream. Wetlands are present in the area. Future sampling is recommended to verify Exceptional Warmwater Habitat conditions.

Causes of Impairment:
Siltation - T
Other habitat alterations - T

Sources of Impairment:
Highway/road/bridge/sewer line - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH92 16	03-001	23.58	14.31	04110004-001	Erie-Ontario Lake Plain

WB Name: ***GRAND RIVER (MILL CREEK TO PAINE CREEK)*** County: **LAKE CO**

Aquatic Life Use(s): **EWH** Segment Length: **9.27**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.27	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	9.27						

Comments: This segment of stream is fully supporting its Exceptional Warmwater Habitat use designation.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH92 20	03-001	41.28	23.58	04110004-001	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***GRAND RIVER (MILL CREEK TO MILL CREEK)***

Aquatic Life Use(s): **WWH,EWH** Segment Length: **17.70**

Assessment Cycle: **1998** Field Data Collected From: **199606 to 199610** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.00						

Comments: This segment of stream has a very diverse fauna. It is one of the few areas in the state where Sand darters are repeatedly collected.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH92 23	03-120	19.55	0.00	04110004-005	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***MILL CREEK (ASKUE RUN TO GRAND RIVER)***

Aquatic Life Use(s): **WWH** Segment Length: **19.55**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 9.60	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			9.60				

Comments: Two biological reference sites were sampled in this segment. No impacts were noted. Future sampling should be done downstream from the confluence of Cemetery Creek to assess any effect from the Jefferson WWTP.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH92 24	03-124	6.32	0.00	04110004-	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***CEMETERY CREEK***

Aquatic Life Use(s): **WWH** Segment Length: **6.32**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
						1.30	

Comments: Unsewered discharges upstream from the town of Jefferson impact the stream. The Jefferson WWTP is operating beyond capacity and is discharging poorly treated sewage, further impacting the stream. Recent upgrades to the WWTP should improve instream conditions.

Causes of Impairment:

Organic enrichment/DO - H

Sources of Impairment:

Onsite wastewater systems (septic tanks) - H
Minor Municipal Point Source - M

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH92 29	03-001	50.59	41.28	04110004-002	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***GRAND RIVER (ROCK CREEK TO MILL CREEK)***

Aquatic Life Use(s): **EWH,WWH** Segment Length: **9.31**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	9.31	0.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	5.00		4.31				

Comments: This segment has good to exceptional water and biological quality.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH93 3	07-100	23.83	0.00	04120101-012	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***CONNEAUT CREEK (OH./PA. BORDER TO LAKE ERIE)***

Aquatic Life Use(s): **EWH** Segment Length: **23.83**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	23.53	0.00	0.30	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
	23.53				0.30		

Comments: Upstream from the Conneaut Harbor area, the fish community is in the exceptional range. A strong population of bigeye chubs (fish species sensitive to pollution) was present.

Causes of Impairment:
Other habitat alterations - H

Sources of Impairment:
Dredging - Development - H
Streambank destabilization - Dev - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH93 4.1	07-012	3.05	0.00	04120101-	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***WHITMAN CREEK***

Aquatic Life Use(s): **NONE** Segment Length: **3.05**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199506** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	1.00	0.30	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			1.00		0.30		

Comments: The lower 1 mile of stream has natural habitat conditions, and meets Warmwater Habitat criteria. The Ohio Department of Natural Resources has reported salmonid fish in this segment, and the Ohio EPA confirmed it with the capture of Rainbow trout. At least 0.3 miles of Whitman Creek is threatened by the construction of a fly ash disposal landfill. Reserve Environmental, a hazardous waste landfill, is located on a tributary to Whitman Creek.

Causes of Impairment:
Other habitat alterations - T
Filling and draining - T

Sources of Impairment:
Landfills - T
Channelization - Development - T

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH93 4.2	07-020	3.85	0.00			

WB Name: ***TRIB. TO LAKE ERIE (BERKSHIRE RD.)***

Aquatic Life Use(s): **NONE** Segment Length: **3.85**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199506** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 3.80	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			3.80				

Comments: This stream was a sampled as a reference stream to the North Kingsville Landfill tributary. Macroinvertebrate data indicated marginally good quality for a small, high gradient stream.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH93 4.3	07-019	1.01	0.00			

WB Name: ***TRIB. TO LAKE ERIE (N. KINGSVILLE)***

Aquatic Life Use(s): **NONE** Segment Length: **1.01**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199506** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 1.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
							1.00

Comments: There were severe impacts within this segment associated with the North Kingsville Landfill. High levels of arsenic and other metals were recorded in the sediments. Macroinvertebrate sampling yielded only tolerant organisms, with low numbers and low diversity.

Causes of Impairment:

Metals - H
Priority organics - H

Sources of Impairment:

Landfills - H

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH93 5	07-001	27.54	0.00	04110004-008	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***ASHTABULA RIVER***

Aquatic Life Use(s): **WWH** Segment Length: **27.54**

Assessment Cycle: **1998** Field Data Collected From: **199506 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 22.20	Full, But Threatened: 0.00	Partial: 4.00	None 1.30

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			22.20		4.00	1.30	

Comments: Ashtabula Harbor is highly modified physically to accomodate shipping. Fields Brook contributes contaminated sediments to the harbor area. Upstream from Fields Brook the stream is high quality, containing a strong population of bigeye chubs (fish species sensitive to pollution).

Causes of Impairment:

Priority organics - H
Other habitat alterations - H
Cause Unknown - H

Sources of Impairment:

Hazardous waste - H
Marina(s) - M
Streambank destabilization - Dev - M
Natural - S

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH93 10	07-004	16.50	0.00	04110004-	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***WEST BRANCH ASHTABULA RIVER***

Aquatic Life Use(s): **WWH** Segment Length: **16.50**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.00				

Comments: There are no apparent problems within this segment.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH93 11	07-005	10.70	0.00	04110004-	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***EAST BRANCH ASHTABULA RIVER***

Aquatic Life Use(s): **WWH** Segment Length: **10.70**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 5.00	Full, But Threatened: 0.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			5.00				

Comments: There are no apparent problems within this segment.

WBID #	River Code	Upper River Mile	Lower River Mile	USEPA Reach	Ecoregion	County
OH93 16	07-007	10.50	0.00	04110003-	Erie-Ontario Lake Plain	ASHTABULA CO

WB Name: ***COWLES CREEK***

Aquatic Life Use(s): **WWH,WWH-E** Segment Length: **10.50**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.70	Full, But Threatened: 0.00	Partial: 6.40	None 3.40

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
			0.70		6.40	3.40	

Comments: Improvements were noted downstream from the Geneva WWTP compared to sampling done in 1981. Unsewered wastes upstream from the WWTP within the Geneva city limits were causing impairment in the biological community and the water quality. The regional reference site at river mile 7.2 declined in biological quality for unknown reasons.

Causes of Impairment:

Nutrients - H
Organic enrichment/DO - H
Cause Unknown - H

Sources of Impairment:

Minor Municipal Point Source - H
Source Unknown - H
Onsite wastewater systems (septic tanks) - M

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH93 18	**07-011**	**9.30**	**0.00**	**04110003-**	**Erie-Ontario Lake Plain**

WB Name: ***ARCOLA CREEK*** County: **ASHTABULA CO**

Aquatic Life Use(s): **WWH** Segment Length: **9.30**

Assessment Cycle: **1998** Field Data Collected From: **199507 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**0.00**	**None**	**7.50**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
					3.50	**4.00**	

Comments: Nutrient enrichment from the Madison WWTP, combined with channelization, resulted in impairment of the biological community. More importantly, water withdrawal in the lower 4 to 5 miles took away all of the stream flow.

Causes of Impairment:

Flow alteration - H
Other habitat alterations - H
Organic enrichment/DO - M
Nutrients - M

Sources of Impairment:

Flow reg./mod. - Development - H
Channelization - Development - H
Onsite wastewater systems (septic tanks) - M
Minor Municipal Point Source - M

Ohio EPA - Appendix D2 - 2000 305(b): Lakes, Ponds, & Reservoirs

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 1 14-309	**-**	**0.00**	**0.00**		County:

WB Name: ***MICHAEL J. KIRWIN RESV. (WEST BR. RESV.)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:** 0.00	**Full, But Threatened:** 2650.00	**Partial:** 0.00	**None** 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The only problems in this lake appear to be turbidity (TSS), and low dissolved oxygen in the hypolimnion in the summer when the lake is thermally stratified.

Causes of Impairment:

Organic enrichment/DO - T
Thermal modifications - T
Noxious aquatic plants - T
Low Nutrients - T
Low Nutrients - T
Salinity/TDS/chlorides - T

Sources of Impairment:

Industrial Point Sources - T
Nonirrigated crop production - T
Highway/road/bridge/sewer line - T
Land development/Suburbanization - T
Petroleum activities - T
Onsite wastewater systems (septic tanks) - T
Spills - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 1 14-311	**-**	**0.00**	**0.00**		County:

WB Name: ***CRYSTAL LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:** 0.00	**Full, But Threatened:** 0.00	**Partial:** 0.00	**None** 25.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a natural glacial lake. There are very high levels of copper, arsenic, lead, chromium and zinc in the sediments. The lake is very nutrient poor.

Causes of Impairment:

Metals - H
Organic enrichment/DO - M

Sources of Impairment:

Natural - H
Atmospheric deposition - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 1 22-230	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE MILTON***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **197906 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:** 0.00	**Full, But Threatened:** 1685.00	**Partial:** 0.00	**None** 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Mercury data collected in 1993.

Causes of Impairment:

Organic enrichment/DO - H
Oil and grease - M
Nutrients - M
Siltation - M
Salinity/TDS/chlorides - M

Sources of Impairment:

Onsite wastewater systems (septic tanks) - H
Other Urban Runoff - M
Atmospheric deposition - M
Municipal Point Sources - M
Non-industrial Permitted - M
Combined Sewer Overflow - M

Ohio EPA - Appendix D2 - 2000 305(b): Lakes, Ponds, & Reservoirs

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 1 24-307	**-**	**0.00**	**0.00**		County:

WB Name: ***BERLIN RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **197304 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**0.00**	**3590.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Mercury data collected in 1992-93.

Causes of Impairment:

Organic enrichment/DO - H
Unknown toxicity - S
Pesticides - S

Sources of Impairment:

Atmospheric deposition - M
Spills - M
Natural - M
Municipal Point Sources - M
Industrial Point Sources - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 1 24-348	**-**	**0.00**	**0.00**		County:

WB Name: ***DEER CREEK RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**313.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Pesticides - T
Nutrients - T
Siltation - T
Organic enrichment/DO - T
Taste and odor - T
Filling and draining - T

Sources of Impairment:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 2 5-239	**-**	**0.00**	**0.00**		County:

WB Name: ***EVANS LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**566.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There is surface mining within the watershed. Manganese levels are a partial cause of impairment.

Causes of Impairment:

Other inorganics - T
Organic enrichment/DO - T
Nutrients - T

Sources of Impairment:

Surface Mining - T
Nonirrigated crop production - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 2 23-378	**-**	**0.00**	**0.00**		County:

WB Name: ***MEANDER CREEK RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**2010.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There is no public access to the lake for recreational purposes. A breeding pair of bald eagles were recorded nesting at the lake.

Causes of Impairment:
- *Metals - T*
- *Organic enrichment/DO - T*
- *Nutrients - T*

Sources of Impairment:
- *Highway maintenance and runoff - T*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 2 31-381	**-**	**0.00**	**0.00**		County:

WB Name: ***MOSQUITO CREEK RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **197304 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**7850.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
- *Nutrients - T*
- *Organic enrichment/DO - T*
- *Flow alteration - T*
- *Oil and grease - T*

Sources of Impairment:
- *Natural - T*
- *Industrial Point Sources - T*
- *Municipal Point Sources - T*
- *Onsite wastewater systems (septic tanks) - T*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 4 34- 74	**-**	**0.00**	**0.00**		County:

WB Name: ***GUILFORD LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**396.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
- *Unionized Ammonia - T*
- *Nutrients - T*
- *Siltation - T*
- *Organic enrichment/DO - T*

Sources of Impairment:
- *Nonirrigated crop production - T*
- *Pasture land - T*
- *Feedlots (Confined Animal Feeding Oper.) - T*
- *Land development/Suburbanization - T*
- *Surface Mining - T*
- *Onsite wastewater systems (septic tanks) - T*

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 5 8-207	**-**	**0.00**	**0.00**		County:

WB Name: ***FRIENDSHIP PARK LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199000 to 199100** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 0.00	None 85.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
- *Other inorganics - H*

Sources of Impairment:
- *Surface Mining - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 5 56-206	**-**	**0.00**	**0.00**		County:

WB Name: ***JEFFERSON LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **199005 to 199009** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 25.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
- *Siltation - T*
- *Noxious aquatic plants - T*

Sources of Impairment:
- *Nonirrigated crop production - T*
- *Pasture land - T*
- *Contaminated sediments - T*
- *Natural - T*
- *Harvesting,restoration,residue managem't - T*
- *Non-industrial Permitted - T*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH 7 44- 35	**-**	**0.00**	**0.00**		County:

WB Name: ***BARNESVILLE RESERVOIR #3***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 43.30	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Very high levels of copper were reported in the sediments. The lake was possibly treated with copper sulfate in the past.

Causes of Impairment:
- *Nutrients - T*
- *Pesticides - T*
- *Metals - T*

Sources of Impairment:
- *Natural - T*
- *Pasture land - T*
- *Nonirrigated crop production - T*
- *Surface Mining - T*

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH10 6-347	**-**	**0.00**	**0.00**		County:

WB Name: ***SIPPO LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199904 to 199910** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 88.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Sippo Lake is the only Section 314 Clean Lake Project to be completed to Phase 2 restoration. The lake was dredged in 1997-1998, with approximately 250,000 cubic yards of sediment removed, plus large macrophyte biomass potential. The secchi data indicate a shift in trophic state from macrophyte diminance at primary producer trophic state, to phytoplankton dominance. However, the shift began 3-4 years before the dredging began, caused by macrophyte harvesting. The overall lake condition has improved after the dredging, primarily from increased access to recreation.

Causes of Impairment:

T
Noxious aquatic plants - T
T
Turbidity - T

Sources of Impairment:

Land development/Suburbanization - T
Other Urban Runoff - T
Dam construction - Development - T
Contaminated sediments - T
Natural - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH10 12-360	**-**	**0.00**	**0.00**		County:

WB Name: ***NIMISILA RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199305 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 825.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Fish stocking is being done as part of lake restoration.

Causes of Impairment:

Organic enrichment/DO - T
Nutrients - T
Pesticides - T
Other inorganics - T
Siltation - T

Sources of Impairment:

Sanitary Sewer Overflow - T
Nonirrigated crop production - T
Animal holding/management areas - T
Other Urban Runoff - T
Non-industrial Permitted - T
Onsite wastewater systems (septic tanks) - T
Land development/Suburbanization - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH10 33-352	**-**	**0.00**	**0.00**		
WB Name: ***SUMMIT LAKE***					County:
Aquatic Life Use(s):		Segment Length:	**0.00**		

Assessment Cycle: **2000** Field Data Collected From: **199605 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**0.00**	**None**	**100.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Metals - H
H
Salinity/TDS/chlorides - H
M
Organic enrichment/DO - M
M
Other inorganics - M
Unionized Ammonia - S

Sources of Impairment:

Other Urban Runoff - H
Contaminated sediments - H
Natural - H
Major Industrial Point Source - M
Flow reg./mod. - Development - M
Combined Sewer Overflow - S
Industrial Permitted - S
Spills - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH10 33-355	**-**	**0.00**	**0.00**		
WB Name: ***LAKE NESMITH***					County:
Aquatic Life Use(s):		Segment Length:	**0.00**		

Assessment Cycle: **2000** Field Data Collected From: **199605 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**0.00**	**None**	**80.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

H
M
Metals - M
Unionized Ammonia - M
Organic enrichment/DO - M
M
Thermal modifications - M

Sources of Impairment:

Other Urban Runoff - H
Natural - H
Waste storage/storage tank leaks - H
Flow reg./mod. - Development - M
Contaminated sediments - M

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH10 33-358	**-**	**0.00**	**0.00**		County:

WB Name: ***LONG LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199806 to 199810** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**180.00**	**0.00**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

T
Organic enrichment/DO - T
T
Siltation - T

Sources of Impairment:

Package Plants (Small Flows) - T
Onsite wastewater systems (septic tanks) - T
Major Municipal Point Source - T
Natural - T
Contaminated sediments - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH10 33-359	**-**	**0.00**	**0.00**		County:

WB Name: ***EAST RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199305 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**0.00**	**0.00**	**201.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: This lake is an old glacial lake.

Causes of Impairment:

Metals - H
Nutrients - H
Organic enrichment/DO - M
Other inorganics - S

Sources of Impairment:

Sanitary Sewer Overflow - H
Non-industrial Permitted - H
Other Urban Runoff - H
Onsite wastewater systems (septic tanks) - H
Natural - H
Municipal Point Sources - M
Contaminated sediments - M
Nonirrigated crop production - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH10 33-361	**-**	**0.00**	**0.00**		County:

WB Name: ***WEST RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199305 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**0.00**	**0.00**	**104.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: This lake is an old glacial lake. There are elevated levels of arsenic, lead and zinc in the sediments.

Causes of Impairment:

Metals - H
Nutrients - M
Organic enrichment/DO - M
Thermal modifications - M
Siltation - S

Sources of Impairment:

Land development/Suburbanization - H
Other Urban Runoff - H
Onsite wastewater systems (septic tanks) - H
H
Natural - H
Contaminated sediments - H

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH10 33-363	**-**	**0.00**	**0.00**		County:

WB Name: ***REX LAKE***

Aquatic Life Use(s):

Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199306** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**48.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: High arsenic was reported in sediments. This may be natural for a lake in this area.

Causes of Impairment:

Organic enrichment/DO - T
Siltation - T
Other inorganics - T
Noxious aquatic plants - T
Metals - T

Sources of Impairment:

Municipal Point Sources - T
Land development/Suburbanization - T
Other Urban Runoff - T
Onsite wastewater systems (septic tanks) - T
T
Natural - T
Spills - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH10 33-364	**-**	**0.00**	**0.00**		County:

WB Name: ***TURKEYFOOT LAKE***

Aquatic Life Use(s):

Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199305** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**318.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: High arsenic was reported in sediments. This may be natural for a lake in this area.

Causes of Impairment:

Organic enrichment/DO - T
Siltation - T
Other inorganics - T
Noxious aquatic plants - T
Metals - T

Sources of Impairment:

Package Plants (Small Flows) - T
Land development/Suburbanization - T
Other Urban Runoff - T
Onsite wastewater systems (septic tanks) - T
T
Natural - T
Spills - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH10 33-365	**-**	**0.00**	**0.00**		County:

WB Name: ***MUD LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199306** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**0.00**	**85.00**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Organic enrichment/DO - H
Noxious aquatic plants - M
Metals - M
Siltation - S
Other inorganics - S

Sources of Impairment:

Land development/Suburbanization - H
Other Urban Runoff - H
Onsite wastewater systems (septic tanks) - H
Natural - M
Package Plants (Small Flows) - S
S
Spills - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH12 5-383	**-**	**0.00**	**0.00**		County:

WB Name: ***ATWOOD RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**1540.00**	**0.00**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Other habitat alterations - T
Organic enrichment/DO - T
Nutrients - T

Sources of Impairment:

T
Municipal Point Sources - T
Pasture land - T
Nonirrigated crop production - T
Onsite wastewater systems (septic tanks) - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH12 16- 51	**-**	**0.00**	**0.00**		County:

WB Name: ***LEESVILLE LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198801 to 199000** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**1000.00**	**0.00**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Nutrients - T
Organic enrichment/DO - T

Sources of Impairment:

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH14 2-180	**-**	**0.00**	**0.00**		County:

WB Name: ***TAPPAN LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**2350.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Nutrients - T

Sources of Impairment:

Surface Mining - T
Nonirrigated crop production - T
Pasture land - T
Petroleum activities - T
Onsite wastewater systems (septic tanks) - T
T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH16 1- 11	**-**	**0.00**	**0.00**		County:

WB Name: ***PLEASANT HILL LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199805 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**850.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

T
Siltation - T
Organic enrichment/DO - T

Sources of Impairment:

Municipal Point Sources - T
Nonirrigated crop production - T
Onsite wastewater systems (septic tanks) - T
Atmospheric deposition - T
Contaminated sediments - T
T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH16 15-328	**-**	**0.00**	**0.00**		County:

WB Name: ***CLEAR FORK RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199805 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**1010.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

T

Sources of Impairment:

Nonirrigated crop production - T
Onsite wastewater systems (septic tanks) - T
Atmospheric deposition - T
Contaminated sediments - T
T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH16 21- 13	**-**	**0.00**	**0.00**		County:

WB Name: ***CHARLES MILL LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199805 to 199809** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**1350.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Nutrients - H
Siltation - H
H
Suspended solids - M
Turbidity - M
Iron - S

Sources of Impairment:

Nonirrigated crop production - H
Contaminated sediments - M
Onsite wastewater systems (septic tanks) - S
Atmospheric deposition - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH16 21-327	**-**	**0.00**	**0.00**		County:

WB Name: ***SHELBY RESERVOIR #2***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199305 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**12.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: The fishery in this lake is marginal. Highly elevated levels of copper are present in the sediments. The lake is treated with copper sulfate.

Causes of Impairment:

Metals - H
Nutrients - S

Sources of Impairment:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH16 28-326	**-**	**0.00**	**0.00**		County:

WB Name: ***SHELBY RESERVOIR #1***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199305 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**29.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Elevated levels of copper were recorded in the sediments and water column. Copper sulfate is applied to lake.

Causes of Impairment:

Metals - H
Nonpriority organics - S
Organic enrichment/DO - S

Sources of Impairment:

H

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH18 27-209	**-**	**0.00**	**0.00**		County:

WB Name: ***NORTH BRANCH KOKOSING RIVER LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**154.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Nutrients - H
Organic enrichment/DO - M
Turbidity - M
Noxious aquatic plants - M
Other inorganics - S

Sources of Impairment:

Nonirrigated crop production - H
Irrigated crop production - S
Pasture land - S
Feedlots (Confined Animal Feeding Oper.) - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH18 38-265	**-**	**0.00**	**0.00**		County:

WB Name: ***MT. GILEAD LAKE (UPPER)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**7.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Organic enrichment/DO - H
Priority organics - M

Sources of Impairment:

Pasture land - H
Feedlots (Confined Animal Feeding Oper.) - H
H
H
H
Natural - H
Range land - M
Non-industrial Permitted - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH19 35-397	**-**	**0.00**	**0.00**		County:

WB Name: ***SHREVE LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198905 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**56.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Nutrients - H
Siltation - M
Organic enrichment/DO - M
Salinity/TDS/chlorides - M
Other habitat alterations - M

Sources of Impairment:

Pasture land - H
Nonirrigated crop production - H
Other Urban Runoff - M
Onsite wastewater systems (septic tanks) - M
M
Natural - M

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH21 1- 79	**-**	**0.00**	**0.00**		County:

WB Name: ***WILLS CREEK RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199305** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**900.00**	**0.00**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Siltation - T
Turbidity - T
Suspended solids - T
Other inorganics - T
Nutrients - T
Pathogens - T

Sources of Impairment:

Acid Mine Drainage - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH21 19-159	**-**	**0.00**	**0.00**		County:

WB Name: ***SALT FORK RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199404 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**2952.00**	**0.00**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Fish stocking is currently being done in this lake. Slightly elevated levels of mercury were reported in fish tissue samples.

Causes of Impairment:

Nutrients - T
Unionized Ammonia - T
Organic enrichment/DO - T
Metals - T

Sources of Impairment:

Nonirrigated crop production - T
Pasture land - T
Range land - T
Feedlots (Confined Animal Feeding Oper.) - T
Onsite wastewater systems (septic tanks) - T
T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH21 36-273	**-**	**0.00**	**0.00**		County:

WB Name: ***NEW CONCORD RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199404 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**9.60**	**0.00**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

pH - T
Organic enrichment/DO - T
Taste and odor - T
Suspended solids - T
Noxious aquatic plants - T
Exotic species - T

Sources of Impairment:

Nonirrigated crop production - T
Pasture land - T
Range land - T
Surface Mining - T
Petroleum activities - T
Mine tailings - T
T
T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH21 43-158	**-**	**0.00**	**0.00**		County:

WB Name: ***CAMBRIDGE RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199404 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 0.00**	**Partial: 0.00**	**None 26.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Elevated levels of copper and cadmium were reported in sediments.

Causes of Impairment:

Unionized Ammonia - H
pH - S
Thermal modifications - S
Pathogens - S
Suspended solids - S
Noxious aquatic plants - S
Filling and draining - S
Exotic species - S

Sources of Impairment:

Nonirrigated crop production - H
Pasture land - S
Range land - S
Land development/Suburbanization - S
Other Urban Runoff - S
Surface Mining - S
Subsurface mining - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH22 5-272	**-**	**0.00**	**0.00**		County:

WB Name: ***DILLON RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **199004 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 0.00**	**Partial: 1325.00**	**None 0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly elevated levels of mercury were reported in fish tissue samples.

Causes of Impairment:

Nutrients - H
Siltation - H
Turbidity - M
Pesticides - S
Priority organics - S

Sources of Impairment:

Nonirrigated crop production - M
Pasture land - M
Feedlots (Confined Animal Feeding Oper.) - S
Non-industrial Permitted - S
Petroleum activities - S
Contaminated sediments - S

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH22 59-212	**-**	**0.00**	**0.00**		County:

WB Name: ***BUCKEYE LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **197304 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**3136.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Nutrients - H
Turbidity - M
Siltation - M

Sources of Impairment:

Combined Sewer Overflow - H
Non-industrial Permitted - H
Sanitary Sewer Overflow - H
Irrigated crop production - H
Municipal Point Sources - M
Contaminated sediments - M
Natural - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH23 22-274	**-**	**0.00**	**0.00**		County:

WB Name: ***MAYSVILLE REG. WATER DIST. LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199404 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	45.00	**0.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This appears to be an excellent lake. It may be a candidate for an ecoregion reference site lake for Ohio.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH25 7-120	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE ROMONA***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**5.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Mercury levels are slightly higher than laboratory detection limits.

Causes of Impairment:

Metals - T
Nutrients - T

Sources of Impairment:

Atmospheric deposition - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH25 16-289	**-**	**0.00**	**0.00**		County:

WB Name: ***RUSH CREEK LAKE (RCCD STRUC. 6-A)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199306** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**300.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Ammonia was present is significant concentrations in bottom water of the lake. High fecals were reported in non-bathing areas.

Causes of Impairment:

Pathogens - H
Organic enrichment/DO - M
Unionized Ammonia - M
Nonpriority organics - M
Nutrients - M
Pesticides - S

Sources of Impairment:

Nonirrigated crop production - S
Pasture land - S
Feedlots (Confined Animal Feeding Oper.) - S
Animal holding/management areas - S
Package Plants (Small Flows) - S
Onsite wastewater systems (septic tanks) - S
Natural - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH25 17-124	**-**	**0.00**	**0.00**		County:

WB Name: ***OAK THORPE RESV.(RCCD STRUC. 6-D)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**43.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: An Ohio Department of Natural Resources fishery scientist stated that the lake has an excellent largemouth bass population, yet the lake is considered impaired due to hypereutrophic nutrient entichment.

Causes of Impairment:

Nutrients - H
Organic enrichment/DO - S

Sources of Impairment:

Nonirrigated crop production - H
Specialty crop production - M
Pasture land - M
Feedlots (Confined Animal Feeding Oper.) - M
Animal holding/management areas - M
Land development/Suburbanization - M

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH25 20-283	**-**	**0.00**	**0.00**		County:

WB Name: ***NEW LEXINGTON RESERVOIR #1 New***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**0.00**	**None**	**44.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Elevated levels of copper and mercury were reported in the sediments. Though no current management controls are known, it is suspected that copper sulfate has been used in the past.

Causes of Impairment:

Metals - H
Other inorganics - M
Taste and odor - M
Nutrients - M
Siltation - S
Suspended solids - S
Noxious aquatic plants - S
Turbidity - S

Sources of Impairment:

Nonirrigated crop production - S
Pasture land - S
Range land - S
Harvesting,restoration,residue managem't - S
Surface Mining - S
Petroleum activities - S
Mine tailings - S
Natural - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH25 24-119	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE LORETTA***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**5.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Elevated levels of mercury were reported in water column and sediments. Copper sulfate is applied to the lake. This lake is used for geothermal heating and cooling.

Causes of Impairment:

Sources of Impairment:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH25 26-112	**-**	**0.00**	**0.00**		County:

WB Name: ***GREENFIELD LAKE (HUNTERS RUN #R-63)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199306** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**13.50**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Organic enrichment/DO - T
Pesticides - T
Nutrients - T
Siltation - T

Sources of Impairment:

Nonirrigated crop production - T
Pasture land - T
Feedlots (Confined Animal Feeding Oper.) - T
Animal holding/management areas - T
Natural - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH25 27-111	**-**	**0.00**	**0.00**		County:

WB Name: ***ROCK MILL LAKE (HRCD STRUC. #9)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**19.80**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Siltation - H
Nutrients - M
Organic enrichment/DO - M
Low Nutrients - M
Pesticides - S

Sources of Impairment:

Natural - H
Nonirrigated crop production - M
Pasture land - M
Feedlots (Confined Animal Feeding Oper.) - M
Land development/Suburbanization - M
S
S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH26 2- 22	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE SNOWDEN (MARGARET CR. STRUCTURE #2)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**131.30**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Saugeyes and channel catfish are stocked in this lake.

Causes of Impairment:

Organic enrichment/DO - T
Nutrients - T
Siltation - T
Suspended solids - T

Sources of Impairment:

Nonirrigated crop production - T
Pasture land - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH26 44-190	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE LOGAN (HOCKING LAKE)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**354.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Organic enrichment/DO - H
Turbidity - M
Nutrients - M
Siltation - M
Noxious aquatic plants - S

Sources of Impairment:

Nonirrigated crop production - M
Irrigated crop production - S
S

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH27 49- 21	**-**	**0.00**	**0.00**		County:

WB Name: ***DOW LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**161.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Siltation - T
Organic enrichment/DO - T

Sources of Impairment:

Source Unknown - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH27 63-396	**-**	**0.00**	**0.00**		County:

WB Name: ***VETO LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**160.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Nutrients - H
Siltation - H
Organic enrichment/DO - M
Turbidity - M
Noxious aquatic plants - M

Sources of Impairment:

Petroleum activities - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH28 63-248	**-**	**0.00**	**0.00**		County:

WB Name: ***FORKED RUN LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**104.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Data for this assessment were reported by the lake manager. It seems strange that an oligotrophic lake has so many perceived problems.

Causes of Impairment:

Pesticides - T
Priority organics - T
Nonpriority organics - T
Nutrients - T
Siltation - T
Organic enrichment/DO - T
Flow alteration - T
Other habitat alterations - T

Sources of Impairment:

Pasture land - T
Harvesting,restoration,residue managem't - T
Forest management - T
Road construction/maintenance - T
Onsite wastewater systems (septic tanks) - T
Sanitary Sewer Overflow - T
Nonirrigated crop production - T
Animal holding/management areas - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH30 17-392	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE RUPERT***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**325.00**	**0.00**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Water quality declined over the last few years. More algal blooms have been occurring. Saugeyes and channel catfish are stocked.

Causes of Impairment:

Nutrients - H
Siltation - M
Organic enrichment/DO - M
Suspended solids - M
Noxious aquatic plants - M
Other inorganics - M

Sources of Impairment:

Source Unknown - H
Nonirrigated crop production - M
Pasture land - M
Feedlots (Confined Animal Feeding Oper.) - M
Irrigated crop production - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH30 56-390	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE HOPE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**0.00**	**0.00**	**127.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Organic enrichment/DO - H
Siltation - M
pH - M
Metals - S
Taste and odor - S

Sources of Impairment:

Subsurface mining - H
Harvesting,restoration,residue managem't - S
Forest management - S
Other Urban Runoff - S
Natural - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH31 49-147	**-**	**0.00**	**0.00**		County:

WB Name: ***TYCOON LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1988** Field Data Collected From: **199004 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**204.00**	**0.00**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Nutrients - T
Noxious aquatic plants - T

Sources of Impairment:

Harvesting,restoration,residue managem't - T
Forest management - T
Surface Mining - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH31 51-148	**-**	**0.00**	**0.00**		County:

WB Name: ***RIO GRANDE RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 7.20**	**Partial: 0.00**	**None 0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Elevated levels of copper rwere reported in sediments. Copper sulfate may have been applied to the lake sometime in the the past.

Causes of Impairment:

Metals - H
Other inorganics - S
Pesticides - S

Sources of Impairment:

Range land - H
Natural - M
Pasture land - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH35 12-106	**-**	**0.00**	**0.00**		County:

WB Name: ***WHITE SULPHUR LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 39.00**	**Partial: 0.00**	**None 0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: This is a quarry lake which is used for public drinking water supply. Water is pumped into the Scioto River, then travels 12 miles downstream to the City of Columbus water treatment plant intake.

Causes of Impairment:

Sources of Impairment:

T
Atmospheric deposition - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH35 30-386	**-**	**0.00**	**0.00**		County:

WB Name: ***RICHWOOD PARK LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199510** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 0.00**	**Partial: 0.00**	**None 16.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: High levels of mercury were reported in the water column and sediments. Lots of geese on the lake may account for high bacteria counts.

Causes of Impairment:

Metals - H
Nutrients - M
Turbidity - M

Sources of Impairment:

Other Urban Runoff - H

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH36 2-421	**-**	**0.00**	**0.00**		County:

WB Name: ***BLUE LIMESTONE PARK QUARRY PIT***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**6.80**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Elevated copper was reported in the sediments and water column.

Causes of Impairment:

Metals - T
Nutrients - T

Sources of Impairment:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH36 16-266	**-**	**0.00**	**0.00**		County:

WB Name: ***MT. GILEAD LAKE (LOWER)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**11.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Organic enrichment/DO - T
Priority organics - T
Siltation - T
Suspended solids - T

Sources of Impairment:

Pasture land - T
Feedlots (Confined Animal Feeding Oper.) - T
T
T
T
Natural - T
Range land - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH36 35-268	**-**	**0.00**	**0.00**		County:

WB Name: ***AMANN RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**24.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Nutrients - T
Pesticides - T
Siltation - T
Turbidity - T

Sources of Impairment:

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH37 9-133	**-**	**0.00**	**0.00**		County:

WB Name: ***MILLER ANTRIM QUARRY***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199306** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**37.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: There was a possible QA problem with lab #40387 for total phosphorus, with a very unlikely value of 1,900 ug/L reported. This was not included in the assessment. Two other phosphorus values were 7 and 12 ug/L.

Causes of Impairment:

Organic enrichment/DO - T

Sources of Impairment:

Municipal Point Sources - T
Highway/road/bridge/sewer line - T
Other Urban Runoff - T
Land development/Suburbanization - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH37 15-107	**-**	**0.00**	**0.00**		County:

WB Name: ***DELCO WATER COMPANY LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**6.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: This is a small water supply lake. Copper was detected in the water column. Copper sulfate and white amur are used for vegetation controls.

Causes of Impairment:

Pesticides - T
Metals - T
Nutrients - T
Siltation - T
Organic enrichment/DO - T
Thermal modifications - T
Filling and draining - T

Sources of Impairment:

Combined Sewer Overflow - T
Sludge - T
Wastewater - T
Onsite wastewater systems (septic tanks) - T
Combined Sewer Overflow - T
Municipal Point Sources - T
T
Nonirrigated crop production - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH37 19-132	**-**	**0.00**	**0.00**		County:

WB Name: ***J. GRIGGS RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**0.00**	**385.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly elevated levels of mercury were reported in fish tissue samples (6 of 7 samples) .

Causes of Impairment:

Organic enrichment/DO - H
Nutrients - H
Metals - M

Sources of Impairment:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH37 25-101	**-**	**0.00**	**0.00**		County:

WB Name: ***O'SHAUGHNESSY RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**0.00**	**920.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Ohio Department of Natural Resources rates this lake as having an excellent and well-balanced fishery, although Ohio EPA sampling indicates the lake is only in "partial support" of its use attainment. Slightly elevated levels of mercury were reported in fish tissue samples.

Causes of Impairment:

Nutrients - H
Siltation - H
Turbidity - H

Sources of Impairment:

Nonirrigated crop production - H
Industrial Point Sources - M
Pasture land - M
Range land - M
Feedlots (Confined Animal Feeding Oper.) - M
Land development/Suburbanization - M
Municipal Point Sources - S
Irrigated crop production - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH40 2-300	**-**	**0.00**	**0.00**		County:

WB Name: ***STAGE'S POND***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**0.00**	**30.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This lake is a natural glacial kettle lake. It is not open to public fishing.

Causes of Impairment:

Nutrients - H
Filling and draining - H
Organic enrichment/DO - H
H

Sources of Impairment:

Nonirrigated crop production - H
Contaminated sediments - S
Natural - S

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH41 15-298	**-**	**0.00**	**0.00**		County:

WB Name: ***DEER CREEK LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 1277.00**	**Partial: 0.00**	**None 0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Nutrients - T
Turbidity - T
Unionized Ammonia - T
Organic enrichment/DO - T
Siltation - T

Sources of Impairment:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH41 30-228	**-**	**0.00**	**0.00**		County:

WB Name: ***MADISON LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199306** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 106.00**	**Partial: 0.00**	**None 0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: This is a shallow lake, now being dredged.

Causes of Impairment:

Nutrients - H
Siltation - H
Other inorganics - M
Suspended solids - M
Turbidity - M
Organic enrichment/DO - S
Pesticides - S

Sources of Impairment:

Nonirrigated crop production - M
Pasture land - M
Natural - M
Range land - S
Feedlots (Confined Animal Feeding Oper.) - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH41 39-299	**-**	**0.00**	**0.00**		County:

WB Name: ***HARGUS LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 130.00**	**Partial: 0.00**	**None 0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Unionized Ammonia - T
Metals - T
Other inorganics - T
Chlorine - T
Nutrients - T
Siltation - T
Flow alteration - T
Organic enrichment/DO - T

Sources of Impairment:

Combined Sewer Overflow - T
Non-industrial Permitted - T
Irrigated crop production - T
Non-industrial Permitted - T
Combined Sewer Overflow - T
Onsite wastewater systems (septic tanks) - T
Nonirrigated crop production - T
Pasture land - T
Feedlots (Confined Animal Feeding Oper.) - T
Animal holding/management areas - T
Land development/Suburbanization - T
Other Urban Runoff - T
Contaminated sediments - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH41 39-299	**-**	**0.00**	**0.00**		County:

WB Name: ***HARGUS LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Natural - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH42 1-186	**-**	**0.00**	**0.00**		County:

WB Name: ***PAINT CREEK LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199305** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 0.00**	**Partial: 1190.00**	**None 0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: High chromium values were reported in sediment samples.

Causes of Impairment:

Nutrients - H
Organic enrichment/DO - M
Turbidity - M
Suspended solids - S
Metals - S
Siltation - S
pH - S

Sources of Impairment:

Municipal Point Sources - H
Nonirrigated crop production - H
Industrial Point Sources - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH43 44-185	**-**	**0.00**	**0.00**		County:

WB Name: ***ROCKY FORK LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **197305 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 2080.00**	**Partial: 0.00**	**None 0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Slightly and moderately elevated levels of Mercury were reported in fish tissue samples (5 of 6 samples) in 1994.

Causes of Impairment:

Nutrients - H
Siltation - H

Sources of Impairment:

Nonirrigated crop production - H
Onsite wastewater systems (septic tanks) - H
Natural - M
Industrial Point Sources - M
Municipal Point Sources - M

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH43 49-187	**-**	**0.00**	**0.00**		County:

WB Name: ***HILLSBORO RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198905 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**22.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Siltation - T
Organic enrichment/DO - T
Pathogens - T

Sources of Impairment:

Natural - T
Industrial Point Sources - T
Onsite wastewater systems (septic tanks) - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH44 16-416	**-**	**0.00**	**0.00**		County:

WB Name: ***JISCO LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**54.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Organic enrichment/DO - T

Sources of Impairment:

Source Unknown - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH45 34-302	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE WHITE RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199305** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**0.00**	**None**	**337.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Significant ammonia values were recorded in water samples. Metals were detected in sediments.

Causes of Impairment:

Organic enrichment/DO - H
Siltation - H
Metals - M

Sources of Impairment:

Municipal Point Sources - M

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH47 18- 43	**-**	**0.00**	**0.00**		County:

WB Name: ***WAYNOKA RETENTION DAM***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199305** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**0.00**	**11.60**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Ammonia released from anoxic bottom sediments..

Causes of Impairment:

Nutrients - H
Siltation - H
Unionized Ammonia - H
Taste and odor - M
Other inorganics - M
Cause Unknown - S

Sources of Impairment:

Natural - M
Animal holding/management areas - S
Land development/Suburbanization - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH47115-339	**-**	**0.00**	**0.00**		County:

WB Name: ***TURKEY CREEK LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199305** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**51.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Organic enrichment/DO - H
Noxious aquatic plants - H

Sources of Impairment:

Domestic Wastewater Lagoon - H
Nonirrigated crop production - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH47127-340	**-**	**0.00**	**0.00**		County:

WB Name: ***ROOSEVELT LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199305** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**16.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Siltation - T
Oil and grease - T
Thermal modifications - T

Sources of Impairment:

Combined Sewer Overflow - T
Other Urban Runoff - T
Natural - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH49 69- 44	**-**	**0.00**	**0.00**		County:

WB Name: ***WAYNOKA RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199305** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**11.80**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Detectable levels of copper were recorded in water samples.

Causes of Impairment:

Thermal modifications - T
Taste and odor - T
Noxious aquatic plants - T
Other habitat alterations - T
Metals - T
Other inorganics - T

Sources of Impairment:

T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH50 1-394	**-**	**0.00**	**0.00**		County:

WB Name: ***SPRING VALLEY LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198905 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**58.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Organic enrichment/DO - H
Pesticides - M
Nutrients - M
Siltation - M

Sources of Impairment:

Subsurface mining - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH50 15-155	**-**	**0.00**	**0.00**		County:

WB Name: ***CEDARVILLE RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**5.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: High levels of copper in were reported in the sediments.

Causes of Impairment:

Pesticides - T
Metals - T
Other inorganics - T
Nutrients - T
Taste and odor - T
Suspended solids - T

Sources of Impairment:

Combined Sewer Overflow - T
Sanitary Sewer Overflow - T
Nonirrigated crop production - T
Pasture land - T
Range land - T
Other Urban Runoff - T
Onsite wastewater systems (septic tanks) - T
Hazardous waste - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH52 11- 68	**-**	**0.00**	**0.00**		County:

WB Name: ***NEW WILMINGTON RESERVOIR (RESV. #2)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199606 to 199609** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**54.00**	**0.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Copper sulfate is applied to the lake.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH52 13- 69	**-**	**0.00**	**0.00**		County:

WB Name: ***WILMINGTON RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199308** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**0.00**	**16.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This is a public drinking water supply reservoir. Copper sulfate is applied to the water. Grass carp are stocked for vegetation control.

Causes of Impairment:

Nutrients - T
Siltation - T
Organic enrichment/DO - T
Flow alteration - T
Radiation - T
Oil and grease - T
Taste and odor - T
Suspended solids - T

Sources of Impairment:

Sanitary Sewer Overflow - T
Nonirrigated crop production - T
Road construction/maintenance - T
Land development/Suburbanization - T
Other Urban Runoff - T
Industrial Point Sources - T
Spills - T
Pasture land - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH53 8- 59	**-**	**0.00**	**0.00**		County:

WB Name: ***STONELICK RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **197704 to 199105** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**0.00**	**0.00**	**160.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Organic enrichment/DO - H
Siltation - M

Sources of Impairment:

Nonirrigated crop production - M
Pasture land - M
Non-industrial Permitted - M

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH53 20- 58	**-**	**0.00**	**0.00**		County:

WB Name: ***EAST FORK LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199306 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 2160.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly elevated levels of mercury were reported in fish tissue samples. This lake is stocked with striped bass.

Causes of Impairment:

Pesticides - T
Other inorganics - T
Organic enrichment/DO - T
Nonpriority organics - T
Priority organics - T
Metals - T
Nutrients - T
Siltation - T

Sources of Impairment:

Industrial Point Sources - T
T
Combined Sewer Overflow - T
Sanitary Sewer Overflow - T
Landfills - T
Land development/Suburbanization - T
Industrial Permitted - T
Contaminated sediments - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH55 40-214	**-**	**0.00**	**0.00**		County:

WB Name: ***INDIAN LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199305** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 5104.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Siltation - H
Noxious aquatic plants - H
Turbidity - H
Suspended solids - H
Nutrients - S

Sources of Impairment:

Specialty crop production - M
Natural - M
Pasture land - S
Range land - S
Feedlots (Confined Animal Feeding Oper.) - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH56 12-252	**-**	**0.00**	**0.00**		County:

WB Name: ***ECHO LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 0.00	Partial: 14.50	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Elevated copper was found in sediments. The cause is unknown, but may be from copper sulfate applied to lake for vegetation control.

Causes of Impairment:

Organic enrichment/DO - H
Suspended solids - S
Noxious aquatic plants - S
Exotic species - S

Sources of Impairment:

Land development/Suburbanization - H
H
Municipal Point Sources - S
Sanitary Sewer Overflow - S
Nonirrigated crop production - S
Feedlots (Confined Animal Feeding Oper.) - S
Road construction/maintenance - S
Highway/road/bridge/sewer line - S

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH56 19-251	**-**	**0.00**	**0.00**		County:

WB Name: ***SWIFT RUN LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198904 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**40.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Siltation - H
Organic enrichment/DO - H
Pesticides - M
Priority organics - M
Nonpriority organics - M
Unionized Ammonia - M
Nutrients - M

Sources of Impairment:

Non-industrial Permitted - H
Other Urban Runoff - M
Atmospheric deposition - M
Onsite wastewater systems (septic tanks) - M
Landfills - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH56 32-345	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE LORAMIE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **197305 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**785.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Nutrients - H
Organic enrichment/DO - H
Pesticides - M
Metals - M

Sources of Impairment:

Feedlots (Confined Animal Feeding Oper.) - H
Municipal Point Sources - M
Irrigated crop production - M
Pasture land - M
Natural - M
Onsite wastewater systems (septic tanks) - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH56 40- 52	**-**	**0.00**	**0.00**		County:

WB Name: ***KISER LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **197704 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**380.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Siltation - H
Nutrients - M

Sources of Impairment:

Onsite wastewater systems (septic tanks) - H
Landfills - H
Nonirrigated crop production - S
Pasture land - S

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 1-257	**-**	**0.00**	**0.00**		County:

WB Name: ***EASTWOOD LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198904 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	170.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Slightly elevated levels of mercury were reported in fish tissue samples in 1993-1994.

Causes of Impairment:

Nutrients - H
Oil and grease - M

Sources of Impairment:

Other Urban Runoff - H
Non-industrial Permitted - M
Atmospheric deposition - M
Contaminated sediments - M
Natural - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 1-258	**-**	**0.00**	**0.00**		County:

WB Name: ***CITY OF DAYTON LAKE #1***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	10.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Nutrients - H

Sources of Impairment:

Combined Sewer Overflow - H
Hazardous waste - S
Spills - S
Natural - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 5-154	**-**	**0.00**	**0.00**		County:

WB Name: ***MIAMI CONS. DIST. LAKE (HUFFMAN POND)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199409** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	43.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Siltation - H
Pesticides - S
Priority organics - S
Nonpriority organics - S
Other habitat alterations - S
Filling and draining - S

Sources of Impairment:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH58 18- 55	**-**	**0.00**	**0.00**		County:

WB Name: ***C. J. BROWN LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199406 to 199409** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**0.00**	**2120.00**	**0.00**	**0.00**

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:							

Comments:

Causes of Impairment:
Organic enrichment/DO - T

Sources of Impairment:
Nonirrigated crop production - T
Onsite wastewater systems (septic tanks) - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH60 19- 46	**-**	**0.00**	**0.00**		County:

WB Name: ***SEBALD POND #1***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199509** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**0.00**	**0.00**	**5.50**	**0.00**

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:							

Comments: This lake is a golf course lake that is open to the public. It has very little drainage area, and receives nutrient runoff from the golf course.

Causes of Impairment:
Nutrients - H
Turbidity - H

Sources of Impairment:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH60 34-259	**-**	**0.00**	**0.00**		County:

WB Name: ***OPOSSUM CREEK LAKE #1***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199509** Assessment Age: **Current**

	Full:	Full, But Threatened:	Partial:	None
Aquatic Life Use Attainment:	**0.00**	**5.00**	**0.00**	**0.00**

	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor
Narrative Assessment:							

Comments: Chemicals are used for weeds and algae control.

Causes of Impairment:
Nutrients - T
Siltation - T

Sources of Impairment:

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH60 34-260	**-**	**0.00**	**0.00**		County:

WB Name: ***OPOSSUM CREEK LAKE #2***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 18.00**	**Full, But Threatened: 0.00**	**Partial: 0.00**	**None 0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: This is a high quality lake. Full support is attained in all uses.

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH61 14-321	**-**	**0.00**	**0.00**		County:

WB Name: ***RUSH RUN LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198904 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 54.00**	**Partial: 0.00**	**None 0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:
Organic enrichment/DO - H
Nutrients - S
Siltation - S

Sources of Impairment:
Nonirrigated crop production - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH61 23- 48	**-**	**0.00**	**0.00**		County:

WB Name: ***ACTON LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199509** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 604.00**	**Partial: 0.00**	**None 0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Slightly elevated levels of mercury were reported in fish tissue samples (3 of 3 samples).

Causes of Impairment:
Organic enrichment/DO - M
Nutrients - M

Sources of Impairment:

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH62 26-166	**-**	**0.00**	**0.00**		County:

WB Name: ***WINTON WOODS LAKE (W.FK.MILL CK.)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198800 to 199000** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**183.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Organic enrichment/DO - H
Nutrients - M
Siltation - M
Oil and grease - M

Sources of Impairment:

Combined Sewer Overflow - H
H
H
Non-industrial Permitted - M
Industrial Permitted - M
Other Urban Runoff - M
Natural - M
Spills - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH63 14- 28	**-**	**0.00**	**0.00**		County:

WB Name: ***GRAND LAKE ST. MARYS***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199506 to 199910** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**12700.0**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Nonpriority organics - H
H
Turbidity - H
H
Siltation - M
M
Other habitat alterations - M

Sources of Impairment:

Nonirrigated crop production - H
Feedlots (Confined Animal Feeding Oper.) - H
Municipal Point Sources - M
Specialty crop production - M
Sludge - M
Channelization - Agriculture - M
Industrial Point Sources - S
Onsite wastewater systems (septic tanks) - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH63 19- 97	**-**	**0.00**	**0.00**		County:

WB Name: ***WABASH CONS. DIST. RESV. #1***

Aquatic Life Use(s):

Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198904 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**57.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Pesticides - H
Nutrients - H
Siltation - H
Flow alteration - M

Sources of Impairment:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH65 36-402	**-**	**0.00**	**0.00**		County:

WB Name: ***NETTLE LAKE***

Aquatic Life Use(s):

Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199705 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**0.00**	**None**	**94.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: The nearby community was sewered in 1997, with lagoons discharging to Nettle Creek downstream from the lake. Future monitoring is recommended to assess possible impacts.

Causes of Impairment:

Organic enrichment/DO - H
Nutrients - M
Pathogens - M
M

Sources of Impairment:

Land development/Suburbanization - H
Onsite wastewater systems (septic tanks) - H
Contaminated sediments - M
Nonirrigated crop production - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH65 38-399	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE LA SU AN***

Aquatic Life Use(s):

Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199009** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**134.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Unionized Ammonia - T
Turbidity - T
Nutrients - T
Pesticides - T
Organic enrichment/DO - T

Sources of Impairment:

Pasture land - T
Feedlots (Confined Animal Feeding Oper.) - T
Animal holding/management areas - T
Onsite wastewater systems (septic tanks) - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH65 39-400	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE LAVERE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199705 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**11.10**	**0.00**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:
Organic enrichment/DO - T

Sources of Impairment:
Nonirrigated crop production - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH65 39-401	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE SUE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199705 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**0.00**	**0.00**	**10.50**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Lake Sue is located in the Lake La Su An Wildlife Area and is managed for fisheries, primarily largemouth bass and bluegill. Management includes fertilization to increase primary productivity, which has resulted in anaerobic conditions in the hypolimnion.

Causes of Impairment:
Organic enrichment/DO - H

Sources of Impairment:
Nonirrigated crop production - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH66 13-171	**-**	**0.00**	**0.00**		County:

WB Name: ***FINDLAY RESERVOIR #2***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199605 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**650.00**	**0.00**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: The status of this lake is "threatened" due primarily to low dissolved oxygen levels in the hypolimnion. Raw water is obtained from the Blanchard River.

Causes of Impairment:
Organic enrichment/DO - T

Sources of Impairment:
Nonirrigated crop production - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH67 1-173	**-**	**0.00**	**0.00**		County:

WB Name: ***McCOMB RESERVOIR #2***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199605 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 0.00**	**Partial: 0.00**	**None 20.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The status of this lake is "threatened" due primarily to high copper concentrations in the water column and sediment. It is suspected that there is over-application of copper sulfate to control algae blooms. Raw water is obtained from Rader Creek, in the extreme headwaters of the stream.

Causes of Impairment:
Organic enrichment/DO - M

Sources of Impairment:
Nonirrigated crop production - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH68 17- 3	**-**	**0.00**	**0.00**		County:

WB Name: ***METZGER RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 157.00**	**Partial: 0.00**	**None 0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
Unionized Ammonia - T
Nutrients - T
Organic enrichment/DO - T

Sources of Impairment:
Surface Mining - S
S
Landfills - S
Contaminated sediments - S
Industrial land treatment - S
Sludge - S
Nonirrigated crop production - T
Non-industrial Permitted - T
Other Urban Runoff - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH68 17- 6	**-**	**0.00**	**0.00**		County:

WB Name: ***LOST CREEK RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199605 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 0.00**	**Partial: 0.00**	**None 121.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Raw water supply is obtained from the Ottawa River, and is gravity fed into Lost Creek Reservoir through Ferguson and Metzger Reservoirs.

Causes of Impairment:
Organic enrichment/DO - H
Pesticides - S

Sources of Impairment:
Minor Municipal Point Source - H
Nonirrigated crop production - M
Channelization - Agriculture - M
Removal of riparian vegetation - Ag - M
Landfills - S

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH70 13- 4	**-**	**0.00**	**0.00**		County:

WB Name: ***BRESLER RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**582.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Nutrients - T
Turbidity - T
Pesticides - T
Organic enrichment/DO - T

Sources of Impairment:

Nonirrigated crop production - T
Pasture land - T
Feedlots (Confined Animal Feeding Oper.) - T
Landfills - T
Onsite wastewater systems (septic tanks) - T
T
T
T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH71 15-281	**-**	**0.00**	**0.00**		County:

WB Name: ***PAULDING RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199605 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**0.00**	**None**	**67.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: The Village of Paulding controls algae growth in this public water supply reservoir with copper sulfate. The village is over-applying this chemical treatment based on elevated copper concentrations in the water column and sediments. Human health criteria for dieldren and hexachlorobenzene were violated, likely due to histocal use of these insecticides in the predominantly agricultural watershed.

Causes of Impairment:

Pesticides - H
H

Sources of Impairment:

Nonirrigated crop production - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH71 19-417	**-**	**0.00**	**0.00**		County:

WB Name: ***DEFIANCE POWER DAM RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199009** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**679.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Turbidity - H
Siltation - H
Nutrients - H
Pesticides - M
Organic enrichment/DO - S
Flow alteration - S
Other habitat alterations - S
Oil and grease - S
Priority organics - S
Nonpriority organics - S
Cause Unknown - S

Sources of Impairment:

Nonirrigated crop production - H
Feedlots (Confined Animal Feeding Oper.) - H
M
Contaminated sediments - M
Natural - M
Industrial Point Sources - S
Municipal Point Sources - S
Combined Sewer Overflow - S
Non-industrial Permitted - S
Irrigated crop production - S
Animal holding/management areas - S

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH71 19-417	**-**	**0.00**	**0.00**		County:

WB Name: ***DEFIANCE POWER DAM RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Highway/road/bridge/sewer line - S
Other Urban Runoff - S
Combined Sewer Overflow - S
Landfills - S
Onsite wastewater systems (septic tanks) - S
S
S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH72 29-141	**-**	**0.00**	**0.00**		County:

WB Name: ***HARRISON LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199705 to 199708** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 96.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Harrison Lake is severely impacted from upstream agricultural practices. Siltation and nutrient loadings are the primary problems. Additional impacts are from unsewered areas and spills from a fertilizer company in Alvordton. The Brady Township landfill closed in 1969, but operated prior to solid waste regulations.

Causes of Impairment:

T
Siltation - T

Sources of Impairment:

Nonirrigated crop production - T
Other Urban Runoff - T
Landfills - T
Channelization - Agriculture - T
Spills - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH73 2-145	**-**	**0.00**	**0.00**		County:

WB Name: ***DELTA RESERVOIR #2***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199305** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full: 0.00	Full, But Threatened: 50.00	Partial: 0.00	None 0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: The cause of impairment is low fertility.

Causes of Impairment:

Low Nutrients - T
Organic enrichment/DO - T

Sources of Impairment:

Natural - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH73 11-137	**-**	**0.00**	**0.00**		County:

WB Name: ***WAUSEON RESERVOIR #2***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199305** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 17.00**	**Partial: 0.00**	**None 0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: High levels of copper were reported in sediments.

Causes of Impairment:

Metals - H
Pesticides - S
Organic enrichment/DO - S
Taste and odor - S
Siltation - S
Radiation - S

Sources of Impairment:

Nonirrigated crop production - H
Animal holding/management areas - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH75 9-226	**-**	**0.00**	**0.00**		County:

WB Name: ***EVERGREEN LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 8.50**	**Partial: 0.00**	**None 0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Duckweed and low flow-through seem to be the most significant problems.

Causes of Impairment:

Organic enrichment/DO - T
Salinity/TDS/chlorides - T
Filling and draining - T

Sources of Impairment:

Nonirrigated crop production - T
Natural - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH75 18-439	**-**	**0.00**	**0.00**		County:

WB Name: ***METAMORE RESERVOIR #1***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199305** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full: 0.00**	**Full, But Threatened: 6.00**	**Partial: 0.00**	**None 0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Metals - T
Nutrients - T
Other habitat alterations - T

Sources of Impairment:

Source Unknown - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH77 4-169	**-**	**0.00**	**0.00**		County:

WB Name: ***VAN BUREN LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**53.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Organic enrichment/DO - H
Salinity/TDS/chlorides - M
Noxious aquatic plants - M
Exotic species - M
pH - S
Other habitat alterations - S
Pathogens - S
Filling and draining - S

Sources of Impairment:

Nonirrigated crop production - H
Natural - H

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH77 8-174	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE LaCOMTE (FOSTORIA RES. #5)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199005 to 199008** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**128.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Turbidity - T

Onsite wastewater systems (septic tanks) - T
Contaminated sediments - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH77 10-423	**-**	**0.00**	**0.00**		County:

WB Name: ***BOWLING GREEN UPGROUND RESV.***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**20.50**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Aeration and water drawdown are done in this lake. The city does not allow recreation.

Causes of Impairment:

Sources of Impairment:

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH78 4-336	**-**	**0.00**	**0.00**		County:

WB Name: ***ALDRICH POND***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**34.00**	**None** **0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Macrophytes and shallowness are major problems.

Causes of Impairment:
- *Noxious aquatic plants - H*
- *Siltation - M*
- *Organic enrichment/DO - M*

Sources of Impairment:
- *Nonirrigated crop production - H*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH78 4-403	**-**	**0.00**	**0.00**		County:

WB Name: ***NORTH BALTIMORE RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199405 to 199408** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**29.00**	**Partial:**	**0.00**	**None** **0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:
- *Metals - T*
- *Organic enrichment/DO - T*
- *Turbidity - T*

Sources of Impairment:
- *Nonirrigated crop production - T*
- *Municipal Point Sources - T*
- *Onsite wastewater systems (septic tanks) - T*

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH79 1-406	**-**	**0.00**	**0.00**		County:

WB Name: ***KILLDEER RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199005 to 199009** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**253.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**0.00**	**None** **0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:
- *Low Nutrients - T*

Sources of Impairment:
- *Nonirrigated crop production - T*
- *Pasture land - T*
- *Specialty crop production - T*
- *Feedlots (Confined Animal Feeding Oper.) - T*
- *Natural - T*
- *T*

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH80 17- 83	**-**	**0.00**	**0.00**		
WB Name: ***BUCYRUS RESERVOIR #1***					County:
Aquatic Life Use(s):		Segment Length:	**0.00**		

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**36.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Elevated levels of mercury were reported in the water column.

Causes of Impairment:

Siltation - H
Organic enrichment/DO - M
Turbidity - M
Priority organics - S
Nutrients - S
Thermal modifications - S
Noxious aquatic plants - S
Metals - S

Sources of Impairment:

Nonirrigated crop production - M
Atmospheric deposition - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH80 17- 86	**-**	**0.00**	**0.00**		
WB Name: ***BUCYRUS RESERVOIR #2***					County:
Aquatic Life Use(s):		Segment Length:	**0.00**		

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**31.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Elevated levels of mercury and ammonia were recorded in the water column.

Causes of Impairment:

Nutrients - M
Siltation - M
Flow alteration - M
Turbidity - M
Noxious aquatic plants - S
Metals - S

Sources of Impairment:

Nonirrigated crop production - M
M
Aquaculture - S
S
S
S
S
Atmospheric deposition - S

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH80 17- 87	**-**	**0.00**	**0.00**		County:

WB Name: ***BUCYRUS RESERVOIR #4***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**150.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Elevated levels of mercury were reported in the water column. Saugeyes are stocked in the lake.

Causes of Impairment:

Other inorganics - T
Nutrients - T
Organic enrichment/DO - T
Noxious aquatic plants - T
Metals - T

Sources of Impairment:

Nonirrigated crop production - T
Atmospheric deposition - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH82 2-342	**-**	**0.00**	**0.00**		County:

WB Name: ***BEAVER CREEK RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1992** Field Data Collected From: **199004 to 199009** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**110.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Pesticides - T
Nutrients - T
Organic enrichment/DO - T

Sources of Impairment:

Nonirrigated crop production - T
Irrigated crop production - T
Specialty crop production - T
Pasture land - T
Feedlots (Confined Animal Feeding Oper.) - T
Landfills - T
T
Onsite wastewater systems (septic tanks) - T
Natural - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH83 11-334	**-**	**0.00**	**0.00**		County:

WB Name: ***RACCOON CREEK RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	0.00	0.00	34.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Elevated levels of mercury and copper were found in the water column. Elevated copper was also found in sediments. The Ohio Department of Natural Resources indicates a good fish community, but copper values are at the toxic level.

Causes of Impairment:

Metals - H
Nutrients - S
Organic enrichment/DO - S

Sources of Impairment:

Natural - M
Atmospheric deposition - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH84 12-201	**-**	**0.00**	**0.00**		County:

WB Name: ***BELLEVUE RESERVOIR #5***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199305 to 199309** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	87.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: There are no known causes or sources of impairment.

Causes of Impairment:

Sources of Impairment:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH86 5-221	**-**	**0.00**	**0.00**		County:

WB Name: ***GRAFTON WATER SUPPLY LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199306** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	10.00	0.00	0.00

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Organic enrichment/DO - T
Nutrients - T
Turbidity - T

Sources of Impairment:

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH86 16-217	**-**	**0.00**	**0.00**		County:

WB Name: ***FINDLEY LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199705 to 199709** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**83.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

T
T
Siltation - T
Organic enrichment/DO - T
Noxious aquatic plants - T

Sources of Impairment:

Package Plants (Small Flows) - T
Nonirrigated crop production - T
Contaminated sediments - T
T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH86 16-218	**-**	**0.00**	**0.00**		County:

WB Name: ***OBERLIN RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198905 to 198909** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**56.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Siltation - T
Organic enrichment/DO - T

Sources of Impairment:

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH87 4- 88	**-**	**0.00**	**0.00**		County:

WB Name: ***BALDWIN LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198901 to 198912** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**32.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Organic enrichment/DO - H
Siltation - H
Priority organics - M
Nonpriority organics - M
Unionized Ammonia - M
Chlorine - M

Sources of Impairment:

Other Urban Runoff - H
Natural - H
Onsite wastewater systems (septic tanks) - M
Combined Sewer Overflow - M
Non-industrial Permitted - M
Municipal Point Sources - M

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH87 4-246	**-**	**0.00**	**0.00**		County:

WB Name: ***HINCKLEY LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **197708 to 198907** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**0.00**	**88.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Siltation - H
Organic enrichment/DO - M
Thermal modifications - M

Sources of Impairment:

Natural - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH87 5- 90	**-**	**0.00**	**0.00**		County:

WB Name: ***COE LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1994** Field Data Collected From: **199208 to 199306** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**23.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: Zinc was reported in the sediments.

Causes of Impairment:

Organic enrichment/DO - H
Siltation - H
Thermal modifications - H
Metals - M
Turbidity - M
Other inorganics - S
Salinity/TDS/chlorides - S

Sources of Impairment:

Land development/Suburbanization - M
Municipal Point Sources - S
Highway maintenance and runoff - S

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH88 4-312	**-**	**0.00**	**0.00**		County:

WB Name: ***MOGADORE RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **2000** Field Data Collected From: **199605 to 199608** Assessment Age: **Current**

Aquatic Life Use Attainment:	Full:	Full, But Threatened:	Partial:	None
	0.00	**0.00**	**900.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments: This lake has significant water flow problems. Inflow to the lake has been diverted, so lake stagnates during the summer. Massive algae blooms occur, along with odor problems. There is a good bass and bluegill fishery within the lake.

Causes of Impairment:

Nutrients - H
Thermal modifications - H
H
Organic enrichment/DO - M

Sources of Impairment:

Flow reg./mod. - Development - H
Specialty crop production - M
Feedlots (Confined Animal Feeding Oper.) - M
Nonirrigated crop production - M
Package Plants (Small Flows) - S
Onsite wastewater systems (septic tanks) - S

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH88 11-308	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE ROCKWELL***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198801 to 199000** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**0.00**	**539.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Nutrients - H
Siltation - H
Organic enrichment/DO - H
Taste and odor - H

Sources of Impairment:

Surface Mining - M
Natural - M
Municipal Point Sources - M
Nonirrigated crop production - M
Pasture land - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH88 11-314	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE PIPPEN***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198905 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	143.00	**0.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Organic enrichment/DO - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH88 13-153	**-**	**0.00**	**0.00**		County:

WB Name: ***PUNDERSON LAKE***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **197505 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**101.00**	**0.00**	**0.00**

Narrative Assessment:	Excellent	Very Good	Good	Marginally Good	Fair	Poor	Very Poor

Comments:

Causes of Impairment:

Nutrients - T
Siltation - T
Organic enrichment/DO - T
Salinity/TDS/chlorides - T
Thermal modifications - T

Sources of Impairment:

T
Spills - T
Other Urban Runoff - T
Atmospheric deposition - T
Natural - T

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH88 16-151	**-**	**0.00**	**0.00**		County:

WB Name: ***LAKE AQUILLA***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **197708 to 198908** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**0.00**	**0.00**	**27.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Siltation - H
Nutrients - M
pH - M
Organic enrichment/DO - M

Sources of Impairment:

Natural - H
Onsite wastewater systems (septic tanks) - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH88 18-152	**-**	**0.00**	**0.00**		County:

WB Name: ***EAST BRANCH RESERVOIR***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1990** Field Data Collected From: **198801 to 199000** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**416.00**	**0.00**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Organic enrichment/DO - H
Nutrients - M
Siltation - M

Sources of Impairment:

Nonirrigated crop production - H
Non-industrial Permitted - M
Range land - M
Other Urban Runoff - M
Pasture land - M

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH90 10-305	**-**	**0.00**	**0.00**		County:

WB Name: ***SUNNY LAKE (HARMON'S POND)***

Aquatic Life Use(s): Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**Full, But Threatened:**	**Partial:**	**None**
	0.00	**0.00**	**63.00**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Grass carp and copper sulfate are used for vegetation control.

Causes of Impairment:

Siltation - H
Turbidity - H
Exotic species - H

Sources of Impairment:

Pasture land - M
Land development/Suburbanization - M

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WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH91 1- 20	**-**	**0.00**	**0.00**		
WB Name: ***ROAMING ROCK LAKE***					County:
Aquatic Life Use(s):		Segment Length:	**0.00**		

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**464.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: Mercury levels in the water column were slightly above laboratory detection limits.

Causes of Impairment:

Siltation - T
Nutrients - T
Organic enrichment/DO - T
Turbidity - T
Pesticides - T
Metals - T

Sources of Impairment:

Nonirrigated crop production - T
Pasture land - T
Feedlots (Confined Animal Feeding Oper.) - T
Atmospheric deposition - T

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH91 29-375	**-**	**0.00**	**0.00**		
WB Name: ***GRAND RIVER WILDLIFE AREA LAKE***					County:
Aquatic Life Use(s):		Segment Length:	**0.00**		

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**11.00**	**Partial:**	**0.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments: This lake is very shallow, and is almost a wetland. Aquatic macrophytes cover a major portion of the surface. Hardness is very low.

Causes of Impairment:

Filling and draining - M
Pesticides - S
Nutrients - S
Siltation - S
Flow alteration - S
Noxious aquatic plants - S
Exotic species - S

Sources of Impairment:

Natural - M
Nonirrigated crop production - S
Pasture land - S
Harvesting,restoration,residue managem't - S
Road construction/maintenance - S
Highway/road/bridge/sewer line - S
Land development/Suburbanization - S
Onsite wastewater systems (septic tanks) - S

Ohio EPA - Appendix D2 - 2000 305(b): Lakes, Ponds, & Reservoirs

WBID #:	River Code:	Upper River Mile:	Lower River Mile:	USEPA Reach:	Ecoregion:
OH92 23- 19	**-**	**0.00**	**0.00**		

WB Name: ***LAMPSON RESV. (JEFFERSON RESV.)***

County:

Aquatic Life Use(s):

Segment Length: **0.00**

Assessment Cycle: **1996** Field Data Collected From: **199505 to 199508** Assessment Age: **Current**

Aquatic Life Use Attainment:	**Full:**	**0.00**	**Full, But Threatened:**	**0.00**	**Partial:**	**20.00**	**None**	**0.00**

Narrative Assessment:	**Excellent**	**Very Good**	**Good**	**Marginally Good**	**Fair**	**Poor**	**Very Poor**

Comments:

Causes of Impairment:

Nutrients - H
Organic enrichment/DO - S

Sources of Impairment:

Benefits of Stream & Riparian Habitat Protection in Ohio

The purpose of this fact sheet is to explain Ohio EPA's rationale for developing a plan to protection stream and riparian habitat in Ohio. This document summarizes some of the evidence supporting the protection and restoration of instream and riparian habitat on the basis of observed trends of degradation in Ohio, basic research on the function of stream ecosystems, and an increased effort to protect and restore stream and riparian habitats across the United States.

Status of Instream and Riparian Habitat in the United States

Instream and riparian habitat has been subjected to varying degrees of degradation and modification over the past 150 years. Recent moves to protect stream ecosystems is nationwide in scope with the goal of preserving and restoring aquatic habitats in streams and rivers that are becoming biologically imperiled. Nationally, aquatic biota are "disproportionately imperiled compared to terrestrial fauna". One of every three fish species and two of every three crayfish species are rare or imperiled. In addition one in ten freshwater mussel species have become extinct this century and 73% of the remaining species are rare or imperiled.[1]

Even where most of the orgininal stream species are still present, the ecological integrity of many streams is often seriously impaired because of the disturbance of instream habitat, sedimentation, flow regime, water quality, and riparian destruction. The five major factors that control and influence the ecological integrity of streams are illustrated in Figure 1. Traditionally, water

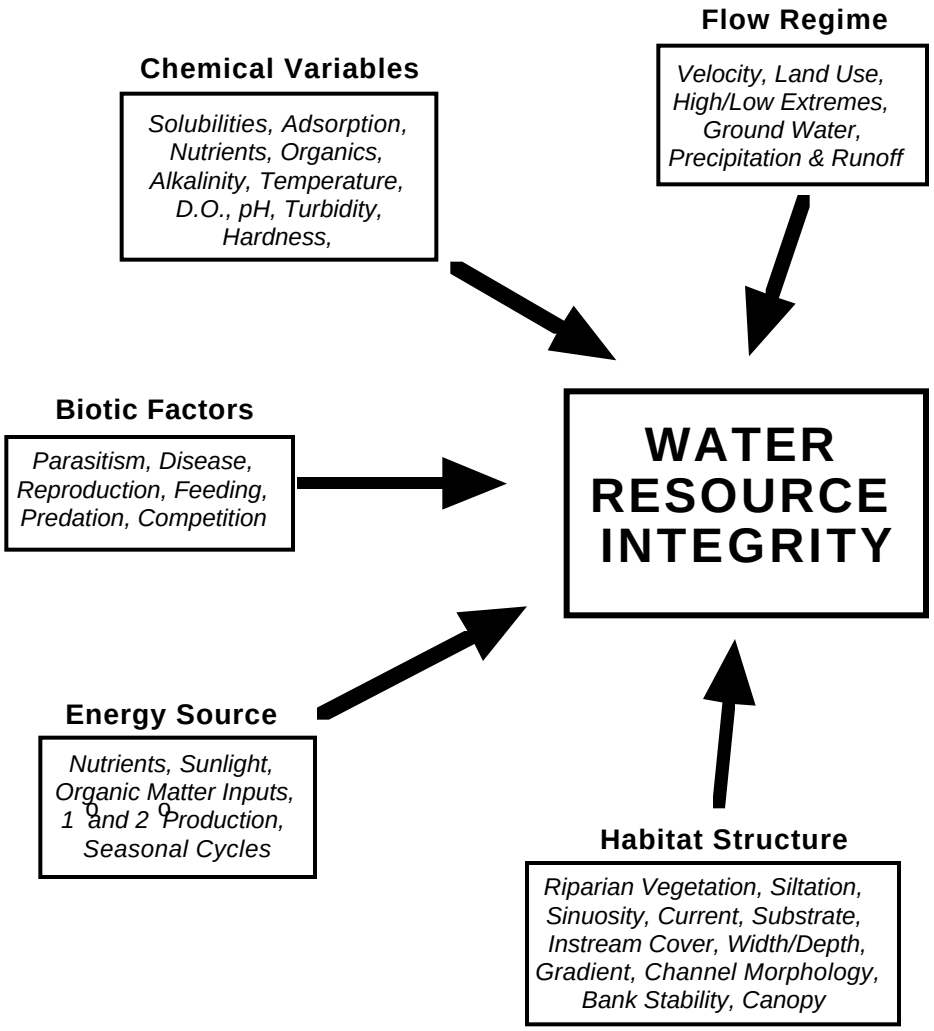


Figure 1. Five Major Factors that Influence Water Resource Integrity in Streams

resource management efforts have focused largely on chemical water quality parameters. It is now conceded, however, that habitat loss and other non-chemical impacts are likely responsible for more extensive losses of biodiversity, and hence, ecological integrity.[2] Based on a U. S. Fish and Wildlife Service "Nationwide Rivers Inventory" completed in 1992 only 2% of the streams and rivers in the lower 48 states had sufficient existing high-quality features to warrant special federal protection.[3]

Because of the marginal, poor, or declining condition of streams and their riparian areas, the National Academy of Sciences' National Research Council committee on aquatic habitat restoration recommends that: (1) erosion control programs should be accelerated for both soil conservation and environmental restoration purposes, (2) grazing practices should be altered to minimize damage to river-riparian ecosystems, (3) erosion control, where feasible, should favor "soft" (e.g., restoring wooded riparian vegetation) engineering over "hard" engineering (e.g., channelization) approaches, (4) unnecessary dikes and levees should be openned to re-establish hydrological connections between riparian habitats and streams, and (5) riparian areas should be classified as wetland systems, on the basis of their structural and functional connections to rivers.

This committee also set a goal of restoring 400,000 miles of riparian-river ecosystems (12% of total U.S. rivers and streams) within the next 20 years. Obviously, habitat protection and restoration is a growing national concern.

Status of Instream and Riparian Stream Habitat and Biota in Ohio

Given the national concerns with instream and riparian habitat protection and restoration as outlined above, are the same concerns pertinent to Ohio? The answer to this question is an unqualified yes. Statewide monitoring of streams and rivers since 1980 indicates that habitat degradation and sedimentation are the second and third leading cause of biological impairment to streams (Figure 2).[4] This data was largely collected to assess point sources of pollution (e.g., municipal or industrial dischargers) and likely underestimates the relative extent of

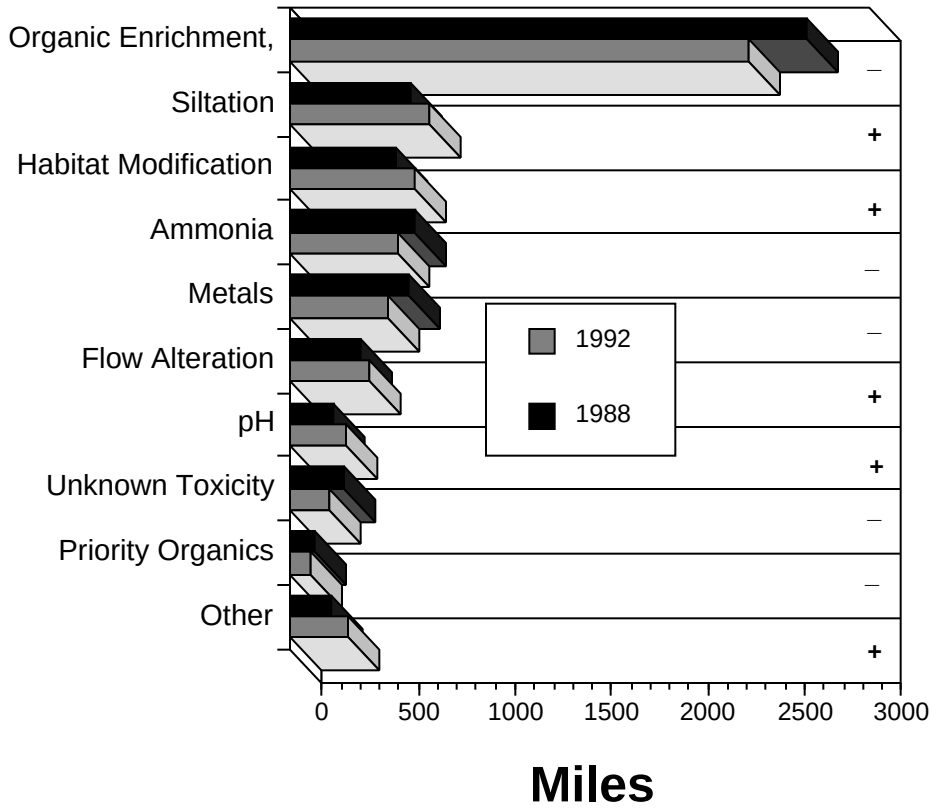


Figure 2. Causes of impairment to aquatic life in Ohio streams and rivers on data from 1979-1987 and data from 197-1991. Sign on graph indicates trend in extent of each cause.

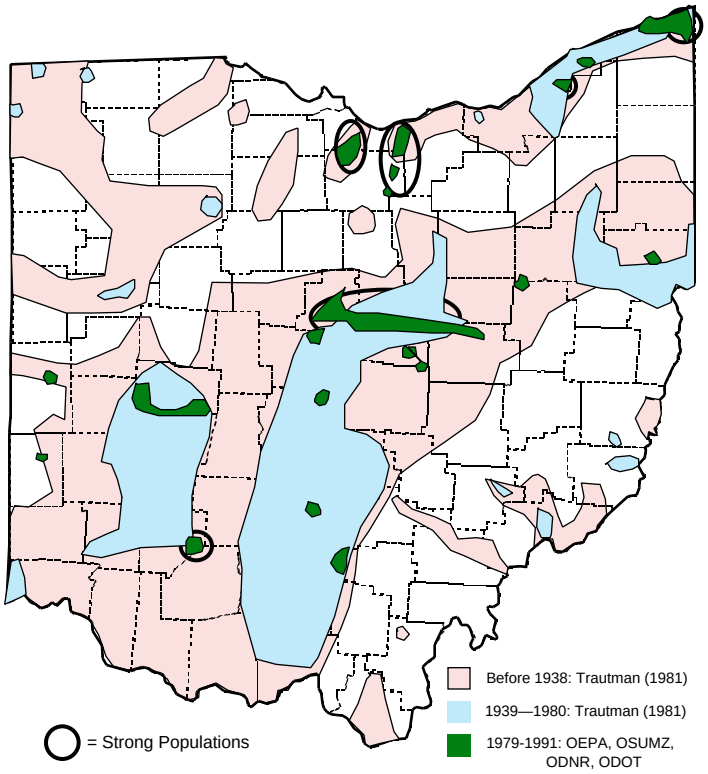


Figure 3. Decline in thedistribution of the bigeye chub in Ohio during the past 90 years.

nonpoint pollution. This does not mean that point sources are not a serious area of concern in Ohio. The basic physical structure and functioning of stream ecosystems needs to be maintained, however, if we are to expect a reasonable full recovery and restoration of impaired waters as a result of the past investments of $4 billion in point source pollution control.

In addition to data on impairment of streams and rivers caused by habitat degradation and siltation in Ohio, declines in individual species populations and distribution in Ohio mirrors national trends. Species such as the blue pike (extinct) and crystal darter (extirpated) are no longer found in Ohio, likely as a result of the siltation of critical habitats and changes in stream flows. More alarmingly, species once common across Ohio have now been greatly reduced in range, particularly in the last half of this century. One example of such a decline is in the range of the bigeye chub (Figure 3). Prior to 1930 this species, which requires pools free of clayey-silts and a continuous supply of cool, clean water, was widely distributed across Ohio; over the last ten years extensive sampling has documented a serious decline to a series of small, widely separated portions of its former range. The 1992 Ohio Water Resource Inventory identifies similar declines for an additional 16 species which are not presently listed as endangered, threatened, or special concern status by Ohio DNR. While it might be argued that these species individually may be of little direct economic or social significance, thier role as “mine canaries” must be taken seriously. The fact that more than 40% of the native Ohiofauna is declining also has serious implications for the continued provision of aquatic ecosystem services in the future. While our monitoring data has documented a substantial recovery of aquatic life from wastewater treatment impacts in rivers across Ohio, habitat destruction has not been slowed and in some cases is increasing. This will result in not only a net loss of ecological resource value but will blunt the benefits of the more than 5 billion that has been spent in controlling chemical water quality.

Functions of Stream Habitats and Riparian Areas

A short summary of the important functions of riparian areas and stream habitat to ecosystems is important to an understanding of the importance of these resources, the present threats to these areas, and the rationale of Ohio EPA’s Stream Protection Policy. While most people recognize the benefits of shading of streams by riparian forests, the function of these habitats goes substantially beyond the moderation of stream temperatures:

✓ Woody riparian vegetation naturally filters sediments, nutrients, fertilizers, and other nonpoint source pollutants, from overland runoff, and mimimizes stream temperature fluctuations,

✓ Woody riparian vegetation stabilizes stream

banks; vegetated streams banks are up to 20,000 times more resistant to erosion than bare stream banks,

✓ The input of large woody debris (i.e., trees) into streams has been shown to be critically important to stream habitat diversity; 99% of woody debris in streams originates within 100 feet of the stream bank,

✓ Greater than 50% of the breeding bird species in Ohio use riparian wooded areas to nest. Riparian areas are also critical migration habitats; during the spring and fall, migratory birds are 10 to 14 times more abundant in riparian habitats than in surrounding upland habitats,

✓ Leaves and woody debris are important food sources for stream invertebrates, which in turn, are essential for fish growth and survival. Healthy riparian zones also reduce sedimentation which would otherwise inhibit invertebrate populations.

✓ Riparian systems are widely recognized as being essential to the hydrological cycle by maintaining and mediating flow in streams. Riparian wetlands store surplus water and dampen stream discharge fluctuations; they can also be important groundwater recharge and discharge areas. Groundwater discharge can be critical to streams during low flow periods and degradation of riparian forests often reduces this benefit,

In order to understand the threats to streams and riparian areas and, therefore, the basis of Ohio EPA's Stream Protection Policy, it is important to understand the many functions of riparian and stream habitats. Some of these functions are summarized below:

✓ Streams are characterized by a one-way flow of water which transports nutrients, sediments, pollutants and organisms downstream. Natural streams have many ways to slow such movements (fallen trees, wide floodplains) and species are adapted to assimilating the material trapped by trees and living in the habitats they create.

✓ Streams are open systems and have important exchanges of energy and materials with adjacent terrestrial systems. The bordering terrestrial environment (the riparian area) has the greatest effect on a stream ecosystem and the effect diminishes with distance from the streams. This means that protection of riparian areas will usually be the most cost-effective method of assimilating upland inputs compared to management targeted on uplands. Because of the openness and directional movement of materials in streams the cumulative effects of conditions in headwater streams have major influences on downstream, mainstem ecosystems integrity (i.e., "River Continuum Concept").[5]

✓ Stream flow varies greatly through time, and floods of moderate frequency are responsible for most rehabilitation of stream channels; these are flows that continually flush fine sediments downstream. Protection of streams includes maintenance of flows that rehabilitate stream beds, stream channels, and floodplains. As described by the National Research Council: "If the observer could view several hundred years of changes in a few minutes, using time-lapse aerial photography, the river channel would appear to writhe like a snake, with meander loops moving downstream, throwing off oxbows as they go. The dynamic equilibrium in the physical system creates a corresponding dynamic equilibrium in the biological system."[1]

✓ Streams are characterized by habitat patchiness" with alternating riffles and pools, eddies, vegetated and unvegetated channel borders, permanent backwaters, and seasonal floodplain habitats. Modifications to streams, such as flow regulation and channelization, usually results in the loss of this "patchiness" and more uniform, monotonous habitat that has greatlyu reduced assimilative capacity.

✓ Because stream communities are a product of a dynamic physical environment, in most cases they may respond well to stream protection and restoration that return this dynamism to stream ecosystems.

✓ As natural areas become fewer and fragmented by development, streams and wide riparian areas can become refugia and vital corridors for migration of animals and plants and the flow of genetic material between populations.[6]

✓ Extensive modifications to streams generally require extensive amounts of maintenance which, if properly accounted for, would discourage most projects in streams or riparian areas on the basis of economic costs alone. Downstream affects of activities in streams and floodplains often includes increase flooding, bank erosion, and degraded ecosystem health. Channel projects often follow a downstream progression, or domino effect, with upstream activities sending flow downstream more quickly resulting in the need for channel work and maintenance there, which in turn exacerbates problems downstream of these activities, ad infinitum. The overall accumulative effect of such activities is costly "stream maintenance" activities and degraded ecosystem integrity.

Fortunately, most solutions to the degradation of instream and riparian habitats are simple and straightfoward. By increasing the width of

riparian buffers through land use setback, most instream and riparian habitats will recover naturally over time. Some aspects of aquatic habitat restoration will be much more difficult to deal with (e.g., deforestation, watershed scale flow alterations) and will need more integrated watershed planning approaches to mesh environmental protection with the need for economic development, which contrary to some notions, are not mutually exclusive. High quality streams, riparian habitats, and other natural area are a benefit of living in Ohio that people rightly expect and that is essential to Ohio's long-term economic health.

Glossary

Riparian Area: Areas adjacent to streams that are hydrologically and ecological linked to streams and rivers. The size of the area that has strong interactions with a stream or river will vary with stream morphology, stream size, geologic features, etc., however, for purposes of Ohio's Stream Protection Policy it is defined as 2-1/2 times the stream width (bank full) on each side of the stream up to 120 feet.

Ecological Integrity: This refers to the expected condition of an ecosystem in anatural, relatively undisturbed state. This is not a definition of pristine, but is derived by examining existing, intact ecosystems .

Impairment: Deviation of the biological health of a stream from the criteria set in Ohio's Water Quality Standards based on minimally unimpacted reference sites

Siltation: Covering of natural substrates by higher than normal layers of erdoed soils and other fine substrates

References

[1]**U. S. National Research Council.** 1992. Restoration of aquatic ecosystems: science, technology, and public policy. National Academy of Science. National Academy Press, Washington, DC.

[2]**Allan, J. D. and A. S. Flecker.** 1993. Biodiversity conservation in running waters. BioScience 43(1): 32-43.

[3]**Benke, A. C.** 1990. A perspective on America's vanishing streams. Journal of the North American Benthological Society 9: 77-88.

[4]**Ohio Environmental Protection Agency. 1992.** Ohio water resource inventory: status and trends, Editors. E. T. Rankin, C. O. Yoder, and D. A. Mishne. Ohio EPA, Division of Water Quality Planning as Assessment, Columbus, Ohio.

[5]**Knopf, F. L., R. Johnson, T. Rich, F. B. Samson, and R. C.Szaro.** 1988. Conservation of riparian ecosystems in the United States. Wilson Bulletin 100(2): 272-284.

[6]**Vannote, R. L., G. W. Minshall, K. W. Cummins, J. R. Sedell, and C. E. Cushing.** 1980. The river continuum concept. Canadian Journal of Fisheries and Aquatic Science 37: 130-137.

[7]**Noss, R. F. 1987.** Protecting natural areas in fragmented landscapes. Natural Areas Journal 7(1): 2-13.

Appendix F: A Restorability Rating Factor for Aquatic Life
Based on a Stream Habitat Quality Index: The QHEI.

This fact sheet outlines a methodology for ranking streams as to their likelihood of having their aquatic life restored to a condition comparable to minimally impacted reference conditions for a region. This would be a condition equivalent or greater than the Clean Water Act goals and equivalent to Ohio's WWH, CWH, or EWH aquatic life uses.

The major factors in this ranking include site-segment scale habitat quality, river scale habitat quality, watershed scale habitat conditions, stream gradient or energy (i.e., energy needed to restore degraded habitat conditions), and specific "high influence" habitat attributes that may limit achievement of biological attainment of biocriteria. The "density" of data used to create these rankings varies by stream and watershed and rankings based on few data points (i.e., where certainty is lower) are identified.

Narrative restorability categories are listed in Table 1. The decision criteria for the rankings based on the factors listed above are diagrammed in Figures 1 and 2. Stream segments classified as LRW or MWH, *on the basis of a biosurvey*, are considered the least restorable conditions. Here an aquatic life use attainability study has been performed and Clean Water goals are considered unattainable. In many situations, for example, such streams are kept in a modified state through channel maintenance to promote agricultural or urban drainage or flood control.

Table 1. Narrative restorability categories for aquatic life in Ohio streams based on the factors outlined in this fact sheet.

Least Restorable: Essentially None	Moderate - High
Low	High
Low-Moderate	Very High
Moderate	Most Restorable: Extremely High

Rationale for Factors that Limit Restorability
Because the consequences of ranking the restorability of streams are considerable (e.g., they will drive restoration efforts for aquatic systems). it is important that the underlying factors used in the rating system are understood. This next section provides the justification for the use of these factors in this rating system.

QHEI
The QHEI (Ohio EPA 1989, Rankin 1989, 1995) is the habitat assessment

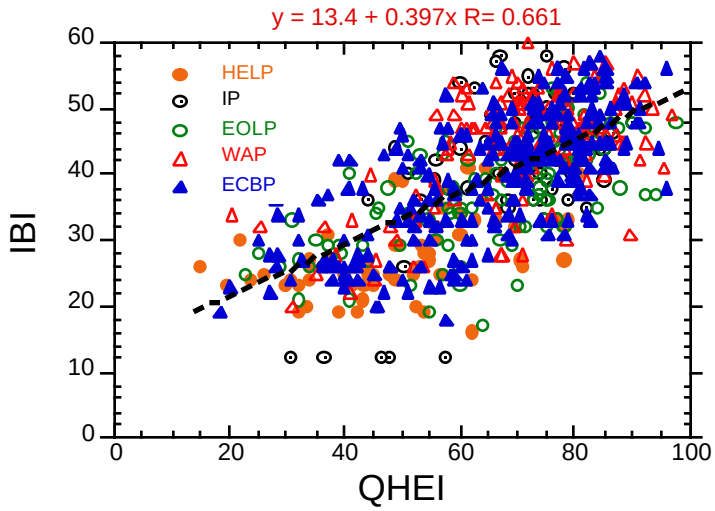


Figure 2. QHEI vs IBI for 666 minimally impacted and habitat impacted reference sites, coded by ecoregion.

methodology used to assess habitat condition in Ohio's streams and rivers. Habitat condition is one of the five primary factors affecting the biological integrity of streams (Karr 1983). In Ohio the QHEI is significantly correlated with the IBI statewide (Figure 2) and within an ecoregion(Rankin 1994). It is evident that increasing habitat degradation limits biological community condition (Figure 2). An illustration of the effect of widespread habitat disturbance on biological integrity is evident in the lower biological performance of HELP ecoregion sites (a region extensively channelized) compared to other regions of the state where such disturbance is less (also see Rankin 1995). A primary discrimination factor in the QHEI restorability rating is the QHEI scores at the segment, river, and watershed scales (Figure 1).

Specific QHEI Attributes That Limit Biological Integrity

Not all habitat variables in the QHEI have the same influence on biological integrity. There are certain habitat attributes of the QHEI that have been shown to be strong limiting factors to biological integrity ("high influence MWH attributes", Rankin 1989). These include factors such as recent channelization, silt/muck substrates, none-sparse cover, and shallow depths. Accrual of more than one of these attributes results in a much higher probability of limiting biological integrity as measured by the IBI (Figure 3). Thus the presence of these high influence MWH attributes are a good discriminating factor for rating restorability.

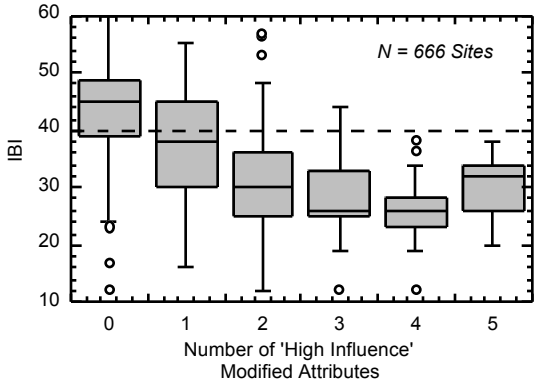


Figure 3. Box and whisker plot of the IBI by the number of "high influence MWH attributes" for least impacted and habitat-affected reference sites.

Stream Gradient

Stream gradient is a component of the equation for stream power. Stream power is important because it is a determinant of how quickly (and what type) of habitat features are recreated by the stream over time. An approximation of the equation for Power is: $w = 10Qh$, where w = power in kilowatts, Q is discharge in m^3/s, and h is the change in elevation in meters (Gordon et al. 1992). The importance of discharge is reflected in the QHEI adjustment of the gradient score by drainage area (Rankin 1989).

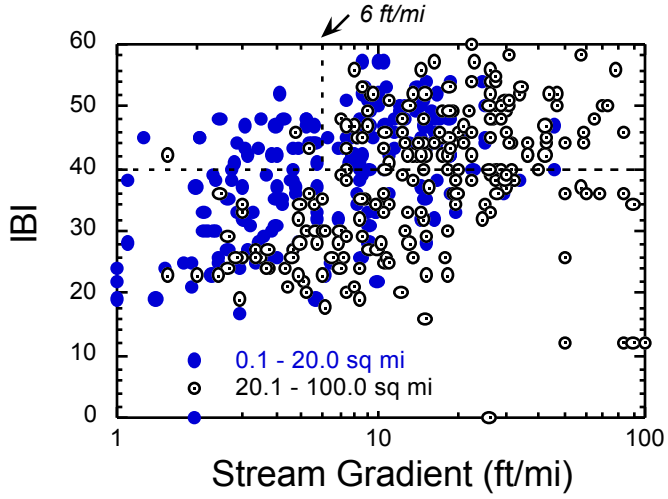


Figure 4. IBI versus stream gradient for least impacted and physically impacted headwater and wadeable stream sites.

For two streams of the same drainage area (e.g., discharge) and similar otherwise, the stream with higher gradient will, generally, be more able recover from a habitat perturbation more quickly. Therefore, extremely low gradient streams with poor habitat are more likely to be unrestorable without intervention over the long term (20-100 years or more), especially given current land use patterns. Based on the relationships between IBI and stream gradient in headwater, wadeable, and boat sites there seem to be thresholds of stream gradient below which it is difficult, given current land use practices, vegetation, erosion rates,

etc., to achieve a WWH fish community (Figures 4 and 5). For headwater streams (≤ 20 sq mi drainage) this threshold is near 6 ft/mi (Figure 4); for wadeable streams (20-200 sq mi) the threshold is 2 ft/mi (Figure 5). There is no clear WWH threshold for boat sites (> 200 sq mi), although there are no EWH sites with stream gradients < 2 ft/mi (Figure 5).

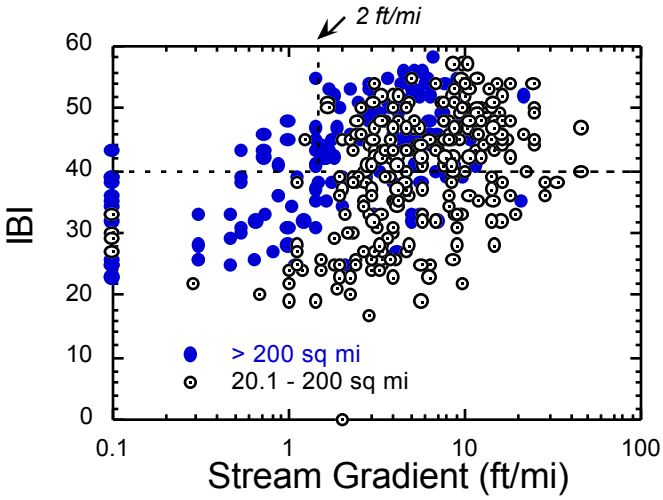


Figure 5. IBI versus stream gradient for least impacted and physically impacted headwater and wadeable stream sites.

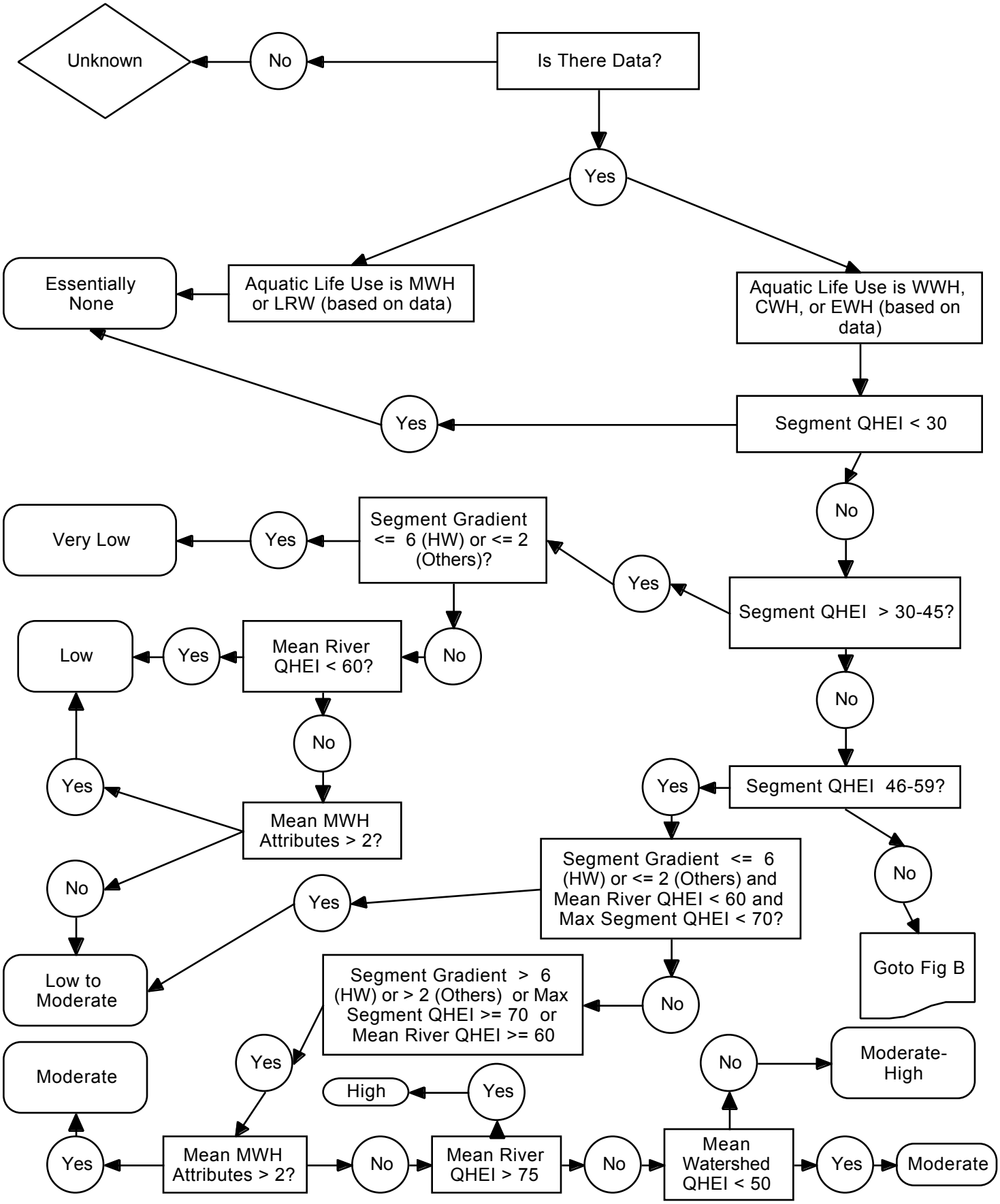
Endangered, Threatened, and Declining Species

Although not included explicitly in the narrative restoration ratings, the presence of endangered or threatened aquatic species and good number of declining fish species can provide more support for deciding whether a stream is restorable to a WWH, CWH, or EWH condition. The presence of such species in the river or watershed of a particular segment, increases the likelihood that it can be restored. There is a distinct threshold between h

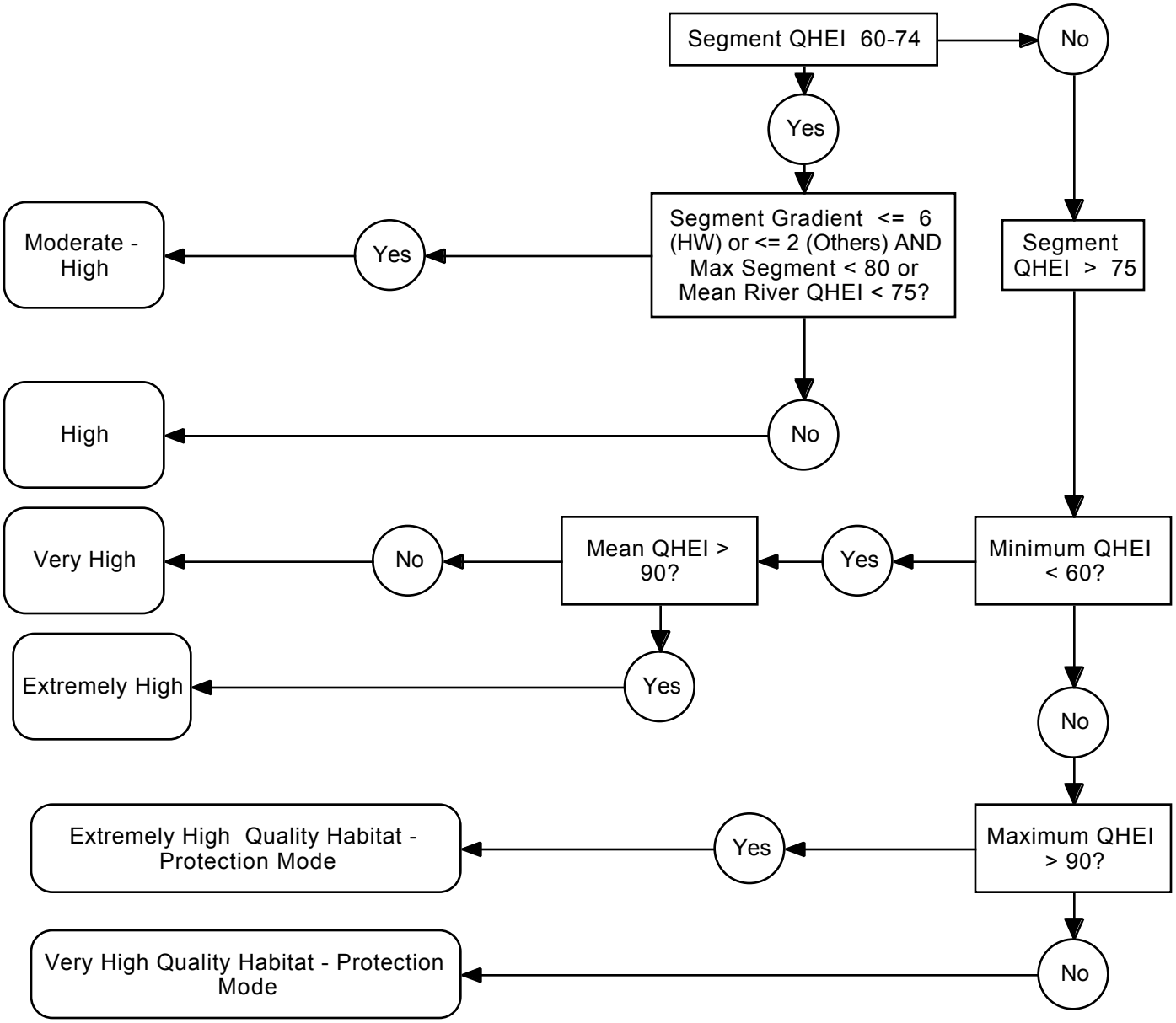
Factors Not Included

Other factors not included here may also act to limit the restorability of small stream, such as the degree of impermeability in highly urbanized watersheds. For these streams, the greatly altered flow regimes can act to scour biological organisms to the extent that full recolonization is precluded. Unfortunately, we do not have good quantification of limiting factors that can be included in this current process (e.g., % imperviousness). The QHEI-based factors discussed above, however, will reflect many of the limitations caused by extensive urbanization.

QHEI-Based Restorability Rating



QHEI-Based Restorability Rating - Part B



OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
UPPER MAHONING RIVER - [Watershed QHEI: 58.6, N = 26]													
[OH 1 1] - MAHONING RIVER (WEST BRANCH TO DUCK CREEK) Upper RM: 53.70 / Lower RM: 43.80													
51.64	40.50	69.00	**62.9**	**0.7(4.0)**	0.1(4.0)	0.9(4.0)	**523.57**	426.00	578.00	**7**	WWH	***Moderate-High***	***High***
[OH 1 3] - EAGLE CREEK (SOUTH FORK EAGLE CR. TO MAHONING R.) Upper RM: 10.90 / Lower RM: 0.00													
56.00	51.50	60.50	**55.0**	**0.6(5.0)**	0.1(4.0)	1.0(6.0)	**109.00**	109.00	109.00	**2**	WWH	***Low - Moderate***	***Mod.***
[OH 1 6] - SOUTH FORK EAGLE CREEK Upper RM: 9.00 / Lower RM: 0.00													
61.50	61.50	61.50	**61.5**	**14.3(10)**	14.3(10)	14.3(10)	**9.30**	9.30	9.30	**1**	WWH	***High***	***Low***
[OH 1 8] - EAGLE CREEK (HEADWATERS TO SOUTH FORK EAGLE CREEK) Upper RM: 25.00 / Lower RM: 10.90													
53.00	53.00	53.00	**55.0**	**10.2(8.0)**	10.2(8.0)	10.2(8.0)	**5.50**	5.50	5.50	**1**	WWH	***Moderate-High***	***Low-Mod.***
[OH 1 10] - SILVER CREEK Upper RM: 7.20 / Lower RM: 0.00													
76.00	74.00	79.00	**76.0**	**22.9(8.7)**	16.1(8.0)	26.3(10)	**10.00**	8.40	10.80	**3**	CWH	***Very High Quality***	***Mod.-High***
[OH 1 14] - WEST BRANCH MAHONING RIVER Upper RM: 13.20 / Lower RM: 0.00													
67.00	67.00	67.00	**67.0**	**2.4(8.0)**	2.4(8.0)	2.4(8.0)	**104.00**	104.00	104.00	**1**	WWH	***High***	***Low***
[OH 1 20] - MAHONING RIVER (MILTON DAM TO WEST BRANCH) Upper RM: 61.84 / Lower RM: 53.74													
49.83	40.50	60.50	**62.9**	**1.0(5.3)**	0.1(4.0)	2.9(8.0)	**342.67**	305.00	417.00	**3**	WWH	***Moderate-High***	***High***
[OH 1 24] - MAHONING RIVER (BEECH CREEK TO BERLIN DAM) Upper RM: 80.30 / Lower RM: 69.17													
61.25	55.00	67.50	**62.9**	**0.1(4.0)**	0.1(4.0)	0.1(4.0)	**252.50**	252.00	253.00	**2**	WWH	***Moderate - High***	***Mod.***
[OH 1 30] - MAHONING RIVER (HEADWATERS TO BEECH CREEK) Upper RM: 108.30 / Lower RM: 80.30													
61.42	42.50	74.50	**62.9**	**5.1(5.7)**	0.1(2.0)	14.7(8.0)	**57.83**	8.00	90.00	**6**	WWH	***High***	***High***
LOWER MAHONING RIVER - [Watershed QHEI: 61.3, N = 71]													
[OH 2 1] - MAHONING RIVER (YELLOW CREEK TO PA.) Upper RM: 13.79 / Lower RM: 9.80													
72.80	48.00	86.00	**62.9**	**2.1(9.2)**	0.1(6.0)	2.7(10)	**1073.20**	999.00	1076.00	**5**	WWH	***High***	***High***
[OH 2 5] - YELLOW CREEK Upper RM: 11.10 / Lower RM: 0.00													
64.50	64.50	64.50	**64.5**	**41.7(4.0)**	41.7(4.0)	41.7(4.0)	**31.90**	31.90	31.90	**1**	WWH	***High***	***Low***
[OH 2 7] - MAHONING RIVER (MILL CREEK TO YELLOW CREEK) Upper RM: 20.00 / Lower RM: 13.80													
68.33	47.50	79.00	**62.9**	**2.2(9.3)**	0.1(6.0)	2.7(10)	**1016.00**	999.00	1024.00	**6**	WWH	***High***	***High***
[OH 2 9] - DRY RUN Upper RM: 7.10 / Lower RM: 0.00													
61.50	61.50	61.50	**61.5**	**58.8(4.0)**	58.8(4.0)	58.8(4.0)	**9.80**	9.80	9.80	**1**	WWH	***High***	***Low***
[OH 2 12] - MILL CREEK Upper RM: 20.90 / Lower RM: 0.00													
55.00	37.00	73.00	**55.0**	**9.7(3.4)**	0.1(2.0)	50.0(4.0)	**56.00**	28.00	79.00	**10**	WWH	***Moderate-High***	***High***
[OH 2 13] - BEARS DEN RUN Upper RM: 4.10 / Lower RM: 0.00													
67.00	67.00	67.00	**67.0**	**47.6(4.0)**	47.6(4.0)	47.6(4.0)	**3.70**	3.70	3.70	**1**	WWH	***High***	***Low***

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH 2 14] - AX FACTORY RUN Upper RM: 4.00 / Lower RM: 0.00													
64.25	59.00	69.50	**64.3**	**90.0(4.0)**	90.0(4.0)	90.0(4.0)	**2.90**	2.90	2.90	**2**	WWH	***High***	***Mod.***
[OH 2 15] - ANDERSONS RUN Upper RM: 4.50 / Lower RM: 0.00													
63.50	63.50	63.50	**63.5**	**8.5(6.0)**	8.5(6.0)	8.5(6.0)	**6.20**	6.20	6.20	**1**	WWH	***High***	***Low***
[OH 2 17] - INDIAN RUN Upper RM: 4.80 / Lower RM: 0.00													
65.00	65.00	65.00	**65.0**	**14.8(10)**	14.8(10)	14.8(10)	**14.70**	14.70	14.70	**1**	WWH	***High***	***Low***
[OH 2 20] - MAHONING RIVER (MEANDER CREEK TO MILL CREEK) Upper RM: 28.50 / Lower RM: 20.00													
61.18	42.50	78.50	**62.9**	**1.2(7.8)**	0.1(6.0)	2.6(10)	**1018.00**	858.00	2216.00	**11**	WWH	***Moderate - High***	***High***
[OH 2 23] - MEANDER CREEK Upper RM: 20.40 / Lower RM: 0.00													
54.80	41.50	84.50	**54.8**	**1.9(3.6)**	0.1(2.0)	8.9(10)	**84.80**	84.00	86.00	**5**	WWH	***Moderate-High***	***High***
[OH 2 27] - MOSQUITO CREEK (MOSQUITO CR. RES. TO MAHONING R.) Upper RM: 12.49 / Lower RM: 0.00													
55.19	45.00	67.00	**55.2**	**1.8(5.8)**	0.1(4.0)	8.9(10)	**118.25**	98.00	138.00	**8**	WWH	***Low - Moderate***	***High***
[OH 2 35] - MAHONING RIVER (DUCK CREEK TO MEANDER CREEK) Upper RM: 43.80 / Lower RM: 28.50													
62.55	46.50	80.50	**62.9**	**1.6(5.8)**	0.1(4.0)	4.6(10)	**615.47**	578.00	858.00	**19**	WWH	***Moderate - High***	***High***
[OH 2 37] - RED RUN Upper RM: 4.70 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
PYMATUNING CREEK - [Watershed QHEI: 66.3, N = 29]													
[OH 3 1] - LITTLE YANKEE RUN Upper RM: 13.20 / Lower RM: 0.00													
72.60	54.00	88.00	**72.6**	**20.2(8.4)**	11.9(6.0)	37.0(10)	**29.60**	9.00	42.00	**10**	WWH	***High***	***High***
[OH 3 2] - LITTLE DEER CREEK Upper RM: 6.90 / Lower RM: 0.00													
72.75	72.00	73.50	**72.8**	**15.4(10)**	15.4(10)	15.4(10)	**7.00**	7.00	7.00	**2**	WWH	***High***	***Mod.***
[OH 3 3] - YANKEE RUN Upper RM: 14.80 / Lower RM: 0.00													
61.80	46.00	73.50	**61.8**	**7.9(9.2)**	5.9(6.0)	9.3(10)	**41.72**	28.60	45.00	**5**	WWH	***High***	***High***
[OH 3 3.1] - MUD RUN Upper RM: 2.00 / Lower RM: 0.00													
62.00	62.00	62.00	**62.0**	**8.7(6.0)**	8.7(6.0)	8.7(6.0)	**7.00**	7.00	7.00	**1**	WWH	***High***	***Low***
[OH 3 6] - PYMATUNING CREEK (SHENANGO RESERVOIR TO PA.) Upper RM: 19.79 / Lower RM: 0.00													
64.71	54.50	82.00	**61.4**	**1.4(4.6)**	1.3(4.0)	1.8(6.0)	**106.57**	66.00	168.00	**7**	WWH	***Moderate - High***	***High***
[OH 3 10] - PYMATUNING CREEK (HEADWATERS TO SHENANGO RES.) Upper RM: 34.33 / Lower RM: 19.80													
49.75	45.50	54.00	**61.4**	**3.4(6.0)**	3.1(6.0)	3.7(6.0)	**22.65**	9.30	36.00	**2**	WWH	***Moderate-High***	***Mod.***
[OH 3 11] - SUGAR CREEK Upper RM: 8.10 / Lower RM: 0.00													
64.50	63.50	65.50	**64.5**	**3.9(6.0)**	0.0(2.0)	7.8(10)	**9.90**		19.80	**2**	WWH	***Moderate - High***	***Mod.***
LITTLE BEAVER CREEK - [Watershed QHEI: 71.2, N = 36]													

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH 4 1] - LITTLE BEAVER CREEK (NORTH FORK TO PA.) Upper RM: 7.80 / Lower RM: 0.00													
87.50	87.00	88.00	**85.0**	**8.5(10)**	8.5(10)	8.5(10)	**496.00**	496.00	496.00	**2**	EWH	***Very High Quality***	***Mod.***
[OH 4 3] - NORTH FORK (BULL CREEK TO LITTLE BEAVER CREEK) Upper RM: 6.07 / Lower RM: 0.00													
82.00	82.00	82.00	**86.2**	**13.8(8.0)**	13.8(8.0)	13.8(8.0)	**183.00**	183.00	183.00	**1**	WWH	***Very High Quality***	***Low-Mod.***
[OH 4 6] - BULL CREEK Upper RM: 16.60 / Lower RM: 0.00													
81.00	74.00	88.00	**81.0**	**25.8(7.0)**	18.2(6.0)	33.3(8.0)	**52.00**	40.00	64.00	**2**	WWH	***Very High Quality***	***Low-Mod.***
[OH 4 7.1] - TRIB. TO LESLIE RUN Upper RM: 2.25 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH 4 10] - NORTH FORK (PA. TO BULL CREEK) Upper RM: 7.75 / Lower RM: 6.07													
88.25	82.00	94.50	**86.2**	**8.4(10)**	8.4(10)	8.4(10)	**107.50**	106.00	109.00	**2**	WWH	***Extremely High***	***Mod.***
[OH 4 11.2] - EAST FORK STATELINE CREEK Upper RM: 2.06 / Lower RM: 0.00													
66.50	66.50	66.50	**66.5**	**42.6(4.0)**	42.6(4.0)	42.6(4.0)	**1.50**	1.50	1.50	**1**	WWH	***High***	***Low***
[OH 4 11.3] - WEST FORK STATELINE CREEK Upper RM: 1.98 / Lower RM: 0.00													
43.50	32.00	55.00	**43.5**	**111.4(4.0**	69.0(4.0)	153.9(4.0	**1.15**	0.50	1.80	**2**	WWH	***Low***	***Mod.***
[OH 4 14] - LITTLE BEAVER CREEK (MIDDLE FORK TO NORTH FORK) Upper RM: 15.82 / Lower RM: 7.80													
82.50	82.00	83.00	**85.0**	**10.6(8.0)**	10.2(8.0)	11.1(8.0)	**277.50**	261.00	294.00	**2**	EWH	***Very High Quality***	***Mod.***
[OH 4 17] - MIDDLE FORK (MIDDLE RUN TO WEST FORK) Upper RM: 8.57 / Lower RM: 0.00													
83.00	83.00	83.00	**60.7**	**10.5(8.0)**	10.5(8.0)	10.5(8.0)	**141.00**	141.00	141.00	**1**	EWH	***Very High Quality***	***Low-Mod.***
[OH 4 22] - MIDDLE FORK (EAST BRANCH TO MIDDLE RUN) Upper RM: 21.49 / Lower RM: 8.57													
70.88	32.00	89.00	**60.7**	**7.0(9.0)**	3.8(6.0)	8.3(10)	**96.25**	73.00	114.00	**4**	WWH; EWH	***High***	***High***
[OH 4 23] - STONE MILL RUN Upper RM: 4.80 / Lower RM: 0.00													
77.50	77.50	77.50	**77.5**	**58.8(4.0)**	58.8(4.0)	58.8(4.0)	**8.00**	8.00	8.00	**1**	WWH	***Very High Quality***	***Low***
[OH 4 24] - MIDDLE FORK (HEADWATERS TO EAST BRANCH) Upper RM: 42.60 / Lower RM: 21.49													
54.40	37.00	69.00	**60.7**	**12.7(7.6)**	3.7(6.0)	30.3(10)	**18.27**	1.70	41.00	**10**	WWH	***Moderate-High***	***High***
[OH 4 24.2] - TRIB. TO M. FK. L. BEAVER CREEK (NEASE) Upper RM: 1.58 / Lower RM: 0.00													
60.50	60.50	60.50	**60.5**	**10.5(8.0)**	10.5(8.0)	10.5(8.0)	**1.20**	1.20	1.20	**1**	NONE	***High***	***Low***
[OH 4 25] - EAST BRANCH MIDDLE FORK Upper RM: 9.50 / Lower RM: 0.00													
67.00	67.00	67.00	**67.0**	**5.4(6.0)**	5.4(6.0)	5.4(6.0)	**15.00**	15.00	15.00	**1**	WWH	***Moderate - High***	***Low***
[OH 4 27] - WEST FORK (BRUSH CREEK TO MIDDLE FORK) Upper RM: 15.99 / Lower RM: 0.00													
89.17	82.50	95.00	**89.2**	**9.9(9.3)**	8.7(8.0)	12.3(10)	**86.83**	74.00	111.00	**6**	EWH	***Extremely High***	***High***

CENTRAL TRIBS (YELLOW CREEK AND CROSS CREEK) - [Watershed QHEI: 66.4, N = 47]

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH 5 1] - CROSS CREEK (MCINTYRE CREEK TO OHIO RIVER) Upper RM: 5.55 / Lower RM: 0.00													
75.75	71.50	80.00	**72.3**	**12.3(8.0)**	12.3(8.0)	12.3(8.0)	**124.50**	122.00	127.00	**2**	WWH	***Very High Quality***	***Mod.***
[OH 5 2] - DRY FORK Upper RM: 5.75 / Lower RM: 0.00													
59.88	52.00	65.00	**59.9**	**78.2(4.0)**	54.1(4.0)	105.3(4.0	**3.53**	1.00	6.60	**4**	WWH; LRW	***Essentially None***	***High***
[OH 5 2.1] - TRIBUTARY TO DRY FORK (RM 5.43) Upper RM: 0.20 / Lower RM: 0.00													
50.50	50.50	50.50	**50.5**	**125.0(4.0**	125.0(4.0	125.0(4.0	**1.80**	1.80	1.80	**1**	NONE	***Moderate-High***	***Low***
[OH 5 2.2] - WINTERSVILLE 'E' TRIB. Upper RM: 1.05 / Lower RM: 0.00													
62.50	62.50	62.50	**62.5**	**62.5(4.0)**	62.5(4.0)	62.5(4.0)	**0.60**	0.60	0.60	**1**	NONE	***High***	***Low***
[OH 5 3] - MCINTYRE CREEK Upper RM: 12.70 / Lower RM: 0.00													
67.50	67.50	67.50	**67.5**	**45.5(4.0)**	45.5(4.0)	45.5(4.0)	**27.00**	27.00	27.00	**1**	WWH	***High***	***Low***
[OH 5 9] - CROSS CREEK (SALEM CREEK TO MCINTYRE CREEK) Upper RM: 17.44 / Lower RM: 5.55													
72.50	70.50	74.00	**72.3**	**15.3(8.0)**	13.4(8.0)	18.7(8.0)	**82.67**	78.00	88.00	**3**	WWH	***High***	***High***
[OH 5 10] - BARBERS HOLLOW Upper RM: 4.10 / Lower RM: 0.00													
60.50	46.50	67.50	**60.5**	**89.4(5.5)**	25.3(4.0)	153.9(	**1.90**	1.10	2.70	**4**	WWH	***High***	***Mod.-High***
[OH 5 12] - CEDAR LICK CREEK Upper RM: 5.60 / Lower RM: 0.00													
63.75	54.50	73.00	**63.8**	**73.3(6.0)**	13.3(4.0)	133.3(8.0	**4.00**	1.40	6.60	**2**	WWH	***High***	***Mod.***
[OH 5 14] - CROSS CREEK (HEADWATERS TO SALEM CREEK) Upper RM: 27.44 / Lower RM: 17.45													
68.50	61.50	75.50	**72.3**	**16.9(9.0)**	15.9(8.0)	18.0(10)	**20.50**	11.00	30.00	**2**	WWH	***High***	***Mod.***
[OH 5 20] - NORTH BRANCH CROSS CREEK Upper RM: 6.40 / Lower RM: 0.00													
81.00	81.00	81.00	**81.0**	**17.1(10)**	17.1(10)	17.1(10)	**11.00**	11.00	11.00	**1**	WWH	***Very High Quality***	***Low***
[OH 5 24] - WILLS CREEK Upper RM: 6.20 / Lower RM: 0.00													
67.50	60.50	71.00	**67.5**	**54.3(4.7)**	35.7(4.0)	66.7(6.0)	**10.23**	4.00	14.20	**3**	WWH	***High***	***Mod.-High***
[OH 5 24.2] - TRIB. TO WILLS CREEK Upper RM: 1.20 / Lower RM: 0.00													
66.50	66.50	66.50	**66.5**	**100.0(4.0**	100.0(4.0	100.0(4.0	**0.30**	0.30	0.30	**1**	NONE	***High***	***Low***
[OH 5 38] - YELLOW CREEK (BRUSH CREEK TO OHIO RIVER) Upper RM: 4.55 / Lower RM: 0.00													
41.50	37.00	46.00	**60.5**	**0.1(4.0)**	0.1(4.0)	0.1(4.0)	**225.00**	224.00	226.00	**2**	WWH	***Very Low***	***Mod.***
[OH 5 43] - NORTH FORK YELLOW CREEK Upper RM: 10.73 / Lower RM: 0.00													
77.50	62.00	87.50	**77.5**	**17.3(9.0)**	16.4(8.0)	18.3(10)	**49.00**	41.00	58.00	**4**	WWH	***Very High Quality***	***Mod.-High***
[OH 5 46] - SALISBURY RUN Upper RM: 2.50 / Lower RM: 0.00													
53.00	53.00	53.00	**53.0**	**57.1(4.0)**	57.1(4.0)	57.1(4.0)	**2.10**	2.10	2.10	**1**	LRW	***Essentially None***	***High***
[OH 5 47] - RANDOLPH RUN Upper RM: 2.80 / Lower RM: 0.00													
56.50	56.50	56.50	**56.5**	**69.0(4.0)**	69.0(4.0)	69.0(4.0)	**2.20**	2.20	2.20	**1**	LRW	***Essentially None***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH 5 48] - NANCY RUN Upper RM: 5.30 / Lower RM: 0.00													
62.25	58.50	66.00	**62.3**	**42.6(4.0)**	42.6(4.0)	42.6(4.0)	**7.50**	7.50	7.50	**2**	CWH	***High***	***Mod.***
[OH 5 54] - YELLOW CREEK (TOWN FORK TO BRUSH CREEK) Upper RM: 8.75 / Lower RM: 4.55													
76.00	76.00	76.00	**60.5**	**5.5(10)**	5.5(10)	5.5(10)	**147.00**	147.00	147.00	**1**	WWH	***Very High Quality***	***Low-Mod.***
[OH 5 60] - YELLOW CREEK (ELKHORN CREEK TO TOWN FORK) Upper RM: 25.85 / Lower RM: 8.75													
53.50	53.50	53.50	**60.5**	**10.9(10)**	10.9(10)	10.9(10)	**99.00**	99.00	99.00	**1**	WWH	***Moderate-High***	***Low-Mod.***
[OH 5 71] - ELKHORN CREEK Upper RM: 8.90 / Lower RM: 0.00													
72.50	59.00	82.50	**72.5**	**15.6(9.3)**	8.3(8.0)	30.3(10)	**25.07**	7.00	34.10	**3**	EWH	***High***	***Mod.-High***
[OH 5 72] - STRAWCAMP RUN Upper RM: 4.80 / Lower RM: 0.00													
77.50	77.50	77.50	**77.5**	**46.5(4.0)**	46.5(4.0)	46.5(4.0)	**5.00**	5.00	5.00	**1**	EWH	***Very High Quality***	***Low***
[OH 5 73] - CENTER FORK Upper RM: 5.00 / Lower RM: 0.00													
71.50	71.00	72.00	**71.5**	**22.0(8.0)**	22.0(8.0)	22.0(8.0)	**12.70**	12.70	12.70	**2**	CWH	***High***	***Mod.***
[OH 5 74] - TRAIL RUN Upper RM: 1.90 / Lower RM: 0.00													
70.50	70.50	70.50	**70.5**	**46.5(4.0)**	46.5(4.0)	46.5(4.0)	**3.00**	3.00	3.00	**1**	CWH	***High***	***Low***
[OH 5 76] - YELLOW CREEK (HEADWATERS TO ELKHORN CREEK) Upper RM: 34.05 / Lower RM: 25.85													
75.25	75.00	75.50	**60.5**	**9.1(10)**	9.1(10)	9.1(10)	**29.00**	29.00	29.00	**2**	WWH	***Very High Quality***	***Mod.***
[OH 5 77] - WOLF CREEK Upper RM: 4.50 / Lower RM: 0.00													
62.00	62.00	62.00	**62.0**	**14.7(8.0)**	14.7(8.0)	14.7(8.0)	**5.00**	5.00	5.00	**1**	LRW	***Essentially None***	***High***
CENTRAL TRIBS (SHORT CREEK AND WHEELING CR.) - [Watershed QHEI: 60.3, N = 36]													
[OH 6 1] - MCMAHON CREEK (WILLIAMS CREEK TO OHIO RIVER) Upper RM: 12.74 / Lower RM: 0.00													
68.70	67.50	73.50	**66.6**	**15.4(8.0)**	14.3(8.0)	17.9(8.0)	**71.80**	51.00	85.00	**5**	WWH	***High***	***High***
[OH 6 1.1] - WILLIAMS CREEK Upper RM: 5.00 / Lower RM: 0.00													
70.00	70.00	70.00	**70.0**	**83.3(4.0)**	83.3(4.0)	83.3(4.0)	**2.80**	2.80	2.80	**1**	WWH	***High***	***Low***
[OH 6 5] - LITTLE MCMAHON CREEK Upper RM: 8.30 / Lower RM: 0.00													
63.33	52.50	69.50	**63.3**	**56.5(4.0)**	50.0(4.0)	62.5(4.0)	**7.23**	2.70	11.00	**3**	WWH; LRW	***Essentially None***	***High***
[OH 6 7] - KINGS RUN Upper RM: 2.20 / Lower RM: 0.00													
62.00	62.00	62.00	**62.0**	**117.6(4.0**	117.6(4.0	117.6(4.0	**1.00**	1.00	1.00	**1**	LRW	***Essentially None***	***High***
[OH 6 8] - AULTS RUN Upper RM: 3.30 / Lower RM: 0.00													
51.00	51.00	51.00	**51.0**	**66.7(4.0)**	66.7(4.0)	66.7(4.0)	**0.50**	0.50	0.50	**1**	LRW	***Essentially None***	***High***
[OH 6 10] - MCMAHON CREEK (HEADWATERS TO WILLIAMS CREEK) Upper RM: 28.15 / Lower RM: 12.75													
63.88	57.50	73.00	**66.6**	**23.9(9.5)**	17.0(8.0)	40.0(10)	**8.65**	1.00	26.00	**4**	WWH	***High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH 6 11] - WILLIAMS CREEK Upper RM: 8.00 / Lower RM: 0.00													
67.50	61.50	73.50	**67.5**	**30.8(6.0)**	30.8(6.0)	30.8(6.0)	**11.40**	11.40	11.40	**2**	WWH	***High***	***Mod.***
[OH 6 30] - TOWN RUN Upper RM: 3.20 / Lower RM: 0.00													
59.25	58.50	60.00	**59.3**	**100.0(4.0**	100.0(4.0	100.0(4.0	**1.55**	0.70	2.40	**2**	WWH	***Moderate-High***	***Mod.***
[OH 6 34] - WHEELING CREEK (HEADWATERS TO COX RUN) Upper RM: 31.50 / Lower RM: 15.38													
65.00	57.50	72.50	**65.0**	**23.0(10)**	16.7(10)	29.4(10)	**7.65**	1.90	13.40	**2**	LWH	***High***	***Mod.***
[OH 6 34.1] - TRIB. TO WHEELING CREEK (FLUSHING WWTP) Upper RM: 1.15 / Lower RM: 0.00													
48.25	44.50	52.00	**48.3**	**57.5(6.0)**	35.1(4.0)	80.0(8.0)	**0.70**	0.30	1.10	**2**	NONE	***Moderate-High***	***Mod.***
[OH 6 35] - COX RUN Upper RM: 5.20 / Lower RM: 0.00													
64.00	64.00	64.00	**64.0**	**37.7(8.0)**	37.7(8.0)	37.7(8.0)	**3.00**	3.00	3.00	**1**	WWH	***High***	***Low***
[OH 6 40] - CRABAPPLE CREEK Upper RM: 8.00 / Lower RM: 0.00													
61.50	53.50	65.50	**61.5**	**36.9(7.3)**	17.5(4.0)	64.5(10)	**11.73**	5.20	19.70	**3**	WWH; MWH-C	***Essentially None***	***High***
[OH 6 50] - SHORT CREEK (PINEY FORK TO OHIO RIVER) Upper RM: 8.24 / Lower RM: 0.00													
35.33	32.50	41.00	**45.1**	**0.1(4.0)**	0.1(4.0)	0.1(4.0)	**147.00**	147.00	147.00	**3**	LWH	***Very Low***	***Mod.-High***
[OH 6 57] - SHORT CREEK (NORTH FORK TO PINEY FORK) Upper RM: 19.43 / Lower RM: 8.24													
59.75	59.00	60.50	**45.1**	**8.9(8.0)**	5.7(8.0)	12.1(8.0)	**73.00**	60.00	86.00	**2**	LWH	***Moderate-High***	***Mod.***
[OH 6 58] - PINEY FORK Upper RM: 15.50 / Lower RM: 0.00													
56.00	56.00	56.00	**56.0**	**16.5(10)**	16.5(10)	16.5(10)	**22.40**	22.40	22.40	**1**	LWH	***Moderate-High***	***Low***
[OH 6 66] - GOOSE RUN Upper RM: 2.60 / Lower RM: 0.00													
78.00	78.00	78.00	**78.0**	**80.0(4.0)**	80.0(4.0)	80.0(4.0)	**1.40**	1.40	1.40	**1**	WWH	***Very High Quality***	***Low***
[OH 6 73] - MIDDLE FORK SHORT CREEK Upper RM: 9.30 / Lower RM: 0.00													
											MWH-A	***Essentially None***	***High***
[OH 6 73.1] - SALLY BUFFALO CREEK Upper RM: 4.25 / Lower RM: 0.00													
											MWH-A	***Essentially None***	***High***
[OH 6 75.1] - BLOCKHOUSE HOLLOW Upper RM: 2.27 / Lower RM: 0.00													
56.25	48.50	64.00	**56.3**	**141.7(4.0**	116.7(4.0	166.7(4.0	**2.20**	2.20	2.20	**2**	LRW	***Essentially None***	***High***
CENTRAL TRIBS (MCMAHON, CAPTINA, SUNFISH CR.) - [Watershed QHEI: 66.3, N = 42]													
[OH 7 1] - SUNFISH CREEK (PINEY FORK TO OHIO RIVER) Upper RM: 14.68 / Lower RM: 0.00													
59.70	39.00	87.00	**64.1**	**7.7(6.8)**	0.1(4.0)	14.6(10)	**105.16**	99.00	113.80	**5**	WWH; EWH; WWH	***Moderate-High***	***High***
[OH 7 5] - SUNFISH CREEK (HEADWATERS TO PINEY FORK) Upper RM: 31.40 / Lower RM: 14.68													
68.40	47.50	78.50	**64.1**	**17.7(8.4)**	14.2(6.0)	24.2(10)	**30.00**	11.00	49.00	**5**	WWH	***High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH 7 6] - PINEY FORK Upper RM: 6.80 / Lower RM: 0.00													
67.75	66.50	69.00	**67.8**	**27.0(8.0)**	27.0(8.0)	27.0(8.0)	**15.60**	15.60	15.60	**2**	WWH	***High***	***Mod.***
[OH 7 7] - EAST FORK PINEY FORK Upper RM: 4.40 / Lower RM: 0.00													
50.25	38.00	62.50	**50.3**	**41.7(7.0)**	16.8(4.0)	66.7(10)	**2.10**	1.20	3.00	**2**	WWH	***Moderate-High***	***Mod.***
[OH 7 8] - STANDINGSTONE RUN Upper RM: 3.60 / Lower RM: 0.00													
60.75	59.00	62.50	**60.8**	**61.5(4.0)**	54.1(4.0)	69.0(4.0)	**3.05**	1.10	5.00	**2**	WWH; EWH	***High***	***Mod.***
[OH 7 10] - BAKER FORK Upper RM: 6.70 / Lower RM: 0.00													
61.00	61.00	61.00	**61.0**	**33.9(6.0)**	33.9(6.0)	33.9(6.0)	**12.00**	12.00	12.00	**1**	WWH	***High***	***Low***
[OH 7 18] - CAPTINA CREEK (BEND FORK TO OHIO RIVER) Upper RM: 18.02 / Lower RM: 0.00													
70.71	40.00	84.50	**72.2**	**8.3(8.6)**	0.1(4.0)	11.9(10)	**150.00**	125.00	180.00	**7**	EWH; WWH	***High***	***High***
[OH 7 19] - CAT RUN Upper RM: 7.20 / Lower RM: 0.00													
78.50	75.50	81.50	**78.5**	**19.0(10)**	11.8(10)	26.3(10)	**10.50**	8.00	13.00	**2**	WWH	***Very High Quality***	***Mod.***
[OH 7 24] - BEND FORK Upper RM: 13.00 / Lower RM: 0.00													
66.40	42.50	84.50	**66.4**	**29.0(8.8)**	15.6(4.0)	57.1(10)	**12.32**	1.20	27.00	**5**	WWH; EWH	***High***	***High***
[OH 7 28] - CAPTINA CREEK (NORTH/SOUTH FORKS TO BEND FORK) Upper RM: 25.42 / Lower RM: 18.02													
82.50	82.50	82.50	**72.2**	**10.3(10)**	10.3(10)	10.3(10)	**91.00**	91.00	91.00	**1**	EWH	***Very High Quality***	***Low-Mod.***
[OH 7 36] - NORTH FORK CAPTINA CREEK Upper RM: 11.75 / Lower RM: 0.00													
66.63	51.50	80.50	**66.6**	**25.9(8.8)**	14.9(4.0)	60.6(10)	**13.93**	1.90	33.00	**8**	WWH; EWH	***High***	***High***
[OH 7 39] - SOUTH FORK CAPTINA CREEK Upper RM: 14.00 / Lower RM: 0.00													
80.00	80.00	80.00	**80.0**	**9.9(10)**	9.9(10)	9.9(10)	**36.00**	36.00	36.00	**1**	WWH	***Very High Quality***	***Low***
[OH 7 47] - PIPE CREEK Upper RM: 7.20 / Lower RM: 0.00													
45.50	45.50	45.50	**45.5**	**54.1(4.0)**	54.1(4.0)	54.1(4.0)	**11.00**	11.00	11.00	**1**	LRW	***Essentially None***	***High***
[OH 7 48] - BIG RUN Upper RM: 4.50 / Lower RM: 0.00													
											LRW; LWH	***Essentially None***	***High***
[OH 7 50] - WEGEE CREEK Upper RM: 7.60 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
LITTLE MUSKINGUM RIVER - [Watershed QHEI: 72.4, N = 10]													
[OH 8 15] - LITTLE MUSKINGUM R. (CLEAR FK. TO FIFTEEN MILE CR) Upper RM: 34.47 / Lower RM: 14.75													
74.50	73.50	75.50	**74.5**	**2.2(8.0)**	2.2(8.0)	2.2(8.0)	**243.50**	234.00	253.00	**2**	EWH	***High***	***Low-Mod.***
[OH 8 18] - ARCHERS FORK Upper RM: 7.00 / Lower RM: 0.00													
58.00	58.00	58.00	**58.0**	**14.1(10)**	14.1(10)	14.1(10)	**17.00**	17.00	17.00	**1**	WWH	***Moderate-High***	***Low***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH 8 30] - WITTEN RUN Upper RM: 6.60 / Lower RM: 0.00													
63.00	60.50	65.50	**63.0**	**32.1(8.0)**	30.8(8.0)	33.3(8.0)	**8.00**	8.00	8.00	**2**	EWH	***High***	***Mod.***
[OH 8 38] - STRAIGHT FORK Upper RM: 9.80 / Lower RM: 0.00													
75.00	75.00	75.00	**75.0**	**16.0(10)**	16.0(10)	16.0(10)	**7.80**	7.80	7.80	**1**	WWH	***Very High Quality***	***Low***
[OH 8 44] - WITTEN FORK Upper RM: 11.20 / Lower RM: 0.00													
79.00	75.00	83.00	**79.0**	**13.5(8.0)**	13.5(8.0)	13.5(8.0)	**42.50**	42.00	43.00	**2**	WWH	***Very High Quality***	***Low-Mod.***
[OH 8 78] - LEITH RUN Upper RM: 8.40 / Lower RM: 0.00													
79.00	71.00	87.00	**79.0**	**29.9(10)**	29.9(10)	29.9(10)	**6.80**	6.80	6.80	**2**	EWH	***Very High Quality***	***Mod.***
DUCK CREEK - [Watershed QHEI: 53.9, N = 7]													
[OH 9 27] - WEST FORK DUCK CREEK (SALT RUN TO E. FK. DUCK CR.) Upper RM: 23.63 / Lower RM: 0.00													
55.08	45.50	66.50	**53.9**	**3.3(6.0)**	2.7(6.0)	3.9(6.0)	**67.83**	59.00	84.00	**6**	WWH	***Moderate-High***	***High***
[OH 9 29] - BUFFALO RUN Upper RM: 3.50 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH 9 32] - WEST FORK DUCK CREEK (HEADWATERS TO SALT RUN) Upper RM: 36.40 / Lower RM: 23.60													
46.50	46.50	46.50	**53.9**	**5.0(6.0)**	5.0(6.0)	5.0(6.0)	**53.00**	53.00	53.00	**1**	WWH	***Moderate-High***	***Low-Mod.***
UPPER TUSCARAWAS RIVER - [Watershed QHEI: 52.1, N = 98]													
[OH10 1] - TUSCARAWAS RIVER (PIGEON RUN TO SANDY CREEK) Upper RM: 86.70 / Lower RM: 73.10													
64.69	45.00	75.00	**63.8**	**1.9(6.8)**	1.2(6.0)	2.9(8.0)	**564.38**	539.00	586.00	**8**	WWH	***Moderate - High***	***High***
[OH10 1.3] - TRIB. TO TUSCARAWAS R. (RM 83.74) Upper RM: 6.09 / Lower RM: 0.00													
59.75	53.50	66.00	**59.8**	**19.8(9.0)**	12.1(8.0)	27.4(10)	**7.25**	7.00	7.50	**2**	NONE	***Moderate***	***Mod.***
[OH10 5] - TUSCARAWAS RIVER (NEWMAN CREEK TO PIGEON RUN) Upper RM: 91.90 / Lower RM: 86.70													
49.36	32.00	71.00	**63.8**	**1.1(6.0)**	1.0(6.0)	1.3(6.0)	**511.57**	478.00	520.00	**7**	WWH	***Moderate-High***	***High***
[OH10 9] - TUSCARAWAS RIVER (CHIPPEWA CREEK TO NEWMAN CREEK) Upper RM: 103.20 / Lower RM: 91.90													
65.50	60.00	74.50	**63.8**	**1.4(6.7)**	1.0(6.0)	2.1(8.0)	**411.67**	365.00	435.00	**3**	WWH	***Moderate - High***	***High***
[OH10 12] - NIMISILA CREEK Upper RM: 11.10 / Lower RM: 0.00													
65.38	54.00	80.00	**65.4**	**13.1(8.5)**	6.9(6.0)	25.7(10)	**12.18**	7.10	25.90	**4**	WWH	***High***	***Mod.-High***
[OH10 12.1] - TRIB. TO NIMISILA CREEK (RM 8.85) Upper RM: 3.80 / Lower RM: 0.00													
75.50	75.50	75.50	**75.5**	**50.0(4.0)**	50.0(4.0)	50.0(4.0)	**2.50**	2.50	2.50	**1**	NONE	***Very High Quality***	***Low***
[OH10 13] - CHIPPEWA CREEK (STEELE DITCH TO TUSCARAWAS RIVER) Upper RM: 12.80 / Lower RM: 0.00													
27.50	23.00	32.00	**28.0**	**1.1(6.0)**	1.1(6.0)	1.1(6.0)	**167.00**	146.00	188.00	**2**	MWH-C	***Essentially None***	***High***
[OH10 16] - RIVER STYX Upper RM: 10.10 / Lower RM: 0.00													
36.40	31.00	44.00	**36.4**	**2.4(4.0)**	1.3(4.0)	2.7(4.0)	**23.28**	14.00	28.40	**5**	WWH; MWH-C	***Essentially None***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH10 19] - LITTLE CHIPPEWA CREEK Upper RM: 12.95 / Lower RM: 0.00													
34.00	31.00	37.00	**34.0**	**3.2(5.0)**	1.1(4.0)	5.3(6.0)	**14.90**	0.80	29.00	**2**	WWH	***Very Low***	***Mod.***
[OH10 20] - UNNAMED TRIB. TO LITTLE CHIPPEWA CREEK Upper RM: 1.37 / Lower RM: 0.00													
60.00	60.00	60.00	**60.0**	**90.9(4.0)**	90.9(4.0)	90.9(4.0)	**1.00**	1.00	1.00	**1**	WWH	***High***	***Low***
[OH10 21] - CHIPPEWA CREEK (HEADWATERS TO STEELE DITCH) Upper RM: 26.70 / Lower RM: 12.80													
29.00	29.00	29.00	**28.0**	**3.4(6.0)**	3.4(6.0)	3.4(6.0)	**33.00**	33.00	33.00	**1**	WWH; MWH-C	***Essentially None***	***High***
[OH10 26] - TUSCARAWAS RIVER (WOLF CREEK TO CHIPPEWA CREEK) Upper RM: 110.70 / Lower RM: 103.20													
44.89	17.00	56.50	**63.8**	**1.4(6.0)**	1.4(6.0)	1.4(6.0)	**160.33**	154.00	174.00	**9**	MWH-C	***Essentially None***	***High***
[OH10 28] - WOLF CREEK Upper RM: 13.10 / Lower RM: 0.00													
40.22	23.00	79.00	**40.2**	**3.1(5.3)**	2.5(4.0)	7.9(10)	**55.11**	21.00	77.00	**9**	WWH; MWH-C	***Essentially None***	***High***
[OH10 29] - HUDSON RUN Upper RM: 7.50 / Lower RM: 0.00													
51.00	33.00	70.00	**51.0**	**12.9(10)**	10.0(10)	18.2(10)	**10.22**	4.10	13.40	**6**	WWH; MWH-C	***Essentially None***	***High***
[OH10 30] - VAN HYNING RUN Upper RM: 4.60 / Lower RM: 0.00													
49.50	49.50	49.50	**49.5**	**32.3(8.0)**	32.3(8.0)	32.3(8.0)	**5.00**	5.00	5.00	**1**	WWH	***Moderate-High***	***Low***
[OH10 31] - PIGEON CREEK Upper RM: 8.60 / Lower RM: 0.00													
37.25	25.00	56.00	**37.3**	**7.7(7.0)**	3.7(6.0)	12.8(8.0)	**13.58**	1.30	24.00	**4**	WWH; MWH-C	***Essentially None***	***High***
[OH10 33] - TUSCARAWAS RIVER (HEADWATERS TO WOLF CREEK) Upper RM: 129.90 / Lower RM: 110.69													
50.50	26.00	81.00	**63.8**	**2.2(4.0)**	1.4(4.0)	2.5(4.0)	**56.00**	35.00	74.00	**7**	WWH; MWH-C	***Essentially None***	***High***
[OH10 33.2] - METZGERS DITCH Upper RM: 8.13 / Lower RM: 0.00													
60.73	49.00	73.00	**62.3**	**1.2(6.0)**	0.1(6.0)	9.8(6.0)	******.****	3.50	****.**	**24**	WWH	***Moderate - High***	***High***
[OH10 33.4] - TRIB. TO EAST RESERVOIR Upper RM: 2.96 / Lower RM: 0.00													
59.25	56.00	62.50	**60.7**	**90.7(6.0)**	38.5(4.0)	142.9(8.0	**0.55**	0.50	0.60	**2**	NONE	***Moderate-High***	***Mod.-High***
NIMISHILLEN CREEK - [Watershed QHEI: 55.8, N = 109]													
[OH11 1] - SANDY CREEK (NIMISHILLEN CREEK TO TUSCARAWAS R.) Upper RM: 8.00 / Lower RM: 0.00													
64.00	64.00	64.00	**73.3**	**1.1(6.0)**	1.1(6.0)	1.1(6.0)	**504.00**	504.00	504.00	**1**	WWH	***Moderate - High***	***Low-Mod.***
[OH11 5] - NIMISHILLEN CREEK Upper RM: 14.70 / Lower RM: 0.00													
73.80	52.50	92.00	**73.8**	**8.9(9.6)**	6.3(8.0)	14.5(10)	**150.05**	96.00	186.00	**20**	WWH	***High***	***High***
[OH11 6] - HURFORD RUN Upper RM: 4.95 / Lower RM: 0.00													
41.64	20.00	77.00	**41.6**	**23.4(7.9)**	6.8(6.0)	38.5(10)	**6.34**	3.70	8.50	**18**	LRW; MWH-C; WWH	***Essentially None***	***High***
[OH11 6.1] - DOMER DITCH Upper RM: 3.21 / Lower RM: 0.00													
58.10	54.00	66.00	**58.1**	**17.9(10)**	17.9(10)	17.9(10)	**2.34**	2.30	2.40	**5**	WWH	***Moderate-High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH11 7] - SHERRICK RUN Upper RM: 6.80 / Lower RM: 0.00													
53.17	35.50	72.00	**53.2**	**16.6(9.3)**	10.2(8.0)	23.8(10)	**5.40**	1.00	11.20	**3**	LRW; WWH	***Essentially None***	***High***
[OH11 7.2] - OSNABURG DITCH Upper RM: 1.50 / Lower RM: 0.00													
40.50	40.00	41.00	**40.5**	**34.7(8.0)**	32.3(8.0)	37.0(8.0)	**1.00**	1.00	1.00	**2**	MWH-C	***Essentially None***	***High***
[OH11 8] - WEST BRANCH NIMISHILLEN CREEK Upper RM: 9.00 / Lower RM: 0.00													
51.81	34.50	74.00	**51.8**	**8.0(8.8)**	6.6(8.0)	13.9(10)	**38.75**	16.00	46.00	**8**	WWH	***Moderate-High***	***High***
[OH11 8.1] - MCDOWELL DITCH Upper RM: 6.27 / Lower RM: 0.00													
34.00	25.00	41.00	**34.0**	**8.4(8.0)**	4.4(6.0)	12.8(10)	**10.00**	3.00	15.00	**3**	MWH-C	***Essentially None***	***High***
[OH11 8.2] - HOOVER DITCH Upper RM: 1.23 / Lower RM: 0.00													
48.00	48.00	48.00	**48.0**	**11.6(8.0)**	11.6(8.0)	11.6(8.0)	**1.50**	1.50	1.50	**1**	LRW	***Essentially None***	***High***
[OH11 8.3] - ZIMBER DITCH Upper RM: 4.46 / Lower RM: 0.00													
47.31	33.00	56.00	**47.3**	**13.2(8.5)**	10.1(8.0)	17.5(10)	**6.38**	4.00	9.00	**8**	WWH; MWH-C	***Essentially None***	***High***
[OH11 10] - MIDDLE BRANCH NIMISHILLEN CREEK Upper RM: 16.60 / Lower RM: 0.00													
54.67	37.50	71.00	**54.7**	**4.4(6.0)**	3.5(6.0)	7.9(6.0)	**31.50**	9.00	46.00	**6**	WWH	***Moderate-High***	***High***
[OH11 10.1] - SWARTZ DITCH Upper RM: 8.10 / Lower RM: 0.00													
35.17	31.00	43.50	**35.2**	**3.0(4.0)**	3.0(4.0)	3.0(4.0)	**8.67**	5.50	13.00	**3**	MWH-C	***Essentially None***	***High***
[OH11 10.2] - GUILEY DITCH (HARTVILLE) Upper RM: 4.00 / Lower RM: 0.00													
34.33	27.00	44.00	**34.3**	**9.6(7.3)**	5.5(6.0)	17.9(10)	**1.87**	0.50	4.00	**3**	MWH-C	***Essentially None***	***High***
[OH11 11] - EAST BRANCH NIMISHILLEN CREEK Upper RM: 10.40 / Lower RM: 0.00													
66.83	51.00	81.50	**66.8**	**8.5(10)**	7.2(10)	12.2(10)	**29.43**	12.00	47.00	**18**	WWH	***High***	***High***
[OH11 11.3] - TRIB. TO EAST BRANCH NIMISHILLEN CREEK Upper RM: 3.98 / Lower RM: 0.00													
44.00	39.00	49.00	**44.0**	**16.2(8.0)**	8.6(6.0)	23.8(10)	**3.00**	2.50	3.50	**2**	NONE	***Low***	***Mod.***
[OH11 16] - SANDY CREEK (STILL FORK TO LITTLE SANDY CREEK) Upper RM: 29.10 / Lower RM: 17.40													
80.75	78.50	83.00	**73.3**	**8.3(10)**	7.6(10)	9.1(10)	**148.50**	135.00	162.00	**2**	WWH	***Very High Quality***	***Mod.***
[OH11 21] - STILL FORK SANDY CREEK Upper RM: 16.10 / Lower RM: 0.00													
39.50	29.50	49.00	**39.5**	**0.5(2.7)**	0.1(2.0)	1.4(4.0)	**63.67**	50.00	71.00	**3**	WWH	***Very Low***	***Mod.-High***
[OH11 28] - SANDY CREEK (HEADWATERS TO STILL FORK) Upper RM: 34.00 / Lower RM: 29.07													
71.33	66.50	77.00	**73.3**	**8.1(10)**	6.9(10)	9.1(10)	**54.53**	38.60	63.00	**3**	WWH	***High***	***High***
CONOTTON CREEK - [Watershed QHEI: 59.2, N = 3]													
[OH12 1] - CONOTTON CREEK (INDIAN FORK TO TUSCARAWAS RIVER) Upper RM: 12.00 / Lower RM: 0.00													
43.00	43.00	43.00	**53.8**	**1.3(6.0)**	1.3(6.0)	1.3(6.0)	**286.00**	286.00	286.00	**1**	WWH	***Very Low***	***Low-Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH12 19] - CONOTTON CREEK (HEADWATERS TO MCQUIRE CREEK) Upper RM: 43.83 / Lower RM: 20.58													
64.50	64.50	64.50	**53.8**	**3.0(6.0)**	3.0(6.0)	3.0(6.0)	**90.00**	90.00	90.00	**1**	WWH	***High***	***Low-Mod.***
[OH12 23] - IRISH CREEK Upper RM: 7.60 / Lower RM: 0.00													
70.00	70.00	70.00	**70.0**	**10.5(10)**	10.5(10)	10.5(10)	**15.00**	15.00	15.00	**1**	WWH	***High***	***Low***
SUGAR CREEK - [Watershed QHEI: 54.6, N = 20]													
[OH13 1] - SUGAR CREEK (S. FK. SUGAR CR. TO TUSCARAWAS R.) Upper RM: 12.30 / Lower RM: 0.00													
72.00	59.50	78.50	**68.4**	**6.3(10)**	6.0(10)	6.5(10)	**345.50**	337.00	356.00	**6**	WWH	***High***	***High***
[OH13 1.1] - GOETTGE RUN Upper RM: 5.14 / Lower RM: 0.00													
44.00	37.50	50.50	**44.0**	**18.0(9.0)**	14.3(8.0)	21.7(10)	**4.30**	4.00	4.60	**2**	NONE	***Low***	***Mod.***
[OH13 2] - BRANDYWINE CREEK Upper RM: 3.50 / Lower RM: 0.00													
47.00	47.00	47.00	**47.0**	**9.8(6.0)**	9.8(6.0)	9.8(6.0)	**5.50**	5.50	5.50	**1**	WWH	***Moderate***	***Low***
[OH13 9.3] - TRIB. TO S. FK. SUGAR CREEK (RM 14.15) Upper RM: 3.30 / Lower RM: 0.00													
27.50	26.00	29.00	**27.5**	**15.6(10)**	15.6(10)	15.6(10)	**2.75**	2.30	3.20	**2**	NONE	***Essentially None***	***Mod.***
[OH13 17] - MIDDLE FORK SUGAR CREEK Upper RM: 23.00 / Lower RM: 0.00													
59.00	59.00	59.00	**59.0**	**4.6(6.0)**	4.6(6.0)	4.6(6.0)	**63.00**	63.00	63.00	**1**	WWH	***Moderate-High***	***Low***
[OH13 20] - SUGAR CREEK (HEADWATERS TO M. FK. SUGAR CREEK) Upper RM: 45.00 / Lower RM: 19.40													
47.00	47.00	47.00	**68.4**	**2.3(4.0)**	2.3(4.0)	2.3(4.0)	**88.00**	88.00	88.00	**1**	WWH	***Moderate-High***	***Low-Mod.***
[OH13 21] - NORTH FORK SUGAR CREEK Upper RM: 6.80 / Lower RM: 0.00													
48.08	33.00	60.50	**48.1**	**36.0(7.3)**	19.1(4.0)	54.1(10)	**5.08**	3.40	8.20	**6**	WWH	***Moderate***	***High***
[OH13 22] - LITTLE SUGAR CREEK Upper RM: 10.60 / Lower RM: 0.00													
74.50	74.50	74.50	**74.5**	**10.3(8.0)**	10.3(8.0)	10.3(8.0)	**9.00**	9.00	9.00	**1**	WWH	***High***	***Low***
STILLWATER CREEK - [Watershed QHEI: 45.4, N = 19]													
[OH14 1] - STILLWATER CREEK (BRUSHY CREEK TO TUSCARAWAS R.) Upper RM: 25.80 / Lower RM: 0.00													
44.00	44.00	44.00	**45.4**	**1.5(6.0)**	1.5(6.0)	1.5(6.0)	**483.00**	483.00	483.00	**1**	WWH	***Very Low***	***Low-Mod.***
[OH14 28] - STILLWATER CREEK (BOGGS FORK TO BRUSHY FORK) Upper RM: 38.30 / Lower RM: 25.80													
45.75	38.50	53.00	**45.4**	**2.3(8.0)**	2.3(8.0)	2.3(8.0)	**172.00**	130.00	192.00	**4**	LWH	***Moderate-High***	***Mod.-High***
[OH14 29] - ATKINSON CREEK Upper RM: 6.30 / Lower RM: 0.00													
61.50	50.00	73.00	**61.5**	**6.5(10)**	6.5(10)	6.5(10)	**12.35**	12.30	12.40	**2**	WWH	***High***	***Mod.***
[OH14 30] - CRABORCHARD CREEK Upper RM: 6.70 / Lower RM: 0.00													
44.00	20.50	63.50	**44.0**	**9.4(9.6)**	8.4(6.0)	9.5(10)	**9.95**	6.30	11.50	**10**	WWH	***Low***	***High***
[OH14 31] - SKULL FORK Upper RM: 17.50 / Lower RM: 0.00													
36.00	29.50	42.50	**36.0**	**7.4(8.0)**	7.4(6.0)	7.4(10)	**10.85**	7.30	14.40	**2**	LWH	***Low***	***Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
LOWER TUSCARAWAS RIVER - [Watershed QHEI: 74.5, N = 32]													
[OH15 1] - TUSCARAWAS RIVER (EVANS CREEK TO WALHONDING RIVER) Upper RM: 14.80 / Lower RM: 0.00													
77.71	69.50	89.00	**63.8**	**2.1(10)**	1.7(10)	2.6(10)	**2589.86**	999.00	2596.00	**7**	EWH	***Very High Quality***	***High***
[OH15 3] - WHITE EYES CREEK Upper RM: 10.00 / Lower RM: 0.00													
51.50	51.50	51.50	**51.5**	**2.3(4.0)**	2.3(4.0)	2.3(4.0)	**53.00**	53.00	53.00	**1**	WWH	***Moderate-High***	***Low***
[OH15 10] - TUSCARAWAS RIVER (DUNLOP CREEK TO EVANS CREEK) Upper RM: 25.30 / Lower RM: 14.80													
87.67	83.50	91.00	**63.8**	**2.0(10)**	1.7(10)	2.2(10)	**2454.00**	999.00	2473.00	**3**	EWH	***Extremely High***	***High***
[OH15 19] - TUSCARAWAS RIVER (STILLWATER CREEK TO DUNLOP CR.) Upper RM: 47.00 / Lower RM: 25.30													
77.00	54.00	93.50	**63.8**	**1.8(10)**	1.7(10)	2.0(10)	**2375.20**	999.00	2388.00	**5**	EWH	***Very High***	***High***
[OH15 24] - TUSCARAWAS RIVER (SUGAR CREEK TO STILLWATER CREEK) Upper RM: 58.07 / Lower RM: 47.05													
73.14	64.00	83.00	**63.8**	**2.5(10)**	2.4(10)	2.8(10)	**1809.43**	999.00	1870.00	**7**	WWH	***High***	***High***
[OH15 31] - TUSCARAWAS RIVER (CONOTTON CREEK TO SUGAR CREEK) Upper RM: 65.50 / Lower RM: 58.10													
62.20	45.00	85.00	**63.8**	**0.8(8.4)**	0.1(6.0)	1.2(10)	**1406.60**	999.00	1411.00	**5**	WWH	***Moderate - High***	***High***
[OH15 32] - TUSCARAWAS RIVER (SANDY CREEK TO CONOTTON CREEK) Upper RM: 73.10 / Lower RM: 65.50													
79.00	68.00	90.00	**63.8**	**1.2(10)**	1.2(10)	1.2(10)	**1098.00**	999.00	1103.00	**4**	WWH	***Extremely High***	***High***
BLACK FORK, CLEAR FORK, ROCKY FORK MOHICAN R. - [Watershed QHEI: 59.5, N = 36]													
[OH16 15] - CLEAR FORK MOHICAN R. (HEADWATERS TO CEDAR FORK) Upper RM: 36.80 / Lower RM: 21.40													
68.50	68.50	68.50	**68.5**	**35.7(8.0)**	35.7(8.0)	35.7(8.0)	**6.80**	6.80	6.80	**1**	WWH; CWH	***High***	***Low***
[OH16 16] - BLACK FORK MOHICAN R. (ROCKY FORK TO CLEAR FORK) Upper RM: 14.00 / Lower RM: 0.00													
74.17	58.00	87.00	**59.2**	**3.5(8.0)**	2.8(8.0)	3.9(8.0)	**345.67**	332.00	356.00	**3**	WWH	***High***	***High***
[OH16 19] - ROCKY FORK MOHICAN RIVER Upper RM: 19.60 / Lower RM: 0.00													
61.61	38.00	82.50	**61.6**	**9.3(8.0)**	5.2(6.0)	19.8(10)	**32.72**	7.40	76.00	**9**	WWH	***High***	***High***
[OH16 20] - TOUBY RUN Upper RM: 5.30 / Lower RM: 0.00													
48.00	48.00	48.00	**48.0**	**12.2(10)**	12.2(10)	12.2(10)	**10.00**	10.00	10.00	**1**	WWH	***Moderate***	***Low***
[OH16 23] - BLACK FK MOHICAN R(LEATHERWOOD CR TO WHETSTONE CR) Upper RM: 44.90 / Lower RM: 31.00													
53.00	53.00	53.00	**59.2**	**2.5(4.0)**	2.5(4.0)	2.5(4.0)	**83.00**	83.00	83.00	**1**	WWH	***Moderate-High***	***Low-Mod.***
[OH16 23.1] - FLEMING FALLS CREEK Upper RM: 4.50 / Lower RM: 0.00													
63.67	54.00	76.00	**63.7**	**49.4(5.7)**	12.8(4.0)	83.3(10)	**1.82**	0.40	3.50	**6**	WWH	***High***	***High***
[OH16 23.11] - TRIB TO FLEMING FALLS CREEK Upper RM: 1.50 / Lower RM: 0.00													
62.17	57.50	65.00	**62.2**	**100.7(4.0**	90.9(4.0)	111.1(4.0	**0.73**	0.70	0.80	**3**	WWH	***High***	***Mod.-High***
[OH16 28] - BLACK FK MOHICAN R.(HEADWATERS TO LEATHERWOOD CR.) Upper RM: 58.40 / Lower RM: 44.85													
54.83	37.50	86.00	**59.2**	**7.0(8.0)**	3.9(6.0)	11.0(10)	**47.44**	35.00	69.00	**9**	WWH	***Moderate-High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH16 28.1] - TUBY RUN Upper RM: 4.40 / Lower RM: 0.00													
44.83	41.00	48.00	**44.8**	**10.8(8.0)**	10.8(8.0)	10.8(8.0)	**2.87**	2.80	2.90	**3**	WWH	***Low***	***Mod.-High***
LAKE FORK, JEROME FORK, MUDDY FORK MOHICAN R. - [Watershed QHEI: 63.5, N = 15]													
[OH17 10] - MUDDY FORK MOHICAN RIVER Upper RM: 28.90 / Lower RM: 0.00													
58.75	51.00	66.50	**58.8**	**6.7(8.0)**	4.7(6.0)	8.6(10)	**31.00**	20.00	42.00	**2**	WWH	***Moderate-High***	***Low-Mod.***
[OH17 14] - JEROME FORK MOHICAN R. (LANG CREEK TO LAKE FORK) Upper RM: 12.28 / Lower RM: 0.00													
62.00	50.00	70.00	**62.0**	**3.5(6.5)**	1.9(4.0)	5.1(8.0)	**91.00**	73.00	120.00	**4**	WWH	***High***	***High***
[OH17 21] - LANG CREEK Upper RM: 9.30 / Lower RM: 0.00													
71.17	70.50	72.00	**71.2**	**7.5(10)**	7.5(10)	7.5(10)	**20.00**	14.00	32.00	**3**	WWH	***High***	***Mod.-High***
[OH17 22] - JAMISON CREEK Upper RM: 5.40 / Lower RM: 0.00													
71.25	68.00	74.50	**71.3**	**19.8(10)**	11.1(10)	28.6(10)	**9.50**	6.00	13.00	**2**	WWH	***High***	***Mod.***
[OH17 22.1] - TRIB. TO JAMISON CREEK Upper RM: 1.20 / Lower RM: 0.00													
48.00	48.00	48.00	**48.0**	**45.5(4.0)**	45.5(4.0)	45.5(4.0)	**0.30**	0.30	0.30	**1**	LRW	***Essentially None***	***High***
[OH17 23] - TOWN RUN Upper RM: 5.60 / Lower RM: 0.00													
59.00	59.00	59.00	**59.0**	**33.3(8.0)**	33.3(8.0)	33.3(8.0)	**6.00**	6.00	6.00	**1**	WWH	***Moderate-High***	***Low***
[OH17 24] - JEROME FORK (LEIDIGH MILL/ORANGE CR. TO LANG CR.) Upper RM: 14.80 / Lower RM: 12.30													
62.00	62.00	62.00	**62.0**	**4.2(6.0)**	4.2(6.0)	4.2(6.0)	**38.00**	38.00	38.00	**2**	WWH	***High***	***Mod.***
KOKOSING RIVER - [Watershed QHEI: 78.4, N = 25]													
[OH18 1] - KOKOSING RIVER (JELLOWAY CREEK TO MOHICAN RIVER) Upper RM: 11.40 / Lower RM: 0.00													
91.00	87.00	93.50	**80.0**	**5.2(10)**	4.4(10)	6.3(10)	**470.33**	455.00	483.00	**3**	EWH	***Extremely High***	***High***
[OH18 5] - JELLOWAY CREEK Upper RM: 13.30 / Lower RM: 0.00													
68.75	59.00	78.50	**68.8**	**10.8(10)**	10.0(10)	11.6(10)	**44.25**	37.50	51.00	**2**	EWH	***High***	***Low-Mod.***
[OH18 6] - LITTLE JELLOWAY CREEK Upper RM: 10.50 / Lower RM: 0.00													
82.50	82.50	82.50	**82.5**	**22.2(8.0)**	22.2(8.0)	22.2(8.0)	**17.50**	17.50	17.50	**1**	EWH	***Very High Quality***	***Low***
[OH18 7] - EAST BRANCH JELLOWAY CREEK Upper RM: 4.60 / Lower RM: 0.00													
75.00	75.00	75.00	**75.0**	**14.8(8.0)**	14.8(8.0)	14.8(8.0)	**4.80**	4.80	4.80	**1**	EWH	***Very High Quality***	***Low***
[OH18 12] - KOKOSING RIVER (WOLF RUN TO JELLOWAY CREEK) Upper RM: 21.40 / Lower RM: 11.40													
84.50	76.00	97.50	**80.0**	**4.7(9.3)**	2.7(8.0)	6.3(10)	**319.67**	264.00	379.00	**3**	EWH	***Extremely High***	***High***
[OH18 14] - SCHENCK CREEK Upper RM: 12.10 / Lower RM: 0.00													
86.00	86.00	86.00	**86.0**	**16.7(10)**	16.7(10)	16.7(10)	**39.30**	39.30	39.30	**1**	EWH	***Very High Quality***	***Low***
[OH18 22] - KOKOSING RIVER (N. BR. KOKOSING R. TO WOLF RUN) Upper RM: 29.70 / Lower RM: 21.40													
84.75	78.00	91.50	**80.0**	**4.4(9.5)**	3.1(8.0)	5.2(10)	**242.50**	202.00	260.00	**4**	EWH	***Extremely High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH18 27] - NORTH BRANCH KOKOSING RIVER Upper RM: 18.30 / Lower RM: 0.00													
74.63	57.00	87.50	**74.6**	**5.1(7.0)**	3.7(6.0)	5.6(8.0)	**71.25**	29.00	87.00	**4**	WWH	***High***	***Mod.-High***
[OH18 34] - KOKOSING RIVER (HEADWATERS TO N. BR. KOKOSING R.) Upper RM: 57.20 / Lower RM: 29.70													
69.08	36.50	87.50	**80.0**	**5.5(7.3)**	2.8(6.0)	10.3(10)	**51.98**	14.50	100.00	**6**	EWH	***High***	***High***
KILLBUCK CREEK - [Watershed QHEI: 61.6, N = 53]													
[OH19 2] - BUCKLEW RUN Upper RM: 3.90 / Lower RM: 0.00													
50.50	50.50	50.50	**50.5**	**12.4(8.0)**	12.4(8.0)	12.4(8.0)	**8.10**	8.10	8.10	**1**	EWH	***Moderate***	***Low***
[OH19 4] - DOUGHTY CREEK Upper RM: 20.10 / Lower RM: 0.00													
66.50	53.50	81.50	**66.5**	**14.1(7.4)**	3.1(6.0)	18.9(8.0)	**28.57**	14.00	59.00	**7**	WWH	***High***	***High***
[OH19 4.1] - TRIB. TO DOUGHTY CREEK (RM 14.34) Upper RM: 2.60 / Lower RM: 0.00													
51.00	51.00	51.00	**51.0**	**28.6(10)**	28.6(10)	28.6(10)	**3.40**	3.40	3.40	**1**	WWH	***Moderate-High***	***Low***
[OH19 8] - KILLBUCK CREEK (BLACK CREEK TO DOUGHTY CREEK) Upper RM: 25.20 / Lower RM: 15.70													
39.25	36.50	42.00	**58.2**	**1.2(6.0)**	1.2(6.0)	1.2(6.0)	**463.00**	463.00	463.00	**2**	WWH	***Very Low***	***Mod.***
[OH19 9] - BIG RUN Upper RM: 6.40 / Lower RM: 0.00													
52.00	52.00	52.00	**52.0**	**12.6(10)**	12.6(10)	12.6(10)	**11.80**	11.80	11.80	**1**	EWH	***Moderate-High***	***Low***
[OH19 12] - WOLF CREEK Upper RM: 9.00 / Lower RM: 0.00													
67.00	67.00	67.00	**67.0**	**9.8(10)**	9.8(10)	9.8(10)	**23.80**	23.80	23.80	**1**	WWH	***High***	***Low***
[OH19 23] - KILLBUCK CREEK (SALT CREEK TO SAPPS RUN) Upper RM: 37.60 / Lower RM: 31.30													
75.17	73.00	77.50	**58.2**	**2.8(8.0)**	2.8(8.0)	2.8(8.0)	**367.00**	367.00	367.00	**3**	WWH	***Very High Quality***	***High***
[OH19 26] - MARTINS CREEK Upper RM: 8.30 / Lower RM: 0.00													
63.00	63.00	63.00	**63.0**	**18.3(8.0)**	18.3(8.0)	18.3(8.0)	**23.80**	23.80	23.80	**1**	WWH	***High***	***Low***
[OH19 27] - PAINT CREEK Upper RM: 9.00 / Lower RM: 0.00													
84.00	84.00	84.00	**84.0**	**16.8(10)**	16.8(10)	16.8(10)	**18.10**	18.10	18.10	**1**	EWH	***Very High Quality***	***Low***
[OH19 29] - SALT CREEK Upper RM: 11.60 / Lower RM: 0.00													
60.50	60.50	60.50	**60.5**	**29.9(8.0)**	29.9(8.0)	29.9(8.0)	**18.00**	18.00	18.00	**1**	WWH	***High***	***Low***
[OH19 30] - NORTH BRANCH SALT CREEK Upper RM: 4.70 / Lower RM: 0.00													
69.00	69.00	69.00	**69.0**	**31.8(6.0)**	31.8(6.0)	31.8(6.0)	**11.30**	11.30	11.30	**1**	WWH	***High***	***Low***
[OH19 31] - KILLBUCK CREEK (APPLE CREEK TO SALT CREEK) Upper RM: 49.80 / Lower RM: 37.60													
52.45	35.50	64.00	**58.2**	**1.7(6.4)**	1.5(6.0)	2.7(8.0)	**217.18**	190.00	255.00	**11**	WWH	***Low - Moderate***	***High***
[OH19 35] - SHREVE CREEK Upper RM: 7.50 / Lower RM: 0.00													
54.00	45.50	62.50	**54.0**	**10.1(6.0)**	0.1(2.0)	20.0(10)	**10.15**	7.00	13.30	**2**	WWH	***Moderate-High***	***Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH19 36] - APPLE CREEK Upper RM: 11.70 / Lower RM: 0.00													
72.25	61.00	77.00	**72.3**	**14.9(8.5)**	8.4(8.0)	19.2(10)	**37.75**	24.00	55.20	**4**	WWH	***High***	***Mod.-High***
[OH19 38] - KILLBUCK CREEK (SHADE CREEK TO APPLE CREEK) Upper RM: 60.60 / Lower RM: 49.80													
66.00	51.00	77.00	**58.2**	**7.3(9.1)**	2.7(8.0)	10.8(10)	**97.57**	64.00	137.00	**7**	WWH	***High***	***High***
[OH19 40] - LITTLE KILLBUCK CREEK Upper RM: 9.00 / Lower RM: 0.00													
63.67	56.00	69.50	**63.7**	**25.0(8.0)**	19.6(8.0)	35.7(8.0)	**15.63**	6.30	20.60	**3**	WWH	***High***	***Mod.-High***
[OH19 43] - SHADE CREEK Upper RM: 3.40 / Lower RM: 0.00													
47.50	47.50	47.50	**47.5**	**45.5(4.0)**	45.5(4.0)	45.5(4.0)	**4.20**	4.20	4.20	**1**	WWH	***Moderate***	***Low***
[OH19 44] - KILLBUCK CREEK (HEADWATERS TO SHADE CREEK) Upper RM: 81.70 / Lower RM: 60.61													
56.00	50.50	61.50	**58.2**	**10.1(10)**	9.1(10)	11.1(10)	**25.50**	14.50	36.50	**2**	WWH	***Moderate-High***	***Mod.***
[OH19 47] - CAMEL CREEK Upper RM: 7.60 / Lower RM: 0.00													
71.17	68.00	73.00	**71.2**	**16.3(8.7)**	8.2(8.0)	20.4(10)	**10.43**	9.50	12.30	**3**	WWH	***High***	***Mod.-High***
UPPER MUSKINGUM RIVER AND WAKATOMIKA CREEK - [Watershed QHEI: 75.0, N = 51]													
[OH20 1] - MUSKINGUM RIVER (WILLS CREEK TO SYMMES CREEK) Upper RM: 99.30 / Lower RM: 87.10													
71.50	62.00	83.00	**67.0**	**1.7(10)**	1.4(10)	2.0(10)	**5867.50**	999.00	5993.00	**4**	WWH	***Moderate - High***	***High***
[OH20 2] - WAKATOMIKA CREEK (BRUSHY FORK TO MUSKINGUM RIVER) Upper RM: 19.70 / Lower RM: 0.00													
72.67	59.00	92.00	**74.4**	**3.3(8.4)**	2.9(8.0)	4.2(10)	**176.78**	140.00	231.00	**9**	EWH	***High***	***High***
[OH20 5] - MOSCOW BROOK Upper RM: 6.30 / Lower RM: 0.00													
60.00	60.00	60.00	**60.0**	**18.7(10)**	18.7(10)	18.7(10)	**6.80**	6.80	6.80	**1**	WWH	***High***	***Low***
[OH20 11] - FIVEMILE RUN Upper RM: 6.10 / Lower RM: 0.00													
75.00	75.00	75.00	**75.0**	**15.2(10)**	15.2(10)	15.2(10)	**10.10**	10.10	10.10	**1**	EWH	***Very High Quality***	***Low***
[OH20 13] - WAKATOMIKA CREEK (HEADWATERS TO BRUSHY FORK) Upper RM: 42.60 / Lower RM: 19.70													
82.00	82.00	82.00	**74.4**	**11.0(10)**	11.0(10)	11.0(10)	**19.70**	19.70	19.70	**2**	EWH	***Very High Quality***	***Mod.-High***
[OH20 14] - BRUSHY FORK Upper RM: 8.30 / Lower RM: 0.00													
56.00	56.00	56.00	**56.0**	**7.1(10)**	7.1(10)	7.1(10)	**13.10**	13.10	13.10	**1**	EWH	***Moderate-High***	***Low***
[OH20 16] - WINDING FORK Upper RM: 8.00 / Lower RM: 0.00													
74.50	74.50	74.50	**74.5**	**9.9(10)**	9.9(10)	9.9(10)	**19.10**	19.10	19.10	**1**	EWH	***High***	***Low***
[OH20 22] - MUSKINGUM RIVER (TUSC./WALHOND. R. TO WILLS CREEK) Upper RM: 111.13 / Lower RM: 99.30													
74.85	60.00	90.50	**67.0**	**1.8(10)**	1.7(10)	2.0(10)	**4869.54**	999.00	4883.00	**13**	WWH	***Moderate - High***	***High***
[OH20 24] - WALHONDING RIVER (KILLBUCK CREEK TO TUSCARAWAS R.) Upper RM: 7.30 / Lower RM: 0.00													
90.75	83.00	98.00	**87.5**	**4.3(10)**	4.3(10)	4.3(10)	**2234.00**	999.00	2255.00	**6**	EWH	***Extremely High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH20 25] - MILL CREEK Upper RM: 18.00 / Lower RM: 0.00													
58.75	56.50	61.00	**58.8**	**6.1(9.0)**	5.1(8.0)	7.1(10)	**34.75**	18.50	51.00	**2**	EWH	***Moderate-High***	***Low-Mod.***
[OH20 26] - SPOON CREEK Upper RM: 5.90 / Lower RM: 0.00													
50.00	50.00	50.00	**50.0**	**14.1(8.0)**	14.1(8.0)	14.1(8.0)	**8.00**	8.00	8.00	**1**	WWH	***Moderate-High***	***Low***
[OH20 27] - TURKEY RUN Upper RM: 4.10 / Lower RM: 0.00													
65.00	65.00	65.00	**65.0**	**29.4(10)**	29.4(10)	29.4(10)	**5.50**	5.50	5.50	**1**	EWH	***High***	***Low***
[OH20 28] - LITTLE MILL CREEK Upper RM: 6.20 / Lower RM: 0.00													
61.00	61.00	61.00	**61.0**	**15.2(10)**	15.2(10)	15.2(10)	**8.60**	8.60	8.60	**1**	EWH	***High***	***Low***
[OH20 31] - WALHONDING R. (MOHICAN/KOKOSING R. TO KILLBUCK CR) Upper RM: 23.20 / Lower RM: 7.30													
84.33	71.50	92.50	**87.5**	**4.5(10)**	3.3(10)	5.7(10)	**1540.50**	999.00	1576.00	**6**	EWH	***Extremely High***	***High***
[OH20 34] - BEAVER RUN Upper RM: 8.10 / Lower RM: 0.00													
68.25	57.50	79.00	**57.5**	**19.9(9.0)**	14.7(8.0)	25.0(10)	**4.55**	3.90	5.20	**2**	EWH	***High***	
WILLS CREEK - [Watershed QHEI: 46.9, N = 71]													
[OH21 1] - WILLS CREEK (WHITE EYES CREEK TO MUSKINGUM RIVER) Upper RM: 15.10 / Lower RM: 0.00													
68.50	66.00	71.00	**44.5**	**1.5(10)**	1.5(10)	1.5(10)	**853.00**	853.00	853.00	**2**	WWH	***Moderate - High***	***Mod.***
[OH21 6] - WILLS CREEK (BIRDS RUN TO WHITE EYES CREEK) Upper RM: 31.40 / Lower RM: 15.10													
36.25	35.50	37.00	**44.5**	**0.3(6.0)**	0.3(6.0)	0.3(6.0)	**738.00**	738.00	738.00	**2**	WWH	***Very Low***	***Mod.***
[OH21 14] - WILLS CREEK (SALT FORK TO BIRDS RUN) Upper RM: 50.20 / Lower RM: 31.40													
37.75	33.00	42.00	**44.5**	**0.3(5.0)**	0.3(4.0)	0.3(6.0)	**612.50**	554.00	671.00	**4**	WWH	***Very Low***	***High***
[OH21 19] - SALT FORK Upper RM: 32.00 / Lower RM: 0.00													
40.50	40.50	40.50	**40.5**	**2.7(6.0)**	2.7(6.0)	2.7(6.0)	**47.00**	47.00	47.00	**1**	WWH	***Low***	***Low***
[OH21 20] - SUGARTREE FORK Upper RM: 15.00 / Lower RM: 0.00													
63.79	41.50	78.50	**63.8**	**13.2(10)**	6.0(10)	20.0(10)	**12.19**	5.00	19.80	**7**	WWH	***High***	***High***
[OH21 21] - ROCKY FORK Upper RM: 9.20 / Lower RM: 0.00													
44.00	44.00	44.00	**44.0**	**5.5(6.0)**	5.5(6.0)	5.5(6.0)	**14.40**	14.40	14.40	**1**	WWH	***Very Low***	***Low***
[OH21 22] - YELLOW WATER CREEK Upper RM: 3.40 / Lower RM: 0.00													
59.50	59.50	59.50	**59.5**	**17.5(10)**	17.5(10)	17.5(10)	**4.90**	4.90	4.90	**1**	WWH	***Moderate***	***Low***
[OH21 23] - CLEAR FORK Upper RM: 7.20 / Lower RM: 0.00													
47.00	47.00	47.00	**47.0**	**7.3(10)**	7.3(10)	7.3(10)	**13.30**	13.30	13.30	**1**	WWH	***Moderate***	***Low***
[OH21 24] - TURKEY RUN Upper RM: 2.30 / Lower RM: 0.00													
56.75	21.50	76.00	**56.8**	**29.9(9.0)**	27.0(8.0)	32.8(10)	**2.45**	2.20	2.90	**4**	WWH	***Moderate***	***Mod.-High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH21 25] - BEEHAM RUN Upper RM: 3.00 / Lower RM: 0.00													
48.00	48.00	48.00	**48.0**	**35.1(8.0)**	35.1(8.0)	35.1(8.0)	**2.10**	2.10	2.10	**1**	WWH	***Moderate***	***Low***
[OH21 26] - BRUSHY FORK Upper RM: 7.50 / Lower RM: 0.00													
36.00	36.00	36.00	**36.0**	**6.7(10)**	6.7(10)	6.7(10)	**32.80**	32.80	32.80	**1**	WWH	***Low***	***Low***
[OH21 27] - CHRISTIAN CREEK Upper RM: 1.90 / Lower RM: 0.00													
25.00	25.00	25.00	**25.0**	**16.0(10)**	16.0(10)	16.0(10)	**1.40**	1.40	1.40	**1**	WWH	***Essentially None***	***Low***
[OH21 28] - COON RUN Upper RM: 1.90 / Lower RM: 0.00													
39.00	39.00	39.00	**39.0**	**23.8(10)**	23.8(10)	23.8(10)	**1.80**	1.80	1.80	**1**	WWH	***Low***	***Low***
[OH21 29] - WILLS CREEK (LEATHERWOOD CREEK TO SALT FORK) Upper RM: 65.00 / Lower RM: 50.20													
48.73	36.50	61.00	**44.5**	**0.3(4.0)**	0.3(4.0)	0.3(4.0)	**440.08**	407.00	486.00	**13**	WWH	***Low - Moderate***	***High***
[OH21 38] - LEATHERWOOD CREEK Upper RM: 28.60 / Lower RM: 0.00													
45.90	34.00	59.00	**45.9**	**3.6(5.2)**	0.3(2.0)	8.7(10)	**47.40**	15.00	91.00	**5**	WWH	***Moderate-High***	***High***
[OH21 43] - WILLS CREEK (BUFFALO FORK TO LEATHERWOOD CREEK) Upper RM: 81.47 / Lower RM: 64.98													
38.70	32.00	52.00	**44.5**	**0.3(4.0)**	0.3(4.0)	0.3(4.0)	**297.00**	281.00	314.00	**10**	WWH	***Very Low***	***High***
[OH21 44] - CHAPMAN RUN Upper RM: 6.90 / Lower RM: 0.00													
42.90	16.50	67.00	**42.9**	**3.3(4.4)**	0.1(2.0)	10.5(8.0)	**14.30**	6.80	19.30	**5**	WWH	***Very Low***	***High***
[OH21 61] - BUFFALO FORK Upper RM: 8.80 / Lower RM: 0.00													
43.83	39.00	48.00	**43.8**	**3.0(5.3)**	1.9(4.0)	3.6(6.0)	**52.97**	32.00	69.40	**3**	WWH	***Low***	***Mod.-High***
[OH21 61.1] - TRIB. TO BUFFALO FORK (CUMBERLAND) Upper RM: 2.55 / Lower RM: 0.00													
23.50	23.50	23.50	**23.5**	**22.2(10)**	22.2(10)	22.2(10)	**0.80**	0.80	0.80	**1**	LRW	***Essentially None***	***High***
[OH21 62] - CRANE RUN Upper RM: 2.40 / Lower RM: 0.00													
48.00	48.00	48.00	**48.0**	**8.3(6.0)**	8.3(6.0)	8.3(6.0)	**3.10**	3.10	3.10	**1**	WWH	***Moderate***	***Low***
[OH21 63] - YOKER CREEK Upper RM: 7.50 / Lower RM: 0.00													
57.75	43.50	72.00	**57.8**	**5.0(7.0)**	2.9(4.0)	7.1(10)	**17.20**	11.60	22.80	**2**	WWH	***Moderate***	***Mod.***
[OH21 69] - COLLINS FORK Upper RM: 5.30 / Lower RM: 0.00													
45.00	45.00	45.00	**45.0**	**20.8(10)**	20.8(10)	20.8(10)	**6.00**	6.00	6.00	**1**	WWH	***Low***	***Low***
[OH21 70] - MILLER CREEK Upper RM: 4.50 / Lower RM: 0.00													
45.00	45.00	45.00	**45.0**	**8.3(10)**	8.3(10)	8.3(10)	**11.60**	11.60	11.60	**1**	WWH	***Low***	***Low***
[OH21 72] - RANNELLS CREEK Upper RM: 3.10 / Lower RM: 0.00													
45.50	45.50	45.50	**45.5**	**9.1(6.0)**	9.1(6.0)	9.1(6.0)	**5.60**	5.60	5.60	**1**	WWH	***Moderate***	***Low***
[OH21 73] - BUFFALO CREEK Upper RM: 15.70 / Lower RM: 0.00													
35.00	35.00	35.00	**35.0**	**2.0(4.0)**	2.0(4.0)	2.0(4.0)	**49.00**	49.00	49.00	**1**	LWH	***Very Low***	***Low***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
LICKING RIVER - [Watershed QHEI: 69.2, N = 67]													
[OH22 1] - LICKING RIVER (DILLON RES. TO MUSKINGUM RIVER) Upper RM: 6.20 / Lower RM: 0.00													
78.67	72.50	85.00	**73.7**	**7.3(9.7)**	6.9(8.0)	9.4(10)	**756.00**	742.00	779.00	**6**	WWH	***Very High Quality***	***High***
[OH22 2] - TIMBER RUN Upper RM: 7.10 / Lower RM: 0.00													
58.50	58.50	58.50	**58.5**	**17.2(10)**	17.2(10)	17.2(10)	**12.00**	12.00	12.00	**1**	WWH	***Moderate-High***	***Low***
[OH22 2.1] - TRIB. TO TIMBER RUN (RM 5.02) Upper RM: 0.83 / Lower RM: 0.00													
56.00	56.00	56.00	**56.0**	**196.4(4.0**	142.9(4.0	250.0(4.0	**0.20**	0.20	0.20	**2**	NONE	***Moderate***	***Mod.***
[OH22 4.1] - TRIB. TO BARTLETT RUN (RM 2.76) Upper RM: 0.85 / Lower RM: 0.00													
56.25	52.50	60.00	**56.3**	**191.7(4.0**	133.3(4.0	250.0(4.0	**0.20**	0.20	0.20	**2**	NONE	***Moderate-High***	***Mod.***
[OH22 5] - LICKING RIVER (ROCKY FORK TO DILLON RESERVOIR) Upper RM: 21.70 / Lower RM: 6.20													
62.75	50.00	75.50	**73.7**	**1.9(8.0)**	0.1(6.0)	3.7(10)	**683.00**	674.00	692.00	**2**	WWH; LAKE	***Moderate - High***	***Mod.***
[OH22 6] - BIG RUN Upper RM: 9.70 / Lower RM: 0.00													
56.00	40.50	71.50	**56.0**	**10.5(10)**	9.1(10)	11.9(10)	**15.40**	15.40	15.40	**2**	WWH	***Moderate-High***	***Mod.***
[OH22 6.1] - TRIB. TO BIG RUN (RM 1.30) Upper RM: 0.81 / Lower RM: 0.00													
56.75	55.00	58.50	**56.8**	**166.7(4.0**	166.7(4.0	166.7(4.0	**0.25**	0.20	0.30	**2**	NONE	***Moderate***	***Mod.***
[OH22 6.2] - TRIB. TO BIG RUN (RM 2.63) Upper RM: 1.11 / Lower RM: 0.00													
55.75	54.00	57.50	**55.8**	**133.3(4.0**	133.3(4.0	133.3(4.0	**0.20**	0.20	0.20	**2**	NONE	***Moderate***	***Mod.***
[OH22 10] - ROCKY FORK Upper RM: 20.20 / Lower RM: 0.00													
78.83	75.00	83.50	**78.8**	**10.0(10)**	8.8(10)	12.5(10)	**57.33**	20.00	76.00	**3**	WWH; EWH	***Very High Quality***	***Mod.-High***
[OH22 11] - LOST RUN Upper RM: 10.20 / Lower RM: 0.00													
77.25	71.50	83.00	**77.3**	**12.5(10)**	10.5(10)	14.6(10)	**16.50**	10.00	23.00	**2**	WWH	***Very High Quality***	***Mod.***
[OH22 14] - PAINTER RUN Upper RM: 5.70 / Lower RM: 0.00													
61.00	61.00	61.00	**61.0**	**20.6(10)**	20.6(10)	20.6(10)	**6.00**	6.00	6.00	**1**	WWH	***High***	***Low***
[OH22 15] - LONG RUN Upper RM: 5.30 / Lower RM: 0.00													
71.00	71.00	71.00	**71.0**	**18.4(10)**	18.4(10)	18.4(10)	**6.00**	6.00	6.00	**1**	WWH	***High***	***Low***
[OH22 16] - LICKING RIVER (NORTH/SOUTH FORKS TO ROCKY FORK) Upper RM: 30.20 / Lower RM: 21.70													
71.17	58.00	79.50	**73.7**	**5.0(9.3)**	3.6(8.0)	5.8(10)	**534.33**	533.00	537.00	**3**	WWH	***High***	***High***
[OH22 23] - NORTH FORK (SYCAMORE CREEK TO S. FK. LICKING R.) Upper RM: 20.30 / Lower RM: 0.00													
70.75	60.00	82.50	**73.1**	**9.2(9.0)**	5.8(8.0)	11.5(10)	**231.00**	227.00	239.00	**4**	WWH	***High***	***High***
[OH22 33] - LAKE FORK Upper RM: 12.20 / Lower RM: 0.00													
63.50	63.50	63.50	**63.5**	**7.5(10)**	7.5(10)	7.5(10)	**34.00**	34.00	34.00	**1**	WWH	***High***	***Low***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH22 35] - SYCAMORE CREEK Upper RM: 14.10 / Lower RM: 0.00													
80.00	80.00	80.00	**80.0**	**12.8(10)**	12.8(10)	12.8(10)	**29.80**	29.80	29.80	**1**	WWH	***Very High Quality***	***Low***
[OH22 37] - NORTH FORK LICKING R. (HEADWATERS TO SYCAMORE CR.) Upper RM: 38.40 / Lower RM: 20.30													
77.75	72.00	83.50	**73.1**	**14.2(10)**	9.2(10)	19.2(10)	**35.10**	6.20	64.00	**2**	WWH	***Very High Quality***	***Mod.***
[OH22 38] - VANCE CREEK Upper RM: 6.20 / Lower RM: 0.00													
59.50	59.50	59.50	**59.5**	**15.2(10)**	15.2(10)	15.2(10)	**9.40**	9.40	9.40	**1**	WWH	***Moderate-High***	***Low***
[OH22 45] - S. FK. LICKING R. (BUCKEYE LK OUTLET TO LICKING R) Upper RM: 12.80 / Lower RM: 0.00													
76.00	60.50	85.50	**70.0**	**5.7(9.2)**	3.6(8.0)	9.5(10)	**182.20**	130.00	287.00	**5**	WWH	***Very High Quality***	***High***
[OH22 46] - RACCOON CREEK Upper RM: 27.50 / Lower RM: 0.00													
76.75	65.00	82.50	**76.8**	**8.3(9.5)**	7.3(8.0)	11.0(10)	**54.58**	9.40	103.70	**4**	WWH	***Very High Quality***	***Mod.-High***
[OH22 48] - LOBDELL CREEK Upper RM: 12.10 / Lower RM: 0.00													
61.00	51.50	70.50	**61.0**	**16.5(9.0)**	11.8(8.0)	21.3(10)	**17.50**	16.70	18.30	**2**	WWH	***High***	***Mod.***
[OH22 52] - KIBER RUN Upper RM: 5.80 / Lower RM: 0.00													
81.50	81.50	81.50	**81.5**	**17.2(10)**	17.2(10)	17.2(10)	**1.80**	1.80	1.80	**1**	WWH	***Very High Quality***	***Low***
[OH22 57] - RAMP CREEK Upper RM: 8.40 / Lower RM: 0.00													
74.75	66.50	80.50	**74.8**	**20.0(8.5)**	17.0(8.0)	22.7(10)	**16.38**	14.30	17.40	**4**	WWH	***High***	***Mod.-High***
[OH22 59] - S. FK. LICKING R(TRIB@ 23.25 TO BUCKEYE LK OUTLET) Upper RM: 23.20 / Lower RM: 12.80													
62.90	39.00	79.00	**70.0**	**4.1(7.6)**	2.6(6.0)	9.6(10)	**83.60**	58.00	117.00	**5**	WWH	***High***	***High***
[OH22 59.3] - FEEDER CANAL Upper RM: 6.40 / Lower RM: 0.00													
43.00	43.00	43.00	**43.0**	**0.1(4.0)**	0.1(4.0)	0.1(4.0)	**200.00**	200.00	200.00	**1**	NONE	***Very Low***	***Low***
[OH22 61] - S. FK. LICKING R. (HEADWATERS TO TRIB. @ 23.25) Upper RM: 33.90 / Lower RM: 23.25													
70.71	60.00	83.00	**70.0**	**15.9(9.1)**	10.6(8.0)	22.2(10)	**22.60**	12.00	41.00	**7**	WWH	***High***	***High***
MIDDLE MUSKINGUM RIVER - [Watershed QHEI: 64.2, N = 21]													
[OH23 15] - MUSKINGUM RIVER (LICKING RIVER TO SALT CREEK) Upper RM: 76.20 / Lower RM: 67.00													
63.50	52.00	82.50	**67.0**	**0.7(7.6)**	0.1(6.0)	2.3(10)	**7048.80**	999.00	7196.00	**5**	WWH	***Moderate - High***	***High***
[OH23 20] - MOXAHALA CREEK (JONATHAN CREEK TO MUSKINGUM RIVER) Upper RM: 4.50 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH23 27] - JONATHAN CREEK (HEADWATERS TO BUCKEYE FORK) Upper RM: 26.10 / Lower RM: 4.90													
64.25	62.00	66.50	**64.3**	**5.3(9.0)**	4.2(8.0)	6.3(10)	**81.25**	57.50	105.00	**2**	EWH; LWH	***High***	***Low-Mod.***
[OH23 28] - BUCKEYE FORK Upper RM: 10.20 / Lower RM: 0.00													
66.50	66.50	66.50	**66.5**	**16.7(10)**	16.7(10)	16.7(10)	**8.30**	8.30	8.30	**1**	LRW	***Essentially None***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH23 31] - BUTCHERKNIFE CREEK Upper RM: 4.30 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH23 36] - MOXAHALA CREEK (HEADWATERS TO JONATHAN CREEK) Upper RM: 29.20 / Lower RM: 4.54													
											LRW	***Essentially None***	***High***
[OH23 43] - BLACK FORK Upper RM: 7.70 / Lower RM: 0.00													
72.08	52.00	91.50	**72.1**	**16.5(9.3)**	13.3(8.0)	23.0(10)	**8.32**	7.00	9.60	**6**	WWH; LWH	***High***	***High***
[OH23 43.1] - OGG CREEK Upper RM: 5.40 / Lower RM: 0.00													
63.00	48.00	78.00	**63.0**	**14.6(8.0)**	14.6(8.0)	14.6(8.0)	**5.00**	4.50	5.50	**2**	WWH; LRW	***Essentially None***	***High***
[OH23 45] - MCLUNEY CREEK Upper RM: 5.60 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH23 48] - MUSKINGUM RIVER (SYMMES CREEK TO LICKING RIVER) Upper RM: 87.10 / Lower RM: 76.20													
55.60	47.50	74.00	**67.0**	**0.3(6.8)**	0.1(6.0)	1.3(10)	**6057.20**	999.00	6071.00	**5**	WWH	***Moderate-High***	***High***
LOWER MUSKINGUM RIVER - [Watershed QHEI: 68.0, N = 26]													
[OH24 1] - MUSKINGUM RIVER (BIG RUN TO OHIO RIVER) Upper RM: 17.20 / Lower RM: 0.00													
70.00	63.00	82.50	**67.0**	**0.4(7.0)**	0.1(6.0)	1.1(10)	**8018.25**	999.00	8045.00	**4**	WWH	***Moderate - High***	***High***
[OH24 17] - MUSKINGUM RIVER (MEIGS CREEK TO BIG RUN) Upper RM: 29.40 / Lower RM: 17.20													
61.00	48.50	74.00	**67.0**	**0.4(7.0)**	0.1(6.0)	1.3(10)	**7752.00**	999.00	7958.00	**4**	WWH	***Moderate - High***	***High***
[OH24 27] - SOUTH BRANCH WOLF CREEK Upper RM: 25.40 / Lower RM: 0.00													
62.00	62.00	62.00	**62.0**	**4.0(6.0)**	4.0(6.0)	4.0(6.0)	**73.00**	73.00	73.00	**1**	EWH	***High***	***Low***
[OH24 36] - WEST BR. WOLF CREEK (LAUREL RUN TO MUSKINGUM R.) Upper RM: 12.90 / Lower RM: 0.00													
82.50	82.50	82.50	**79.3**	**4.7(10)**	4.7(10)	4.7(10)	**140.00**	140.00	140.00	**1**	EWH	***Very High Quality***	***Low-Mod.***
[OH24 40] - WEST BR. WOLF CREEK (HEADWATERS TO LAUREL RUN) Upper RM: 45.00 / Lower RM: 12.90													
76.00	76.00	76.00	**79.3**	**2.5(8.0)**	2.5(8.0)	2.5(8.0)	**116.00**	116.00	116.00	**1**	EWH	***Very High Quality***	***Low-Mod.***
[OH24 61] - OLIVE GREEN CREEK Upper RM: 22.00 / Lower RM: 0.00													
84.50	84.50	84.50	**84.5**	**3.1(6.0)**	3.1(6.0)	3.1(6.0)	**79.00**	79.00	79.00	**1**	EWH	***Very High Quality***	***Low***
[OH24 74] - MEIGS CREEK Upper RM: 21.20 / Lower RM: 0.00													
80.00	80.00	80.00	**80.0**	**4.9(10)**	4.9(10)	4.9(10)	**142.00**	142.00	142.00	**1**	WWH	***Very High Quality***	***Low***
[OH24 80] - DYES FORK Upper RM: 18.60 / Lower RM: 0.00													
76.75	72.50	81.00	**76.8**	**12.4(10)**	12.0(10)	12.9(10)	**41.50**	38.00	45.00	**2**	WWH	***Very High Quality***	***Low-Mod.***
[OH24 92] - MUSKINGUM RIVER (MILLERS RUN TO MEIGS CREEK) Upper RM: 50.50 / Lower RM: 29.40													
66.79	52.50	82.50	**67.0**	**1.0(7.4)**	0.1(6.0)	3.8(10)	**7450.43**	999.00	7479.00	**7**	WWH	***Moderate - High***	***High***

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH24106] - MUSKINGUM RIVER (SALT CREEK TO MILLERS RUN) Upper RM: 67.00 / Lower RM: 50.50													
59.50	47.50	76.50	**67.0**	**0.2(6.5)**	0.1(6.0)	0.6(8.0)	**7391.00**	999.00	7415.00	**4**	WWH	***Moderate-High***	***High***
UPPER HOCKING RIVER - [Watershed QHEI: 58.3, N = 65]													
[OH25 1] - HOCKING RIVER (RUSH CREEK TO CLEAR CREEK) Upper RM: 81.62 / Lower RM: 73.40													
67.13	57.50	77.00	**58.2**	**3.9(9.0)**	3.1(8.0)	4.7(10)	**386.50**	336.00	437.00	**4**	WWH	***High***	***High***
[OH25 2] - BUCK RUN Upper RM: 5.10 / Lower RM: 0.00													
49.50	49.50	49.50	**49.5**	**11.8(10)**	11.8(10)	11.8(10)	**10.50**	10.50	10.50	**1**	WWH	***Moderate-High***	***Low***
[OH25 4] - CLEAR CREEK Upper RM: 24.00 / Lower RM: 0.00													
66.34	48.00	89.50	**66.3**	**7.5(9.0)**	4.1(6.0)	18.2(10)	**46.99**	1.50	89.00	**16**	WWH	***High***	***High***
[OH25 4.1] - TRIB. TO CLEAR CREEK (RM 9.52) Upper RM: 5.20 / Lower RM: 0.00													
63.50	63.50	63.50	**63.5**	**31.8(8.0)**	31.8(8.0)	31.8(8.0)	**3.00**	3.00	3.00	**1**	WWH	***High***	***Low***
[OH25 4.2] - AMANDA CREEK Upper RM: 0.70 / Lower RM: 0.00													
47.50	46.50	48.50	**47.5**	**41.7(4.0)**	41.7(4.0)	41.7(4.0)	**0.30**	0.30	0.30	**2**	WWH	***Moderate-High***	***Mod.***
[OH25 4.3] - DACE DITCH (AMANDA) Upper RM: 1.93 / Lower RM: 0.00													
31.00	31.00	31.00	**31.0**	**31.3(8.0)**	31.3(8.0)	31.3(8.0)	**1.00**	1.00	1.00	**1**	WWH	***Low***	***Low***
[OH25 4.4] - SAND RUN Upper RM: 2.52 / Lower RM: 0.00													
46.00	46.00	46.00	**46.0**	**5.7(6.0)**	5.7(6.0)	5.7(6.0)	**1.70**	1.70	1.70	**1**		***Low - Moderate***	***Low***
[OH25 5] - ARNEY RUN Upper RM: 8.20 / Lower RM: 0.00													
63.17	36.50	81.00	**63.2**	**22.7(7.3)**	6.9(6.0)	37.0(8.0)	**8.13**	5.90	10.60	**3**	WWH	***High***	***Mod.-High***
[OH25 7] - MUDDY PRAIRIE RUN Upper RM: 7.20 / Lower RM: 0.00													
70.00	55.00	85.00	**70.0**	**10.9(10)**	10.9(10)	10.9(10)	**11.00**	11.00	11.00	**2**	WWH	***High***	***Mod.***
[OH25 8] - DUNKLE RUN Upper RM: 2.81 / Lower RM: 0.00													
65.50	62.00	69.00	**65.5**	**13.0(8.0)**	7.0(6.0)	18.9(10)	**2.65**	2.60	2.70	**2**	WWH	***High***	***Mod.***
[OH25 9] - MUDDY PRAIRIE CREEK Upper RM: 3.40 / Lower RM: 0.00													
42.00	42.00	42.00	**42.0**	**3.1(4.0)**	3.1(4.0)	3.1(4.0)	**3.80**	3.80	3.80	**1**	WWH	***Very Low***	***Low***
[OH25 12] - RUSH CREEK (LITTLE RUSH CREEK TO HOCKING RIVER) Upper RM: 16.68 / Lower RM: 0.00													
37.50	37.50	37.50	**37.5**	**0.7(4.0)**	0.7(4.0)	0.7(4.0)	**230.00**	230.00	230.00	**1**	LRW; MWH-C	***Essentially None***	***High***
[OH25 13] - DURBIN RUN Upper RM: 3.20 / Lower RM: 0.00													
35.00	35.00	35.00	**35.0**	**12.0(8.0)**	12.0(8.0)	12.0(8.0)	**2.50**	2.50	2.50	**1**	WWH	***Low***	***Low***
[OH25 14] - TURKEY RUN Upper RM: 4.50 / Lower RM: 0.00													
67.00	67.00	67.00	**67.0**	**10.2(8.0)**	10.2(8.0)	10.2(8.0)	**8.00**	8.00	8.00	**1**	LRW	***Essentially None***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI Mean	Segment QHEI Min	Segment QHEI Max	River-Wide Mean QHEI	Gradient Mean	Gradient Min	Gradient Max	Drainage Area Mean	Drainage Area Min	Drainage Area Max	N	Aquatic Life Use(s)	Restorability Rating[1]	Confidence
[OH25 20] - RUSH CREEK (HEADWATERS TO LITTLE RUSH CREEK) Upper RM: 38.20 / Lower RM: 16.68													
			37.5								LRW	***Essentially None***	***High***
[OH25 20.1] - BLUNTNOSE CREEK (TRIB. TO RUSH CREEK RM 19.40) Upper RM: 5.45 / Lower RM: 0.00													
62.00	62.00	62.00	**62.0**	**12.6(8.0)**	12.6(8.0)	12.6(8.0)	**3.60**	3.60	3.60	**1**	WWH	***High***	***Low***
[OH25 22] - TURKEY RUN Upper RM: 4.50 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH25 23] - HOCKING RIVER (HEADWATERS TO RUSH CREEK) Upper RM: 101.59 / Lower RM: 81.62													
53.97	28.00	85.00	**58.2**	**6.8(7.1)**	4.6(6.0)	13.2(10)	**48.62**	3.30	98.50	**17**	WWH	***Moderate-High***	***High***
[OH25 23.2] - OHIO CANAL Upper RM: 3.05 / Lower RM: 0.00													
42.50	42.50	42.50	**42.5**	**4.1(4.0)**	4.1(4.0)	4.1(4.0)	**7.50**	7.50	7.50	**1**	NONE	***Very Low***	***Low***
[OH25 23.3] - CLAYPOOL RUN Upper RM: 5.80 / Lower RM: 0.00													
52.75	49.50	56.00	**52.8**	**9.5(7.0)**	6.2(6.0)	12.8(8.0)	**4.90**	4.80	5.00	**2**	NONE	***Moderate-High***	***Mod.***
[OH25 25] - BALDWIN RUN Upper RM: 4.60 / Lower RM: 0.00													
60.50	50.00	74.50	**60.5**	**15.6(10)**	13.9(10)	18.9(10)	**9.27**	3.80	12.00	**3**	WWH	***High***	***Mod.-High***
[OH25 27] - HUNTERS RUN Upper RM: 7.50 / Lower RM: 0.00													
55.63	49.50	59.00	**55.6**	**9.1(8.5)**	6.5(6.0)	14.7(10)	**8.80**	6.20	10.30	**4**	WWH	***Moderate-High***	***Mod.-High***
MIDDLE HOCKING RIVER - [Watershed QHEI: 61.4, N = 45]													
[OH26 1] - HOCKING RIVER (MONDAY CREEK TO ATHENS) Upper RM: 48.89 / Lower RM: 34.93													
55.17	46.00	72.00	**58.2**	**2.0(10)**	1.9(10)	2.0(10)	**832.00**	707.00	937.00	**9**	WWH	***Moderate-High***	***High***
[OH26 3] - FACTORY CREEK Upper RM: 6.30 / Lower RM: 0.00													
57.00	57.00	57.00	**57.0**	**10.3(8.0)**	10.3(8.0)	10.3(8.0)	**9.10**	9.10	9.10	**1**	WWH	***Moderate-High***	***Low***
[OH26 8] - SUNDAY CREEK (W. BR. SUNDAY CR. TO HOCKING R.) Upper RM: 13.15 / Lower RM: 0.00													
50.00	50.00	50.00	**50.0**	**1.8(6.0)**	1.8(6.0)	1.8(6.0)	**138.00**	138.00	138.00	**1**	LRW	***Essentially None***	***High***
[OH26 8.1] - TRIB TO SUNDAY CREEK Upper RM: 2.13 / Lower RM: 0.00													
67.50	67.50	67.50	**67.5**	**12.8(8.0)**	12.8(8.0)	12.8(8.0)	**1.00**	1.00	1.00	**1**	WWH	***High***	***Low***
[OH26 19] - SUNDAY CREEK (HEADWATERS TO W. BR. SUNDAY CREEK) Upper RM: 28.85 / Lower RM: 13.15													
			50.0								LRW	***Essentially None***	***High***
[OH26 25] - MONDAY CREEK Upper RM: 27.00 / Lower RM: 0.00													
40.00	40.00	40.00	**40.0**	**2.2(8.0)**	2.2(8.0)	2.2(8.0)	**114.00**	114.00	114.00	**1**	LRW	***Essentially None***	***High***
[OH26 25.1] - TRIB. TO MONDAY CREEK (RM 19.73) Upper RM: 4.05 / Lower RM: 0.00													
62.50	62.50	62.50	**62.5**	**17.9(10)**	17.9(10)	17.9(10)	**3.00**	3.00	3.00	**1**		***High***	***Low***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH26 26] - SNOW FORK Upper RM: 10.70 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH26 32] - LITTLE MONDAY CREEK Upper RM: 14.30 / Lower RM: 0.00													
49.67	49.50	50.00	**49.7**	**10.8(6.7)**	5.8(6.0)	20.8(8.0)	**19.40**	10.70	24.20	**3**	WWH	***Moderate-High***	***Mod.-High***
[OH26 32.1] - TEMPERANCE HOLLOW CREEK Upper RM: 3.60 / Lower RM: 0.00													
65.00	65.00	65.00	**65.0**	**33.9(8.0)**	33.9(8.0)	33.9(8.0)	**2.80**	2.80	2.80	**1**		***High***	***Low***
[OH26 36] - HOCKING RIVER (SCOTT CREEK TO MONDAY CREEK) Upper RM: 68.96 / Lower RM: 48.89													
68.25	63.50	77.50	**58.2**	**3.2(7.7)**	1.9(6.0)	6.5(10)	**556.50**	524.00	579.00	**6**	WWH	***High***	***High***
[OH26 38] - DORR RUN Upper RM: 2.80 / Lower RM: 0.00													
48.00	48.00	48.00	**48.0**	**15.2(10)**	15.2(10)	15.2(10)	**2.90**	2.90	2.90	**1**	WWH	***Moderate***	***Low***
[OH26 41] - FIVEMILE CREEK Upper RM: 7.00 / Lower RM: 0.00													
62.80	56.50	75.00	**62.8**	**7.8(10)**	7.8(10)	7.8(10)	**12.50**	12.50	12.50	**5**	WWH	***High***	***High***
[OH26 42] - OLDTOWN CREEK Upper RM: 7.10 / Lower RM: 0.00													
60.75	52.50	69.50	**60.8**	**6.6(10)**	6.6(10)	6.6(10)	**13.60**	13.60	13.60	**6**	WWH	***High***	***High***
[OH26 43] - SCOTT CREEK Upper RM: 9.00 / Lower RM: 0.00													
69.10	61.00	75.50	**69.1**	**37.0(6.4)**	4.5(4.0)	76.9(10)	**10.28**	0.30	39.50	**5**	WWH; EWH	***High***	***High***
[OH26 47] - HOCKING RIVER (ENTERPRISE TO SCOTT CREEK) Upper RM: 73.40 / Lower RM: 68.96													
73.00	63.50	77.50	**58.2**	**3.4(8.0)**	3.1(8.0)	3.7(8.0)	**464.00**	459.00	469.00	**4**	WWH	***High***	***High***
LOWER HOCKING RIVER - [Watershed QHEI: 62.0, N = 40]													
[OH27 1] - HOCKING RIVER (FEDERAL CREEK TO OHIO RIVER) Upper RM: 15.28 / Lower RM: 0.00													
49.60	43.00	63.00	**58.2**	**0.1(6.0)**	0.1(6.0)	0.1(6.0)	**1158.80**	999.00	1175.00	**5**	WWH	***Low - Moderate***	***High***
[OH27 4] - FOURMILE CREEK Upper RM: 4.50 / Lower RM: 0.00													
71.00	71.00	71.00	**66.9**	**22.5(10)**	22.5(10)	22.5(10)	**4.60**	4.60	4.60	**1**	EWH	***High***	***Low-Mod.***
[OH27 10] - JORDAN RUN Upper RM: 5.10 / Lower RM: 0.00													
76.50	76.50	76.50	**76.5**	**14.3(8.0)**	14.3(8.0)	14.3(8.0)	**6.70**	6.70	6.70	**1**	WWH	***Very High Quality***	***Low***
[OH27 14] - FEDERAL CREEK (MCDOUGALL BRANCH TO HOCKING RIVER) Upper RM: 11.25 / Lower RM: 0.00													
74.75	74.00	75.50	**77.0**	**2.6(8.0)**	2.6(8.0)	2.6(8.0)	**138.00**	138.00	138.00	**2**	EWH	***High***	***Mod.***
[OH27 17] - BIG RUN Upper RM: 6.40 / Lower RM: 0.00													
71.75	63.00	80.50	**71.8**	**17.2(10)**	9.4(10)	25.0(10)	**8.00**	4.20	11.80	**2**	LWH	***High***	***Mod.***
[OH27 18] - JOES RUN Upper RM: 2.10 / Lower RM: 0.00													
68.50	68.50	68.50	**68.5**	**32.3(8.0)**	32.3(8.0)	32.3(8.0)	**0.90**	0.90	0.90	**1**	LWH	***High***	***Low***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH27 19] - ELLIS RUN Upper RM: 0.60 / Lower RM: 0.00													
64.00	64.00	64.00	**64.0**	**60.6(4.0)**	60.6(4.0)	60.6(4.0)	**1.30**	1.30	1.30	**1**	LWH	***High***	***Low***
[OH27 20] - WILDCAT RUN Upper RM: 2.40 / Lower RM: 0.00													
69.00	69.00	69.00	**69.0**	**40.0(8.0)**	40.0(8.0)	40.0(8.0)	**1.70**	1.70	1.70	**1**	LWH	***High***	***Low***
[OH27 21] - SPRUCE RUN Upper RM: 2.60 / Lower RM: 0.00													
65.00	65.00	65.00	**65.0**	**74.1(4.0)**	74.1(4.0)	74.1(4.0)	**1.40**	1.40	1.40	**1**	LWH	***High***	***Low***
[OH27 22] - MARIETTA RUN Upper RM: 6.10 / Lower RM: 0.00													
68.50	68.50	68.50	**68.5**	**10.6(10)**	10.6(10)	10.6(10)	**10.10**	10.10	10.10	**1**	LWH	***High***	***Low***
[OH27 23] - BRILL RUN Upper RM: 3.00 / Lower RM: 0.00													
79.50	79.50	79.50	**79.5**	**35.1(8.0)**	35.1(8.0)	35.1(8.0)	**3.20**	3.20	3.20	**1**	LWH	***Very High Quality***	***Low***
[OH27 24] - SHARPS FORK Upper RM: 14.50 / Lower RM: 0.00													
59.00	59.00	59.00	**59.0**	**4.4(6.0)**	4.4(6.0)	4.4(6.0)	**35.70**	35.70	35.70	**1**	WWH	***Moderate-High***	***Low***
[OH27 28] - MCDOUGALL BRANCH Upper RM: 7.90 / Lower RM: 0.00													
57.50	52.00	63.00	**57.5**	**7.6(10)**	7.6(10)	7.6(10)	**27.95**	27.90	28.00	**2**	WWH	***Moderate-High***	***Low-Mod.***
[OH27 33] - FEDERAL CREEK (HYDE FORK TO MCDOUGALL BRANCH) Upper RM: 16.21 / Lower RM: 11.25													
81.50	81.50	81.50	**77.0**	**8.3(10)**	8.3(10)	8.3(10)	**32.10**	32.10	32.10	**1**	EWH	***Very High Quality***	***Low-Mod.***
[OH27 39] - HOCKING RIVER (ATHENS TO FEDERAL CREEK) Upper RM: 34.93 / Lower RM: 15.28													
57.34	31.50	78.50	**58.2**	**1.8(10)**	1.6(10)	2.2(10)	**958.69**	942.00	994.00	**16**	WWH	***Moderate-High***	***High***
[OH27 43] - GREEN RUN Upper RM: 3.60 / Lower RM: 0.00													
64.50	47.50	81.50	**65.8**	**47.4(6.0)**	37.7(4.0)	57.1(8.0)	**1.30**	0.80	1.80	**2**	WWH	***High***	***Mod.-High***
[OH27 59] - LITTLE HOCKING RIVER Upper RM: 18.40 / Lower RM: 0.00													
73.50	73.50	73.50	**73.5**	**6.0(8.0)**	6.0(8.0)	6.0(8.0)	**45.00**	45.00	45.00	**1**	WWH	***High***	***Low***
SE TRIBS (SHADE RIVER AND LEADING CREEK) - [Watershed QHEI: 69.0, N = 4]													
[OH28 9] - YELLOWBUSH CREEK Upper RM: 5.00 / Lower RM: 0.00													
75.00	75.00	75.00	**75.0**	**14.8(8.0)**	14.8(8.0)	14.8(8.0)	**4.80**	4.80	4.80	**1**	WWH	***Very High Quality***	***Low***
[OH28 18] - OLDTOWN CREEK Upper RM: 5.90 / Lower RM: 0.00													
62.50	62.50	62.50	**62.5**	**10.7(8.0)**	10.7(8.0)	10.7(8.0)	**3.80**	3.80	3.80	**1**	WWH	***High***	***Low***
[OH28 30] - SHADE RIVER Upper RM: 18.19 / Lower RM: 0.00													
69.25	57.50	81.00	**69.3**	**2.4(8.0)**	2.4(8.0)	2.4(8.0)	**127.50**	127.00	128.00	**2**	WWH	***High***	***Low-Mod.***
SE TRIBS (LOWER RACCOON CREEK) - [Watershed QHEI: 57.6, N = 39]													
[OH29 12] - CAMPAIGN CREEK Upper RM: 19.20 / Lower RM: 0.00													
64.50	57.00	72.00	**64.5**	**5.1(6.0)**	5.1(6.0)	5.1(6.0)	**34.90**	34.40	35.40	**2**	WWH	***High***	***Low-Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH29 19] - KYGER CREEK Upper RM: 11.80 / Lower RM: 0.00													
51.88	34.00	61.50	**51.9**	**3.6(5.0)**	1.5(4.0)	5.8(6.0)	**26.00**	21.00	29.90	**4**	WWH; LRW	***Essentially None***	***High***
[OH29 20] - LITTLE KYGER CREEK Upper RM: 4.40 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH29 21] - TURKEY RUN Upper RM: 2.20 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH29 22] - STINGY RUN Upper RM: 2.50 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH29 23] - JESSIE CREEK Upper RM: 5.35 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH29 28] - LEADING CREEK (LITTLE LEADING CREEK TO OHIO RIVER) Upper RM: 8.49 / Lower RM: 0.00													
44.20	35.00	55.00	**62.8**	**1.9(6.0)**	0.0(2.0)	3.1(8.0)	**99.40**		151.00	**5**	WWH	***Very Low***	***High***
[OH29 32] - THOMAS FORK Upper RM: 7.20 / Lower RM: 0.00													
45.50	45.50	45.50	**45.5**	**6.7(10)**	6.7(10)	6.7(10)	**30.50**	30.50	30.50	**1**	WWH	***Moderate-High***	***Low***
[OH29 32.1] - EAST BRANCH THOMAS FORK Upper RM: 7.55 / Lower RM: 0.00													
46.17	42.00	51.00	**46.2**	**11.4(9.3)**	9.0(8.0)	12.7(10)	**9.30**	9.00	9.50	**3**	NONE	***Moderate***	***Mod.-High***
[OH29 34] - LITTLE LEADING CREEK Upper RM: 10.60 / Lower RM: 0.00													
46.50	45.00	48.00	**46.5**	**10.2(10)**	10.2(10)	10.2(10)	**23.20**	23.20	23.20	**2**	WWH	***Moderate-High***	***Low-Mod.***
[OH29 35] - LEADING CREEK (DEXTER RUN TO LITTLE LEADING CREEK) Upper RM: 18.50 / Lower RM: 8.49													
71.38	64.50	77.00	**62.8**	**2.1(4.3)**	0.0(2.0)	3.9(6.0)	**42.23**		80.70	**12**	WWH	***High***	***High***
[OH29 36] - MALLOONS RUN Upper RM: 3.40 / Lower RM: 0.00													
55.00	55.00	55.00	**55.0**	**14.2(8.0)**	14.2(8.0)	14.2(8.0)	**3.80**	3.80	3.80	**1**	WWH	***Moderate***	***Low***
[OH29 37] - PARKER RUN Upper RM: 4.80 / Lower RM: 0.00													
55.58	32.50	70.00	**55.6**	**11.1(7.3)**	0.0(2.0)	16.7(10)	**4.30**		7.40	**6**	WWH	***Moderate-High***	***High***
[OH29 37.1] - LITTLE PARKER RUN Upper RM: 1.93 / Lower RM: 0.00													
51.00	51.00	51.00	**51.0**	**55.6(4.0)**	55.6(4.0)	55.6(4.0)	**0.70**	0.70	0.70	**1**	NONE	***Moderate-High***	***Low***
[OH29 39] - LEADING CREEK (HEADWATERS TO DEXTER RUN) Upper RM: 33.00 / Lower RM: 18.50													
58.25	46.50	70.00	**62.8**	**14.7(8.0)**	3.2(6.0)	26.3(10)	**20.75**	4.30	37.20	**2**	WWH	***Moderate-High***	***Mod.***
SE TRIBS (UPPER RACCOON CREEK) - [Watershed QHEI: 58.8, N = 90]													
[OH30 1] - LITTLE RACCOON CREEK (DICKASON RUN TO RACCOON CR.) Upper RM: 12.57 / Lower RM: 0.00													
56.50	56.50	56.50	**59.5**	**3.2(8.0)**	3.2(8.0)	3.2(8.0)	**128.00**	128.00	128.00	**1**	LRW	***Essentially None***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH30 2] - DEER CREEK Upper RM: 4.00 / Lower RM: 0.00													
56.50	56.50	56.50	**56.5**	**28.2(10)**	28.2(10)	28.2(10)	**5.90**	5.90	5.90	**1**	WWH	***Moderate-High***	***Low***
[OH30 3] - KEETON RUN Upper RM: 2.30 / Lower RM: 0.00													
59.50	59.50	59.50	**59.5**	**15.6(10)**	15.6(10)	15.6(10)	**4.20**	4.20	4.20	**1**	WWH	***Moderate-High***	***Low***
[OH30 4] - SPRING RUN Upper RM: 4.60 / Lower RM: 0.00													
54.50	54.50	54.50	**54.5**	**8.5(6.0)**	8.5(6.0)	8.5(6.0)	**5.30**	5.30	5.30	**1**	WWH	***Moderate-High***	***Low***
[OH30 5] - DICKASON RUN Upper RM: 11.20 / Lower RM: 0.00													
50.50	46.50	54.50	**50.5**	**5.1(6.0)**	5.1(6.0)	5.1(6.0)	**24.20**	19.70	28.70	**2**	LWH	***Moderate-High***	***Low-Mod.***
[OH30 6] - KYGER RUN Upper RM: 4.60 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH30 7] - LITTLE RACCOON CREEK (SAND RUN TO DICKASON RUN) Upper RM: 28.89 / Lower RM: 12.57													
58.00	47.50	64.00	**59.5**	**2.4(4.6)**	2.3(4.0)	2.6(6.0)	**54.14**	45.00	67.00	**7**	WWH; LRW	***Essentially None***	***High***
[OH30 8] - TARCAMP RUN Upper RM: 2.50 / Lower RM: 0.00													
52.50	52.50	52.50	**52.5**	**27.4(10)**	27.4(10)	27.4(10)	**2.00**	2.00	2.00	**1**	LWH	***Moderate***	***Low***
[OH30 9] - GOOSE RUN Upper RM: 1.80 / Lower RM: 0.00													
44.00	44.00	44.00	**44.0**	**8.1(6.0)**	8.1(6.0)	8.1(6.0)	**1.40**	1.40	1.40	**1**	LWH	***Low***	***Low***
[OH30 10] - GREASY RUN Upper RM: 2.60 / Lower RM: 0.00													
59.00	59.00	59.00	**59.0**	**24.7(10)**	24.7(10)	24.7(10)	**1.60**	1.60	1.60	**1**	LWH	***Moderate-High***	***Low***
[OH30 11] - BUFFER RUN Upper RM: 2.40 / Lower RM: 0.00													
54.00	54.00	54.00	**54.0**	**27.4(10)**	27.4(10)	27.4(10)	**1.90**	1.90	1.90	**1**	LWH	***Moderate***	***Low***
[OH30 12] - FLINT RUN Upper RM: 2.20 / Lower RM: 0.00													
59.50	59.50	59.50	**59.5**	**17.1(10)**	17.1(10)	17.1(10)	**3.60**	3.60	3.60	**1**	LWH	***Moderate-High***	***Low***
[OH30 13] - COAL RUN Upper RM: 1.40 / Lower RM: 0.00													
57.50	57.50	57.50	**57.5**	**28.6(10)**	28.6(10)	28.6(10)	**0.60**	0.60	0.60	**1**	LWH	***Moderate-High***	***Low***
[OH30 14] - RICH RUN Upper RM: 4.00 / Lower RM: 0.00													
71.50	71.50	71.50	**71.5**	**19.5(10)**	19.5(10)	19.5(10)	**4.90**	4.90	4.90	**1**	LWH	***High***	***Low***
[OH30 15] - MULGA RUN Upper RM: 4.90 / Lower RM: 0.00													
49.50	49.50	49.50	**49.5**	**7.8(6.0)**	7.8(6.0)	7.8(6.0)	**7.80**	7.80	7.80	**1**	LRW	***Essentially None***	***High***
[OH30 16] - MEADOW RUN Upper RM: 5.10 / Lower RM: 0.00													
50.25	43.00	56.00	**50.3**	**11.7(8.0)**	2.8(4.0)	15.6(10)	**8.45**	7.50	9.40	**4**	LRW; WWH	***Essentially None***	***High***
[OH30 17] - LITTLE RACCOON CREEK (HEADWATERS TO SAND RUN) Upper RM: 40.50 / Lower RM: 28.89													
64.17	59.00	72.50	**59.5**	**8.1(9.3)**	6.4(8.0)	11.5(10)	**24.83**	7.50	37.00	**3**	WWH; LAKE; WWH	***High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH30 17.1] - SUGAR RUN Upper RM: 3.05 / Lower RM: 0.00													
38.00	38.00	38.00	**38.0**	**9.8(6.0)**	9.8(6.0)	9.8(6.0)	**4.50**	4.50	4.50	**1**	NONE	***Low***	***Low***
[OH30 18] - SAND RUN Upper RM: 4.30 / Lower RM: 0.00													
58.00	58.00	58.00	**58.0**	**19.6(10)**	19.6(10)	19.6(10)	**3.60**	3.60	3.60	**1**	WWH	***Moderate-High***	***Low***
[OH30 22] - RACCOON CREEK (FLATLICK RUN TO LITTLE RACCOON CR.) Upper RM: 47.67 / Lower RM: 37.55													
59.88	47.00	73.00	**61.7**	**0.8(5.0)**	0.1(4.0)	1.5(6.0)	**381.00**	381.00	381.00	**4**	WWH	***Moderate-High***	***High***
[OH30 23] - ROBINSON RUN Upper RM: 2.90 / Lower RM: 0.00													
54.50	46.50	66.50	**54.5**	**8.8(6.7)**	0.0(2.0)	13.9(10)	**4.00**		9.70	**3**	WWH	***Moderate-High***	***Mod.-High***
[OH30 24] - SUGAR RUN Upper RM: 3.10 / Lower RM: 0.00													
52.25	42.00	62.50	**52.3**	**11.5(8.0)**	11.4(8.0)	11.5(8.0)	**3.35**	3.30	3.40	**2**	WWH	***Moderate-High***	***Mod.***
[OH30 25] - STRONGS RUN Upper RM: 10.40 / Lower RM: 0.00													
54.17	44.00	61.50	**54.2**	**5.1(6.0)**	0.0(2.0)	7.7(10)	**8.00**		16.10	**3**	EWH	***Low - Moderate***	***Mod.-High***
[OH30 26] - WILLIAMS RUN Upper RM: 2.80 / Lower RM: 0.00													
55.50	55.50	55.50	**55.5**	**9.6(6.0)**	9.6(6.0)	9.6(6.0)	**3.80**	3.80	3.80	**1**	EWH	***Moderate-High***	***Low***
[OH30 27] - OPOSSUM RUN Upper RM: 1.40 / Lower RM: 0.00													
63.50	63.50	63.50	**63.5**	**23.1(10)**	23.1(10)	23.1(10)	**0.70**	0.70	0.70	**1**	LWH	***High***	***Low***
[OH30 28] - RACCOON CREEK (ELK FORK TO FLATLICK RUN) Upper RM: 66.64 / Lower RM: 47.67													
62.17	60.50	63.00	**61.7**	**1.8(6.0)**	1.5(6.0)	2.0(6.0)	**322.33**	295.00	336.00	**3**	WWH	***Moderate - High***	***High***
[OH30 29] - FLATLICK RUN Upper RM: 5.10 / Lower RM: 0.00													
61.13	58.00	67.00	**61.1**	**13.9(5.0)**	13.9(2.0)	13.9(8.0)	**7.30**	7.30	7.30	**4**	LWH	***High***	***Mod.-High***
[OH30 30] - KARR RUN Upper RM: 1.20 / Lower RM: 0.00													
56.50	56.50	56.50	**56.5**	**90.9(4.0)**	90.9(4.0)	90.9(4.0)	**0.50**	0.50	0.50	**1**	LWH	***Moderate-High***	***Low***
[OH30 31] - INDIANCAMP RUN Upper RM: 2.40 / Lower RM: 0.00													
80.25	78.50	82.00	**80.3**	**24.2(10)**	24.2(10)	24.2(10)	**2.40**	2.40	2.40	**2**	LWH	***Very High Quality***	***Mod.***
[OH30 32] - ROCKCAMP RUN Upper RM: 2.10 / Lower RM: 0.00													
64.00	64.00	64.00	**64.0**	**5.4(6.0)**	5.4(6.0)	5.4(6.0)	**2.80**	2.80	2.80	**1**	LWH	***Moderate - High***	***Low***
[OH30 33] - PIERCE RUN Upper RM: 8.50 / Lower RM: 0.00													
52.00	52.00	52.00	**52.0**	**9.2(10)**	9.2(10)	9.2(10)	**9.90**	9.90	9.90	**1**	LWH	***Moderate-High***	***Low***
[OH30 34] - ZINNS RUN Upper RM: 2.60 / Lower RM: 0.00													
68.50	68.50	68.50	**68.5**	**21.7(10)**	21.7(10)	21.7(10)	**3.50**	3.50	3.50	**1**	LWH	***High***	***Low***
[OH30 35] - ELK FORK Upper RM: 18.60 / Lower RM: 0.00													
64.11	52.00	75.00	**64.1**	**7.8(8.2)**	3.3(6.0)	21.1(10)	**29.18**	7.50	60.00	**9**	WWH; LRW	***Essentially None***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH30 38] - WOLF RUN Upper RM: 7.50 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH30 39] - PUNCHEON FORK Upper RM: 5.60 / Lower RM: 0.00													
65.50	65.00	66.00	**65.5**	**11.4(10)**	7.8(10)	15.0(10)	**8.45**	7.10	9.80	**2**	LRW	***Essentially None***	***High***
[OH30 40] - AUSTIN POWDER TRIB. Upper RM: 2.95 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH30 41] - RACCOON CREEK (HEWETT FORK TO ELK FORK) Upper RM: 89.54 / Lower RM: 66.64													
55.00	48.00	62.00	**61.7**	**1.7(6.0)**	1.4(6.0)	1.9(6.0)	**202.50**	183.00	222.00	**2**	WWH	***Moderate-High***	***Mod.***
[OH30 42] - BRUSH FORK Upper RM: 3.30 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH30 43] - LONG RUN Upper RM: 3.80 / Lower RM: 0.00													
68.50	68.50	68.50	**68.5**	**16.1(10)**	16.1(10)	16.1(10)	**2.20**	2.20	2.20	**1**	LWH	***High***	***Low***
[OH30 44] - FLAT RUN Upper RM: 7.30 / Lower RM: 0.00													
50.50	50.50	50.50	**50.5**	**10.6(8.0)**	10.6(8.0)	10.6(8.0)	**4.90**	4.90	4.90	**1**	LWH	***Moderate-High***	***Low***
[OH30 45] - RUSSELL RUN Upper RM: 3.00 / Lower RM: 0.00													
47.50	47.50	47.50	**47.5**	**19.1(10)**	19.1(10)	19.1(10)	**2.00**	2.00	2.00	**1**	LWH	***Moderate***	***Low***
[OH30 46] - MERRIT RUN Upper RM: 2.10 / Lower RM: 0.00													
62.50	62.50	62.50	**62.5**	**35.7(8.0)**	35.7(8.0)	35.7(8.0)	**0.90**	0.90	0.90	**1**	LWH	***High***	***Low***
[OH30 47] - TEDROE RUN Upper RM: 2.50 / Lower RM: 0.00													
54.00	54.00	54.00	**54.0**	**27.3(10)**	27.3(10)	27.3(10)	**2.40**	2.40	2.40	**1**	LWH	***Moderate-High***	***Low***
[OH30 48] - ONION CREEK Upper RM: 6.00 / Lower RM: 0.00													
76.50	76.50	76.50	**76.5**	**11.8(8.0)**	11.8(8.0)	11.8(8.0)	**8.30**	8.30	8.30	**1**	LWH	***Very High Quality***	***Low***
[OH30 50] - HEWETT FORK Upper RM: 17.80 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH30 51] - ROCKCAMP CREEK Upper RM: 5.10 / Lower RM: 0.00													
55.00	55.00	55.00	**55.0**	**14.9(8.0)**	14.9(8.0)	14.9(8.0)	**4.90**	4.90	4.90	**1**	LWH	***Moderate-High***	***Low***
[OH30 52] - COAL RUN Upper RM: 1.60 / Lower RM: 0.00													
55.00	55.00	55.00	**55.0**	**58.8(4.0)**	58.8(4.0)	58.8(4.0)	**0.80**	0.80	0.80	**1**	LWH	***Moderate-High***	***Low***
[OH30 54] - GRASS RUN Upper RM: 2.80 / Lower RM: 0.00													
55.00	55.00	55.00	**55.0**	**21.7(10)**	21.7(10)	21.7(10)	**2.70**	2.70	2.70	**1**	LWH	***Moderate***	***Low***
[OH30 55] - RACCOON CREEK (BRUSHY CREEK TO HEWETT FORK) Upper RM: 103.06 / Lower RM: 89.54													
59.17	48.50	68.50	**61.7**	**2.1(4.7)**	1.4(4.0)	2.5(6.0)	**110.33**	97.00	134.00	**3**	WWH	***Moderate-High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH30 55.1] - TRIB. TO RACCOON CREEK (RM 98.96) Upper RM: 2.32 / Lower RM: 0.00													
37.00	37.00	37.00	**37.0**	**12.9(8.0)**	12.9(8.0)	12.9(8.0)	**2.50**	2.50	2.50	**1**	NONE	***Low***	***Low***
[OH30 60] - RACCOON CREEK (EAST/WEST BRANCH TO BRUSHY FORK) Upper RM: 111.96 / Lower RM: 103.06													
59.50	59.50	59.50	**61.7**	**3.6(6.0)**	3.6(6.0)	3.6(6.0)	**50.00**	50.00	50.00	**1**	WWH	***Moderate-High***	***Low-Mod.***
[OH30 62] - TWOMILE RUN Upper RM: 4.30 / Lower RM: 0.00													
65.00	63.00	67.00	**65.0**	**20.8(10)**	20.8(10)	20.8(10)	**4.70**	4.70	4.70	**2**	LWH	***High***	***Mod.***
[OH30 63] - EAST BRANCH RACCOON CREEK Upper RM: 9.30 / Lower RM: 0.00													
68.50	63.00	74.00	**68.5**	**17.1(10)**	8.2(10)	26.0(10)	**9.20**	3.20	15.20	**2**	LRW	***Essentially None***	***High***
[OH30 64] - WEST BRANCH RACCOON CREEK Upper RM: 8.10 / Lower RM: 0.00													
57.75	53.50	62.00	**57.8**	**16.1(10)**	10.2(10)	22.0(10)	**13.20**	4.50	21.90	**2**	LWH	***Moderate-High***	***Mod.***
SE TRIBS (LITTLE INDIAN GUYAN CREEK) - [Watershed QHEI: 66.8, N = 9]													
[OH31 2] - INDIAN GUYAN CREEK (L. INDIAN GUYAN CR. TO OHIO R) Upper RM: 14.63 / Lower RM: 0.00													
71.50	71.50	71.50	**71.5**	**6.3(8.0)**	6.3(8.0)	6.3(8.0)	**67.00**	67.00	67.00	**1**	WWH	***High***	***Low***
[OH31 33] - RACCOON CREEK (CLAYLICK RUN TO OHIO RIVER) Upper RM: 12.65 / Lower RM: 0.00													
68.50	55.00	81.00	**61.7**	**1.1(8.7)**	0.1(6.0)	1.5(10)	**652.33**	648.00	661.00	**3**	WWH	***Moderate - High***	***High***
[OH31 49] - RACCOON CREEK (LITTLE RACCOON CREEK TO RYAN RUN) Upper RM: 37.55 / Lower RM: 27.83													
64.83	62.50	67.50	**61.7**	**1.8(6.7)**	1.7(6.0)	2.0(8.0)	**571.33**	542.00	586.00	**3**	WWH	***Moderate - High***	***High***
[OH31 50] - INDIAN CREEK Upper RM: 9.10 / Lower RM: 0.00													
65.00	54.00	76.00	**65.0**	**9.5(10)**	9.5(10)	9.5(10)	**10.30**	10.30	10.30	**2**	WWH	***High***	***Mod.***
SE TRIBS (SYMMES CREEK) - [Watershed QHEI: 58.7, N = 9]													
[OH32 1] - SYMMES CREEK (VENISONHAM CREEK TO OHIO RIVER) Upper RM: 17.01 / Lower RM: 0.00													
79.00	79.00	79.00	**79.0**	**2.0(6.0)**	2.0(6.0)	2.0(6.0)	**335.00**	335.00	335.00	**1**	WWH	***Very High Quality***	***Low***
[OH32 24] - BUFFALO CREEK Upper RM: 7.50 / Lower RM: 0.00													
71.00	68.50	73.50	**71.0**	**8.2(8.0)**	7.1(6.0)	9.3(10)	**9.70**	3.10	16.30	**2**	WWH	***High***	***Mod.***
[OH32 25] - COULLEY FORK Upper RM: 3.90 / Lower RM: 0.00													
60.25	56.00	64.50	**60.3**	**8.9(6.0)**	8.9(6.0)	8.9(6.0)	**4.60**	4.60	4.60	**2**	WWH	***High***	***Mod.***
[OH32 35] - BLACK FORK Upper RM: 16.05 / Lower RM: 0.00													
56.00	56.00	56.00	**56.0**	**3.7(6.0)**	3.7(6.0)	3.7(6.0)	**33.00**	33.00	33.00	**1**	WWH	***Moderate-High***	***Low***
[OH32 40] - HUNTINGCAMP CREEK Upper RM: 3.40 / Lower RM: 0.00													
43.67	38.50	50.50	**43.7**	**13.6(8.7)**	6.6(6.0)	17.1(10)	**1.77**	1.50	2.30	**3**	WWH	***Low***	***Mod.-High***
SE TRIBS (LITTLE SCIOTO RIVER AND PINE CREEK) - [Watershed QHEI: 73.3, N = 9]													

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH33 3] - LITTLE SCIOTO RIVER (ROCKY FORK TO OHIO RIVER) Upper RM: 18.35 / Lower RM: 0.00													
72.75	67.00	78.50	**74.2**	**3.1(8.0)**	3.1(8.0)	3.1(8.0)	**200.00**	200.00	200.00	**2**	WWH	***High***	***Mod.***
[OH33 12] - ROCKY FORK Upper RM: 15.00 / Lower RM: 0.00													
77.50	77.50	77.50	**77.5**	**4.3(6.0)**	4.3(6.0)	4.3(6.0)	**68.40**	68.40	68.40	**1**	WWH	***Very High Quality***	***Low***
[OH33 28] - LITTLE SCIOTO RIVER (HOLLAND FORK TO ROCKY FORK) Upper RM: 24.12 / Lower RM: 18.35													
77.00	77.00	77.00	**74.2**	**3.4(8.0)**	3.4(8.0)	3.4(8.0)	**108.00**	108.00	108.00	**1**	WWH	***Very High Quality***	***Low-Mod.***
[OH33 31] - BEAR RUN Upper RM: 2.80 / Lower RM: 0.00													
70.50	70.50	70.50	**70.5**	**69.0(4.0)**	69.0(4.0)	69.0(4.0)	**2.60**	2.60	2.60	**1**	WWH	***High***	***Low***
[OH33 61] - PINE CREEK (HALES CREEK TO LITTLE PINE CREEK) Upper RM: 38.15 / Lower RM: 19.53													
73.25	72.50	74.00	**73.3**	**3.0(8.0)**	3.0(8.0)	3.0(8.0)	**107.00**	107.00	107.00	**2**	WWH	***High***	***Low-Mod.***
[OH33 75.1] - WINKLER RUN Upper RM: 2.67 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH33 75.11] - TRIB. TO WINKLER RUN Upper RM: 1.60 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH33 81] - STORMS CREEK Upper RM: 15.50 / Lower RM: 0.00													
68.50	68.50	68.50	**68.5**	**5.5(6.0)**	5.5(6.0)	5.5(6.0)	**32.10**	32.10	32.10	**1**	WWH	***High***	***Low***
[OH33 86] - ICE CREEK Upper RM: 14.50 / Lower RM: 0.00													
74.00	74.00	74.00	**74.0**	**7.3(10)**	7.3(10)	7.3(10)	**36.90**	36.90	36.90	**1**	WWH	***High***	***Low***
UPPER SCIOTO RIVER (AND LITTLE SCIOTO RIVER) - [Watershed QHEI: 47.2, N = 72]													
[OH34 1] - LITTLE SCIOTO RIVER (ROCK FORK TO SCIOTO RIVER) Upper RM: 10.42 / Lower RM: 0.00													
44.14	30.00	76.00	**44.5**	**1.2(3.7)**	0.3(2.0)	2.9(6.0)	**90.61**	72.50	110.00	**14**	WWH; MWH-C	***Essentially None***	***High***
[OH34 1.1] - ROCKSWALE DITCH Upper RM: 2.50 / Lower RM: 0.00													
29.75	24.50	35.00	**29.8**	**4.3(5.0)**	3.0(4.0)	5.6(6.0)	**1.60**	0.20	3.00	**2**	LRW	***Essentially None***	***High***
[OH34 1.2] - COLUMBIA DITCH Upper RM: 2.26 / Lower RM: 0.00													
44.00	44.00	44.00	**44.0**	**9.1(6.0)**	9.1(6.0)	9.1(6.0)	**1.70**	1.70	1.70	**1**	MWH-C	***Essentially None***	***High***
[OH34 1.3] - NORTH ROCKSWALE DITCH Upper RM: 6.71 / Lower RM: 0.00													
38.75	36.50	41.00	**38.8**	**3.8(4.0)**	3.8(4.0)	3.8(4.0)	**3.00**	3.00	3.00	**2**	MWH-C	***Essentially None***	***High***
[OH34 1.4] - RIDER DITCH Upper RM: 1.15 / Lower RM: 0.00													
26.00	26.00	26.00	**26.0**	**37.0(8.0)**	37.0(8.0)	37.0(8.0)	**0.30**	0.30	0.30	**1**	LRW	***Essentially None***	***High***
[OH34 1.5] - COSIC DITCH Upper RM: 2.70 / Lower RM: 0.00													
49.50	49.50	49.50	**49.5**	**33.3(8.0)**	33.3(8.0)	33.3(8.0)	**0.50**	0.50	0.50	**1**	WWH	***Moderate***	***Low***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH34 2] - HONEY CREEK Upper RM: 2.30 / Lower RM: 0.00													
74.00	74.00	74.00	**74.0**	**25.0(10)**	25.0(10)	25.0(10)	**7.30**	7.30	7.30	**1**	WWH	***High***	***Low***
[OH34 3] - LITTLE SCIOTO RIVER (HEADWATERS TO ROCK FORK) Upper RM: 27.22 / Lower RM: 10.42													
49.00	49.00	49.00	**44.5**	**2.9(6.0)**	2.9(6.0)	2.9(6.0)	**47.00**	47.00	47.00	**1**	WWH	***Moderate-High***	***Low-Mod.***
[OH34 5] - SCIOTO RIVER (RUSH CREEK TO LITTLE SCIOTO RIVER) Upper RM: 189.60 / Lower RM: 177.35													
66.38	62.00	69.50	**72.5**	**0.6(4.0)**	0.2(4.0)	0.7(4.0)	**407.50**	407.00	408.00	**4**	WWH	***Moderate - High***	***High***
[OH34 8] - RUSH CREEK Upper RM: 40.10 / Lower RM: 0.00													
50.00	50.00	50.00	**50.0**	**2.8(6.0)**	2.8(6.0)	2.8(6.0)	**85.00**	85.00	85.00	**1**	WWH	***Moderate-High***	***Low***
[OH34 9] - MCDONALD CREEK Upper RM: 10.75 / Lower RM: 0.00													
46.63	21.50	64.50	**46.6**	**6.8(6.5)**	5.3(6.0)	11.1(8.0)	**5.98**	2.70	12.70	**4**	WWH	***Moderate***	***Mod.-High***
[OH34 11] - BIG SWALE Upper RM: 5.00 / Lower RM: 0.00													
8.50	8.50	8.50	**8.5**	**2.4(4.0)**	2.4(4.0)	2.4(4.0)	**7.70**	7.70	7.70	**1**	LRW	***Essentially None***	***High***
[OH34 13] - SCIOTO RIVER (PANTHER CREEK TO RUSH CREEK) Upper RM: 203.56 / Lower RM: 189.60													
63.67	52.50	78.00	**72.5**	**1.3(5.3)**	0.9(4.0)	2.1(8.0)	**236.67**	223.00	261.00	**3**	WWH	***Moderate - High***	***High***
[OH34 14] - WILDCAT CREEK Upper RM: 12.20 / Lower RM: 0.00													
39.00	28.00	50.00	**39.0**	**7.4(8.0)**	6.0(6.0)	8.8(10)	**13.90**	5.80	22.00	**2**	WWH	***Low***	***Mod.***
[OH34 17] - SCIOTO RIVER (SILVER CREEK TO PANTHER CREEK) Upper RM: 213.07 / Lower RM: 203.56													
47.33	37.00	57.50	**72.5**	**1.9(6.7)**	1.2(6.0)	3.3(8.0)	**167.00**	160.00	178.00	**6**	WWH	***Moderate-High***	***High***
[OH34 18] - PANTHER CREEK Upper RM: 10.70 / Lower RM: 0.00													
73.67	66.50	81.00	**73.7**	**10.1(9.3)**	6.1(8.0)	12.2(10)	**15.37**	7.90	22.10	**3**	WWH	***High***	***Mod.-High***
[OH34 24] - SCIOTO RIVER (HEADWATERS TO SILVER CREEK) Upper RM: 238.00 / Lower RM: 213.07													
42.27	23.00	65.50	**72.5**	**2.2(5.5)**	1.0(4.0)	7.0(10)	**80.45**	25.00	129.00	**11**	WWH	***MODERATE***	***High***
[OH34 25] - TAYLOR CREEK Upper RM: 7.80 / Lower RM: 0.00													
63.70	46.50	77.50	**63.7**	**8.2(8.4)**	5.1(6.0)	16.7(10)	**14.18**	12.00	16.30	**5**	WWH	***High***	***High***
[OH34 26] - SILVER CREEK Upper RM: 7.30 / Lower RM: 0.00													
66.25	64.50	68.00	**66.3**	**10.5(10)**	10.5(10)	10.5(10)	**13.60**	13.60	13.60	**2**	WWH	***High***	***Mod.***
[OH34 32] - COTTONWOOD DITCH Upper RM: 6.00 / Lower RM: 0.00													
29.07	20.00	36.00	**29.1**	**2.4(4.3)**	2.1(4.0)	3.7(6.0)	**15.26**	4.00	19.80	**7**	WWH; MWH-C	***Essentially None***	***High***
SCIOTO RIVER (MILL CR.,BOKES CR., FULTON CR.) - [Watershed QHEI: 62.2, N = 74]													
[OH35 1] - MILL CREEK (OTTER RUN TO SCIOTO RIVER) Upper RM: 23.80 / Lower RM: 0.00													
71.41	55.00	91.00	**70.2**	**6.3(7.6)**	0.1(4.0)	12.5(10)	**110.14**	82.00	179.00	**22**	WWH	***High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH35 1.1] - TOWN RUN Upper RM: 1.75 / Lower RM: 0.00													
53.17	45.50	60.50	**53.2**	**8.8(6.0)**	8.8(6.0)	8.8(6.0)	**1.33**	1.20	1.50	**3**	NONE	***Moderate-High***	***Mod.-High***
[OH35 2] - BLUES CREEK Upper RM: 22.70 / Lower RM: 0.00													
62.50	49.50	71.50	**62.5**	**7.3(8.7)**	5.0(6.0)	8.5(10)	**32.63**	25.30	36.30	**3**	MWH-C; WWH	***Essentially None***	***High***
[OH35 7] - BMY TRIBUTARY Upper RM: 5.17 / Lower RM: 0.00													
27.00	27.00	27.00	**27.0**	**10.0(6.0)**	10.0(6.0)	10.0(6.0)	**0.90**	0.90	0.90	**1**	LRW	***Essentially None***	***High***
[OH35 8] - CROSSES RUN Upper RM: 2.20 / Lower RM: 0.00													
52.88	34.00	73.50	**47.9**	**15.6(10)**	15.4(10)	15.9(10)	**3.25**	1.50	5.00	**4**	WWH	***Moderate-High***	***Mod.-High***
[OH35 8.1] - TRIB. TO CROSSES RUN (O.M. SCOTT) Upper RM: 2.10 / Lower RM: 0.00													
37.75	30.50	45.00	**37.8**	**10.1(8.0)**	10.1(8.0)	10.1(8.0)	**1.30**	1.10	1.50	**2**	NONE	***Low***	***Mod.***
[OH35 9] - MILL CREEK (HEADWATERS TO OTTER RUN) Upper RM: 37.80 / Lower RM: 23.80													
67.10	58.50	73.00	**70.2**	**4.6(6.0)**	3.6(6.0)	5.9(6.0)	**61.80**	37.00	72.00	**5**	WWH	***High***	***High***
[OH35 11] - OTTER CREEK Upper RM: 5.80 / Lower RM: 0.00													
67.20	44.00	80.50	**59.4**	**23.7(9.6)**	7.0(8.0)	40.0(10)	**3.40**	1.20	11.10	**5**	WWH	***High***	***High***
[OH35 12] - SCIOTO RIVER (BOKES CREEK TO MILL CREEK) Upper RM: 161.88 / Lower RM: 155.40													
78.33	72.00	89.00	**72.5**	**4.4(10)**	3.0(10)	5.1(10)	**757.67**	755.00	763.00	**3**	WWH	***Very High Quality***	***High***
[OH35 15] - BOKES CREEK (BRUSH RUN TO SCIOTO RIVER) Upper RM: 19.71 / Lower RM: 0.00													
72.44	64.00	82.50	**63.1**	**7.1(7.3)**	3.6(6.0)	14.7(8.0)	**71.90**	61.00	84.10	**8**	WWH	***High***	***High***
[OH35 18] - BOKES CREEK (HEADWATERS TO BRUSH RUN) Upper RM: 39.70 / Lower RM: 19.71													
53.81	43.50	63.50	**63.1**	**3.5(5.5)**	2.3(4.0)	4.4(6.0)	**39.38**	34.00	45.00	**8**	WWH	***Moderate-High***	***High***
[OH35 18.1] - POWDERLICK RUN Upper RM: 5.90 / Lower RM: 0.00													
48.00	34.00	60.50	**48.0**	**27.3(8.0)**	11.9(8.0)	35.0(8.0)	**3.40**	3.00	3.60	**3**	NONE	***Moderate-High***	***Mod.-High***
[OH35 21] - W. FK. WEST MANSFIELD TRIB. Upper RM: 2.50 / Lower RM: 0.00													
59.00	59.00	59.00	**59.0**	**4.4(4.0)**	4.4(4.0)	4.4(4.0)	**5.00**	5.00	5.00	**1**	WWH	***Low - Moderate***	***Low***
[OH35 23] - MAYOR PAINTER DITCH Upper RM: 3.60 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH35 25] - FULTON CREEK Upper RM: 16.60 / Lower RM: 0.00													
55.00	55.00	55.00	**55.0**	**3.9(6.0)**	3.9(6.0)	3.9(6.0)	**23.00**	23.00	23.00	**1**	WWH	***Moderate-High***	***Low***
[OH35 25.1] - TRIB. TO FULTON CREEK Upper RM: 3.30 / Lower RM: 0.00													
19.50	19.50	19.50	**19.5**	**11.6(8.0)**	11.6(8.0)	11.6(8.0)	**2.90**	2.90	2.90	**1**	LRW	***Essentially None***	***High***
[OH35 27] - SCIOTO RIVER (LITTLE SCIOTO RIVER TO FULTON CREEK) Upper RM: 177.35 / Lower RM: 165.44													
51.33	41.50	63.50	**72.5**	**1.4(5.3)**	0.7(4.0)	2.6(8.0)	**537.33**	522.00	564.00	**3**	WWH	***Moderate-High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH35 30] - OTTAWA CREEK Upper RM: 4.10 / Lower RM: 0.00													
22.00	22.00	22.00	**19.3**	**2.5(4.0)**	2.5(4.0)	2.5(4.0)	**3.80**	3.80	3.80	**1**	LRW; WWH	***Essentially None***	***High***
UPPER OLENTANGY RIVER - [Watershed QHEI: 64.0, N = 39]													
[OH36 1] - OLENTANGY RIVER (WHETSTONE CREEK TO DELAWARE RUN) Upper RM: 36.07 / Lower RM: 25.71													
67.50	52.00	83.00	**74.6**	**1.9(6.0)**	0.1(4.0)	3.6(8.0)	**401.50**	394.00	409.00	**2**	WWH	***Moderate - High***	***Mod.***
[OH36 11] - SHAW CREEK Upper RM: 18.20 / Lower RM: 0.00													
59.50	59.00	60.00	**59.5**	**6.5(10)**	6.5(10)	6.5(10)	**30.00**	30.00	30.00	**2**	WWH	***Moderate-High***	***Low-Mod.***
[OH36 12] - WHETSTONE CREEK (HEADWATERS TO SHAW CREEK) Upper RM: 34.97 / Lower RM: 8.47													
70.67	38.50	90.00	**70.7**	**7.3(8.2)**	5.1(6.0)	15.6(10)	**41.89**	26.00	62.00	**9**	EWH	***High***	***High***
[OH36 21.1] - MACK DITCH Upper RM: 1.79 / Lower RM: 0.00													
22.00	22.00	22.00	**22.0**	**5.3(6.0)**	5.3(6.0)	5.3(6.0)	**2.80**	2.80	2.80	**1**	LRW	***Essentially None***	***High***
[OH36 21.2] - LAUCHER & BERRINGER DITCH Upper RM: 1.06 / Lower RM: 0.00													
25.00	25.00	25.00	**25.0**	**5.3(6.0)**	5.3(6.0)	5.3(6.0)	**1.40**	1.40	1.40	**1**	LRW	***Essentially None***	***High***
[OH36 22] - GRAVE CREEK Upper RM: 8.60 / Lower RM: 0.00													
80.50	80.50	80.50	**80.5**	**8.6(10)**	8.6(10)	8.6(10)	**11.70**	11.70	11.70	**1**	WWH	***Very High Quality***	***Low***
[OH36 23] - OLENTANGY RIVER (MUD RUN TO GRAVE CREEK) Upper RM: 62.44 / Lower RM: 45.35													
76.50	69.00	86.00	**74.6**	**5.7(8.7)**	3.9(8.0)	9.3(10)	**135.00**	91.00	157.00	**3**	WWH	***Very High Quality***	***High***
[OH36 30] - FLAT RUN Upper RM: 15.40 / Lower RM: 0.00													
63.00	63.00	63.00	**63.0**	**3.3(6.0)**	3.3(6.0)	3.3(6.0)	**40.90**	40.90	40.90	**1**	WWH	***High***	***Low***
[OH36 34] - MUD RUN (TRIB. OF OLENTANGY RIVER) Upper RM: 10.50 / Lower RM: 0.00													
27.50	27.50	27.50	**27.5**	**3.7(6.0)**	3.7(6.0)	3.7(6.0)	**17.70**	17.70	17.70	**1**	MWH	***Essentially None***	***High***
[OH36 35] - OLENTANGY RIVER (HEADWATERS TO MUD RUN) Upper RM: 92.98 / Lower RM: 62.44													
72.86	45.50	91.50	**74.6**	**11.7(8.6)**	1.5(4.0)	17.2(10)	**18.95**	4.50	67.00	**14**	WWH	***High***	***High***
[OH36 35.1] - ZIMMERMAN DITCH Upper RM: 3.20 / Lower RM: 0.00													
42.00	27.00	57.00	**42.0**	**16.8(9.0)**	13.9(8.0)	19.6(10)	**0.35**	0.30	0.40	**2**	LRW	***Essentially None***	***High***
[OH36 35.2] - SHUMAKER DITCH Upper RM: 0.95 / Lower RM: 0.00													
27.50	21.00	34.00	**27.5**	**40.0(8.0)**	40.0(8.0)	40.0(8.0)	**0.30**	0.30	0.30	**2**	LRW	***Essentially None***	***High***
LOWER OLENTANGY RIVER - [Watershed QHEI: 69.9, N = 118]													
[OH37 1] - SCIOTO RIVER (SCIOTO BIG RUN TO BIG WALNUT CREEK) Upper RM: 124.40 / Lower RM: 117.15													
75.14	65.00	85.50	**72.5**	**1.6(10)**	1.4(10)	2.5(10)	**1696.97**	999.00	1708.00	**33**	WWH	***Very High Quality***	***High***
[OH37 1.1] - REPUBLICAN RUN (GROVE CITY) Upper RM: 3.50 / Lower RM: 0.00													
58.50	54.50	62.50	**58.5**	**33.9(9.0)**	27.8(8.0)	40.0(10)	**2.75**	1.00	4.50	**2**	WWH	***Moderate-High***	***Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH37 1.2] - SOUTH BRANCH REPUBLICAN RUN Upper RM: 3.75 / Lower RM: 0.00													
39.50	32.00	47.00	**39.5**	**51.3(6.0)**	31.3(4.0)	71.4(8.0)	**1.00**	0.90	1.10	**2**	LRW	***Essentially None***	***High***
[OH37 3] - GRANT RUN Upper RM: 2.20 / Lower RM: 0.00													
68.83	47.00	87.00	**68.8**	**18.3(9.3)**	14.3(8.0)	26.3(10)	**11.10**	10.30	12.60	**3**	WWH	***High***	***Mod.-High***
[OH37 4] - SCIOTO BIG RUN Upper RM: 8.00 / Lower RM: 0.00													
63.00	61.00	64.50	**63.0**	**15.3(9.3)**	6.9(8.0)	26.3(10)	**17.20**	14.30	18.80	**3**	WWH	***High***	***Mod.-High***
[OH37 5] - MARSH RUN Upper RM: 3.00 / Lower RM: 0.00													
67.00	67.00	67.00	**67.0**	**37.0(8.0)**	37.0(8.0)	37.0(8.0)	**1.90**	1.90	1.90	**1**	WWH	***High***	***Low***
[OH37 6] - SCIOTO RIVER (OLENTANGY RIVER TO SCIOTO BIG RUN) Upper RM: 132.33 / Lower RM: 124.40													
66.29	26.50	83.00	**72.5**	**1.5(9.3)**	0.1(6.0)	1.9(10)	**1623.45**	999.00	1629.00	**29**	MWH-I; WWH	***Essentially None***	***High***
[OH37 6.1] - WILLIAMS DITCH Upper RM: 2.40 / Lower RM: 0.00													
20.50	20.50	20.50	**20.5**	**5.1(6.0)**	5.1(6.0)	5.1(6.0)	**1.60**	1.60	1.60	**1**	LRW	***Essentially None***	***High***
[OH37 9] - OLENTANGY RIVER (BARTHOLOMEW RUN TO SCIOTO RIVER) Upper RM: 14.48 / Lower RM: 0.00													
73.06	54.00	89.50	**74.6**	**2.5(6.8)**	0.1(4.0)	6.0(10)	**523.63**	489.00	543.00	**8**	EWH; WWH	***High***	***High***
[OH37 9.1] - NORMAN DITCH (COLUMBUS) Upper RM: 1.50 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH37 12] - RUSH RUN Upper RM: 1.50 / Lower RM: 0.00													
69.00	69.00	69.00	**69.0**	**83.3(4.0)**	83.3(4.0)	83.3(4.0)	**1.90**	1.90	1.90	**1**	WWH	***High***	
[OH37 13] - OLENTANGY RIVER (DELAWARE RUN TO BARTHOLOMEW RUN) Upper RM: 25.71 / Lower RM: 14.48													
80.43	67.50	94.00	**74.6**	**6.5(9.1)**	3.0(8.0)	11.1(10)	**445.00**	431.00	483.00	**7**	WWH; EWH	***Extremely High***	***High***
[OH37 19] - SCIOTO RIVER (INDIAN RUN TO OLENTANGY RIVER) Upper RM: 145.18 / Lower RM: 132.33													
72.50	51.00	83.50	**72.5**	**1.0(8.7)**	0.1(6.0)	1.5(10)	**1058.17**	999.00	1068.00	**18**	WWH	***Moderate - High***	***High***
[OH37 19.2] - TRABUE RUN Upper RM: 5.30 / Lower RM: 0.00													
58.00	48.50	63.50	**58.0**	**36.3(8.5)**	22.2(4.0)	71.4(10)	**2.48**	0.70	5.90	**4**		***Moderate-High***	***Mod.-High***
[OH37 20] - DRY RUN Upper RM: 1.40 / Lower RM: 0.00													
70.50	70.50	70.50	**62.5**	**33.3(8.0)**	33.3(8.0)	33.3(8.0)	**5.70**	5.70	5.70	**1**	WWH	***High***	***Low-Mod.***
[OH37 25] - SCIOTO RIVER (MILL CREEK TO INDIAN RUN) Upper RM: 155.40 / Lower RM: 145.18													
73.67	50.00	88.00	**72.5**	**2.9(8.7)**	0.1(6.0)	4.3(10)	**985.67**	977.00	990.00	**3**	WWH	***High***	***High***
[OH37 27] - EVERSOLE RUN Upper RM: 3.60 / Lower RM: 0.00													
61.00	52.00	70.00	**61.0**	**29.5(3.0)**	0.1(2.0)	58.8(4.0)	**11.95**	9.80	14.10	**2**	WWH	***High***	***Mod.***

BIG WALNUT CREEK - [Watershed QHEI: 69.2, N = 56]

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH38 1] - BIG WALNUT CREEK (ALUM/BLACKLICK CR. TO SCIOTO R.) Upper RM: 15.30 / Lower RM: 0.00													
68.13	62.50	80.00	**75.7**	**3.0(8.0)**	1.8(6.0)	5.3(10)	**545.25**	534.00	555.00	**4**	EWH	***High***	***High***
[OH38 2] - ALUM CREEK (COLUMBUS BOUNDARY TO BIG WALNUT CREEK) Upper RM: 19.90 / Lower RM: 0.00													
75.19	64.00	89.00	**75.2**	**4.2(9.5)**	2.7(8.0)	6.0(10)	**173.00**	146.00	199.00	**8**	WWH	***Very High Quality***	***High***
[OH38 2.2] - AMERICAN DITCH (ALUM CREEK RM 9.45) Upper RM: 2.60 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH38 4.2] - NOBLE RUN (SPRING HOLLOW) Upper RM: 6.11 / Lower RM: 0.00													
66.00	66.00	66.00	**66.0**	**23.8(10)**	23.8(10)	23.8(10)	**3.90**	3.90	3.90	**1**	WWH	***High***	***Low***
[OH38 4.3] - TRIB. TO ALUM CREEK (POLARIS) Upper RM: 3.55 / Lower RM: 0.00													
45.00	38.50	51.50	**45.0**	**31.9(7.0)**	20.4(4.0)	43.5(10)	**0.45**	0.40	0.50	**2**		***Low***	***Mod.***
[OH38 17] - BLACKLICK CREEK Upper RM: 28.00 / Lower RM: 0.00													
67.50	39.00	94.50	**67.5**	**14.8(9.1)**	6.0(8.0)	28.6(10)	**34.71**	4.30	60.00	**13**	WWH; EWH	***High***	***High***
[OH38 18] - BIG WALNUT CREEK (ROCKY FORK TO ALUM CREEK) Upper RM: 28.30 / Lower RM: 15.30													
80.67	67.00	89.00	**75.7**	**4.8(9.7)**	2.9(8.0)	5.3(10)	**247.33**	206.00	272.00	**6**	WWH; EWH	***Very High Quality***	***High***
[OH38 20] - BIG WALNUT CREEK (HOOVER RES. DAM TO ROCKY FORK) Upper RM: 37.60 / Lower RM: 28.30													
86.00	84.00	88.50	**75.7**	**4.9(10)**	4.4(10)	5.8(10)	**193.00**	190.00	199.00	**3**	WWH	***Very High Quality***	***High***
[OH38 21] - ROCKY FORK Upper RM: 13.00 / Lower RM: 0.00													
61.55	49.50	90.50	**61.5**	**14.1(7.6)**	7.9(4.0)	45.5(10)	**14.15**	5.90	25.60	**11**	WWH; EWH	***High***	***High***
[OH38 21.1] - ROSE RUN Upper RM: 3.40 / Lower RM: 0.00													
70.00	68.50	71.50	**70.0**	**31.1(9.0)**	22.2(8.0)	40.0(10)	**1.95**	1.30	2.60	**2**	WWH	***High***	***Mod.***
[OH38 21.2] - SUGAR RUN (NEW ALBANY) Upper RM: 5.83 / Lower RM: 0.00													
68.50	60.00	77.00	**68.5**	**14.6(9.0)**	13.3(8.0)	15.9(10)	**3.75**	3.50	4.00	**2**	WWH	***High***	***Mod.***
[OH38 36] - BIG WALNUT CREEK (REYNOLDS RUN TO CULVER CREEK) Upper RM: 62.76 / Lower RM: 53.35													
75.00	72.50	77.50	**75.7**	**18.2(8.0)**	18.2(8.0)	18.2(8.0)	**35.00**	35.00	35.00	**2**	WWH	***Very High Quality***	***Mod.***
[OH38 40] - BIG WALNUT CREEK (HEADWATERS TO REYNOLDS RUN) Upper RM: 71.70 / Lower RM: 62.76													
61.00	57.50	64.50	**75.7**	**6.8(8.0)**	5.0(6.0)	8.7(10)	**22.00**	17.00	27.00	**2**	WWH	***High***	***Mod.***
BIG DARBY CREEK - [Watershed QHEI: 68.0, N = 192]													
[OH39 1] - BIG DARBY CREEK (DARBYVILLE TO SCIOTO RIVER) Upper RM: 12.93 / Lower RM: 0.00													
87.38	81.00	91.50	**82.7**	**2.9(8.0)**	2.9(8.0)	3.3(8.0)	**551.00**	545.00	552.00	**8**	EWH	***Extremely High***	***High***
[OH39 1.1] - TRIB. TO BIG DARBY CREEK (RM 8.80) Upper RM: 3.50 / Lower RM: 0.00													
76.00	76.00	76.00	**71.5**	**55.6(4.0)**	55.6(4.0)	55.6(4.0)	**1.40**	1.40	1.40	**1**	WWH	***Very High Quality***	***Low***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH39 1.2] - TRIB. TO BIG DARBY CREEK (RM 9.11) Upper RM: 2.30 / Lower RM: 0.00													
76.00	71.50	80.50	**76.0**	**39.1(7.0)**	25.6(4.0)	52.6(10)	**3.05**	1.80	4.30	**2**		***Very High Quality***	
[OH39 2] - BIG DARBY CREEK (HELLBRANCH RUN TO LIZZARD RUN) Upper RM: 25.70 / Lower RM: 12.93													
88.92	80.00	98.50	**82.7**	**5.4(10)**	4.1(10)	7.9(10)	**512.92**	496.00	534.00	**12**	EWH	***Extremely High***	***High***
[OH39 6] - HELLBRANCH RUN Upper RM: 11.18 / Lower RM: 0.00													
67.08	43.50	88.00	**67.1**	**10.7(9.2)**	3.4(6.0)	20.8(10)	**31.28**	23.70	35.40	**12**	WWH	***High***	***High***
[OH39 6.1] - CLOVER GROFF DITCH Upper RM: 8.50 / Lower RM: 0.00													
36.30	25.00	65.00	**36.3**	**9.0(6.5)**	3.1(4.0)	12.1(8.0)	**4.81**	1.60	6.70	**15**	MWH-C; WWH	***Essentially None***	***High***
[OH39 6.2] - HAMILTON DITCH Upper RM: 6.20 / Lower RM: 0.00													
53.50	34.00	74.50	**53.5**	**8.6(7.2)**	4.4(4.0)	11.9(10)	**5.68**	3.40	9.40	**5**	MWH-C; WWH	***Essentially None***	***High***
[OH39 7] - BIG DARBY CREEK (L. DARBY CREEK TO HELLBRANCH RUN) Upper RM: 34.10 / Lower RM: 25.70													
86.25	80.50	94.00	**82.7**	**4.9(10)**	4.1(10)	5.9(10)	**446.33**	433.00	453.00	**6**	EWH	***Extremely High***	***High***
[OH39 8] - LITTLE DARBY CREEK (SPRING FORK TO BIG DARBY CR.) Upper RM: 7.50 / Lower RM: 0.00													
83.67	56.00	100.00	**74.2**	**8.0(10)**	5.6(10)	9.9(10)	**169.67**	163.00	176.00	**3**	EWH	***Very High***	***High***
[OH39 9] - SPRING FORK Upper RM: 16.00 / Lower RM: 0.00													
70.67	48.00	90.00	**70.7**	**11.5(8.7)**	3.3(6.0)	17.2(10)	**20.57**	4.30	38.10	**3**	EWH	***High***	***Mod.-High***
[OH39 10] - LITTLE DARBY CREEK (TREACLE CREEK TO SPRING FORK) Upper RM: 31.30 / Lower RM: 7.50													
73.57	52.50	91.00	**74.2**	**2.6(7.0)**	2.0(4.0)	2.7(8.0)	**126.33**	83.00	151.00	**21**	EWH	***High***	***High***
[OH39 12] - TREACLE CREEK Upper RM: 14.20 / Lower RM: 0.00													
49.50	33.00	66.00	**49.5**	**8.4(8.0)**	3.5(6.0)	13.3(10)	**23.80**	10.30	37.30	**2**	EWH	***Moderate-High***	***Low-Mod.***
[OH39 13] - PROCTOR RUN Upper RM: 6.00 / Lower RM: 0.00													
71.50	71.50	71.50	**71.5**	**12.4(10)**	12.4(10)	12.4(10)	**10.00**	10.00	10.00	**1**	EWH	***High***	***Low***
[OH39 15] - LITTLE DARBY CREEK (HEADWATERS TO TREACLE CREEK) Upper RM: 45.00 / Lower RM: 31.30													
70.50	41.50	91.00	**74.2**	**18.7(7.5)**	4.5(4.0)	43.5(10)	**14.30**	2.80	28.00	**4**	EWH	***High***	***High***
[OH39 19] - BIG DARBY CREEK (FITZGERALD DITCH TO L. DARBY CR.) Upper RM: 44.96 / Lower RM: 34.10													
83.55	69.50	97.50	**82.7**	**5.5(9.3)**	3.5(8.0)	9.8(10)	**235.36**	217.00	247.00	**11**	EWH	***Extremely High***	***High***
[OH39 19.1] - FITZGERALD DITCH Upper RM: 4.60 / Lower RM: 0.00													
38.50	38.50	38.50	**38.5**	**33.3(8.0)**	33.3(8.0)	33.3(8.0)	**4.90**	4.90	4.90	**1**		***Low***	***Low***
[OH39 21] - BIG DARBY CREEK (SUGAR RUN TO FITZGERALD DITCH) Upper RM: 50.92 / Lower RM: 44.96													
84.75	73.50	96.00	**82.7**	**4.1(9.0)**	3.5(8.0)	4.7(10)	**200.00**	188.00	212.00	**2**	EWH	***Extremely High***	***Mod.***
[OH39 22] - BIG DARBY CREEK (BUCK RUN TO SUGAR RUN) Upper RM: 63.74 / Lower RM: 50.92													
81.58	66.00	95.50	**82.7**	**5.0(9.2)**	3.4(8.0)	8.9(10)	**131.54**	89.00	156.00	**13**	EWH	***Extremely High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH39 23] - SUGAR RUN Upper RM: 8.00 / Lower RM: 0.00													
58.73	34.00	72.00	**56.0**	**3.0(6.9)**	0.1(6.0)	9.1(10)	******.****	3.90	****.**	**31**	WWH	***Moderate-High***	***High***
[OH39 24] - ROBINSON RUN Upper RM: 3.20 / Lower RM: 0.00													
72.00	72.00	72.00	**72.0**	**15.9(10)**	15.9(10)	15.9(10)	**11.50**	11.50	11.50	**1**	WWH	***High***	***Low***
[OH39 26] - BIG DARBY CREEK (SPAIN CREEK TO BUCK RUN) Upper RM: 74.30 / Lower RM: 63.74													
73.00	67.50	78.50	**82.7**	**5.1(7.0)**	4.4(6.0)	5.9(8.0)	**78.50**	74.00	83.00	**2**	EWH	***High***	***Mod.***
[OH39 27] - BUCK RUN Upper RM: 14.70 / Lower RM: 0.00													
55.19	30.50	81.50	**55.2**	**7.3(7.3)**	4.8(6.0)	14.7(10)	**15.76**	2.40	29.80	**16**	WWH	***Moderate-High***	***High***
[OH39 30] - PLEASANT RUN Upper RM: 8.00 / Lower RM: 0.00													
67.50	67.50	67.50	**67.5**	**14.3(10)**	14.3(10)	14.3(10)	**9.40**	9.40	9.40	**1**	EWH	***High***	***Low***
[OH39 31] - BIG DARBY CREEK (HEADWATERS TO SPAIN CREEK) Upper RM: 83.70 / Lower RM: 74.30													
71.15	63.50	77.00	**82.7**	**15.0(8.4)**	6.9(4.0)	43.5(10)	**15.10**	1.50	32.00	**10**	WWH; EWH	***High***	***High***
[OH39 31.1] - SPAIN CREEK Upper RM: 7.30 / Lower RM: 0.00													
77.00	74.00	82.50	**77.0**	**21.4(9.5)**	11.4(8.0)	26.3(10)	**8.33**	6.00	9.10	**4**	WWH	***Very High Quality***	***Mod.-High***
[OH39 32] - LITTLE DARBY CREEK Upper RM: 6.00 / Lower RM: 0.00													
76.00	63.50	88.50	**76.0**	**28.8(9.0)**	26.3(8.0)	31.3(10)	**3.90**	2.40	5.40	**2**	EWH	***Very High Quality***	***Mod.***
[OH39 33] - FLAT BRANCH Upper RM: 4.70 / Lower RM: 0.00													
39.00	28.50	60.00	**39.0**	**4.9(6.0)**	4.9(6.0)	4.9(6.0)	**14.07**	13.90	14.40	**3**	MWH-C	***Essentially None***	***High***
WALNUT CREEK - [Watershed QHEI: 74.5, N = 106]													
[OH40 1] - SCIOTO RIVER (WALNUT CREEK TO BIG DARBY CREEK) Upper RM: 106.10 / Lower RM: 100.80													
78.44	72.00	87.50	**72.5**	**1.2(8.9)**	1.0(8.0)	1.4(10)	**2622.33**	999.00	2638.00	**18**	EWH	***Very High Quality***	***High***
[OH40 4] - WALNUT CREEK (LITTLE WALNUT CREEK TO SCIOTO RIVER) Upper RM: 5.47 / Lower RM: 0.00													
78.00	74.00	81.00	**72.0**	**2.8(8.0)**	2.6(8.0)	3.3(8.0)	**276.67**	272.00	285.00	**3**	WWH	***Very High Quality***	***High***
[OH40 5] - LITTLE WALNUT CREEK Upper RM: 12.45 / Lower RM: 0.00													
58.00	58.00	58.00	**58.0**	**25.0(6.0)**	25.0(6.0)	25.0(6.0)	**44.00**	44.00	44.00	**1**	WWH	***Moderate-High***	***Low***
[OH40 9] - WALNUT CREEK (GEORGE CREEK TO LITTLE WALNUT CREEK) Upper RM: 21.15 / Lower RM: 5.47													
70.42	59.00	79.00	**72.0**	**3.2(8.7)**	2.5(8.0)	5.1(10)	**191.17**	177.00	212.00	**6**	WWH	***High***	***High***
[OH40 12.1] - TRIB. TO GEORGES CREEK Upper RM: 8.50 / Lower RM: 0.00													
65.00	65.00	65.00	**65.0**	**41.7(4.0)**	41.7(4.0)	41.7(4.0)	**1.50**	1.50	1.50	**1**	NONE	***High***	***Low***
[OH40 13] - WALNUT CREEK (SYCAMORE CREEK TO GEORGE CREEK) Upper RM: 29.18 / Lower RM: 21.15													
72.10	65.50	76.00	**72.0**	**3.8(9.2)**	3.2(8.0)	4.1(10)	**149.20**	146.00	152.00	**5**	WWH	***High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH40 14] - TUSSING DITCH Upper RM: 8.00 / Lower RM: 0.00													
47.00	28.00	66.00	**47.0**	**11.5(8.0)**	10.6(8.0)	12.3(8.0)	**4.00**	4.00	4.00	**2**	MWH-C; WWH	***Essentially None***	***High***
[OH40 15] - SYCAMORE CREEK Upper RM: 13.60 / Lower RM: 0.00													
72.80	61.00	80.00	**72.8**	**11.5(10)**	6.9(10)	13.0(10)	**20.70**	17.30	24.30	**5**	WWH	***High***	***High***
[OH40 16] - WALNUT CREEK (PAWPAW CREEK TO SYCAMORE CREEK) Upper RM: 41.39 / Lower RM: 29.18													
72.25	60.50	81.00	**72.0**	**5.4(8.3)**	4.8(6.0)	6.8(10)	**92.00**	62.00	114.00	**8**	WWH	***High***	***High***
[OH40 17] - GILLETTE RUN Upper RM: 6.50 / Lower RM: 0.00													
66.50	66.50	66.50	**66.5**	**6.9(6.0)**	6.9(6.0)	6.9(6.0)	**3.50**	3.50	3.50	**1**	NONE	***High***	***Low***
[OH40 19] - PAWPAW CREEK Upper RM: 4.70 / Lower RM: 0.00													
54.50	52.00	57.00	**54.5**	**10.0(10)**	10.0(10)	10.0(10)	**14.00**	11.00	17.00	**2**	WWH	***Moderate***	***Mod.***
[OH40 20] - ZELLERBACH TRIB. Upper RM: 6.79 / Lower RM: 0.00													
54.00	54.00	54.00	**54.0**	**26.3(10)**	26.3(10)	26.3(10)	**6.50**	6.50	6.50	**1**	WWH	***Moderate-High***	***Low***
[OH40 21] - WALNUT CREEK (HEADWATERS TO PAWPAW CREEK) Upper RM: 54.44 / Lower RM: 41.39													
67.00	62.00	72.00	**72.0**	**5.4(8.0)**	4.5(6.0)	6.3(10)	**33.50**	26.00	41.00	**2**	WWH	***High***	***Mod.***
[OH40 22] - PLEASANTVILLE-THURSTON WWTP TRIB. Upper RM: 7.40 / Lower RM: 0.00													
61.25	58.50	64.00	**61.3**	**9.8(10)**	9.8(10)	9.8(10)	**10.00**	10.00	10.00	**2**	WWH	***High***	***Mod.***
[OH40 23] - SCIOTO RIVER (BIG WALNUT CREEK TO WALNUT CREEK) Upper RM: 117.15 / Lower RM: 106.10													
78.07	59.00	90.00	**72.5**	**1.2(9.1)**	1.0(8.0)	1.4(10)	**2288.67**	999.00	2314.00	**49**	WWH; EWH	***Very High***	***High***
MIDDLE SCIOTO RIVER (INCLUDING DEER CREEK) - [Watershed QHEI: 70.5, N = 103]													
[OH41 1] - SCIOTO RIVER (KINNIKINNICK CREEK TO PAINT CREEK) Upper RM: 82.96 / Lower RM: 63.50													
74.37	54.00	83.50	**72.5**	**1.8(10)**	1.7(10)	2.1(10)	**3846.07**	999.00	3866.00	**15**	WWH	***Moderate - High***	***High***
[OH41 5] - KINNIKINNICK CREEK Upper RM: 14.40 / Lower RM: 0.00													
71.75	63.00	80.50	**71.8**	**8.4(10)**	7.8(10)	9.1(10)	**22.10**	11.30	32.90	**2**	EWH	***High***	***Low-Mod.***
[OH41 6] - SCIOTO RIVER (SCIPPO CREEK TO KINNIKINNICK CREEK) Upper RM: 89.60 / Lower RM: 82.97													
73.20	52.00	86.00	**72.5**	**1.1(9.2)**	0.8(8.0)	1.6(10)	**3511.00**	999.00	3762.00	**5**	WWH	***Moderate - High***	***High***
[OH41 6.1] - BLACKWATER CREEK Upper RM: 7.00 / Lower RM: 0.00													
54.63	26.00	74.00	**54.6**	**18.4(9.0)**	9.8(6.0)	24.4(10)	**3.55**	1.20	6.60	**4**	WWH	***Moderate-High***	***Mod.-High***
[OH41 9] - HAY RUN Upper RM: 7.50 / Lower RM: 0.00													
63.50	63.50	63.50	**63.5**	**10.0(10)**	10.0(10)	10.0(10)	**20.10**	20.10	20.10	**1**	WWH	***High***	***Low***
[OH41 14] - BUSKIRK CREEK Upper RM: 5.30 / Lower RM: 0.00													
72.00	69.50	74.50	**72.0**	**21.4(9.0)**	20.0(8.0)	22.7(10)	**11.75**	8.20	15.30	**2**	WWH	***High***	***Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH41 18] - DEER CREEK (BRADFORD/SUGAR CREEK TO DEER CR. RES.) Upper RM: 41.22 / Lower RM: 29.40													
74.33	57.50	87.50	**72.4**	**7.1(8.7)**	3.7(8.0)	11.6(10)	**228.67**	222.00	236.00	**3**	WWH	***High***	***High***
[OH41 26] - DEER CREEK (OAK RUN TO SUGAR RUN) Upper RM: 50.18 / Lower RM: 41.22													
61.00	53.00	69.00	**72.4**	**5.3(9.0)**	3.9(8.0)	6.7(10)	**130.50**	127.00	134.00	**2**	WWH	***High***	***Mod.***
[OH41 28] - OAK RUN Upper RM: 16.61 / Lower RM: 0.00													
52.90	26.00	84.00	**52.9**	**13.0(8.4)**	6.8(6.0)	33.3(10)	**13.00**	1.50	33.00	**10**	WWH	***Moderate***	***High***
[OH41 30] - DEER CREEK (HEADWATERS TO OAK RUN) Upper RM: 74.50 / Lower RM: 50.18													
80.75	75.50	86.00	**72.4**	**2.1(4.0)**	2.1(4.0)	2.1(4.0)	**82.00**	82.00	82.00	**2**	WWH	***Very High Quality***	***Mod.***
[OH41 33] - SCIOTO RIVER (BIG DARBY CREEK TO SCIPPO CREEK) Upper RM: 100.80 / Lower RM: 89.61													
79.39	48.00	92.50	**72.5**	**1.7(10)**	1.0(10)	2.4(10)	**3212.84**	999.00	3245.00	**32**	EWH; WWH	***Very High***	***High***
[OH41 33.1] - TRIB. TO SCIOTO R. (RCA) Upper RM: 2.80 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH41 34] - SCIPPO CREEK Upper RM: 19.47 / Lower RM: 0.00													
71.58	53.50	83.50	**71.6**	**17.4(9.3)**	10.4(4.0)	43.5(10)	**25.29**	1.50	52.70	**12**	WWH; EWH	***High***	***High***
[OH41 34.1] - TRIB. TO SCIPPO CREEK (RM 16.22) Upper RM: 2.07 / Lower RM: 0.00													
54.50	54.50	54.50	**54.5**	**43.5(4.0)**	43.5(4.0)	43.5(4.0)	**1.30**	1.30	1.30	**1**	WWH	***Moderate-High***	***Low***
[OH41 34.2] - TRIB. TO SCIPPO CREEK (RM 18.87) Upper RM: 0.25 / Lower RM: 0.00													
46.00	46.00	46.00	**46.0**	**62.5(4.0)**	62.5(4.0)	62.5(4.0)				**1**	LRW	***Essentially None***	***High***
[OH41 35] - CONGO CREEK Upper RM: 8.50 / Lower RM: 0.00													
70.33	64.50	73.50	**70.3**	**10.7(10)**	7.7(10)	12.5(10)	**13.57**	11.20	16.50	**3**	EWH	***High***	***Mod.-High***
[OH41 36] - YELLOWBUD CREEK Upper RM: 10.60 / Lower RM: 0.00													
78.00	78.00	78.00	**78.0**	**8.5(10)**	8.5(10)	8.5(10)	**33.10**	33.10	33.10	**1**	EWH	***Very High Quality***	***Low***
[OH41 38] - LICK RUN Upper RM: 6.70 / Lower RM: 0.00													
34.00	34.00	34.00	**35.8**	**8.4(6.0)**	8.4(6.0)	8.4(6.0)	**1.10**	1.10	1.10	**1**	WWH	***Low***	***Low-Mod.***
[OH41 39] - HARGUS CREEK Upper RM: 6.60 / Lower RM: 0.00													
59.60	50.50	69.50	**59.6**	**10.8(10)**	7.5(10)	15.6(10)	**14.50**	6.40	19.70	**5**	WWH	***Moderate-High***	***High***
[OH41 40] - HOMINY CREEK Upper RM: 3.70 / Lower RM: 0.00													
51.50	51.50	51.50	**51.5**	**27.8(10)**	27.8(10)	27.8(10)	**6.50**	6.50	6.50	**1**	WWH	***Moderate***	***Low***
UPPER PAINT CREEK - [Watershed QHEI: 65.6, N = 17]													
[OH42 1] - PAINT CREEK (UPPER RESERVOIR TO ROCKY FORK) Upper RM: 51.00 / Lower RM: 37.12													
82.00	82.00	82.00	**74.8**	**8.5(10)**	8.5(10)	8.5(10)	**260.00**	260.00	260.00	**1**	EWH	***Very High Quality***	***Low-Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH42 15] - RATTLESNAKE CREEK (WEST BRANCH TO LEES CREEK) Upper RM: 26.87 / Lower RM: 9.46													
82.50	82.50	82.50	**82.5**	**9.2(10)**	9.2(10)	9.2(10)	**123.00**	123.00	123.00	**1**	EWH	***Very High Quality***	***Low***
[OH42 16] - WEST BRANCH RATTLESNAKE CREEK Upper RM: 11.80 / Lower RM: 0.00													
49.67	29.00	65.00	**49.7**	**4.9(7.3)**	2.4(4.0)	7.0(10)	**41.27**	19.00	63.20	**3**	WWH	***Moderate-High***	***Mod.-High***
[OH42 24] - PAINT CREEK (SUGAR CREEK TO UPPER PAINT CREEK RES) Upper RM: 60.63 / Lower RM: 51.00													
83.33	77.00	89.00	**74.8**	**3.6(8.0)**	3.1(8.0)	3.9(8.0)	**240.00**	224.00	249.00	**3**	EWH	***Very High Quality***	***High***
[OH42 30] - SUGAR CREEK Upper RM: 35.70 / Lower RM: 0.00													
30.00	30.00	30.00	**30.0**	**4.8(6.0)**	4.8(6.0)	4.8(6.0)	**30.00**	30.00	30.00	**1**	WWH	***Essentially None***	***Low***
[OH42 31] - PAINT CREEK (E. FK. PAINT CREEK TO SUGAR CREEK) Upper RM: 69.04 / Lower RM: 60.63													
71.83	62.50	78.00	**74.8**	**1.5(6.7)**	0.1(4.0)	2.2(8.0)	**119.67**	119.00	120.00	**3**	WWH; EWH	***Moderate - High***	***High***
[OH42 35] - PAINT CREEK (JEFFERSONVILLE TO E. FK. PAINT CREEK) Upper RM: 81.60 / Lower RM: 69.04													
61.40	48.00	81.00	**74.8**	**3.0(5.2)**	2.4(4.0)	3.7(6.0)	**58.20**	39.00	67.00	**5**	WWH	***High***	***High***
LOWER PAINT CREEK (N. FK. AND ROCKY FK.) - [Watershed QHEI: 71.7, N = 23]													
[OH43 1] - PAINT CREEK (N. FK. PAINT CREEK TO SCIOTO RIVER) Upper RM: 8.12 / Lower RM: 0.00													
82.00	73.00	93.50	**74.8**	**3.5(10)**	3.4(10)	3.8(10)	**1140.83**	999.00	1144.00	**6**	EWH; WWH	***Extremely High***	***High***
[OH43 8] - NORTH FORK PAINT CREEK (COMPTON CR. TO LITTLE CR.) Upper RM: 24.57 / Lower RM: 11.95													
77.00	77.00	77.00	**77.0**	**6.8(10)**	6.8(10)	6.8(10)	**160.00**	160.00	160.00	**1**	EWH	***Very High Quality***	***Low***
[OH43 15] - COMPTON CREEK Upper RM: 19.90 / Lower RM: 0.00													
83.00	83.00	83.00	**83.0**	**8.7(10)**	8.7(10)	8.7(10)	**59.00**	59.00	59.00	**1**	EWH	***Very High Quality***	***Low***
[OH43 20] - PAINT CREEK (LOWER TWIN CR. TO N. FK. PAINT CR.) Upper RM: 19.57 / Lower RM: 8.12													
81.50	81.50	81.50	**74.8**	**3.8(10)**	3.8(10)	3.8(10)	**896.00**	896.00	896.00	**1**	EWH	***Very High Quality***	***Low-Mod.***
[OH43 27] - PAINT CREEK (ROCKY FORK TO LOWER TWIN CREEK) Upper RM: 37.12 / Lower RM: 19.57													
67.00	67.00	67.00	**74.8**	**6.9(10)**	6.9(10)	6.9(10)	**732.00**	732.00	732.00	**1**	EWH	***High***	***Low-Mod.***
[OH43 49] - CLEAR CREEK Upper RM: 11.90 / Lower RM: 0.00													
69.31	49.00	82.50	**69.3**	**9.6(8.0)**	0.1(2.0)	16.1(10)	**26.00**	13.00	45.00	**8**	EWH	***High***	***High***
[OH43 49.3] - MOBERLY BRANCH CLEAR CREEK Upper RM: 2.64 / Lower RM: 0.00													
67.50	67.50	67.50	**67.5**	**27.4(10)**	27.4(10)	27.4(10)	**2.50**	2.50	2.50	**1**	WWH	***High***	***Low***
[OH43 51] - ROCKY FORK (HEADWATERS TO ROCKY FORK LAKE) Upper RM: 27.50 / Lower RM: 16.88													
56.75	47.00	67.50	**56.8**	**7.9(5.5)**	0.1(2.0)	23.0(10)	**31.50**	14.00	39.00	**4**	EWH	***Moderate-High***	***Mod.-High***
SALT CREEK - [Watershed QHEI: 71.8, N = 30]													
[OH44 1] - SALT CREEK (SALT LICK CREEK TO SCIOTO RIVER) Upper RM: 4.50 / Lower RM: 0.00													
61.75	51.50	72.00	**75.4**	**2.0(8.0)**	2.0(8.0)	2.0(8.0)	**551.00**	549.00	553.00	**2**	EWH	***Moderate - High***	***Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH44 3] - SALT LICK CREEK (BUCKEYE CREEK TO SALT CREEK) Upper RM: 21.28 / Lower RM: 0.00													
68.75	65.00	72.50	**68.8**	**2.4(8.0)**	2.4(8.0)	2.4(8.0)	**246.00**	246.00	246.00	**2**	WWH	***High***	***Low-Mod.***
[OH44 4] - M. FK. SALT LICK CREEK (PIGEON CR TO SALT LICK CR) Upper RM: 4.37 / Lower RM: 0.00													
65.00	65.00	65.00	**66.8**	**2.2(8.0)**	2.2(8.0)	2.2(8.0)	**109.00**	109.00	109.00	**1**	WWH	***High***	***Low-Mod.***
[OH44 8] - M. FK. SALT LICK CREEK (HEADWATERS TO PIGEON CR.) Upper RM: 23.77 / Lower RM: 4.37													
68.50	68.50	68.50	**66.8**	**26.0(10)**	26.0(10)	26.0(10)	**4.90**	4.90	4.90	**1**	WWH	***High***	***Low-Mod.***
[OH44 17] - BUCKEYE CREEK Upper RM: 7.70 / Lower RM: 0.00													
68.00	68.00	68.00	**68.0**	**8.7(10)**	8.7(10)	8.7(10)	**18.00**	18.00	18.00	**1**	EWH	***High***	***Low***
[OH44 19] - SALT CREEK (PIKE RUN TO SALT LICK CREEK) Upper RM: 14.09 / Lower RM: 4.50													
79.75	75.50	84.00	**75.4**	**3.7(9.5)**	2.0(8.0)	4.2(10)	**286.00**	280.00	292.00	**4**	EWH	***Very High Quality***	***High***
[OH44 22] - POE RUN Upper RM: 5.60 / Lower RM: 0.00													
56.00	56.00	56.00	**56.0**	**22.7(10)**	22.7(10)	22.7(10)	**6.40**	6.40	6.40	**1**	EWH	***Moderate-High***	***Low***
[OH44 24] - SALT CREEK (QUEER CREEK TO PIKE RUN) Upper RM: 25.40 / Lower RM: 14.09													
81.17	73.00	87.50	**75.4**	**5.7(10)**	4.5(10)	6.3(10)	**222.33**	214.00	239.00	**3**	EWH	***Very High Quality***	***High***
[OH44 25] - PIKE RUN Upper RM: 9.20 / Lower RM: 0.00													
68.50	68.50	68.50	**68.5**	**7.5(10)**	7.5(10)	7.5(10)	**22.10**	22.10	22.10	**1**	WWH	***High***	***Low***
[OH44 27] - PRETTY RUN Upper RM: 6.80 / Lower RM: 0.00													
74.50	74.50	74.50	**74.5**	**16.2(10)**	16.2(10)	16.2(10)	**16.70**	16.70	16.70	**1**	EWH	***High***	***Low***
[OH44 30] - QUEER CREEK Upper RM: 9.60 / Lower RM: 0.00													
73.50	73.50	73.50	**73.5**	**7.8(10)**	7.8(10)	7.8(10)	**34.30**	34.30	34.30	**1**	EWH	***High***	***Low***
[OH44 32] - EAST FORK QUEER CREEK Upper RM: 6.50 / Lower RM: 0.00													
74.50	74.50	74.50	**74.5**	**15.4(10)**	15.4(10)	15.4(10)	**13.70**	13.70	13.70	**1**	EWH	***High***	***Low***
[OH44 33] - SALT CREEK (LAUREL RUN TO QUEER CREEK) Upper RM: 33.10 / Lower RM: 25.40													
70.17	64.50	75.50	**75.4**	**7.9(10)**	7.6(10)	8.6(10)	**154.33**	115.00	174.00	**3**	EWH	***High***	***High***
[OH44 35] - PINE CREEK Upper RM: 11.80 / Lower RM: 0.00													
75.00	75.00	75.00	**72.1**	**6.6(10)**	6.6(10)	6.6(10)	**21.30**	21.30	21.30	**1**	WWH	***Very High Quality***	***Low-Mod.***
[OH44 44] - LAUREL RUN Upper RM: 13.30 / Lower RM: 0.00													
65.50	65.50	65.50	**65.5**	**9.7(10)**	9.7(10)	9.7(10)	**42.80**	42.80	42.80	**1**	EWH	***High***	***Low***
[OH44 47] - MIDDLE FORK LAUREL RUN Upper RM: 6.20 / Lower RM: 0.00													
70.50	70.50	70.50	**70.5**	**29.9(8.0)**	29.9(8.0)	29.9(8.0)	**11.30**	11.30	11.30	**1**	EWH	***High***	***Low***
[OH44 51] - SALT CREEK (HEADWATERS TO LAUREL CREEK) Upper RM: 45.40 / Lower RM: 33.10													
78.00	74.00	85.50	**75.4**	**19.5(8.0)**	10.2(6.0)	30.3(10)	**25.40**	10.60	48.00	**3**	EWH	***Very High Quality***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH44 54.1] - BEECH FORK Upper RM: 6.97 / Lower RM: 0.00													
64.00	64.00	64.00	**64.0**	**7.5(10)**	7.5(10)	7.5(10)	**18.60**	18.60	18.60	**1**	EWH	***High***	***Low***
[OH44 55] - PLUM RUN Upper RM: 4.30 / Lower RM: 0.00													
62.00	62.00	62.00	**62.0**	**12.5(8.0)**	12.5(8.0)	12.5(8.0)	**5.40**	5.40	5.40	**1**	EWH	***High***	***Low***
SCIOTO RIVER (SUNFISH CR.,BEAVER CR.) - [Watershed QHEI: 76.4, N = 27]													
[OH45 1] - SUNFISH CREEK (CHENOWETH FORK TO SCIOTO RIVER) Upper RM: 8.46 / Lower RM: 0.00													
90.00	90.00	90.00	**84.3**	**1.7(6.0)**	1.7(6.0)	1.7(6.0)	**132.00**	132.00	132.00	**1**	WWH	***Extremely High***	***Low-Mod.***
[OH45 14] - SUNFISH CREEK (HEADWATERS TO MORGAN FORK) Upper RM: 36.00 / Lower RM: 14.33													
78.50	78.50	78.50	**84.3**	**14.9(10)**	14.9(10)	14.9(10)	**14.30**	14.30	14.30	**1**	WWH	***Very High Quality***	***Low-Mod.***
[OH45 20] - BIG BEAVER CREEK Upper RM: 23.20 / Lower RM: 0.00													
69.75	60.50	78.00	**69.8**	**5.7(8.0)**	5.2(8.0)	6.1(8.0)	**64.33**	59.00	69.00	**6**	WWH	***High***	***High***
[OH45 21] - LITTLE BEAVER CREEK Upper RM: 5.90 / Lower RM: 0.00													
76.77	60.00	84.50	**76.8**	**32.9(7.5)**	16.0(4.0)	48.8(10)	**4.12**	2.50	6.30	**13**	WWH	***Very High Quality***	***High***
[OH45 44] - SCIOTO RIVER (SALT CREEK TO PEEPEE CREEK) Upper RM: 51.18 / Lower RM: 38.07													
77.00	77.00	77.00	**72.5**	**1.6(10)**	1.6(10)	1.6(10)	**5694.00**	999.00	5694.00	**1**	WWH	***Very High Quality***	***Low-Mod.***
[OH45 56] - SCIOTO RIVER (PAINT CREEK TO SALT CREEK) Upper RM: 63.50 / Lower RM: 51.18													
81.38	72.50	86.50	**72.5**	**1.7(10)**	1.6(10)	1.7(10)	**5077.50**	999.00	5131.00	**4**	WWH	***Very High Quality***	***High***
[OH45 57] - WALNUT CREEK Upper RM: 21.30 / Lower RM: 0.00													
75.50	75.50	75.50	**75.5**	**10.5(10)**	10.5(10)	10.5(10)	**47.00**	47.00	47.00	**1**	EWH	***Very High Quality***	***Low***
LOWER SCIOTO RIVER (AND SCIOTO BRUSH CREEK) - [Watershed QHEI: 69.7, N = 10]													
[OH46 1] - SCIOTO RIVER (SCIOTO BRUSH CREEK TO OHIO RIVER) Upper RM: 9.20 / Lower RM: 0.00													
82.00	82.00	82.00	**72.5**	**1.1(10)**	1.1(10)	1.1(10)	**6471.00**	999.00	6471.00	**1**	WWH	***Very High Quality***	***Low-Mod.***
[OH46 7] - SCIOTO BRUSH CREEK (MCCULLOUGH CREEK TO SCIOTO R.) Upper RM: 10.20 / Lower RM: 0.00													
78.00	78.00	78.00	**78.0**	**3.0(8.0)**	3.0(8.0)	3.0(8.0)	**266.00**	266.00	266.00	**1**	EWH	***Very High Quality***	***Low***
[OH46 23] - S FK SCIOTO BRUSH (SHAWNEE CR. TO SCIOTO BRUSH CR) Upper RM: 8.30 / Lower RM: 0.00													
87.00	87.00	87.00	**87.0**	**4.0(8.0)**	4.0(8.0)	4.0(8.0)	**112.00**	112.00	112.00	**1**	EWH	***Very High Quality***	***Low***
[OH46 42] - MILL CREEK Upper RM: 5.00 / Lower RM: 0.00													
77.00	77.00	77.00	**77.0**	**9.4(10)**	9.4(10)	9.4(10)	**17.00**	17.00	17.00	**1**	EWH	***Very High Quality***	***Low***
[OH46 84.1] - WEST DITCH (PIKETON D.O.E.) Upper RM: 3.15 / Lower RM: 0.00													
72.25	71.00	73.50	**72.3**	**49.5(6.0)**	32.3(4.0)	66.7(8.0)	**0.85**	0.60	1.10	**2**	LRW	***Essentially None***	***High***
[OH46 90] - BIG RUN Upper RM: 5.50 / Lower RM: 0.00													
57.00	53.50	62.50	**57.0**	**34.8(7.0)**	17.0(4.0)	52.6(10)	**0.70**	0.30	1.00	**4**	WWH	***Moderate-High***	***Mod.-High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI Mean	Segment QHEI Min	Segment QHEI Max	River-Wide Mean QHEI	Gradient Mean	Gradient Min	Gradient Max	Drainage Area Mean	Drainage Area Min	Drainage Area Max	N	Aquatic Life Use(s)	Restorability Rating[1]	Confidence
SW TRIBS (EAGLE CREEK AND STRAIGHT CREEK) - [Watershed QHEI: 58.2, N = 3]													
[OH47 18] - SYCAMORE RUN Upper RM: 1.70 / Lower RM: 0.00													
76.00	76.00	76.00	**76.0**	**26.7(10)**	26.7(10)	26.7(10)	**1.40**	1.40	1.40	**1**	EWH	***Very High Quality***	***Low***
[OH47 18.1] - TRIB. TO SYCAMORE RUN Upper RM: 0.37 / Lower RM: 0.00													
30.00	30.00	30.00	**30.0**	**120.0(4.0**	120.0(4.0	120.0(4.0	**0.20**	0.20	0.20	**1**	NONE	***Essentially None***	***Low***
[OH47 27] - EAGLE CREEK(E/N FORK EAGLE CREEK TO OHIO RIVER) Upper RM: 14.56 / Lower RM: 0.00													
68.50	68.50	68.50	**68.5**	**12.0(8.0)**	12.0(8.0)	12.0(8.0)	**117.00**	117.00	117.00	**1**	EWH; WWH	***High***	***Low***
OHIO BRUSH CREEK - [Watershed QHEI: 69.8, N = 31]													
[OH48 1] - OHIO BRUSH CREEK (SEMPLE CREEK TO OHIO RIVER) Upper RM: 14.10 / Lower RM: 0.00													
63.25	53.00	73.50	**74.6**	**2.1(7.0)**	0.1(4.0)	4.1(10)	**397.50**	371.00	424.00	**2**	EWH; WWH	***High***	***Mod.***
[OH48 6] - BEASLEY FORK Upper RM: 6.80 / Lower RM: 0.00													
64.00	53.50	74.50	**64.0**	**27.9(7.0)**	13.2(4.0)	42.6(10)	**13.25**	8.50	18.00	**2**	WWH	***High***	***Mod.***
[OH48 11] - OHIO BRUSH CREEK (WEST FORK TO SEMPLE CREEK) Upper RM: 28.70 / Lower RM: 14.10													
77.17	68.50	86.50	**74.6**	**4.3(8.7)**	3.9(8.0)	5.1(10)	**352.33**	315.00	371.00	**3**	EWH	***Very High Quality***	***High***
[OH48 13] - LICK CREEK Upper RM: 7.60 / Lower RM: 0.00													
68.50	68.50	68.50	**68.5**	**50.0(4.0)**	50.0(4.0)	50.0(4.0)	**8.00**	8.00	8.00	**1**	EWH	***High***	***Low***
[OH48 14] - TREBER RUN Upper RM: 4.20 / Lower RM: 0.00													
75.00	75.00	75.00	**75.0**	**30.8(8.0)**	30.8(8.0)	30.8(8.0)	**7.00**	7.00	7.00	**1**	EWH	***Very High Quality***	***Low***
[OH48 15] - CAVE RUN Upper RM: 3.00 / Lower RM: 0.00													
67.00	67.00	67.00	**67.0**	**57.1(4.0)**	57.1(4.0)	57.1(4.0)	**3.70**	3.70	3.70	**1**	EWH	***High***	***Low***
[OH48 16] - LOUISE TRIBUTARY Upper RM: 4.00 / Lower RM: 0.00													
73.25	72.50	74.00	**73.3**	**32.2(9.0)**	28.4(8.0)	36.0(10)	**5.00**	2.50	7.50	**2**	EWH	***High***	***Mod.***
[OH48 18] - WEST FORK (BUCK RUN TO OHIO BRUSH CREEK) Upper RM: 9.00 / Lower RM: 0.00													
72.75	66.50	83.00	**69.2**	**12.1(9.0)**	7.6(8.0)	19.1(10)	**118.25**	77.00	140.00	**4**	EWH	***High***	***High***
[OH48 22] - CHERRY FORK Upper RM: 10.30 / Lower RM: 0.00													
51.00	51.00	51.00	**51.0**	**22.5(8.0)**	22.5(8.0)	22.5(8.0)	**20.90**	20.90	20.90	**1**	WWH	***Moderate-High***	***Low***
[OH48 26] - WEST FORK OHIO BRUSH CR. (HEADWATERS TO BUCK RUN) Upper RM: 30.50 / Lower RM: 9.00													
62.00	61.50	62.50	**69.2**	**16.5(9.0)**	13.7(8.0)	19.2(10)	**33.15**	28.20	38.10	**2**	EWH	***High***	***Mod.***
[OH48 29] - ELK FORK Upper RM: 4.50 / Lower RM: 0.00													
58.00	58.00	58.00	**58.0**	**44.4(4.0)**	44.4(4.0)	44.4(4.0)	**7.70**	7.70	7.70	**1**	WWH	***Moderate-High***	***Low***
[OH48 31] - OHIO BRUSH CREEK (BAKER FORK TO WEST FORK) Upper RM: 41.20 / Lower RM: 28.70													
80.63	72.00	89.50	**74.6**	**7.7(9.5)**	5.0(8.0)	11.5(10)	**144.25**	133.00	174.00	**4**	EWH	***Very High Quality***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH48 32] - SHIMER RUN Upper RM: 4.50 / Lower RM: 0.00													
72.00	72.00	72.00	**72.0**	**58.8(4.0)**	58.8(4.0)	58.8(4.0)	**5.90**	5.90	5.90	**1**	WWH	***High***	***Low***
[OH48 33] - LITTLE EAST FORK Upper RM: 4.80 / Lower RM: 0.00													
57.00	56.00	58.00	**57.0**	**35.7(6.0)**	35.7(6.0)	35.7(6.0)	**9.60**	9.60	9.60	**2**	WWH	***Moderate-High***	***Mod.***
[OH48 37] - BAKER FORK Upper RM: 17.10 / Lower RM: 0.00													
70.50	70.50	70.50	**70.5**	**7.8(10)**	7.8(10)	7.8(10)	**43.00**	43.00	43.00	**1**	WWH	***High***	***Low***
[OH48 38] - MIDDLE FORK Upper RM: 7.00 / Lower RM: 0.00													
76.75	73.50	80.00	**76.8**	**7.2(10)**	6.4(10)	7.9(10)	**18.20**	15.80	20.60	**2**	WWH	***Very High Quality***	***Mod.***
[OH48 44] - OHIO BRUSH CREEK (HEADWATERS TO BAKER FORK) Upper RM: 57.10 / Lower RM: 41.18													
65.50	65.50	65.50	**74.6**	**11.7(10)**	11.7(10)	11.7(10)	**45.00**	45.00	45.00	**1**	EWH	***High***	***Low-Mod.***
SW TRIBS (WHITEOAK CR.,INDIAN CR., BEAR CR.) - [Watershed QHEI: 64.8, N = 5]													
[OH49 2.1] - EAST BRANCH FIVEMILE CREEK Upper RM: 1.60 / Lower RM: 0.00													
45.00	45.00	45.00	**45.0**	**90.9(4.0)**	90.9(4.0)	90.9(4.0)	**1.20**	1.20	1.20	**1**	WWH	***Low***	***Low***
[OH49 42] - WHITEOAK CREEK (STERLING RUN TO OHIO RIVER) Upper RM: 20.75 / Lower RM: 0.00													
77.00	72.00	82.00	**77.0**	**21.1(6.0)**	20.8(6.0)	21.3(6.0)	**217.50**	213.00	222.00	**2**	EWH	***Very High Quality***	***Low-Mod.***
[OH49 49] - TOWN RUN Upper RM: 3.00 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH49 60] - EAST FORK WHITEOAK CREEK Upper RM: 20.80 / Lower RM: 0.00													
69.50	69.50	69.50	**69.5**	**4.1(6.0)**	4.1(6.0)	4.1(6.0)	**73.00**	73.00	73.00	**1**	WWH; EWH	***High***	***Low***
[OH49 69] - NORTH FORK WHITEOAK CREEK Upper RM: 21.00 / Lower RM: 0.00													
55.50	55.50	55.50	**55.5**	**3.7(6.0)**	3.7(6.0)	3.7(6.0)	**51.00**	51.00	51.00	**1**	EWH	***Moderate-High***	***Low***
UPPER LITTLE MIAMI RIVER - [Watershed QHEI: 67.8, N = 54]													
[OH50 1] - LITTLE MIAMI RIVER (GLADY RUN TO CAESAR CREEK) Upper RM: 63.70 / Lower RM: 50.90													
68.00	65.00	71.00	**74.4**	**2.9(8.0)**	2.6(8.0)	3.3(8.0)	**381.00**	360.00	402.00	**2**	EWH	***High***	***Mod.***
[OH50 2] - NEWMAN RUN Upper RM: 4.00 / Lower RM: 0.00													
71.50	67.00	76.00	**71.5**	**41.7(4.0)**	41.7(4.0)	41.7(4.0)	**9.00**	9.00	9.00	**2**	WWH	***High***	***Mod.***
[OH50 3] - MILL RUN Upper RM: 5.80 / Lower RM: 0.00													
56.50	56.50	56.50	**56.5**	**4.7(4.0)**	4.7(4.0)	4.7(4.0)	**8.00**	8.00	8.00	**1**	WWH	***Low - Moderate***	***Low***
[OH50 4] - LITTLE MIAMI RIVER (BEAVER CREEK TO GLADY RUN) Upper RM: 72.70 / Lower RM: 63.70													
71.75	62.50	77.50	**74.4**	**3.1(8.5)**	2.6(8.0)	4.8(10)	**332.75**	296.00	346.00	**4**	EWH	***High***	***High***
[OH50 5] - GLADY RUN Upper RM: 6.30 / Lower RM: 0.00													
61.88	54.00	69.00	**61.9**	**17.0(7.0)**	5.7(6.0)	40.0(8.0)	**6.58**	4.00	14.00	**4**	WWH	***High***	***Mod.-High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH50 5.1] - GLADY RUN SWALE Upper RM: 0.60 / Lower RM: 0.00													
56.00	49.00	66.00	**56.0**	**24.4(10)**	24.4(10)	24.4(10)	**2.50**	1.00	5.50	**3**	WWH	***Moderate-High***	***Mod.-High***
[OH50 8] - BEAVER CREEK Upper RM: 8.40 / Lower RM: 0.00													
67.71	54.50	74.00	**67.7**	**9.0(7.4)**	5.2(6.0)	15.4(8.0)	**39.13**	21.00	46.80	**7**	WWH	***High***	***High***
[OH50 9] - LITTLE BEAVER CREEK Upper RM: 9.00 / Lower RM: 0.00													
64.05	48.50	76.00	**64.1**	**15.4(10)**	10.6(10)	29.9(10)	**15.54**	3.20	25.90	**10**	WWH	***High***	***High***
[OH50 10] - LITTLE MIAMI RIVER (MASSIES CREEK TO BEAVER CREEK) Upper RM: 79.50 / Lower RM: 72.70													
73.75	63.50	78.00	**74.4**	**5.2(10)**	5.1(10)	5.4(10)	**222.50**	217.00	238.00	**4**	EWH	***High***	***High***
[OH50 12] - MASSIES CREEK Upper RM: 9.95 / Lower RM: 0.00													
67.50	67.50	67.50	**67.5**	**18.2(8.0)**	18.2(8.0)	18.2(8.0)	**86.00**	86.00	86.00	**1**	WWH	***High***	***Low***
[OH50 13] - OLDTOWN CREEK Upper RM: 6.00 / Lower RM: 0.00													
77.25	72.00	82.50	**77.3**	**17.2(10)**	17.2(10)	17.2(10)	**10.00**	10.00	10.00	**2**	WWH	***Very High Quality***	***Mod.***
[OH50 16] - SOUTH FORK MASSIES CREEK Upper RM: 9.60 / Lower RM: 0.00													
66.50	66.50	66.50	**66.5**	**5.6(6.0)**	5.6(6.0)	5.6(6.0)	**18.50**	18.50	18.50	**1**	WWH	***Moderate - High***	***Low***
[OH50 17] - LITTLE MIAMI RIVER (NORTH FORK TO MASSIES CREEK) Upper RM: 91.60 / Lower RM: 79.50													
81.63	75.00	88.00	**74.4**	**15.0(8.0)**	4.9(6.0)	25.0(10)	**113.00**	104.00	122.00	**4**	EWH	***Very High Quality***	***High***
[OH50 20] - YELLOW SPRINGS CREEK Upper RM: 2.50 / Lower RM: 0.00													
77.50	73.50	80.00	**77.5**	**31.3(6.0)**	31.3(6.0)	31.3(6.0)	**11.13**	11.10	11.20	**3**	EWH	***Very High Quality***	***Mod.-High***
[OH50 21] - NORTH FORK LITTLE MIAMI RIVER Upper RM: 13.20 / Lower RM: 0.00													
52.00	52.00	52.00	**52.0**	**3.9(6.0)**	3.9(6.0)	3.9(6.0)	**37.00**	37.00	37.00	**1**	WWH	***Moderate-High***	***Low***
[OH50 23] - LITTLE MIAMI RIVER (HEADWATERS TO NORTH FORK) Upper RM: 105.50 / Lower RM: 91.60													
64.25	51.50	75.00	**74.4**	**6.9(7.5)**	5.6(6.0)	8.3(10)	**24.60**	6.40	53.00	**4**	EWH	***High***	***High***
[OH50 25] - GILROY DITCH Upper RM: 7.15 / Lower RM: 0.00													
55.00	55.00	55.00	**55.0**	**10.6(8.0)**	10.6(8.0)	10.6(8.0)	**1.70**	1.70	1.70	**1**	WWH	***Moderate-High***	***Low***
CAESAR CREEK - [Watershed QHEI: 71.2, N = 5]													
[OH51 1] - CAESAR CREEK (CAESAR CREEK LAKE TO LITTLE MIAMI R) Upper RM: 13.92 / Lower RM: 0.00													
81.50	81.50	81.50	**78.8**	**8.2(10)**	8.2(10)	8.2(10)	**238.00**	238.00	238.00	**1**	WWH	***Very High Quality***	***Low-Mod.***
[OH51 2] - FLAT FORK Upper RM: 3.70 / Lower RM: 0.00													
50.00	50.00	50.00	**50.0**	**31.3(6.0)**	31.3(6.0)	31.3(6.0)	**16.00**	16.00	16.00	**1**	WWH	***Moderate***	***Low***
[OH51 7] - ANDERSON FORK (GROG RUN TO CAESAR CREEK LAKE) Upper RM: 11.02 / Lower RM: 0.00													
74.25	73.50	75.00	**74.3**	**7.4(8.0)**	7.4(8.0)	7.4(8.0)	**77.00**	77.00	77.00	**2**	EWH	***High***	***Low-Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI Mean	Segment QHEI Min	Segment QHEI Max	River-Wide Mean QHEI	Gradient Mean	Gradient Min	Gradient Max	Drainage Area Mean	Drainage Area Min	Drainage Area Max	N	Aquatic Life Use(s)	Restorability Rating[1]	Confidence
[OH51 13] - CAESAR CREEK (S. BR. CAESAR CR. TO CAESAR CR LAKE) Upper RM: 23.78 / Lower RM: 13.92													
76.00	76.00	76.00	**78.8**	**5.2(8.0)**	5.2(8.0)	5.2(8.0)	**87.00**	87.00	87.00	**1**	LAKE	***Very High Quality***	***Low-Mod.***
TODD FORK - [Watershed QHEI: 83.0, N = 1]													
[OH52 8] - TODD FORK (DUTCH CREEK TO LITTLE EAST FORK) Upper RM: 22.10 / Lower RM: 14.07													
83.00	83.00	83.00	**83.0**	**9.4(10)**	9.4(10)	9.4(10)	**54.00**	54.00	54.00	**1**	EWH	***Very High Quality***	***Low***
EAST FORK LITTLE MIAMI RIVER - [Watershed QHEI: 69.7, N = 45]													
[OH53 1] - E. FK. LITTLE MIAMI R. (STONELICK CR. TO L. MIAMI) Upper RM: 8.80 / Lower RM: 0.00													
72.75	65.00	87.00	**77.6**	**4.0(9.0)**	3.5(8.0)	4.6(10)	**488.50**	471.00	498.00	**4**	EWH	***High***	***High***
[OH53 2] - HALL RUN Upper RM: 5.70 / Lower RM: 0.00													
56.50	48.50	64.50	**56.5**	**74.9(4.0)**	58.8(4.0)	90.9(4.0)	**4.30**	3.10	5.50	**2**	WWH	***Moderate-High***	***Mod.***
[OH53 5] - SUGARCAMP RUN Upper RM: 3.80 / Lower RM: 0.00													
66.17	63.50	69.50	**66.2**	**84.9(4.0)**	66.7(4.0)	111.1(4.0	**2.20**	1.00	3.50	**3**	WWH	***High***	***Mod.-High***
[OH53 5.1] - EAST BRANCH SUGARCAMP RUN Upper RM: 1.40 / Lower RM: 0.00													
64.00	64.00	64.00	**64.0**	**111.1(4.0**	111.1(4.0	111.1(4.0	**0.70**	0.70	0.70	**1**	NONE	***High***	***Low***
[OH53 6] - SHAYLER RUN Upper RM: 7.80 / Lower RM: 0.00													
57.75	38.00	73.00	**57.8**	**43.6(7.0)**	12.8(4.0)	87.0(10)	**8.25**	2.20	12.70	**8**	WWH	***Moderate-High***	***High***
[OH53 6.1] - TRIB. TO SHAYLER RUN Upper RM: 3.95 / Lower RM: 0.00													
73.25	67.00	79.50	**73.3**	**27.1(9.0)**	17.9(8.0)	36.4(10)	**3.45**	3.40	3.50	**2**	WWH	***High***	***Mod.***
[OH53 8] - STONELICK CREEK Upper RM: 22.90 / Lower RM: 0.00													
66.83	48.00	78.00	**66.8**	**11.7(8.0)**	0.1(2.0)	18.5(10)	**52.37**	5.40	76.00	**6**	WWH	***High***	***High***
[OH53 12] - PATERSON RUN Upper RM: 1.60 / Lower RM: 0.00													
65.00	65.00	65.00	**65.0**	**35.7(8.0)**	35.7(8.0)	35.7(8.0)	**4.30**	4.30	4.30	**1**	WWH	***High***	***Low***
[OH53 16] - E. FK. LITTLE MIAMI (EAST FK LAKE TO STONELICK CR) Upper RM: 20.50 / Lower RM: 8.80													
84.80	78.50	89.00	**77.6**	**8.6(9.2)**	5.8(8.0)	11.0(10)	**365.20**	358.00	376.00	**5**	EWH	***Very High Quality***	***High***
[OH53 36] - E. FK. LITTLE MIAMI R. (HOWARD RUN TO TODD RUN) Upper RM: 45.18 / Lower RM: 33.90													
77.88	73.50	85.50	**77.6**	**5.3(9.5)**	3.9(8.0)	6.1(10)	**216.75**	195.00	235.00	**4**	EWH	***Very High Quality***	***High***
[OH53 42] - FIVEMILE CREEK Upper RM: 3.50 / Lower RM: 0.00													
70.00	70.00	70.00	**70.0**	**5.4(6.0)**	5.4(6.0)	5.4(6.0)	**10.00**	10.00	10.00	**1**	WWH	***Moderate - High***	***Low***
[OH53 45] - E. FK. LITTLE MIAMI R. (SOLOMON RUN TO HOWARD RUN) Upper RM: 56.50 / Lower RM: 45.18													
75.10	68.50	81.00	**77.6**	**3.6(8.0)**	3.5(8.0)	3.9(8.0)	**161.20**	151.00	175.00	**5**	EWH	***Very High Quality***	***High***
[OH53 56] - WEST FORK E. FK. LITTLE MIAMI RIVER Upper RM: 9.00 / Lower RM: 0.00													
78.50	78.50	78.50	**78.5**	**8.6(10)**	8.6(10)	8.6(10)	**28.00**	28.00	28.00	**1**	WWH	***Very High Quality***	***Low***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH53 57] - DODSON CREEK Upper RM: 11.50 / Lower RM: 0.00													
64.50	64.50	64.50	**64.5**	**5.7(6.0)**	5.7(6.0)	5.7(6.0)	**32.00**	32.00	32.00	**1**	EWH	***High***	***Low***
[OH53 60] - E. FK. LITTLE MIAMI R. (HEADWATERS TO DODSON CR.) Upper RM: 85.58 / Lower RM: 70.89													
72.00	72.00	72.00	**77.6**	**4.7(6.0)**	4.7(6.0)	4.7(6.0)	**23.00**	23.00	23.00	**1**	WWH; EWH	***High***	***Low-Mod.***
LOWER LITTLE MIAMI RIVER - [Watershed QHEI: 71.2, N = 76]													
[OH54 1] - LITTLE MIAMI RIVER (E. FK. L. MIAMI R. TO OHIO R.) Upper RM: 11.50 / Lower RM: 0.00													
64.88	48.50	87.50	**74.4**	**1.5(7.5)**	0.1(6.0)	4.0(10)	**1739.25**	999.00	1757.00	**8**	EWH; WWH	***Moderate - High***	***High***
[OH54 2] - CLOUGH CREEK Upper RM: 5.70 / Lower RM: 0.00													
36.00	36.00	36.00	**36.0**	**125.0(4.0**	125.0(4.0	125.0(4.0	**2.10**	2.10	2.10	**1**	WWH	***Low***	***Low***
[OH54 4] - DUCK CREEK Upper RM: 8.20 / Lower RM: 0.00													
66.50	58.00	75.00	**66.5**	**18.3(9.0)**	16.7(8.0)	20.0(10)	**13.15**	11.60	14.70	**2**	LRW; WWH	***Essentially None***	***High***
[OH54 4.1] - EAST FORK DUCK CREEK Upper RM: 2.85 / Lower RM: 0.00													
59.50	59.50	59.50	**59.5**	**27.0(10)**	27.0(10)	27.0(10)	**2.20**	2.20	2.20	**1**	LRW	***Essentially None***	***High***
[OH54 4.2] - WEST FORK DUCK CREEK Upper RM: 2.85 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH54 5] - DRY RUN Upper RM: 6.00 / Lower RM: 0.00													
50.50	50.50	50.50	**50.5**	**50.0(4.0)**	50.0(4.0)	50.0(4.0)	**2.90**	2.90	2.90	**1**	WWH	***Moderate***	***Low***
[OH54 7] - LITTLE MIAMI R. (O'BANNON CR. TO E. FK. L. MIAMI) Upper RM: 24.00 / Lower RM: 11.50													
81.28	63.50	90.00	**74.4**	**4.9(10)**	3.9(10)	6.6(10)	**1173.11**	999.00	1206.00	**9**	EWH	***Extremely High***	***High***
[OH54 9] - SYCAMORE CREEK Upper RM: 4.50 / Lower RM: 0.00													
68.43	51.50	77.00	**68.4**	**26.2(8.6)**	13.9(4.0)	76.9(10)	**20.61**	9.40	24.00	**7**	WWH	***High***	***High***
[OH54 9.1] - TRIB. TO SYCAMORE CREEK Upper RM: 3.15 / Lower RM: 0.00													
34.67	29.50	43.50	**34.7**	**66.4(4.0)**	52.6(4.0)	80.0(4.0)	**3.43**	1.80	4.90	**3**	LRW	***Essentially None***	***High***
[OH54 11] - POLK RUN Upper RM: 5.50 / Lower RM: 0.00													
80.00	80.00	80.00	**80.0**	**43.5(4.0)**	43.5(4.0)	43.5(4.0)	**10.80**	10.80	10.80	**1**	WWH	***Very High Quality***	***Low***
[OH54 11.1] - EAST BRANCH POLK RUN Upper RM: 4.33 / Lower RM: 0.00													
71.50	71.50	71.50	**71.5**	**50.0(4.0)**	50.0(4.0)	50.0(4.0)	**2.40**	2.40	2.40	**1**	WWH	***High***	***Low***
[OH54 12] - O'BANNON CREEK Upper RM: 12.00 / Lower RM: 0.00													
75.90	73.00	83.00	**75.9**	**33.4(5.6)**	22.2(4.0)	43.5(8.0)	**46.00**	38.00	58.00	**5**	WWH	***Very High Quality***	***High***
[OH54 16] - LITTLE MIAMI RIVER (TURTLE CR. TO O'BANNON CR.) Upper RM: 33.20 / Lower RM: 24.00													
76.00	57.50	86.50	**74.4**	**3.5(10)**	2.8(10)	5.0(10)	**1066.17**	999.00	1145.00	**6**	EWH	***Very High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH54 23] - MUDDY CREEK Upper RM: 8.90 / Lower RM: 0.00													
74.42	70.00	78.00	**74.4**	**28.3(6.0)**	9.2(4.0)	41.7(10)	**10.25**	8.00	15.50	**6**	WWH	***High***	***High***
[OH54 24] - TURTLE CREEK Upper RM: 12.00 / Lower RM: 0.00													
73.56	67.00	81.00	**73.6**	**17.9(6.8)**	5.2(6.0)	20.8(10)	**52.12**	18.00	65.00	**17**	WWH	***High***	***High***
[OH54 25] - DRY RUN Upper RM: 4.00 / Lower RM: 0.00													
60.75	54.50	67.00	**60.8**	**25.6(10)**	25.6(10)	25.6(10)	**5.00**	5.00	5.00	**2**	WWH	***High***	***Mod.***
[OH54 27] - LITTLE MIAMI RIVER (TODD FORK TO TURTLE CREEK) Upper RM: 38.50 / Lower RM: 33.20													
81.00	76.50	85.50	**74.4**	**7.5(10)**	7.5(10)	7.5(10)	**960.00**	959.00	961.00	**2**	EWH	***Very High Quality***	***Mod.***
[OH54 30] - LITTLE MIAMI RIVER (CAESAR CREEK TO TODD FORK) Upper RM: 50.90 / Lower RM: 38.50													
82.00	76.50	84.50	**74.4**	**4.7(10)**	4.2(10)	5.7(10)	**678.75**	668.00	687.00	**4**	EWH	***Very High Quality***	***High***
UPPER GREAT MIAMI RIVER - [Watershed QHEI: 53.6, N = 60]													
[OH55 2] - GREAT MIAMI RIVER (INDIAN CREEK TO PLUM CREEK) Upper RM: 140.10 / Lower RM: 132.10													
65.50	60.00	71.00	**68.6**	**2.1(8.0)**	2.1(8.0)	2.1(8.0)	**441.00**	429.00	453.00	**2**	EWH; WWH	***High***	***Mod.***
[OH55 11] - GREAT MIAMI RIVER (BOKENGEHALAS CR. TO INDIAN CR.) Upper RM: 145.98 / Lower RM: 140.10													
65.00	53.00	76.50	**68.6**	**1.5(6.0)**	0.1(4.0)	2.8(8.0)	**409.75**	408.00	412.00	**4**	WWH; EWH	***Moderate - High***	***High***
[OH55 15] - STONY CREEK (HEADWATERS TO LEE/GRAVE CREEK) Upper RM: 6.80 / Lower RM: 0.00													
35.75	24.50	47.00	**35.8**	**5.4(6.0)**	5.2(6.0)	5.5(6.0)	**26.50**	25.00	28.00	**2**	WWH	***Low***	***Low-Mod.***
[OH55 16] - MCKEE CREEK Upper RM: 10.20 / Lower RM: 0.00													
66.17	53.50	83.00	**66.2**	**34.3(6.7)**	18.2(4.0)	66.7(8.0)	**12.43**	2.70	17.60	**3**	EWH	***High***	***Mod.-High***
[OH55 17] - BOKENGEHALAS CREEK Upper RM: 15.40 / Lower RM: 0.00													
59.57	39.50	82.50	**59.6**	**11.5(10)**	6.3(10)	17.0(10)	**30.33**	20.60	42.50	**7**	WWH	***Moderate-High***	***High***
[OH55 18] - BLUEJACKET CREEK Upper RM: 7.80 / Lower RM: 0.00													
55.71	41.00	81.00	**55.7**	**25.5(8.0)**	8.3(4.0)	50.0(10)	**8.59**	2.00	15.00	**12**	WWH	***Moderate-High***	***High***
[OH55 19] - OPOSSUM RUN Upper RM: 1.52 / Lower RM: 0.00													
59.50	47.50	74.00	**59.5**	**42.5(6.3)**	23.8(4.0)	55.6(10)	**0.55**	0.50	0.60	**6**	WWH	***Moderate-High***	***High***
[OH55 20] - GREAT MIAMI R. (MUCHINIPPI CR. TO BOKENGEHALAS CR) Upper RM: 154.44 / Lower RM: 145.98													
47.00	46.50	47.50	**68.6**	**1.0(5.0)**	0.8(4.0)	1.2(6.0)	**271.00**	246.00	296.00	**2**	WWH	***Moderate-High***	***Mod.***
[OH55 27] - MUCHINIPPI CREEK Upper RM: 13.70 / Lower RM: 0.00													
36.38	32.00	41.00	**36.4**	**3.8(6.0)**	3.1(6.0)	4.9(6.0)	**56.35**	16.80	88.00	**4**	WWH	***Low***	***Mod.-High***
[OH55 29.1] - ST. JOE DITCH Upper RM: 4.61 / Lower RM: 0.00													
26.00	26.00	26.00	**26.0**	**2.9(4.0)**	2.9(4.0)	2.9(4.0)	**3.20**	3.20	3.20	**1**	MWH-C	***Essentially None***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH55 33] - WILLOW CREEK Upper RM: 6.50 / Lower RM: 0.00													
38.50	38.50	38.50	**38.5**	**3.0(6.0)**	3.0(6.0)	3.0(6.0)	**11.80**	11.80	11.80	**1**	WWH	***Very Low***	***Low***
[OH55 34] - GREAT MIAMI R. (CHER. MANS RUN TO MUCHINIPPI CR.) Upper RM: 159.44 / Lower RM: 154.44													
43.00	43.00	43.00	**68.6**	**0.8(4.0)**	0.8(4.0)	0.8(4.0)	**118.00**	118.00	118.00	**1**	WWH	***Very Low***	***Low-Mod.***
[OH55 35] - CHEROKEE MANS RUN Upper RM: 10.80 / Lower RM: 0.00													
71.33	65.00	80.00	**71.3**	**14.8(10)**	14.5(10)	15.4(10)	**16.67**	16.00	18.00	**3**	WWH	***High***	***Mod.-High***
[OH55 36] - SOUTH FORK GREAT MIAMI RIVER Upper RM: 10.20 / Lower RM: 0.00													
55.50	44.00	71.00	**58.4**	**7.6(8.8)**	5.7(8.0)	11.9(10)	**27.90**		51.00	**5**	WWH	***Moderate-High***	***High***
[OH55 36.1] - BELLE CENTER TRIBUTARY Upper RM: 5.70 / Lower RM: 0.00													
38.00	38.00	38.00		**4.0(4.0)**	4.0(4.0)	4.0(4.0)	**6.90**	6.90	6.90	**1**	WWH	***Very Low***	
[OH55 41] - VAN HORN CREEK Upper RM: 3.62 / Lower RM: 0.00													
46.50	46.50	46.50	**46.5**	**9.8(6.0)**	9.8(6.0)	9.8(6.0)	**1.90**	1.90	1.90	**1**	WWH	***Moderate***	***Low***
[OH55 42] - BLACKHAWK RUN Upper RM: 3.40 / Lower RM: 0.00													
43.50	43.50	43.50	**43.5**	**2.6(4.0)**	2.6(4.0)	2.6(4.0)	**4.50**	4.50	4.50	**1**	WWH	***Very Low***	***Low***
[OH55 43] - NORTH FORK GREAT MIAMI RIVER Upper RM: 14.95 / Lower RM: 0.00													
36.88	25.00	56.50	**36.9**	**5.4(5.0)**	4.7(4.0)	6.3(6.0)	**10.93**	7.90	18.10	**4**	WWH	***Very Low***	***Mod.-High***
GREAT MIAMI RIVER AND LORAMIE CREEK - [Watershed QHEI: 61.9, N = 89]													
[OH56 1] - GREAT MIAMI RIVER (LOST CREEK TO STILLWATER RIVER) Upper RM: 100.00 / Lower RM: 82.60													
73.47	36.00	91.00	**68.6**	**3.2(9.4)**	0.1(6.0)	6.5(10)	**1147.79**	999.00	1175.00	**19**	EWH; WWH	***High***	***High***
[OH56 1.2] - COX AIRPORT RTIBUTARY Upper RM: 1.55 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH56 1.3] - NORTH CREEK Upper RM: 2.20 / Lower RM: 0.00													
54.41	40.50	71.50	**54.4**	**68.9(4.0)**	45.0(4.0)	200.0(4.0	**2.42**	0.90	4.20	**11**	LRW; WWH	***Essentially None***	***High***
[OH56 1.31] - DEER CLIFF RUN Upper RM: 2.50 / Lower RM: 0.00													
64.75	63.50	66.00	**64.8**	**47.7(4.0)**	45.5(4.0)	50.0(4.0)	**1.45**	0.60	2.30	**2**	WWH	***High***	***Mod.***
[OH56 1.32] - INLAND TRIBUTARY TI NORTH CREEK Upper RM: 1.59 / Lower RM: 0.00													
52.80	45.00	61.00	**52.8**	**200.0(4.0**	200.0(4.0	200.0(4.0	**0.60**	0.60	0.60	**5**	LRW	***Essentially None***	***High***
[OH56 2] - POPLAR CREEK Upper RM: 3.10 / Lower RM: 0.00													
63.00	61.00	65.00	**63.0**	**49.5(4.0)**	43.5(4.0)	55.6(4.0)	**2.80**	1.60	4.00	**2**	WWH	***High***	***Mod.***
[OH56 3] - HONEY CREEK Upper RM: 18.60 / Lower RM: 0.00													
76.40	67.50	85.00	**76.4**	**9.7(9.2)**	5.2(8.0)	15.2(10)	**55.40**	34.00	86.00	**5**	EWH	***Very High Quality***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH56 8] - LOST CREEK Upper RM: 17.40 / Lower RM: 0.00													
76.20	54.00	87.50	**76.2**	**11.7(10)**	8.1(10)	16.1(10)	**44.40**	31.00	58.00	**5**	EWH	***Very High***	***High***
[OH56 10] - GREAT MIAMI RIVER (SPRING CREEK TO LOST CREEK) Upper RM: 109.28 / Lower RM: 100.00													
68.00	45.50	86.00	**68.6**	**2.1(9.3)**	0.1(6.0)	3.5(10)	**933.50**	920.00	972.00	**6**	EWH; WWH; EWH	***High***	***High***
[OH56 10.3] - B.F. GOODRICH TRIB Upper RM: 0.55 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH56 11] - SPRING CREEK Upper RM: 12.40 / Lower RM: 0.00													
71.83	61.00	78.00	**71.8**	**25.0(8.0)**	25.0(8.0)	25.0(8.0)	**26.00**	26.00	26.00	**3**	EWH	***High***	***Mod.-High***
[OH56 12] - GREAT MIAMI RIVER (LORAMIE CREEK TO SPRING CREEK) Upper RM: 119.89 / Lower RM: 109.28													
62.56	46.00	85.50	**68.6**	**1.6(8.5)**	0.1(6.0)	4.0(10)	**866.00**	845.00	890.00	**8**	EWH; WWH; EWH	***Moderate - High***	***High***
[OH56 20] - LORAMIE CREEK (TURTLE CREEK TO GREAT MIAMI RIVER) Upper RM: 4.10 / Lower RM: 0.00													
80.25	77.50	83.00	**53.9**	**6.5(10)**	4.7(10)	8.4(10)	**255.50**	247.00	264.00	**2**	WWH	***Very High Quality***	***Mod.***
[OH56 26] - LORAMIE CREEK (MILE CREEK TO TURTLE CREEK) Upper RM: 19.50 / Lower RM: 4.10													
63.33	53.50	71.00	**53.9**	**2.3(8.0)**	2.2(8.0)	2.4(8.0)	**188.00**	154.00	205.00	**3**	WWH	***High***	***High***
[OH56 27] - NINEMILE CREEK Upper RM: 6.60 / Lower RM: 0.00													
35.75	29.00	42.50	**35.8**	**6.0(6.0)**	5.1(6.0)	6.9(6.0)	**5.40**	1.60	9.20	**2**	MWH-C; WWH	***Essentially None***	***High***
[OH56 32] - LORAMIE CREEK (HEADWATERS TO MILE CREEK) Upper RM: 36.50 / Lower RM: 19.46													
41.30	37.00	43.00	**53.9**	**1.6(3.2)**	1.0(2.0)	3.1(6.0)	**45.66**	14.30	78.00	**5**	WWH	***Very Low***	***High***
[OH56 32.1] - CLAY CREEK Upper RM: 5.00 / Lower RM: 0.00													
21.75	17.00	26.50	**21.8**	**10.1(7.0)**	7.4(6.0)	12.8(8.0)	**2.20**	2.00	2.40	**2**	MWH-C	***Essentially None***	***High***
[OH56 32.2] - MIAMI-ERIE CANAL Upper RM: 12.30 / Lower RM: 0.00													
30.90	18.50	46.00	**30.9**	**2.1(6.8)**	1.4(4.0)	2.2(8.0)	**180.00**	100.00	200.00	**5**	MWH-C	***Essentially None***	***High***
[OH56 34] - CLAY CREEK (BEEMER DITCH) Upper RM: 1.80 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH56 36] - GREAT MIAMI RIVER (PLUM CREEK TO LORAMIE CREEK) Upper RM: 132.10 / Lower RM: 119.89													
69.38	61.00	74.00	**68.6**	**9.6(9.0)**	5.7(8.0)	12.4(10)	**546.75**	540.00	561.00	**4**	WWH; EWH	***High***	***High***
STILLWATER RIVER - [Watershed QHEI: 63.8, N = 153]													
[OH57 1] - STILLWATER RIVER (BRUSH CREEK TO GREAT MIAMI R.) Upper RM: 14.20 / Lower RM: 0.00													
77.07	63.00	89.00	**72.1**	**3.4(9.7)**	0.1(6.0)	5.4(10)	**652.93**	630.00	675.00	**14**	EWH	***Very High Quality***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH57 1.2] - Trib. to Stillwater River (RM 6.42) Upper RM: 3.20 / Lower RM: 0.00													
56.50	51.00	62.50	**56.5**	**90.0(4.0)**	90.0(4.0)	90.0(4.0)	**1.40**	1.40	1.40	**5**	WWH	***Moderate-High***	***High***
[OH57 3] - MILL CREEK Upper RM: 5.70 / Lower RM: 0.00													
62.17	53.50	67.00	**62.2**	**35.2(6.9)**	10.9(4.0)	71.4(10)	**4.13**	2.60	6.00	**9**	WWH	***High***	***High***
[OH57 4] - BRUSH CREEK Upper RM: 6.00 / Lower RM: 0.00													
66.00	66.00	66.00	**66.0**	**16.7(10)**	16.7(10)	16.7(10)	**17.00**	17.00	17.00	**1**	EWH	***High***	***Low***
[OH57 5] - STILLWATER RIVER (LUDLOW CREEK TO BRUSH CREEK) Upper RM: 21.00 / Lower RM: 14.20													
77.19	60.00	85.50	**72.1**	**3.2(7.5)**	0.1(4.0)	3.7(8.0)	**604.00**	594.00	609.00	**8**	EWH	***Very High Quality***	***High***
[OH57 7] - LUDLOW CREEK Upper RM: 13.50 / Lower RM: 0.00													
72.25	69.00	75.50	**72.3**	**24.4(7.0)**	21.7(6.0)	27.0(8.0)	**50.50**	39.00	62.00	**2**	WWH	***High***	***Low-Mod.***
[OH57 8] - BRUSH CREEK Upper RM: 8.00 / Lower RM: 0.00													
65.83	45.00	80.50	**65.8**	**23.1(6.0)**	4.7(4.0)	45.5(8.0)	**18.70**	13.70	23.40	**3**	WWH	***High***	***Mod.-High***
[OH57 14] - STILLWATER RIVER (GREENVILLE CR. TO LUDLOW CR.) Upper RM: 32.40 / Lower RM: 21.00													
78.05	60.50	95.00	**72.1**	**4.2(8.5)**	0.1(4.0)	9.1(10)	**486.73**	441.00	528.00	**11**	EWH	***Extremely High***	***High***
[OH57 18] - PAINTER CREEK Upper RM: 19.75 / Lower RM: 0.00													
52.97	27.50	88.00	**53.0**	**14.1(5.4)**	3.3(4.0)	62.5(10)	**21.21**	1.50	48.00	**16**	MWH-C; EWH	***Essentially None***	***High***
[OH57 21] - GREENVILLE CREEK (DIVIDING BR. TO STILLWATER R.) Upper RM: 15.20 / Lower RM: 0.00													
79.96	49.00	100.00	**71.2**	**5.8(8.7)**	0.1(4.0)	14.7(10)	**188.86**	174.00	201.00	**14**	EWH	***Very High***	***High***
[OH57 26] - GREENVILLE CREEK (WEST BR. TO DIVIDING BR.) Upper RM: 24.30 / Lower RM: 15.20													
62.31	48.50	87.00	**71.2**	**0.9(4.3)**	0.1(4.0)	1.3(6.0)	**138.31**	105.00	154.00	**13**	EWH	***Moderate - High***	***High***
[OH57 28] - MUD CREEK Upper RM: 8.00 / Lower RM: 0.00													
59.17	55.50	63.00	**59.2**	**8.7(6.7)**	1.2(4.0)	21.7(10)	**14.07**	3.70	24.00	**3**	WWH	***Moderate-High***	***Mod.-High***
[OH57 29] - PRAIRIE OUTLET Upper RM: 2.00 / Lower RM: 0.00													
68.50	68.50	68.50	**68.5**	**15.9(10)**	15.9(10)	15.9(10)	**2.80**	2.80	2.80	**1**	WWH	***High***	***Low***
[OH57 32] - GREENVILLE CREEK (HEADWATERS TO WEST BRANCH) Upper RM: 40.50 / Lower RM: 24.30													
69.80	63.50	83.50	**71.2**	**6.3(6.0)**	4.8(6.0)	8.7(6.0)	**39.22**	6.00	69.00	**5**	EWH	***High***	***High***
[OH57 35] - DISMAL CREEK Upper RM: 9.50 / Lower RM: 0.00													
41.00	41.00	41.00	**41.0**	**6.3(10)**	6.3(10)	6.3(10)	**19.00**	19.00	19.00	**1**	WWH	***Low***	***Low***
[OH57 37] - STILLWATER RIVER (SWAMP CREEK TO GREENVILLE CREEK) Upper RM: 45.88 / Lower RM: 32.40													
77.13	63.00	83.50	**72.1**	**4.3(8.8)**	2.0(6.0)	7.7(10)	**193.25**	175.00	233.00	**8**	EWH	***Very High Quality***	***High***
[OH57 38] - HARRIS CREEK Upper RM: 9.10 / Lower RM: 0.00													
55.40	27.00	80.00	**55.4**	**12.6(8.0)**	4.3(6.0)	18.5(10)	**14.98**	10.00	18.00	**5**	WWH	***Moderate-High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH57 39] - BALLINGER RUN Upper RM: 4.60 / Lower RM: 0.00													
55.50	34.50	75.00	**55.5**	**12.9(8.0)**	9.8(6.0)	18.5(10)	**4.37**	3.00	5.70	**3**	WWH	***Moderate***	***Mod.-High***
[OH57 40] - TROTTERS CREEK Upper RM: 4.80 / Lower RM: 0.00													
78.50	78.50	78.50	**78.5**	**14.5(10)**	14.5(10)	14.5(10)	**14.40**	14.40	14.40	**1**	WWH	***Very High Quality***	***Low***
[OH57 41] - SWAMP CREEK Upper RM: 13.80 / Lower RM: 0.00													
40.25	26.50	62.00	**40.3**	**2.9(5.0)**	2.4(4.0)	4.6(6.0)	**38.78**	11.10	63.00	**8**	MWH-C; WWH	***Essentially None***	***High***
[OH57 42] - INDIAN CREEK Upper RM: 5.20 / Lower RM: 0.00													
43.80	37.50	52.00	**43.8**	**4.6(6.4)**	2.4(4.0)	6.0(10)	**20.40**	19.00	25.00	**5**	WWH	***Low***	***High***
[OH57 43] - STILLWATER RIVER (NORTH FORK TO SWAMP CREEK) Upper RM: 57.97 / Lower RM: 45.88													
67.06	51.00	81.00	**72.1**	**2.5(5.5)**	2.0(4.0)	3.8(8.0)	**94.25**	72.00	112.00	**8**	WWH; EWH	***High***	***High***
[OH57 45] - STILLWATER RIVER (HEADWATERS TO NORTH FORK) Upper RM: 67.64 / Lower RM: 57.97													
36.70	26.00	47.00	**72.1**	**1.7(4.0)**	1.1(4.0)	2.5(4.0)	**35.60**	29.00	51.00	**5**	WWH	***Very Low***	***High***
[OH57 46] - NORTH FORK STILLWATER RIVER Upper RM: 7.70 / Lower RM: 0.00													
34.33	28.00	40.00	**34.3**	**2.9(4.0)**	2.9(4.0)	2.9(4.0)	**18.30**	18.30	18.30	**3**	MWH-C	***Essentially None***	***High***
[OH57 48] - SOUTH FORK STILLWATER RIVER Upper RM: 3.50 / Lower RM: 0.00													
43.50	43.50	43.50	**43.5**	**7.5(10)**	7.5(10)	7.5(10)	**12.40**	12.40	12.40	**1**	WWH	***Low***	***Low***
MAD RIVER - [Watershed QHEI: 64.6, N = 85]													
[OH58 1] - MAD RIVER (MUD RUN TO GREAT MIAMI RIVER) Upper RM: 10.07 / Lower RM: 0.00													
70.23	55.00	80.50	**73.0**	**8.4(9.4)**	5.4(8.0)	13.9(10)	**635.69**	617.00	657.00	**13**	WWH	***High***	***High***
[OH58 1.1] - HEBBLE CREEK Upper RM: 10.70 / Lower RM: 0.00													
50.30	31.00	79.50	**50.3**	**9.9(9.2)**	6.8(6.0)	22.2(10)	**9.68**	5.40	12.70	**5**	MWH-C	***Essentially None***	***High***
[OH58 4] - MAD RIVER (DONNELS CREEK TO MUD RUN) Upper RM: 18.38 / Lower RM: 10.07													
82.50	70.00	90.50	**73.0**	**6.1(10)**	5.4(10)	6.9(10)	**546.00**	527.00	556.00	**8**	WWH	***Extremely High***	***High***
[OH58 7] - MEDWAY CREEK Upper RM: 1.70 / Lower RM: 0.00													
48.50	48.50	48.50	**48.5**	**4.9(4.0)**	4.9(4.0)	4.9(4.0)	**3.30**	3.30	3.30	**1**	CWH	***Low - Moderate***	***Low***
[OH58 9] - DONNELS CREEK Upper RM: 11.60 / Lower RM: 0.00													
77.00	77.00	77.00	**77.0**	**40.0(8.0)**	40.0(8.0)	40.0(8.0)	**6.80**	6.80	6.80	**1**	EWH	***Very High Quality***	***Low***
[OH58 11] - MAD RIVER (BUCK CREEK TO DONNELS CREEK) Upper RM: 26.15 / Lower RM: 18.38													
77.83	57.00	92.50	**73.0**	**5.4(10)**	4.6(10)	5.7(10)	**483.00**	464.00	495.00	**6**	WWH	***Very High***	***High***
[OH58 15] - BUCK CREEK (BEAVER CREEK TO MAD RIVER) Upper RM: 6.00 / Lower RM: 0.00													
57.40	55.00	60.50	**59.8**	**8.8(9.2)**	5.8(8.0)	13.5(10)	**133.60**	127.00	141.00	**5**	WWH	***Moderate-High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH58 16] - BEAVER CREEK Upper RM: 14.50 / Lower RM: 0.00													
77.00	75.00	79.00	**77.0**	**9.6(10)**	9.6(10)	9.6(10)	**39.00**	39.00	39.00	**2**	CWH; WWH	***Very High Quality***	***Low-Mod.***
[OH58 18] - BUCK CREEK (EAST FORK BUCK CREEK TO BEAVER CREEK) Upper RM: 12.81 / Lower RM: 6.00													
71.50	71.50	71.50	**59.8**	**11.1(10)**	11.1(10)	11.1(10)	**82.00**	82.00	82.00	**1**	CWH; WWH	***High***	***Low-Mod.***
[OH58 21] - MAD RIVER (CHAPMAN CREEK TO BUCK CREEK) Upper RM: 32.58 / Lower RM: 26.15													
77.33	67.50	84.00	**73.0**	**6.1(10)**	5.8(10)	6.5(10)	**317.67**	310.00	323.00	**3**	CWH	***Very High Quality***	***High***
[OH58 24] - MOORE RUN Upper RM: 8.10 / Lower RM: 0.00													
45.40	27.00	57.50	**45.4**	**8.4(7.6)**	4.7(6.0)	12.7(10)	**11.58**	6.60	17.70	**5**	WWH	***Moderate***	***High***
[OH58 25] - CHAPMAN CREEK Upper RM: 10.00 / Lower RM: 0.00													
61.50	47.00	80.00	**61.5**	**24.4(8.0)**	20.4(8.0)	26.3(8.0)	**20.63**	18.60	24.70	**3**	CWH	***High***	***Mod.-High***
[OH58 29] - MAD RIVER (NETTLE CREEK TO CHAPMAN CREEK) Upper RM: 37.18 / Lower RM: 32.58													
71.00	64.00	83.50	**73.0**	**7.4(9.3)**	5.1(8.0)	10.9(10)	**247.00**	235.00	264.00	**3**	CWH	***High***	***High***
[OH58 30] - STORMS CREEK Upper RM: 4.80 / Lower RM: 0.00													
47.00	47.00	47.00	**47.0**	**24.4(10)**	24.4(10)	24.4(10)	**9.20**	9.20	9.20	**1**	CWH	***Moderate***	***Low***
[OH58 31] - CEDAR RUN Upper RM: 4.00 / Lower RM: 0.00													
47.50	47.50	47.50	**47.5**	**6.3(6.0)**	6.3(6.0)	6.3(6.0)	**1.00**	1.00	1.00	**1**	CWH	***Moderate-High***	***Low***
[OH58 31.1] - EAST BRANCH CEDAR RUN Upper RM: 0.73 / Lower RM: 0.00													
51.50	51.50	51.50	**51.5**	**17.2(10)**	17.2(10)	17.2(10)	**0.20**	0.20	0.20	**1**	CWH	***Moderate-High***	***Low***
[OH58 31.2] - WEST BRANCH CEDAR RUN Upper RM: 6.80 / Lower RM: 0.00													
42.50	42.50	42.50	**42.5**	**17.0(10)**	17.0(10)	17.0(10)	**0.30**	0.30	0.30	**1**	CWH	***Low***	***Low***
[OH58 36] - NETTLE CREEK Upper RM: 11.50 / Lower RM: 0.00													
67.88	55.50	76.00	**67.9**	**17.0(9.0)**	15.2(8.0)	18.9(10)	**11.50**	8.00	15.00	**4**	CWH; WWH	***High***	***Mod.-High***
[OH58 37] - ANDERSON CREEK Upper RM: 8.60 / Lower RM: 0.00													
49.50	49.50	49.50	**49.5**	**5.2(6.0)**	5.2(6.0)	5.2(6.0)	**17.50**	17.50	17.50	**1**	CWH	***Low - Moderate***	***Low***
[OH58 43] - MAD RIVER (KINGS CREEK TO NETTLE CREEK) Upper RM: 43.82 / Lower RM: 37.18													
62.25	58.50	66.00	**73.0**	**6.9(10)**	6.8(10)	7.0(10)	**175.00**	162.00	188.00	**2**	CWH	***High***	***Mod.***
[OH58 47] - KINGS CREEK Upper RM: 9.00 / Lower RM: 0.00													
58.25	48.00	68.50	**58.3**	**15.9(10)**	14.9(10)	17.0(10)	**24.75**	8.50	41.00	**2**	CWH	***Moderate-High***	***Low-Mod.***
[OH58 47.1] - TRIB. TO KINGS CREEK (RM 0.46) Upper RM: 6.82 / Lower RM: 0.00													
34.00	34.00	34.00	**34.0**	**10.0(6.0)**	10.0(6.0)	10.0(6.0)	**8.90**	8.90	8.90	**1**	CWH	***Low***	***Low***
[OH58 48] - MAD RIVER (MACOCHEE CREEK TO KINGS CREEK) Upper RM: 51.75 / Lower RM: 43.82													
66.25	55.50	77.00	**73.0**	**9.1(9.0)**	6.9(8.0)	11.4(10)	**60.50**	58.00	63.00	**2**	CWH	***High***	***Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH58 49] - GLADY CREEK Upper RM: 7.70 / Lower RM: 0.00													
29.00	29.00	29.00	**29.0**	**3.8(6.0)**	3.8(6.0)	3.8(6.0)	**12.20**	12.20	12.20	**1**	CWH	***Essentially None***	***Low***
[OH58 51] - MAD RIVER (HEADWATERS TO MACOCHEE CREEK) Upper RM: 65.92 / Lower RM: 51.75													
67.00	55.50	77.00	**73.0**	**25.0(6.0)**	4.8(4.0)	71.4(10)	**24.71**	7.50	36.00	**7**	CWH	***High***	***High***
[OH58 51.2] - HEFFLEFINGER DITCH Upper RM: 0.91 / Lower RM: 0.00													
35.50	31.00	40.00	**35.5**	**10.9(8.0)**	10.9(8.0)	10.9(8.0)	**0.20**	0.20	0.20	**2**	CWH	***Low***	***Mod.***
[OH58 52] - MACOCHEE CREEK Upper RM: 8.20 / Lower RM: 0.00													
73.83	67.50	82.00	**73.8**	**11.0(10)**	8.5(10)	16.1(10)	**14.57**	13.70	16.00	**3**	CWH	***High***	***Mod.-High***
TWIN CREEK - [Watershed QHEI: 73.9, N = 78]													
[OH59 1] - TWIN CREEK (LITTLE TWIN CREEK TO GREAT MIAMI R.) Upper RM: 6.70 / Lower RM: 0.00													
76.38	73.50	80.50	**81.1**	**13.4(7.5)**	12.3(6.0)	16.0(8.0)	**315.00**	312.00	316.00	**4**	EWH	***Very High Quality***	***High***
[OH59 2] - LITTLE TWIN CREEK Upper RM: 7.80 / Lower RM: 0.00													
65.33	58.50	74.00	**65.3**	**18.2(9.3)**	17.2(8.0)	18.9(10)	**11.73**	4.90	18.80	**6**	WWH	***High***	***High***
[OH59 2.1] - REIGLE DITCH Upper RM: 4.66 / Lower RM: 0.00													
67.13	64.50	69.00	**67.1**	**16.1(10)**	16.1(10)	16.1(10)	**3.35**	3.30	3.40	**4**	WWH	***High***	***Mod.-High***
[OH59 3] - TWIN CREEK (BANTAS FORK TO LITTLE TWIN CREEK) Upper RM: 24.30 / Lower RM: 6.70													
85.92	73.00	91.50	**81.1**	**7.4(9.7)**	4.9(8.0)	13.7(10)	**241.46**	192.00	285.00	**13**	EWH	***Extremely High***	***High***
[OH59 4] - TOMS RUN Upper RM: 15.40 / Lower RM: 0.00													
71.71	65.50	78.00	**71.7**	**17.8(8.9)**	10.0(6.0)	35.7(10)	**17.44**	6.00	25.10	**7**	WWH	***High***	***High***
[OH59 4.1] - TRIB. TO TOMS RUN (RM 5.34) Upper RM: 4.80 / Lower RM: 0.00													
62.67	49.50	80.00	**62.7**	**22.2(10)**	15.9(10)	26.3(10)	**2.27**	1.60	2.80	**3**	WWH	***High***	***Mod.-High***
[OH59 6] - AUKERMAN CREEK Upper RM: 5.60 / Lower RM: 0.00													
66.50	66.50	66.50	**66.5**	**15.6(10)**	15.6(10)	15.6(10)	**21.10**	21.10	21.10	**1**	WWH	***High***	***Low***
[OH59 7] - BANTAS FORK Upper RM: 16.80 / Lower RM: 0.00													
85.00	74.00	96.50	**85.0**	**20.7(9.2)**	14.5(8.0)	28.6(10)	**25.36**	11.80	35.20	**5**	EWH	***Extremely High***	***High***
[OH59 8] - GOOSE RUN Upper RM: 5.10 / Lower RM: 0.00													
63.25	56.50	70.00	**63.3**	**20.2(9.0)**	20.0(8.0)	20.4(10)	**7.50**	3.60	11.40	**2**	WWH	***High***	***Mod.***
[OH59 10] - TWIN CREEK (PRICE CREEK TO BANTAS FORK) Upper RM: 29.70 / Lower RM: 24.30													
88.00	80.00	95.00	**81.1**	**9.4(9.7)**	8.6(8.0)	11.6(10)	**144.29**	131.00	150.00	**7**	EWH	***Extremely High***	***High***
[OH59 11] - LESLEY RUN Upper RM: 8.50 / Lower RM: 0.00													
61.75	53.50	70.00	**61.8**	**18.3(8.0)**	9.6(6.0)	27.0(10)	**6.35**	5.00	7.70	**2**	WWH	***High***	***Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH59 13] - PRICE CREEK Upper RM: 14.60 / Lower RM: 0.00													
66.10	52.00	87.00	**66.1**	**13.4(8.0)**	5.2(6.0)	25.0(10)	**15.36**	5.60	29.50	**5**	WWH	***High***	***High***
[OH59 15] - TWIN CREEK (HEADWATERS TO PRICE CREEK) Upper RM: 47.03 / Lower RM: 29.74													
73.46	44.00	92.00	**81.1**	**9.2(7.8)**	2.7(4.0)	21.3(10)	**63.18**	20.20	96.00	**12**	EWH	***High***	***High***
[OH59 16] - SWAMP CREEK Upper RM: 7.30 / Lower RM: 0.00													
61.13	41.00	78.00	**61.1**	**7.7(8.0)**	4.2(6.0)	11.9(10)	**16.30**	13.70	18.90	**4**	WWH	***High***	***Mod.-High***
[OH59 17] - MILLERS FORK Upper RM: 10.60 / Lower RM: 0.00													
60.17	46.50	76.00	**52.3**	**7.3(8.0)**	3.6(4.0)	9.5(10)	**14.90**	7.00	25.90	**3**	EWH	***High***	***Mod.-High***
MIDDLE GREAT MIAMI RIVER - [Watershed QHEI: 65.9, N = 138]													
[OH60 1] - GREAT MIAMI RIVER (FOURMILE CREEK TO RM 26.6) Upper RM: 38.38 / Lower RM: 26.60													
68.57	40.50	86.00	**68.6**	**2.7(9.5)**	0.1(6.0)	4.7(10)	**3598.00**	999.00	3669.00	**15**	WWH	***High***	***High***
[OH60 2] - INDIAN CREEK Upper RM: 22.90 / Lower RM: 0.00													
77.00	72.50	79.50	**77.0**	**12.3(8.7)**	8.5(8.0)	16.1(10)	**93.67**	82.00	100.00	**3**	EWH	***Very High Quality***	***Mod.-High***
[OH60 7] - TWO MILE CREEK Upper RM: 4.80 / Lower RM: 0.00													
70.50	70.50	70.50	**70.5**	**25.0(10)**	25.0(10)	25.0(10)	**5.50**	5.50	5.50	**1**	WWH	***High***	***Low***
[OH60 7.1] - TRIB. TO TWOMILE CREEK (RM 1.53) Upper RM: 1.90 / Lower RM: 0.00													
65.00	57.50	72.50	**65.0**	**66.0(7.0)**	26.6(4.0)	105.3(	**0.90**	0.40	1.40	**2**	NONE	***High***	***Mod.***
[OH60 9] - GREAT MIAMI RIVER (DICKS CREEK TO FOURMILE CREEK) Upper RM: 47.60 / Lower RM: 38.40													
80.44	55.50	93.00	**68.6**	**3.6(9.8)**	2.2(8.0)	11.8(10)	**3271.00**	999.00	3295.00	**9**	WWH	***Very High***	***High***
[OH60 14] - DICKS CREEK Upper RM: 10.50 / Lower RM: 0.00													
53.27	32.00	85.00	**53.3**	**8.0(9.2)**	5.6(8.0)	12.7(10)	**36.63**	9.00	47.50	**13**	WWH; MWH-C; WWH	***Essentially None***	***High***
[OH60 15] - SHAKER CREEK Upper RM: 8.70 / Lower RM: 0.00													
51.75	44.00	69.00	**51.8**	**12.4(7.5)**	6.0(6.0)	31.3(10)	**12.60**	5.50	21.70	**4**	WWH	***Moderate-High***	***Mod.-High***
[OH60 16] - MILLERS CREEK Upper RM: 5.00 / Lower RM: 0.00													
45.00	45.00	45.00	**45.0**	**6.8(6.0)**	6.8(6.0)	6.8(6.0)	**7.90**	7.90	7.90	**1**	WWH	***Low***	***Low***
[OH60 17] - NORTH BRANCH DICKS CREEK Upper RM: 5.60 / Lower RM: 0.00													
46.75	41.00	52.50	**46.8**	**8.8(6.0)**	8.8(6.0)	8.8(6.0)	**7.60**	7.20	8.00	**4**	WWH; MWH-C	***Essentially None***	***High***
[OH60 18] - GREAT MIAMI RIVER (TWIN CREEK TO DICKS CREEK) Upper RM: 57.42 / Lower RM: 47.60													
66.25	43.00	90.00	**68.6**	**2.9(10)**	2.4(10)	3.9(10)	**3151.19**	999.00	3191.00	**16**	WWH	***High***	***High***
[OH60 19] - ELK CREEK Upper RM: 12.60 / Lower RM: 0.00													
87.75	84.00	91.50	**87.8**	**11.7(10)**	11.7(10)	11.7(10)	**37.50**	37.50	37.50	**2**	EWH	***Extremely High***	***Low-Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH60 21] - GREAT MIAMI RIVER (BEAR CREEK TO TWIN CREEK) Upper RM: 67.60 / Lower RM: 57.42													
68.11	35.00	88.00	**68.6**	**4.0(9.3)**	0.1(6.0)	6.3(10)	**2729.44**	999.00	2791.00	**18**	WWH	***High***	***High***
[OH60 21.1] - MOUND OVERFLOW CREEK Upper RM: 1.34 / Lower RM: 0.00													
50.00	50.00	50.00	**50.0**	**12.2(8.0)**	12.2(8.0)	12.2(8.0)	**0.40**	0.40	0.40	**1**		***Moderate***	***Low***
[OH60 27] - BEAR CREEK Upper RM: 14.40 / Lower RM: 0.00													
66.67	46.00	79.50	**66.7**	**21.0(9.0)**	14.5(8.0)	29.4(10)	**25.90**	6.70	53.70	**6**	WWH	***High***	***High***
[OH60 33] - GREAT MIAMI RIVER (WOLF CREEK TO BEAR CREEK) Upper RM: 80.20 / Lower RM: 67.60													
68.26	42.50	92.00	**68.6**	**2.8(9.7)**	0.1(6.0)	5.2(10)	**2615.96**	999.00	2650.00	**25**	WWH	***High***	***High***
[OH60 33.1] - OWL CREEK Upper RM: 1.00 / Lower RM: 0.00													
69.00	69.00	69.00	**69.0**	**33.3(8.0)**	33.3(8.0)	33.3(8.0)	**3.80**	3.80	3.80	**1**	LRW	***Essentially None***	***High***
[OH60 35] - HOLES CREEK Upper RM: 9.00 / Lower RM: 0.00													
58.50	54.00	63.00	**58.5**	**16.9(9.0)**	13.0(8.0)	20.8(10)	**21.20**	17.00	25.40	**2**	WWH	***Moderate-High***	***Low-Mod.***
[OH60 36] - WOLF CREEK Upper RM: 19.30 / Lower RM: 0.00													
67.58	53.50	82.50	**67.6**	**18.3(9.0)**	5.7(8.0)	29.4(10)	**24.57**	3.50	71.80	**6**	WWH	***High***	***High***
[OH60 37] - DRY RUN Upper RM: 3.20 / Lower RM: 0.00													
64.38	36.00	74.00	**64.4**	**19.5(10)**	18.2(10)	23.3(10)	**4.75**	2.90	7.80	**4**	WWH	***High***	***Mod.-High***
[OH60 41] - GREAT MIAMI RIVER (STILLWATER RIVER TO WOLF CREEK) Upper RM: 82.60 / Lower RM: 80.20													
62.80	50.00	74.00	**68.6**	**2.6(8.4)**	0.1(6.0)	5.0(10)	**2247.60**	999.00	2512.00	**5**	WWH	***High***	***High***
FOURMILE CREEK - [Watershed QHEI: 71.1, N = 35]													
[OH61 5] - E. FK. WHITEWATER R. (HEADWATERS TO OHIO/INDANA) Upper RM: 52.28 / Lower RM: 39.00													
56.10	26.00	76.50	**56.1**	**14.3(9.2)**	5.7(6.0)	25.0(10)	**17.40**	3.00	34.00	**5**	WWH	***Moderate***	***High***
[OH61 11] - FOURMILE CREEK (SEVENMILE CREEK TO GREAT MIAMI R.) Upper RM: 3.74 / Lower RM: 0.00													
77.00	75.00	79.00	**71.7**	**10.7(9.0)**	7.1(8.0)	14.3(10)	**310.00**	305.00	315.00	**2**	WWH	***Very High Quality***	***Mod.***
[OH61 12] - SEVENMILE CREEK (PAINT CREEK TO FOURMILE CREEK) Upper RM: 15.20 / Lower RM: 0.00													
81.13	78.50	85.00	**76.9**	**8.5(9.5)**	4.8(8.0)	12.5(10)	**117.88**	91.50	137.00	**4**	EWH	***Very High Quality***	***High***
[OH61 19] - SEVENMILE CREEK (HEADWATERS TO PAINT CREEK) Upper RM: 37.00 / Lower RM: 15.18													
74.50	57.00	85.50	**76.9**	**13.8(9.1)**	8.1(8.0)	24.4(10)	**29.80**	19.00	52.00	**7**	WWH	***High***	***High***
[OH61 24] - FOURMILE CREEK (L. FOURMILE CR. TO SEVENMILE CR.) Upper RM: 23.90 / Lower RM: 3.74													
72.86	57.50	86.00	**71.7**	**10.4(9.1)**	8.9(6.0)	15.6(10)	**121.07**	97.00	163.00	**14**	WWH	***High***	***High***
[OH61 28] - ELAMS RUN Upper RM: 2.68 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH61 31] - FOURMILE CREEK (HEADWATERS TO LITTLE FOURMILE CR.) Upper RM: 38.20 / Lower RM: 23.90													
62.67	56.00	73.00	**71.7**	**21.6(8.0)**	10.8(4.0)	41.7(10)	**33.33**	21.00	50.00	**3**	WWH	***High***	***High***
LOWER GREAT MIAMI RIVER AND WHITEWATER RIVER - [Watershed QHEI: 62.5, N = 135]													
[OH62 1] - GREAT MIAMI RIVER (TAYLOR CREEK TO OHIO RIVER) Upper RM: 15.00 / Lower RM: 0.00													
69.04	46.50	81.50	**68.6**	**2.2(8.8)**	0.1(4.0)	3.5(10)	**4492.75**	999.00	5371.00	**12**	WWH	***High***	***High***
[OH62 3] - WHITEWATER RIVER (OHIO/INDIANA TO GREAT MIAMI R.) Upper RM: 8.26 / Lower RM: 0.00													
81.79	76.50	90.00	**81.8**	**4.2(10)**	3.5(10)	5.4(10)	**1402.57**	999.00	1483.00	**7**	WWH	***Extremely High***	***High***
[OH62 3.2] - WELKER LATERAL Upper RM: 2.15 / Lower RM: 0.00													
43.00	43.00	43.00	**43.0**	**13.3(8.0)**	13.3(8.0)	13.3(8.0)	**1.70**	1.70	1.70	**1**	NONE	***Low***	***Low***
[OH62 5] - DRY FORK WHITEWATER RIVER Upper RM: 19.60 / Lower RM: 0.00													
63.00	63.00	63.00	**63.0**	**14.5(8.0)**	14.5(8.0)	14.5(8.0)	**79.00**	79.00	79.00	**1**	EWH	***High***	***Low***
[OH62 5.1] - KIATA CREEK Upper RM: 4.00 / Lower RM: 0.00													
59.50	55.00	64.00	**59.5**	**40.2(6.0)**	30.3(4.0)	50.0(8.0)	**4.30**	2.70	5.90	**2**	WWH	***Moderate-High***	***Mod.***
[OH62 12] - TAYLOR CREEK Upper RM: 8.40 / Lower RM: 0.00													
68.43	60.00	85.00	**68.4**	**45.6(7.1)**	10.0(4.0)	100.0(	**10.51**	3.90	27.20	**7**	WWH	***High***	***High***
[OH62 12.1] - WESSELMAN CREEK Upper RM: 6.27 / Lower RM: 0.00													
65.25	63.50	67.00	**65.3**	**18.9(10)**	18.9(10)	18.9(10)	**7.70**	7.70	7.70	**2**	WWH	***High***	***Mod.***
[OH62 12.2] - BRIARLY CREEK Upper RM: 4.52 / Lower RM: 0.00													
66.60	60.50	80.50	**66.6**	**54.4(4.0)**	47.6(4.0)	66.7(4.0)	**3.34**	0.40	6.90	**10**	WWH	***High***	***High***
[OH62 12.21] - STEELE CREEK Upper RM: 3.48 / Lower RM: 0.00													
69.67	69.00	70.00	**69.7**	**56.6(4.0)**	55.6(4.0)	58.8(4.0)	**3.97**	2.90	4.50	**3**	WWH	***High***	***Mod.-High***
[OH62 12.23] - TRIB. TO STEEL CREEK (OAK HOLLOW ESTATES) Upper RM: 0.45 / Lower RM: 0.00													
64.50	64.50	64.50	**62.8**	**90.9(4.0)**	90.9(4.0)	90.9(4.0)	**0.10**	0.10	0.10	**1**	NONE	***High***	***Low-Mod.***
[OH62 12.24] - TRIB. TO STEEL CREEK (OAKVIEW ESTATES) Upper RM: 0.40 / Lower RM: 0.00													
64.00	58.00	70.00	**64.0**	**145.8(4.0**	125.0(4.0	166.7(4.0	**0.10**	0.10	0.10	**2**	NONE	***High***	***Mod.***
[OH62 12.3] - TRIB. TO TAYLOR CREEK (AUDUBON WOODS) Upper RM: 1.95 / Lower RM: 0.00													
57.00	57.00	57.00	**57.0**	**100.0(4.0**	100.0(4.0	100.0(4.0	**0.70**	0.70	0.70	**1**	NONE	***Moderate-High***	***Low***
[OH62 12.5] - TRIB. TO TRIB. TO TAYLOR CREEK (W. FK. ACRES) Upper RM: 0.33 / Lower RM: 0.00													
60.00	58.00	62.00	**60.0**	**250.0(4.0**	250.0(4.0	250.0(4.0	**0.20**	0.20	0.20	**2**	NONE	***High***	***Mod.***
[OH62 13] - GREAT MIAMI RIVER (RM 26.6 TO TAYLOR CREEK) Upper RM: 26.60 / Lower RM: 14.98													
70.59	54.00	86.00	**68.6**	**3.5(10)**	2.5(10)	4.7(10)	**3811.36**	999.00	3838.00	**11**	WWH	***High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH62 14] - PADDY'S RUN Upper RM: 8.80 / Lower RM: 0.00													
67.75	60.50	71.50	**67.8**	**17.4(9.5)**	6.1(8.0)	25.6(10)	**10.83**	6.00	16.00	**4**	WWH	***High***	***Mod.-High***
[OH62 15] - BLUEROCK CREEK Upper RM: 3.00 / Lower RM: 0.00													
74.00	73.00	75.00	**74.0**	**75.3(7.0)**	25.6(4.0)	125.0(	**4.10**	1.40	6.80	**2**	WWH	***High***	***Mod.***
[OH62 21] - MUDDY CREEK Upper RM: 8.40 / Lower RM: 0.00													
46.00	44.00	48.00	**46.0**	**66.7(4.0)**	50.0(4.0)	83.3(4.0)	**9.50**	6.70	12.30	**2**	WWH	***Moderate***	***Mod.***
[OH62 21.1] - WEST BRANCH MUDDY CREEK Upper RM: 2.80 / Lower RM: 0.00													
67.25	66.50	68.00	**67.3**	**200.0(4.0**	200.0(4.0	200.0(4.0	**1.25**	1.20	1.30	**2**	NONE	***High***	***Mod.***
[OH62 22] - RAPID RUN Upper RM: 4.70 / Lower RM: 0.00													
37.33	33.50	42.00	**37.3**	**100.0(4.0**	100.0(4.0	100.0(4.0	**5.80**	5.80	5.80	**3**	LRW	***Essentially None***	***High***
[OH62 22.1] - WULFF RUN Upper RM: 2.69 / Lower RM: 0.00													
30.50	30.50	30.50	**30.5**	**90.9(4.0)**	90.9(4.0)	90.9(4.0)	**2.20**	2.20	2.20	**1**	LRW	***Essentially None***	***High***
[OH62 23] - MILL CREEK (WEST FORK MILL CREEK TO OHIO RIVER) Upper RM: 11.57 / Lower RM: 0.00													
40.75	22.00	66.00	**52.9**	**5.3(8.3)**	0.1(4.0)	12.1(10)	**134.30**	74.30	166.10	**8**	WWH; MWH-C	***Essentially None***	***High***
[OH62 23.1] - LUDLOW CREEK Upper RM: 3.40 / Lower RM: 0.00													
57.25	48.50	66.00	**57.3**	**120.5(4.0**	90.9(4.0)	150.0(4.0	**0.45**	0.20	0.70	**2**	NONE	***Moderate-High***	***Mod.***
[OH62 23.2] - BLOODY RUN Upper RM: 3.90 / Lower RM: 0.00													
38.50	34.00	43.00	**38.5**	**55.6(4.0)**	55.6(4.0)	55.6(4.0)	**3.20**	3.20	3.20	**2**	LRW	***Essentially None***	***High***
[OH62 23.3] - WINTON RIDGE TRIBUTARY Upper RM: 2.10 / Lower RM: 0.00													
52.25	48.50	56.00	**52.3**	**99.2(4.0)**	55.6(4.0)	142.9(4.0	**0.50**	0.10	0.90	**2**	WWH	***Moderate-High***	***Mod.***
[OH62 24] - WEST FORK MILL CREEK (DOWNSTREAM) Upper RM: 5.00 / Lower RM: 0.00													
59.00	56.50	61.50	**59.0**	**52.6(4.0)**	52.6(4.0)	52.6(4.0)	**3.95**	3.10	4.80	**2**	WWH; LRW	***Essentially None***	***High***
[OH62 24.1] - TRIB. TO WEST FORK MILL CREEK Upper RM: 2.05 / Lower RM: 0.00													
46.50	46.50	46.50	**46.5**	**83.3(4.0)**	83.3(4.0)	83.3(4.0)	**1.70**	1.70	1.70	**1**	NONE	***Moderate***	***Low***
[OH62 25] - ROSS RUN Upper RM: 4.90 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH62 26] - WEST FORK MILL CREEK (UPSTREAM) Upper RM: 15.20 / Lower RM: 0.00													
62.38	44.50	76.00	**62.4**	**15.5(8.9)**	5.9(4.0)	52.6(10)	**23.56**	3.50	36.40	**13**	WWH	***High***	***High***
[OH62 26.1] - TRIB. TO WINTON LAKE (DALY RD. CREEK) Upper RM: 5.60 / Lower RM: 0.00													
60.00	60.00	60.00	**60.0**	**25.0(10)**	25.0(10)	25.0(10)	**1.50**	1.50	1.50	**1**	NONE	***High***	***Low***
[OH62 27] - MILL CREEK (SHARON CREEK TO WEST FORK MILL CREEK) Upper RM: 15.63 / Lower RM: 11.57													
63.60	60.00	71.00	**52.9**	**9.3(8.4)**	6.2(8.0)	12.4(10)	**69.00**	64.00	73.00	**5**	WWH	***High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH62 27.1] - ROSSMOYNE CREEK Upper RM: 5.00 / Lower RM: 0.00													
55.13	43.00	65.50	**55.1**	**50.9(4.0)**	41.7(4.0)	58.8(4.0)	**3.65**	0.20	5.90	**4**	WWH	***Moderate-High***	***Mod.-High***
[OH62 27.2] - TRIB. TO MILL CREEK (RM 13.85) (G.E.) Upper RM: 3.00 / Lower RM: 0.00													
68.00	68.00	68.00	**68.0**	**10.5(8.0)**	10.5(8.0)	10.5(8.0)	**1.50**	1.50	1.50	**1**	LRW	***Essentially None***	***High***
[OH62 28] - SHARON CREEK Upper RM: 5.50 / Lower RM: 0.00													
66.50	52.50	77.50	**66.5**	**23.1(9.0)**	13.9(8.0)	32.3(10)	**6.10**	1.70	10.50	**4**	WWH	***High***	***Mod.-High***
[OH62 30] - MILL CREEK (HEADWATERS TO SHARON CREEK) Upper RM: 28.35 / Lower RM: 15.64													
60.25	52.50	64.00	**52.9**	**9.8(7.3)**	4.7(6.0)	31.3(8.0)	**32.57**	4.10	50.00	**6**	WWH; LWH	***High***	***High***
[OH62 30.1] - TOWN RUN Upper RM: 2.08 / Lower RM: 0.00													
58.75	54.50	63.00	**58.8**	**46.9(6.0)**	10.5(4.0)	83.3(8.0)	**1.60**	1.20	2.00	**2**	WWH	***Moderate-High***	***Mod.***
[OH62 31] - EAST FORK MILL CREEK Upper RM: 7.10 / Lower RM: 0.00													
63.17	45.50	74.00	**63.2**	**30.5(6.3)**	7.9(4.0)	76.9(10)	**6.75**	3.90	9.30	**6**	WWH	***High***	***High***
WABASH RIVER - [Watershed QHEI: 49.7, N = 9]													
[OH63 1] - WABASH RIVER (BEAVER CREEK TO OHIO/INDIANA LINE) Upper RM: 468.82 / Lower RM: 466.10													
55.00	55.00	55.00	**50.1**	**1.1(6.0)**	1.1(6.0)	1.1(6.0)	**249.00**	249.00	249.00	**1**	WWH	***Low - Moderate***	***Low-Mod.***
[OH63 16] - WABASH RIVER (STONY CREEK TO BEAVER CREEK) Upper RM: 481.39 / Lower RM: 468.82													
54.67	51.00	57.00	**50.1**	**5.1(8.0)**	3.9(8.0)	5.7(8.0)	**107.00**	95.00	124.00	**3**	WWH	***Moderate-High***	***High***
[OH63 19] - WABASH RIVER (HEADWATERS TO STONY CREEK) Upper RM: 508.80 / Lower RM: 481.39													
44.00	44.00	44.00	**50.1**	**5.1(6.7)**	4.9(6.0)	5.6(8.0)	**70.00**	65.00	73.00	**3**	WWH	***Low***	***High***
[OH63 19.1] - TRIB. TO WABASH RIVER Upper RM: 1.30 / Lower RM: 0.00													
48.25	38.50	58.00	**48.3**	**47.6(4.0)**	47.6(4.0)	47.6(4.0)	**0.65**	0.60	0.70	**2**	NONE	***Moderate***	***Mod.***
[OH63 26] - MISSISSINEWA RIVER (HEADWATERS TO OH./IND. LINE) Upper RM: 8.60 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
ST. MARYS RIVER - [Watershed QHEI: 44.9, N = 29]													
[OH64 4] - BLACK CREEK Upper RM: 17.00 / Lower RM: 0.00													
34.00	34.00	34.00	**34.0**	**3.1(6.0)**	3.1(6.0)	3.1(6.0)	**54.00**	54.00	54.00	**1**	MWH-C	***Essentially None***	***High***
[OH64 12] - TWELVEMILE CREEK Upper RM: 13.40 / Lower RM: 0.00													
47.50	43.00	52.00	**47.5**	**2.1(4.0)**	1.9(4.0)	2.4(4.0)	**32.80**	30.60	35.00	**2**	WWH	***Moderate-High***	***Low-Mod.***
[OH64 13] - BLIERDOFER DITCH Upper RM: 3.00 / Lower RM: 0.00													
35.50	35.50	35.50	**35.5**	**4.7(6.0)**	4.7(6.0)	4.7(6.0)	**9.80**	9.80	9.80	**1**	MWH-C	***Essentially None***	***High***
[OH64 13.1] - WAUGH DITCH Upper RM: 2.82 / Lower RM: 0.00													
38.50	32.50	45.00	**38.5**	**16.2(8.7)**	11.4(8.0)	25.6(10)	**0.87**	0.30	1.90	**3**	MWH-C	***Essentially None***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH64 13.2] - DIXON DITCH Upper RM: 0.53 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH64 15] - ST. MARYS R. (SIXMILE CREEK TO TWELVEMILE CREEK) Upper RM: 89.12 / Lower RM: 71.30													
46.00	41.00	54.00	**55.7**	**1.3(5.3)**	0.9(4.0)	1.9(6.0)	**208.00**	181.00	231.00	**3**	WWH	***Low - Moderate***	***High***
[OH64 18] - ST. MARYS RIVER (MIAMI/ERIE CANAL TO SIXMILE CR.) Upper RM: 100.17 / Lower RM: 89.12													
65.88	62.00	74.50	**55.7**	**2.3(6.5)**	1.8(6.0)	3.9(8.0)	**150.25**	148.00	156.00	**4**	WWH	***High***	***High***
[OH64 20.1] - TRIB. TO FOURMILE CREEK (RM 3.72) Upper RM: 0.70 / Lower RM: 0.00													
35.25	17.00	53.50	**35.3**	**38.7(6.0)**	35.7(4.0)	41.7(8.0)	**0.35**	0.30	0.40	**2**	LRW	***Essentially None***	***High***
[OH64 25] - ST. MARYS RIVER (GRAND LAKE TO ST. MARYS) Upper RM: 102.00 / Lower RM: 100.17													
44.00	44.00	44.00	**55.7**	**4.0(6.0)**	4.0(6.0)	4.0(6.0)	**67.10**	67.10	67.10	**1**	WWH	***Low***	***Low-Mod.***
[OH64 26] - KOPP CREEK Upper RM: 13.46 / Lower RM: 0.00													
40.80	24.00	69.00	**40.8**	**10.3(9.6)**	7.6(8.0)	17.2(10)	**22.46**	3.30	34.00	**5**	WWH	***Low***	***High***
[OH64 27] - WIERTH DITCH Upper RM: 4.02 / Lower RM: 0.00													
28.00	28.00	28.00	**28.0**	**8.1(6.0)**	8.1(6.0)	8.1(6.0)	**5.80**	5.80	5.80	**1**	MWH-C	***Essentially None***	***High***
[OH64 28] - TRIB. TO KOPP CREEK (RM 5.4) Upper RM: 5.78 / Lower RM: 0.00													
38.00	38.00	38.00	**38.0**	**8.6(6.0)**	8.6(6.0)	8.6(6.0)	**4.40**	4.40	4.40	**1**	WWH	***Low***	***Low***
[OH64 29] - CLEAR CREEK Upper RM: 13.50 / Lower RM: 0.00													
34.00	34.00	34.00	**34.0**	**4.4(6.0)**	4.4(6.0)	4.4(6.0)	**13.80**	13.80	13.80	**1**	WWH	***Very Low***	***Low***
[OH64 30] - CENTER BRANCH Upper RM: 12.30 / Lower RM: 0.00													
50.67	40.00	66.50	**50.7**	**6.7(7.3)**	5.7(6.0)	7.4(10)	**11.53**	5.10	15.50	**3**	WWH	***Moderate***	***Mod.-High***
[OH64 31] - CARTER CREEK Upper RM: 7.50 / Lower RM: 0.00													
50.00	50.00	50.00	**50.0**	**6.9(10)**	6.9(10)	6.9(10)	**10.00**	10.00	10.00	**1**	WWH	***Moderate***	***Low***
ST. JOSEPH RIVER (INCLUDING GORDON CREEK) - [Watershed QHEI: 59.9, N = 44]													
[OH65 1] - MAUMEE RIVER (GORDON CREEK TO TIFFIN RIVER) Upper RM: 81.49 / Lower RM: 65.76													
65.00	54.00	76.00	**55.0**	**1.0(8.0)**	1.0(8.0)	1.0(8.0)	**2309.00**	999.00	2309.00	**2**	WWH	***Moderate - High***	***Mod.***
[OH65 6] - GORDON CREEK Upper RM: 16.30 / Lower RM: 0.00													
30.00	30.00	30.00	**30.0**	**2.3(4.0)**	2.3(4.0)	2.3(4.0)	**37.00**	37.00	37.00	**1**	MWH-C	***Essentially None***	***High***
[OH65 7] - SOUTH FORK GORDON CREEK Upper RM: 12.10 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH65 8] - NORTH FORK GORDON CREEK Upper RM: 10.80 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH65 9] - MIDDLE FORK GORDON CREEK Upper RM: 8.50 / Lower RM: 0.00													
38.33	36.00	42.00	**38.3**	**7.5(6.0)**	6.0(6.0)	9.8(6.0)	**8.33**	6.00	12.00	**3**	MWH-C	***Essentially None***	***High***
[OH65 9.1] - MILL CREEK (HICKSVILLE) Upper RM: 2.08 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH65 10.1] - TRIB. TO MAUMEE RIVER (RM 84.4) Upper RM: 1.03 / Lower RM: 0.00													
35.00	28.00	42.00	**35.0**	**15.9(7.0)**	2.3(4.0)	29.4(10)	**0.30**	0.20	0.40	**2**	NONE	***Low***	***Mod.***
[OH65 21] - ST. JOSEPH RIVER (FISH CREEK TO OH/IND. BORDER) Upper RM: 52.93 / Lower RM: 41.68													
51.13	33.00	60.00	**57.3**	**0.9(4.0)**	0.9(4.0)	0.9(4.0)	**553.50**	551.00	557.00	**4**	WWH	***Low - Moderate***	***High***
[OH65 26] - FISH CREEK (OH./IND. BORDER TO ST. JOSEPH RIVER) Upper RM: 5.57 / Lower RM: 0.00													
70.57	64.00	79.00	**70.4**	**3.4(8.0)**	2.7(8.0)	4.0(8.0)	**106.71**	105.00	109.00	**7**	EWH; WWH	***High***	***High***
[OH65 26.1] - FISH CREEK (INDIANA PORTION) Upper RM: 29.99 / Lower RM: 5.58													
72.82	68.00	77.00	**70.4**	**4.0(6.0)**	3.5(6.0)	4.2(6.0)	**84.09**	60.00	99.00	**11**	EWH	***High***	***High***
[OH65 27] - FISH CREEK (HEADWATERS TO OH./IND. BORDER) Upper RM: 36.00 / Lower RM: 30.00													
42.50	42.50	42.50	**70.4**	**7.1(6.0)**	7.1(6.0)	7.1(6.0)	**8.10**	8.10	8.10	**1**	WWH		***Low-Mod.***
[OH65 28] - ST. JOSEPH RIVER (BEAR CREEK TO FISH CREEK) Upper RM: 60.98 / Lower RM: 52.93													
57.00	57.00	57.00	**57.3**	**1.4(6.0)**	1.4(6.0)	1.4(6.0)	**434.00**	434.00	434.00	**1**	WWH	***Low - Moderate***	***Low-Mod.***
[OH65 31] - BEAR CREEK Upper RM: 11.20 / Lower RM: 0.00													
51.70	26.50	74.00	**51.7**	**5.3(6.8)**	3.4(6.0)	9.7(10)	**18.94**	4.40	24.30	**5**	WWH	***Moderate-High***	***High***
[OH65 32] - TAMARACK DITCH Upper RM: 2.60 / Lower RM: 0.00													
12.50	12.50	12.50	**12.5**	**3.7(4.0)**	3.7(4.0)	3.7(4.0)	**4.10**	4.10	4.10	**1**	WWH	***Essentially None***	***Low***
[OH65 33] - ST. JOSEPH RIVER (NETTLE CREEK TO BEAR CREEK) Upper RM: 80.37 / Lower RM: 60.98													
67.00	58.50	75.50	**57.3**	**0.6(4.0)**	0.6(4.0)	0.6(4.0)	**367.50**	341.00	394.00	**2**	WWH	***Moderate - High***	***Mod.***
[OH65 37] - ST. JOSEPH RIVER (HEADWATERS TO NETTLE CREEK) Upper RM: 84.57 / Lower RM: 80.37													
63.00	63.00	63.00	**57.3**	**1.8(6.0)**	1.8(6.0)	1.8(6.0)	**288.00**	288.00	288.00	**1**	WWH	***Moderate - High***	***Low-Mod.***
[OH65 38] - JOHN LATTANER DITCH Upper RM: 3.05 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH65 39] - WEST BRANCH ST. JOSEPH RIVER Upper RM: 11.00 / Lower RM: 0.00													
76.50	73.00	80.00	**76.5**	**5.0(9.0)**	4.2(8.0)	5.7(10)	**103.25**	98.50	108.00	**2**	WWH	***Very High Quality***	***Low-Mod.***
[OH65 42] - SILVER CREEK Upper RM: 2.90 / Lower RM: 0.00													
68.50	68.50	68.50	**68.5**	**9.4(10)**	9.4(10)	9.4(10)	**29.00**	29.00	29.00	**1**	WWH	***High***	***Low***

BLANCHARD RIVER - [Watershed QHEI: 41.4, N = 57]

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH66 1] - OTTAWA CREEK Upper RM: 17.80 / Lower RM: 0.00													
58.25	50.50	66.00	**58.3**	**4.3(6.0)**	3.4(6.0)	5.2(6.0)	**44.00**	26.00	62.00	**2**	WWH	***Moderate-High***	***Low-Mod.***
[OH66 1.1] - JACOB BURKET DITCH Upper RM: 1.90 / Lower RM: 0.00													
32.75	21.00	44.50	**32.8**	**17.6(9.0)**	14.3(8.0)	20.8(10)	**0.90**	0.20	1.60	**2**	LRW	***Essentially None***	***High***
[OH66 1.2] - W.B. MOYER DITCH Upper RM: 2.90 / Lower RM: 0.00													
54.50	50.00	59.00	**54.5**	**11.4(8.0)**	7.6(6.0)	15.2(10)	**2.20**	1.80	2.60	**2**	MWH-C	***Essentially None***	***High***
[OH66 1.3] - ADAM HEININGER DITCH Upper RM: 1.45 / Lower RM: 0.00													
41.00	41.00	41.00	**41.0**	**38.5(8.0)**	38.5(8.0)	38.5(8.0)	**0.80**	0.80	0.80	**1**	LRW	***Essentially None***	***High***
[OH66 1.4] - HIGBIE-REDICK DITCH Upper RM: 6.41 / Lower RM: 0.00													
33.50	32.50	34.50	**33.5**	**4.7(4.0)**	4.7(4.0)	4.8(4.0)	**5.85**	5.30	6.40	**2**	MWH-C	***Essentially None***	***High***
[OH66 3] - BLANCHARD (EAGLE CREEK TO OTTAWA CREEK) Upper RM: 58.10 / Lower RM: 45.64													
58.67	39.50	68.50	**57.2**	**1.2(5.6)**	0.1(4.0)	1.8(6.0)	**349.00**	335.00	387.00	**15**	WWH	***Low - Moderate***	***High***
[OH66 3.2] - TAWA RUN Upper RM: 4.27 / Lower RM: 0.00													
25.00	25.00	25.00	**25.0**	**8.8(6.0)**	8.8(6.0)	8.8(6.0)	**2.60**	2.60	2.60	**1**	LRW	***Essentially None***	***High***
[OH66 3.21] - OMER SELHORST DITCH Upper RM: 1.84 / Lower RM: 0.00													
4.27	2.00	18.50	**16.8**	**1.2(2.6)**	0.0(2.0)	7.7(6.0)	**0.09**		0.80	**13**	LRW	***Essentially None***	***High***
[OH66 4] - OIL DITCH Upper RM: 3.50 / Lower RM: 0.00													
40.50	36.00	48.50	**40.5**	**10.8(6.7)**	10.0(6.0)	12.5(8.0)	**2.83**	2.50	3.00	**3**	LRW; WWH	***Essentially None***	***High***
[OH66 5] - EAGLE CREEK Upper RM: 22.28 / Lower RM: 0.00													
55.83	44.50	69.00	**55.8**	**2.4(4.0)**	0.1(2.0)	5.4(6.0)	**46.33**	37.00	51.00	**3**	WWH	***Moderate-High***	***Mod.-High***
[OH66 10] - BLANCHARD (THE OUTLET TO EAGLE CREEK) Upper RM: 63.63 / Lower RM: 58.10													
59.60	42.00	77.00	**57.2**	**1.1(5.6)**	0.1(4.0)	2.1(8.0)	**242.80**	232.00	274.00	**5**	WWH	***Moderate-High***	***High***
[OH66 13] - BLANCHARD RIVER (POTATO RUN TO THE OUTLET) Upper RM: 76.27 / Lower RM: 63.63													
63.50	47.00	72.00	**57.2**	**2.6(6.7)**	2.0(6.0)	3.8(8.0)	**144.00**	142.00	145.00	**3**	WWH	***High***	***High***
[OH66 18] - BLANCHARD (THE OUTLET TO POTATO RUN) Upper RM: 90.94 / Lower RM: 76.27													
56.17	52.00	61.00	**57.2**	**2.2(6.7)**	2.1(4.0)	2.3(8.0)	**102.33**	83.00	112.00	**3**	WWH	***Moderate-High***	***High***
[OH66 21] - BLANCHARD RIVER (HEADWATERS TO THE OUTLET) Upper RM: 104.20 / Lower RM: 90.94													
28.50	25.00	32.00	**57.2**	**2.4(4.0)**	2.4(4.0)	2.4(4.0)	**45.50**	43.00	48.00	**2**	WWH	***Essentially None***	***Mod.***
LOWER AUGLAIZE RIVER - [Watershed QHEI: 58.8, N = 21]													
[OH67 1] - BLANCHARD RIVER (CRANBERRY CREEK TO AUGLAIZE R.) Upper RM: 17.30 / Lower RM: 0.00													
45.75	44.00	49.00	**57.2**	**0.5(7.0)**	0.1(6.0)	0.8(8.0)	**737.50**	704.00	771.00	**4**	WWH	***Low - Moderate***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH67 6] - BLANCHARD RIVER (RILEY CREEK TO CRANBERRY CREEK) Upper RM: 30.08 / Lower RM: 17.30													
58.60	45.00	68.50	**57.2**	**1.3(8.4)**	0.8(8.0)	3.0(10)	**635.20**	624.00	645.00	**5**	WWH	***Low - Moderate***	***High***
[OH67 10] - RILEY CREEK (LITTLE RILEY CREEK TO BLANCHARD R.) Upper RM: 15.30 / Lower RM: 0.00													
63.75	53.00	73.50	**61.0**	**5.9(7.5)**	3.3(6.0)	9.6(10)	**64.63**	44.50	84.00	**4**	WWH	***High***	***High***
[OH67 12] - RILEY CREEK (HEADWATERS TO LITTLE RILEY CREEK) Upper RM: 26.80 / Lower RM: 15.30													
55.50	54.50	56.50	**61.0**	**6.7(9.0)**	6.3(8.0)	7.1(10)	**37.70**	31.00	44.40	**2**	WWH	***Moderate-High***	***Mod.***
[OH67 13] - LITTLE RILEY CREEK Upper RM: 8.30 / Lower RM: 0.00													
59.00	57.50	60.50	**59.0**	**6.4(10)**	6.3(10)	6.6(10)	**14.65**	13.50	15.80	**2**	WWH	***Moderate-High***	***Mod.***
[OH67 20] - BLANCHARD RIVER (OTTAWA CREEK TO RILEY CREEK) Upper RM: 45.64 / Lower RM: 30.08													
68.75	49.00	81.00	**57.2**	**1.8(7.0)**	0.5(4.0)	2.3(8.0)	**492.25**	460.00	503.00	**4**	WWH	***Moderate - High***	***High***
OTTAWA RIVER - [Watershed QHEI: 66.8, N = 64]													
[OH68 1] - OTTAWA RIVER (SUGAR CREEK TO AUGLAIZE RIVER) Upper RM: 6.57 / Lower RM: 0.00													
76.88	71.00	80.00	**72.7**	**1.8(6.5)**	1.7(6.0)	2.2(8.0)	**350.00**	308.00	364.00	**4**	WWH	***Very High Quality***	***High***
[OH68 4] - SUGAR CREEK Upper RM: 28.90 / Lower RM: 0.00													
62.06	50.50	75.00	**62.1**	**5.8(7.5)**	2.7(6.0)	10.4(10)	**33.25**	17.00	64.00	**8**	WWH	***High***	***High***
[OH68 4.2] - TRIB. TO SUGAR CREEK (MR 18.8) Upper RM: 2.00 / Lower RM: 0.00													
69.00	64.00	74.00	**69.0**	**22.2(10)**	21.7(10)	22.7(10)	**1.50**	1.00	2.00	**2**	NONE	***High***	***Mod.***
[OH68 8] - OTTAWA RIVER (HONEY RUN TO SUGAR CREEK) Upper RM: 22.93 / Lower RM: 6.57													
75.00	67.00	87.00	**72.7**	**3.5(8.4)**	1.4(6.0)	5.3(10)	**220.00**	194.00	238.00	**5**	WWH	***Very High Quality***	***High***
[OH68 9] - LEATHERWOOD DITCH Upper RM: 9.30 / Lower RM: 0.00													
23.50	23.50	23.50	**23.5**	**3.8(6.0)**	3.8(6.0)	3.8(6.0)	**10.00**	10.00	10.00	**1**	WWH	***Essentially None***	***Low***
[OH68 10] - PIKE RUN Upper RM: 9.45 / Lower RM: 0.00													
39.50	28.50	50.00	**39.5**	**6.2(6.0)**	4.8(6.0)	6.9(6.0)	**5.30**	2.90	10.10	**3**	MWH-C	***Essentially None***	***High***
[OH68 11] - OTTAWA RIVER (LITTLE OTTAWA RIVER TO HONEY RUN) Upper RM: 35.30 / Lower RM: 22.93													
77.94	67.50	85.00	**72.7**	**4.7(9.3)**	2.2(8.0)	6.3(10)	**156.88**	151.00	165.00	**8**	WWH	***Very High Quality***	***High***
[OH68 13] - DUG RUN Upper RM: 5.90 / Lower RM: 0.00													
76.50	76.50	76.50	**76.5**	**6.3(10)**	6.3(10)	6.3(10)	**11.50**	11.50	11.50	**1**	WWH	***Very High Quality***	***Low***
[OH68 17] - OTTAWA RIVER (HOG CREEK TO LITTLE OTTAWA RIVER) Upper RM: 50.70 / Lower RM: 35.30													
70.04	45.00	90.50	**72.7**	**4.7(8.2)**	0.1(2.0)	7.9(10)	**120.55**	96.30	134.00	**27**	WWH	***High***	***High***
[OH68 20] - HOG CREEK Upper RM: 14.20 / Lower RM: 0.00													
46.00	18.50	73.50	**46.0**	**3.7(6.0)**	1.4(4.0)	5.9(8.0)	**52.55**	31.80	73.30	**2**	MWH-C; WWH	***Essentially None***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH68 21] - GRASS CREEK Upper RM: 4.50 / Lower RM: 0.00													
30.50	25.00	36.00	**28.3**	**6.1(8.0)**	6.0(6.0)	6.2(10)	**8.70**	7.80	9.60	**2**	WWH	***Low***	***Mod.-High***
[OH68 26] - LITTLE HOG CREEK Upper RM: 4.80 / Lower RM: 0.00													
69.50	69.50	69.50	**69.5**	**5.0(6.0)**	5.0(6.0)	5.0(6.0)	**15.10**	15.10	15.10	**1**	WWH	***Moderate - High***	***Low***
LITTLE AUGLAIZE RIVER - [Watershed QHEI: 30.9, N = 43]													
[OH69 1] - LITTLE AUGLAIZE R. (DOG CREEK TO AUGLAIZE RIVER) Upper RM: 8.45 / Lower RM: 0.00													
36.83	26.00	44.50	**30.9**	**1.8(6.7)**	0.1(4.0)	2.7(8.0)	**327.00**	288.00	405.00	**3**	MWH-C	***Essentially None***	***High***
[OH69 2] - PRAIRIE CREEK (HAGERMAN CR. TO LITTLE AUGLAIZE R.) Upper RM: 11.11 / Lower RM: 0.00													
23.00	23.00	23.00	**30.0**	**1.6(6.0)**	1.6(6.0)	1.6(6.0)	**106.00**	106.00	106.00	**1**	MWH-C	***Essentially None***	***High***
[OH69 3] - WEST BRANCH (HOAGLIN CREEK TO PRAIRIE CREEK) Upper RM: 9.70 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 4] - HOG RUN Upper RM: 2.70 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 5] - HOAGLIN CREEK Upper RM: 26.00 / Lower RM: 0.00													
24.25	19.50	29.00	**24.3**	**2.0(4.0)**	2.0(4.0)	2.0(4.0)	**41.00**	41.00	41.00	**2**	MWH-C	***Essentially None***	***High***
[OH69 6] - MONKEY RUN Upper RM: 6.40 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 7] - DOG RUN Upper RM: 3.10 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 8] - HAGERMAN CREEK Upper RM: 17.20 / Lower RM: 0.00													
34.75	26.00	44.00	**34.8**	**3.6(4.0)**	2.9(4.0)	4.6(4.0)	**6.93**	1.10	14.00	**4**	MWH-C	***Essentially None***	***High***
[OH69 9] - PRAIRIE CREEK (HEADWATERS TO HAGERMAN CREEK) Upper RM: 23.34 / Lower RM: 11.11													
31.17	27.00	38.00	**30.0**	**2.6(4.0)**	2.3(4.0)	3.0(4.0)	**20.00**	18.00	23.00	**6**	MWH-C	***Essentially None***	***High***
[OH69 10] - DRY CREEK Upper RM: 4.30 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 11] - MIDDLE CREEK Upper RM: 9.50 / Lower RM: 0.00													
52.17	42.00	62.50	**52.2**	**3.8(6.7)**	2.8(6.0)	5.3(8.0)	**94.77**	86.30	100.00	**3**	MWH-C	***Essentially None***	***High***
[OH69 12] - MADDOX CREEK Upper RM: 24.70 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 13] - BALYEAT DITCH Upper RM: 5.10 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH69 14] - SHEETS DITCH Upper RM: 5.60 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 15] - TOWN CREEK Upper RM: 31.10 / Lower RM: 0.00													
31.70	28.00	35.50	**31.7**	**3.2(5.2)**	2.5(4.0)	4.0(6.0)	**36.40**	22.00	51.00	**5**	MWH-C	***Essentially None***	***High***
[OH69 16] - ROLLER CREEK Upper RM: 5.90 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 17] - DOG CREEK Upper RM: 28.00 / Lower RM: 0.00													
26.30	19.50	32.00	**26.3**	**2.7(4.4)**	1.8(4.0)	4.4(6.0)	**44.44**	7.30	59.90	**5**	MWH-C	***Essentially None***	***High***
[OH69 18] - EMMIT BELL DITCH Upper RM: 4.70 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 19] - SPICE RUN Upper RM: 6.90 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 20] - LITTLE AUGLAIZE RIVER (EVANS DITCH TO DOG CREEK) Upper RM: 35.37 / Lower RM: 8.45													
32.20	22.00	37.00	**30.9**	**2.2(4.8)**	1.1(4.0)	3.5(6.0)	**79.20**	48.00	103.00	**5**	MWH-C	***Essentially None***	***High***
[OH69 20.1] - EVANS DITCH Upper RM: 4.27 / Lower RM: 0.00													
20.75	15.00	28.00	**20.8**	**5.3(5.0)**	3.6(4.0)	7.5(6.0)	**1.35**	0.70	2.50	**4**	LRW	***Essentially None***	***High***
[OH69 21] - BRANDEHOFF DITCH Upper RM: 6.10 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 22] - DRY FORK Upper RM: 5.60 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 23] - HERMANN DITCH Upper RM: 3.20 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 24] - BENSON DITCH Upper RM: 6.50 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 25] - LITTLE AUGLAIZE RIVER (HEADWATERS TO EVANS DITCH) Upper RM: 46.34 / Lower RM: 35.37													
22.67	22.00	24.00	**30.9**	**1.7(4.0)**	1.5(4.0)	2.2(4.0)	**36.00**	34.00	37.00	**3**	MWH-C	***Essentially None***	***High***
[OH69 26] - WOLF DITCH Upper RM: 5.80 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 27] - LONG PRAIRIE CREEK Upper RM: 10.30 / Lower RM: 0.00													
31.00	26.00	36.00	**31.0**	**3.3(5.0)**	2.9(4.0)	3.7(6.0)	**9.00**	7.00	11.00	**2**	MWH-C	***Essentially None***	***High***
[OH69 28] - KYLE PRAIRIE DITCH Upper RM: 8.60 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH69 29] - GREENS DITCH Upper RM: 5.60 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH69 30] - FRISINGER DITCH Upper RM: 2.10 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
UPPER AUGLAIZE RIVER - [Watershed QHEI: 53.5, N = 51]													
[OH70 1] - AUGLAIZE RIVER (BLANCHARD R. TO L. AUGLAIZE R.) Upper RM: 26.20 / Lower RM: 16.45													
69.00	53.00	85.00	**60.5**	**0.1(6.0)**	0.1(6.0)	0.1(6.0)	**1518.00**	999.00	1526.00	**2**	WWH	***Moderate - High***	***Mod.***
[OH70 3] - AUGLAIZE RIVER (OTTAWA RIVER TO BLANCHARD RIVER) Upper RM: 33.26 / Lower RM: 26.20													
75.50	72.00	79.00	**60.5**	**5.6(10)**	5.6(10)	5.6(10)	**717.00**	717.00	717.00	**2**	EWH; WWH	***Very High Quality***	***Mod.***
[OH70 5] - AUGLAIZE RIVER (JENNINGS CREEK TO OTTAWA RIVER) Upper RM: 47.02 / Lower RM: 33.26													
74.75	68.50	81.00	**60.5**	**3.1(8.0)**	3.1(8.0)	3.1(8.0)	**327.00**	327.00	327.00	**2**	EWH	***High***	***Mod.***
[OH70 7] - JENNINGS CREEK Upper RM: 14.50 / Lower RM: 0.00													
46.92	29.50	59.50	**46.9**	**2.4(4.3)**	1.5(4.0)	2.9(6.0)	**49.78**	39.50	69.00	**6**	WWH	***Moderate-High***	***High***
[OH70 8] - FLAT FORK Upper RM: 9.60 / Lower RM: 0.00													
33.25	24.50	42.00	**33.3**	**4.5(5.0)**	2.9(4.0)	6.2(6.0)	**8.75**	8.30	9.20	**2**	WWH	***Very Low***	***Mod.***
[OH70 12] - AUGLAIZE RIVER (SIXMILE CREEK TO JENNINGS CREEK) Upper RM: 62.31 / Lower RM: 47.02													
58.07	39.50	79.00	**60.5**	**2.0(6.9)**	0.7(4.0)	2.5(8.0)	**224.57**	219.00	234.00	**7**	EWH	***Moderate-High***	***High***
[OH70 13] - AUGLAIZE RIVER (TWOMILE CREEK TO SIXMILE CREEK) Upper RM: 72.28 / Lower RM: 62.31													
53.36	33.50	81.50	**60.5**	**0.7(4.0)**	0.7(4.0)	0.7(4.0)	**207.29**	202.00	211.00	**7**	WWH	***Moderate-High***	***High***
[OH70 14] - SIXMILE CREEK Upper RM: 6.81 / Lower RM: 0.00													
43.32	26.50	57.00	**43.3**	**9.5(6.7)**	5.7(6.0)	14.3(8.0)	**5.39**	2.50	8.70	**11**	MWH-C; WWH	***Essentially None***	***High***
[OH70 14.1] - TRIB. TO SIXMILE CREEK (SPENCERVILLE) Upper RM: 0.20 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH70 16] - TWOMILE CREEK Upper RM: 11.60 / Lower RM: 0.00													
59.50	40.00	81.50	**59.5**	**6.2(7.3)**	5.0(6.0)	8.6(10)	**18.93**	12.20	30.80	**3**	WWH	***Moderate-High***	***Mod.-High***
[OH70 16.3] - SHEARER DITCH Upper RM: 2.67 / Lower RM: 0.00													
35.50	35.50	35.50	**35.5**	**10.6(8.0)**	10.6(8.0)	10.6(8.0)	**1.30**	1.30	1.30	**1**		***Low***	***Low***
[OH70 17] - AUGLAIZE RIVER (PUSHETA CREEK TO TWOMILE CREEK) Upper RM: 83.57 / Lower RM: 72.28													
75.50	75.50	75.50	**60.5**	**1.5(6.0)**	1.5(6.0)	1.5(6.0)	**150.00**	150.00	150.00	**1**	WWH	***Very High Quality***	***Low-Mod.***
[OH70 18] - PUSHETA CREEK Upper RM: 13.70 / Lower RM: 0.00													
49.00	41.00	57.00	**49.0**	**9.1(10)**	8.6(10)	9.6(10)	**23.50**	11.10	35.90	**2**	WWH	***Moderate-High***	***Low-Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH70 20] - AUGLAIZE RIVER (BLACKHOOF CREEK TO PUSHETA CREEK) Upper RM: 93.09 / Lower RM: 83.57													
70.50	56.00	81.00	**60.5**	**4.6(8.7)**	1.6(6.0)	6.1(10)	**111.33**	110.00	112.00	**3**	WWH	***High***	***High***
[OH70 24] - HUFFMAN CREEK Upper RM: 3.30 / Lower RM: 0.00													
52.00	52.00	52.00	**52.0**	**20.0(10)**	20.0(10)	20.0(10)	**1.50**	1.50	1.50	**1**	WWH	***Moderate-High***	***Low***
[OH70 25] - AUGLAIZE RIVER (HEADWATERS TO BLACKHOOF CREEK) Upper RM: 101.90 / Lower RM: 93.09													
37.00	37.00	37.00	**60.5**	**2.0(4.0)**	2.0(4.0)	2.0(4.0)	**48.80**	48.80	48.80	**1**	WWH	***Very Low***	***Low-Mod.***
UPPER MAUMEE RIVER - [Watershed QHEI: 56.2, N = 48]													
[OH71 1] - AUGLAIZE RIVER (FLATROCK CREEK TO MAUMEE RIVER) Upper RM: 11.08 / Lower RM: 0.00													
56.50	50.00	67.50	**60.5**	**0.5(7.3)**	0.1(6.0)	0.7(8.0)	**2383.67**	999.00	2448.00	**3**	WWH	***Moderate-High***	***High***
[OH71 2] - POWELL CREEK Upper RM: 19.60 / Lower RM: 0.00													
58.50	55.00	62.00	**58.5**	**3.3(8.0)**	3.3(8.0)	3.3(8.0)	**112.00**	112.00	112.00	**2**	WWH	***Moderate-High***	***Low-Mod.***
[OH71 4] - NORTH POWELL CREEK Upper RM: 13.00 / Lower RM: 0.00													
40.75	39.00	42.50	**40.8**	**1.0(4.0)**	1.0(4.0)	1.0(4.0)	**40.00**	40.00	40.00	**2**	WWH	***Very Low***	***Low-Mod.***
[OH71 6] - SOUTH POWELL CREEK Upper RM: 15.50 / Lower RM: 0.00													
37.67	31.50	41.50	**37.7**	**1.2(2.7)**	1.0(2.0)	1.6(4.0)	**12.00**	4.00	26.00	**3**	WWH	***Very Low***	***Mod.-High***
[OH71 6.1] - CONTINENTAL DITCH Upper RM: 1.40 / Lower RM: 0.00													
23.50	23.50	23.50	**23.5**	**9.6(6.0)**	9.6(6.0)	9.6(6.0)	**1.50**	1.50	1.50	**1**	LRW	***Essentially None***	***High***
[OH71 12] - SIXMILE CREEK Upper RM: 12.00 / Lower RM: 0.00													
											MWH-C; WWH	***Unknown***	***High***
[OH71 15] - FLATROCK CREEK (WILDCAT CREEK TO AUGLAIZE RIVER) Upper RM: 23.64 / Lower RM: 0.00													
59.79	52.50	71.00	**59.3**	**1.9(6.3)**	1.0(4.0)	2.4(8.0)	**171.29**	140.00	191.00	**7**	WWH	***Moderate-High***	***High***
[OH71 16] - FLATROCK CREEK (OH./IND. BORDER TO WILDCAT CREEK) Upper RM: 34.11 / Lower RM: 23.64													
58.17	45.00	76.00	**59.3**	**2.1(6.7)**	1.8(6.0)	2.4(8.0)	**126.67**	120.00	132.00	**3**	WWH	***Moderate-High***	***High***
[OH71 19] - AUGLAIZE RIVER (L. AUGLAIZE R. TO FLATROCK CREEK) Upper RM: 16.45 / Lower RM: 11.08													
43.00	43.00	43.00	**60.5**	**0.1(6.0)**	0.1(6.0)	0.1(6.0)	**1932.00**	999.00	1932.00	**1**	WWH	***Very Low***	***Low-Mod.***
[OH71 20] - BLUE CREEK (CUNNINGHAM CREEK TO AUGLAIZE RIVER) Upper RM: 16.27 / Lower RM: 0.00													
34.00	34.00	34.00	**27.5**	**1.6(6.0)**	1.6(6.0)	1.6(6.0)	**107.00**	107.00	107.00	**1**	MWH-C	***Essentially None***	***High***
[OH71 20.1] - DELAET-BROUGHTON DITCH Upper RM: 3.80 / Lower RM: 0.00													
44.83	30.50	56.00	**44.8**	**5.0(4.7)**	4.0(4.0)	7.1(6.0)	**4.10**	3.50	4.50	**3**	MWH-C	***Essentially None***	***High***
[OH71 22] - WEBSTER DITCH (ZIELKE DITCH) Upper RM: 7.87 / Lower RM: 0.00													
			24.3								MWH-C	***Essentially None***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH71 23] - BLUE CREEK (HEADWATERS TO CUNNINGHAM CREEK) Upper RM: 37.19 / Lower RM: 16.28													
63.05	20.00	88.00	**27.5**	**0.5(5.9)**	0.1(4.0)	5.2(6.0)	******.****	3.00	****.**	**22**	MWH-C	***Essentially None***	***High***
TIFFIN RIVER - [Watershed QHEI: 45.7, N = 31]													
[OH72 1] - TIFFIN RIVER (LICK CREEK TO MAUMEE RIVER) Upper RM: 8.18 / Lower RM: 0.00													
49.25	43.00	56.50	**46.7**	**0.5(6.0)**	0.5(6.0)	0.5(6.0)	**756.25**	736.00	776.00	**4**	WWH	***Low - Moderate***	***High***
[OH72 6] - MUD CREEK Upper RM: 12.00 / Lower RM: 0.00													
55.00	55.00	55.00	**55.0**	**2.7(6.0)**	2.7(6.0)	2.7(6.0)	**55.00**	55.00	55.00	**1**	WWH	***Moderate-High***	***Low***
[OH72 10] - LICK CREEK (LITTLE LICK CREEK TO TIFFIN RIVER) Upper RM: 10.14 / Lower RM: 0.00													
54.00	51.50	56.50	**51.7**	**1.8(5.0)**	1.7(4.0)	1.9(6.0)	**83.00**	61.00	105.00	**2**	WWH	***Low - Moderate***	***Mod.***
[OH72 11] - PRAIRIE CREEK Upper RM: 12.75 / Lower RM: 0.00													
37.75	33.50	40.50	**37.8**	**4.3(5.0)**	2.9(4.0)	6.2(6.0)	**9.18**	1.70	19.00	**4**	WWH	***Very Low***	***Mod.-High***
[OH72 13] - LICK CREEK (HEADWATERS TO LITTLE LICK CREEK) Upper RM: 28.07 / Lower RM: 10.14													
47.00	47.00	47.00	**51.7**	**3.0(4.0)**	3.0(4.0)	3.0(4.0)	**36.00**	36.00	36.00	**1**	WWH	***Moderate***	***Low-Mod.***
[OH72 16] - TIFFIN RIVER (LEATHERWOOD CREEK TO LICK CREEK) Upper RM: 36.34 / Lower RM: 8.18													
45.00	36.00	53.00	**46.7**	**0.7(4.3)**	0.5(4.0)	1.1(6.0)	**458.88**	408.00	562.00	**8**	WWH	***Very Low***	***High***
[OH72 18] - BRUSH CREEK Upper RM: 21.40 / Lower RM: 0.00													
39.67	37.00	43.50	**39.7**	**3.2(4.7)**	1.5(4.0)	6.0(6.0)	**36.67**	17.00	53.00	**3**	WWH	***Low***	***Mod.-High***
[OH72 19] - OWL CREEK Upper RM: 3.20 / Lower RM: 0.00													
32.25	30.50	34.00	**32.3**	**3.8(6.0)**	3.8(6.0)	3.8(6.0)	**9.60**	9.30	9.90	**2**	WWH	***Very Low***	***Mod.***
[OH72 21] - BEAVER CREEK Upper RM: 23.00 / Lower RM: 0.00													
64.50	64.50	64.50	**64.5**	**5.8(8.0)**	5.8(8.0)	5.8(8.0)	**43.00**	43.00	43.00	**1**	WWH	***High***	***Low***
[OH72 23] - TIFFIN RIVER (MILL/BEAN CR. TO LEATHERWOOD CR.) Upper RM: 50.82 / Lower RM: 36.34													
49.50	49.50	49.50	**46.7**	**1.6(6.0)**	1.6(6.0)	1.6(6.0)	**338.00**	338.00	338.00	**1**	WWH	***Low - Moderate***	***Low-Mod.***
[OH72 29] - MILL CREEK Upper RM: 15.50 / Lower RM: 0.00													
60.50	58.50	62.50	**60.5**	**4.2(6.0)**	3.5(6.0)	5.0(6.0)	**36.10**	32.70	39.50	**2**	WWH	***High***	***Low-Mod.***
[OH72 31] - BEAN CREEK Upper RM: 9.80 / Lower RM: 0.00													
50.00	50.00	50.00	**50.0**	**1.2(6.0)**	1.2(6.0)	1.2(6.0)	**246.00**	246.00	246.00	**1**	WWH	***Low - Moderate***	***Low***
[OH72 37] - OLD BEAN CREEK Upper RM: 8.40 / Lower RM: 0.00													
29.50	29.50	29.50	**29.5**	**1.6(4.0)**	1.6(4.0)	1.6(4.0)	**25.40**	25.40	25.40	**1**	MWH-C	***Essentially None***	***High***
UPPER MIDDLE MAUMEE RIVER - [Watershed QHEI: 45.1, N = 21]													
[OH73 1] - BAD CREEK (UNNAMED TRIB. S. OF DELTA TO MAUMEE R.) Upper RM: 14.43 / Lower RM: 0.00													
36.75	28.50	46.00	**42.3**	**7.7(9.5)**	5.3(8.0)	10.0(10)	**46.25**	46.00	47.00	**4**	WWH	***Low***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH73 2] - BAD CREEK (HEADWATERS TO UNNAMED TRIB. S OF DELTA) Upper RM: 30.70 / Lower RM: 14.43													
53.25	52.50	54.00	**42.3**	**5.9(8.0)**	5.7(6.0)	6.2(10)	**40.50**	40.00	41.00	**2**	WWH	***Moderate-High***	***Mod.***
[OH73 16.3] - TRIB. TO NORTH TURKEYFOOT CR. (RM 18.4) Upper RM: 2.15 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH73 17] - KONZEN DITCH Upper RM: 11.60 / Lower RM: 0.00													
40.00	40.00	40.00	**40.0**	**3.4(6.0)**	3.4(6.0)	3.4(6.0)	**24.00**	24.00	24.00	**1**	MWH-C	***Essentially None***	***High***
[OH73 18] - MAUMEE RIVER (VAN HYNING CR. TO N. TURKEYFOOT CR.) Upper RM: 45.59 / Lower RM: 37.92													
57.50	57.50	57.50	**55.0**	**0.5(8.0)**	0.5(8.0)	0.5(8.0)	**5697.00**	999.00	5697.00	**1**	WWH	***Low - Moderate***	***Low-Mod.***
[OH73 21] - MAUMEE RIVER (WADE CREEK TO VAN HYNING CREEK) Upper RM: 52.18 / Lower RM: 45.59													
58.67	52.00	62.00	**55.0**	**0.5(8.0)**	0.5(8.0)	0.5(8.0)	**5605.67**	999.00	5655.00	**3**	WWH	***Low - Moderate***	***High***
[OH73 26] - MAUMEE RIVER (AUGLAIZE RIVER TO WADE CREEK) Upper RM: 64.04 / Lower RM: 52.18													
58.88	52.50	64.50	**55.0**	**0.6(8.0)**	0.1(6.0)	1.0(10)	**5550.50**	999.00	5562.00	**4**	WWH	***Low - Moderate***	***High***
[OH73 26.10] - MIAMI-ERIE CANAL Upper RM: 6.60 / Lower RM: 0.00													
30.67	23.50	46.50	**36.1**	**1.8(4.3)**	0.1(4.0)	3.1(6.0)	**4104.60**	7.10	****.**	**6**	MWH-C	***Essentially None***	***High***
LOWER MIDDLE MAUMEE RIVER - [Watershed QHEI: 45.2, N = 28]													
[OH74 3] - MAUMEE RIVER (BEAVER CREEK TO TONTOGANY CREEK) Upper RM: 31.22 / Lower RM: 24.06													
78.50	78.50	78.50	**55.0**	**6.9(10)**	6.9(10)	6.9(10)	**6258.00**	999.00	6258.00	**1**	WWH	***Very High Quality***	***Low-Mod.***
[OH74 9] - HICKEY DITCH Upper RM: 1.78 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH74 10] - SELHORST DITCH Upper RM: 0.93 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH74 11] - YELLOW CREEK Upper RM: 17.40 / Lower RM: 0.00													
28.50	27.00	29.50	**28.5**	**4.6(6.7)**	2.3(4.0)	6.2(10)	**39.00**	33.00	50.00	**3**	MWH-C	***Essentially None***	***High***
[OH74 13] - LITTLE YELLOW CREEK Upper RM: 6.42 / Lower RM: 0.00													
21.00	19.00	22.00	**21.0**	**5.2(4.7)**	4.4(4.0)	6.3(6.0)	**3.83**	1.50	7.00	**3**	LRW	***Essentially None***	***High***
[OH74 16] - WEST BEAVER CREEK Upper RM: 9.90 / Lower RM: 0.00													
62.50	48.00	77.00		**1.6(8.0)**	0.1(6.0)	3.1(10)	**6054.50**	999.00	6058.00	**2**	WWH	***Moderate - High***	
62.50	48.00	77.00	**55.0**	**1.6(8.0)**	0.1(6.0)	3.1(10)	**6054.50**	999.00	6058.00	**2**	WWH	***Moderate - High***	***Mod.***
[OH74 17] - MAUMEE RIVER (SWAN CREEK TO LAKE ERIE) Upper RM: 5.22 / Lower RM: 0.00													
48.08	26.50	59.00	**55.0**	**0.1(6.0)**	0.1(6.0)	0.1(6.0)	**6605.47**	999.00	6608.00	**19**	WWH	***Low - Moderate***	***High***
LOWER MAUMEE RIVER (AND OTTAWA RIVER) - [Watershed QHEI: 43.4, N = 105]													

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH75 1] - MAUMEE RIVER (WATERVILLE TO SWAN CREEK) Upper RM: 20.68 / Lower RM: 5.22													
58.11	45.00	78.00	**55.0**	**0.6(6.6)**	0.1(6.0)	4.2(10)	**6370.50**	999.00	6396.00	**14**	WWH	***Moderate-High***	***High***
[OH75 2] - DUCK CREEK Upper RM: 3.56 / Lower RM: 0.00													
16.13	13.00	20.00	**16.1**	**0.7(2.0)**	0.7(2.0)	0.7(2.0)	**0.88**	0.50	1.40	**4**	WWH	***Essentially None***	***Mod.-High***
[OH75 3] - SWAN CREEK (BLUE CREEK TO MAUMEE RIVER) Upper RM: 22.17 / Lower RM: 0.00													
46.13	24.00	63.00	**46.1**	**1.5(6.2)**	0.1(4.0)	2.7(8.0)	**177.58**	140.00	204.00	**12**	WWH	***Low - Moderate***	***High***
[OH75 3.1] - HEILMAN DITCH Upper RM: 3.81 / Lower RM: 0.00													
41.50	41.50	41.50	**41.5**	**13.2(8.0)**	13.2(8.0)	13.2(8.0)	**4.50**	4.50	4.50	**1**	NONE	***Low***	***Low***
[OH75 4] - WOLF CREEK Upper RM: 7.00 / Lower RM: 0.00													
51.83	38.00	68.00	**51.8**	**6.0(8.7)**	4.7(6.0)	6.8(10)	**19.87**	13.40	23.10	**3**	WWH	***Low - Moderate***	***Mod.-High***
[OH75 4.1] - DRENNAN DITCH Upper RM: 3.66 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH75 5] - CAIRL CREEK (FORMERLY DRY CREEK) Upper RM: 7.40 / Lower RM: 0.00													
51.00	51.00	51.00	**51.0**	**8.1(10)**	8.1(10)	8.1(10)	**10.10**	10.10	10.10	**1**	WWH	***Moderate***	***Low***
[OH75 6] - BLUE CREEK Upper RM: 11.90 / Lower RM: 0.00													
40.50	21.50	54.00	**40.5**	**4.2(6.0)**	3.0(6.0)	4.8(6.0)	**42.33**	41.00	43.00	**3**	WWH	***Low***	***Mod.-High***
[OH75 13] - DELAWARE CREEK Upper RM: 2.50 / Lower RM: 0.00													
39.50	39.50	39.50	**39.5**	**27.8(10)**	27.8(10)	27.8(10)	**2.10**	2.10	2.10	**1**	WWH	***Low***	***Low***
[OH75 14] - GRASSY CREEK Upper RM: 5.00 / Lower RM: 0.00													
59.92	47.00	69.50	**59.6**	**5.6(7.3)**	1.9(4.0)	9.6(10)	**24.62**	22.70	26.40	**6**	WWH	***Moderate-High***	***High***
[OH75 15] - LAKE ERIE DIRECT TRIBS. (OTTAWA R. TO MAUMEE R.) Upper RM:1305.28 / Lower RM:1301.00													
53.75	43.50	63.00	**54.8**	**0.1(6.0)**	0.1(6.0)	0.1(6.0)	******.****	999.00	****.**	**4**	LERIE	***Low - Moderate***	***High***
[OH75 16] - OTTAWA RIVER Upper RM: 19.75 / Lower RM: 0.00													
39.44	25.00	65.50	**39.4**	**1.0(5.1)**	0.1(4.0)	3.9(8.0)	**143.28**	121.00	171.00	**18**	WWH	***Very Low***	***High***
[OH75 16.1] - FLIEG DITCH Upper RM: 3.75 / Lower RM: 0.00													
17.00	17.00	17.00		**3.0(4.0)**	3.0(4.0)	3.0(4.0)	**2.80**	2.80	2.80	**1**	LRW	***Essentially None***	***High***
[OH75 16.2] - HELDMAN DITCH Upper RM: 5.50 / Lower RM: 0.00													
42.00	39.50	44.50	**38.0**	**12.4(10)**	6.3(10)	18.5(10)	**12.50**	6.00	19.00	**2**	NONE	***Low***	***Mod.-High***
[OH75 16.3] - HAEFNER DITCH Upper RM: 4.40 / Lower RM: 0.00													
26.50	23.00	30.00	**26.5**	**12.0(8.0)**	6.1(6.0)	17.9(10)	**1.90**	1.50	2.30	**2**	NONE	***Essentially None***	***Mod.***
[OH75 16.4] - HILL DITCH Upper RM: 5.80 / Lower RM: 0.00													
32.67	30.00	35.00	**32.7**	**13.0(8.0)**	10.6(8.0)	14.7(8.0)	**3.63**	2.10	5.30	**3**	NONE	***Low***	***Mod.-High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH75 17] - SIBLEY CREEK Upper RM: 5.20 / Lower RM: 0.00													
31.00	31.00	31.00	**31.0**	**16.7(10)**	16.7(10)	16.7(10)	**2.50**	2.50	2.50	**1**	WWH	***Low***	***Low***
[OH75 18] - TENMILE CREEK Upper RM: 25.47 / Lower RM: 0.00													
56.77	35.00	68.50	**56.8**	**4.8(6.5)**	3.0(6.0)	14.3(8.0)	**64.64**	31.00	78.00	**11**	WWH	***Moderate-High***	***High***
[OH75 18.1] - TRIB. TO TENMILE CREEK (RM 16.9) Upper RM: 8.08 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH75 19] - NORTH BRANCH TENMILE CREEK Upper RM: 6.50 / Lower RM: 0.00													
57.00	47.00	67.00	**57.0**	**14.7(10)**	14.7(10)	14.7(10)	**33.80**	33.80	33.80	**2**	WWH	***Moderate-High***	***Low-Mod.***
[OH75 25] - SHANTEE CREEK Upper RM: 6.00 / Lower RM: 0.00													
25.79	20.50	38.00	**25.3**	**4.8(5.1)**	4.1(4.0)	5.3(6.0)	**5.54**	4.10	6.30	**7**	WWH	***Essentially None***	***High***
[OH75 25.1] - TIFFT DITCH Upper RM: 2.05 / Lower RM: 0.00													
21.00	21.00	21.00	**21.0**	**6.3(6.0)**	6.3(6.0)	6.3(6.0)	**1.00**	1.00	1.00	**1**	NONE	***Essentially None***	***Low***
[OH75 26] - SILVER CREEK Upper RM: 6.90 / Lower RM: 0.00													
27.21	18.00	36.00	**27.2**	**6.8(6.0)**	1.6(4.0)	12.5(8.0)	**6.14**	4.30	7.50	**7**	WWH	***Essentially None***	***High***
[OH75 26.1] - KETCHAM DITCH Upper RM: 1.43 / Lower RM: 0.00													
21.00	21.00	21.00	**21.0**	**13.9(8.0)**	13.9(8.0)	13.9(8.0)	**1.00**	1.00	1.00	**1**	NONE	***Essentially None***	***Low***
LAKE ERIE TRIBS MAUMEE R. TO PORTAGE R. - [Watershed QHEI: 31.9, N = 65]													
[OH76 3] - PACKER CREEK Upper RM: 24.40 / Lower RM: 0.00													
30.00	11.50	44.50	**30.0**	**2.6(4.8)**	0.8(2.0)	3.5(6.0)	**27.80**	22.90	31.30	**5**	WWH	***Essentially None***	***High***
[OH76 4] - TOUSSAINT CREEK (TRIB. E. OF GENOA TO TOUSSAINT R) Upper RM: 17.85 / Lower RM: 0.00													
34.00	34.00	34.00	**42.0**	**3.3(6.0)**	3.3(6.0)	3.3(6.0)	**68.00**	68.00	68.00	**1**	WWH	***Low***	***Low-Mod.***
[OH76 5] - TOUSSAINT CREEK (HEADWATERS TO TRIB. E. OF GENOA) Upper RM: 38.32 / Lower RM: 17.85													
44.00	35.00	56.00	**42.0**	**5.0(7.0)**	2.4(4.0)	5.8(8.0)	**60.25**	60.00	61.00	**4**	WWH	***Low***	***Mod.-High***
[OH76 7] - TURTLE CREEK Upper RM: 9.50 / Lower RM: 0.00													
15.50	15.50	15.50	**15.5**	**0.8(2.0)**	0.8(2.0)	0.8(2.0)	**20.20**	20.20	20.20	**1**	WWH	***Essentially None***	***Low***
[OH76 8] - NORTH BRANCH TURTLE CREEK Upper RM: 6.00 / Lower RM: 0.00													
18.50	18.50	18.50	**18.5**	**5.4(6.0)**	5.4(6.0)	5.4(6.0)	**6.00**	6.00	6.00	**1**	WWH	***Essentially None***	***Low***
[OH76 9] - SOUTH BRANCH TURTLE CREEK Upper RM: 6.40 / Lower RM: 0.00													
16.00	16.00	16.00	**16.0**	**2.0(4.0)**	2.0(4.0)	2.0(4.0)	**13.40**	13.40	13.40	**1**	WWH	***Essentially None***	***Low***
[OH76 11] - CRANE CREEK Upper RM: 28.07 / Lower RM: 0.00													
41.50	34.00	49.00	**41.5**	**3.6(6.0)**	3.2(6.0)	4.0(6.0)	**33.50**	28.00	39.00	**2**	WWH	***Low***	***Low-Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH76 13] - LITTLE CRANE CREEK Upper RM: 3.50 / Lower RM: 0.00													
17.50	17.50	17.50	**17.5**	**5.2(6.0)**	5.2(6.0)	5.2(6.0)	**1.90**	1.90	1.90	**1**	WWH	***Essentially None***	***Low***
[OH76 14] - HENRY CREEK Upper RM: 9.00 / Lower RM: 0.00													
25.31	15.00	38.50	**25.3**	**3.9(4.3)**	2.4(4.0)	5.1(6.0)	**5.81**	3.30	7.80	**8**	WWH	***Essentially None***	***High***
[OH76 18] - CEDAR CREEK Upper RM: 23.95 / Lower RM: 0.00													
27.80	18.00	44.50	**27.8**	**3.2(4.8)**	1.7(4.0)	5.7(6.0)	**22.34**	13.00	46.00	**5**	WWH	***Essentially None***	***High***
[OH76 19] - DRY CREEK Upper RM: 11.50 / Lower RM: 0.00													
32.86	20.50	46.00	**32.9**	**3.2(4.3)**	2.4(4.0)	5.3(6.0)	**7.39**	5.00	9.80	**7**	WWH	***Very Low***	***High***
[OH76 21] - LAKE ERIE DIRECT TRIBS. (CEDAR CREEK TO MAUMEE R.) Upper RM:1301.00 / Lower RM:1285.70													
55.44	44.50	66.50	**54.8**	**13.2(5.8)**	0.1(4.0)	117.7(6.0	******.****	0.30	****.**	**9**	LERIE	***Moderate-High***	***High***
[OH76 21.1] - DRIFTMEYER DITCH Upper RM: 2.43 / Lower RM: 0.00													
19.50	19.50	19.50	**19.5**	**2.8(4.0)**	2.8(4.0)	2.8(4.0)	**4.50**	4.50	4.50	**1**	NONE	***Essentially None***	***Low***
[OH76 21.11] - AMLOSCH DITCH Upper RM: 4.40 / Lower RM: 0.00													
17.50	15.50	19.50	**17.5**	**6.5(5.0)**	2.9(4.0)	10.0(6.0)	**3.20**	2.80	3.60	**2**	NONE	***Essentially None***	***Mod.***
[OH76 23] - WOLF CREEK Upper RM: 8.25 / Lower RM: 0.00													
15.50	15.50	15.50	**15.5**	**0.9(2.0)**	0.9(2.0)	0.9(2.0)	**7.00**	7.00	7.00	**1**	WWH	***Essentially None***	***Low***
[OH76 24] - OTTER CREEK Upper RM: 10.23 / Lower RM: 0.00													
26.53	14.00	37.50	**26.5**	**3.8(4.0)**	0.1(2.0)	9.1(6.0)	**4.17**	0.60	7.20	**16**	LRW; MWH-C	***Essentially None***	***High***
UPPER PORTAGE RIVER - [Watershed QHEI: 42.4, N = 55]													
[OH77 3] - BULL CREEK Upper RM: 14.30 / Lower RM: 0.00													
24.00	23.00	24.50	**24.0**	**3.5(4.7)**	2.8(4.0)	4.8(6.0)	**21.00**	16.00	31.00	**3**	WWH	***Essentially None***	***Mod.-High***
[OH77 4] - ROCKY FORD Upper RM: 22.90 / Lower RM: 0.00													
53.05	35.50	76.50	**53.0**	**5.1(6.7)**	2.8(6.0)	11.1(10)	**50.91**	32.00	64.00	**11**	WWH	***Moderate-High***	***High***
[OH77 4.1] - KOA TRIB. Upper RM: 1.40 / Lower RM: 0.00													
26.25	24.50	28.00	**26.3**	**7.5(6.0)**	7.5(6.0)	7.5(6.0)	**0.80**	0.80	0.80	**2**	NONE	***Essentially None***	***Mod.***
[OH77 4.3] - TRIB. TO ROCKY FORD CREEK (FENBURG #2) Upper RM: 9.43 / Lower RM: 0.00													
26.00	26.00	26.00	**26.0**	**3.9(6.0)**	3.9(6.0)	3.9(6.0)	**17.10**	17.10	17.10	**1**	LRW	***Essentially None***	***High***
[OH77 4.31] - TRIB. TO FENBURG TRIB. #2 (FENBURG #1) Upper RM: 8.80 / Lower RM: 0.00													
21.50	20.50	22.50	**21.5**	**8.8(6.7)**	7.8(6.0)	10.6(8.0)	**3.37**	0.70	6.10	**3**	LRW	***Essentially None***	***High***
[OH77 5] - MIDDLE BR. PORTAGE R.(HEADWATERS TO ROCKY FORD) Upper RM: 19.60 / Lower RM: 0.00													
33.56	14.00	56.00	**33.6**	**1.1(4.0)**	1.1(4.0)	1.1(4.0)	**73.75**	72.70	74.80	**8**	WWH	***Very Low***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH77 5.1] - RADER CREEK Upper RM: 14.31 / Lower RM: 0.00													
37.25	37.00	37.50	**37.3**	**6.5(6.0)**	6.5(6.0)	6.5(6.0)	**4.65**	3.00	6.30	**2**	NONE	***Low***	***Mod.***
[OH77 6] - NEEDLES CREEK Upper RM: 10.70 / Lower RM: 0.00													
25.00	25.00	25.00	**25.0**	**2.2(4.0)**	2.2(4.0)	2.2(4.0)	**32.20**	32.20	32.20	**1**	WWH	***Essentially None***	***Low***
[OH77 8] - EAST BRANCH PORTAGE RIVER Upper RM: 24.37 / Lower RM: 0.00													
50.14	24.00	76.50	**50.1**	**6.2(8.4)**	1.8(4.0)	10.0(10)	**19.42**	10.40	35.50	**14**	WWH	***Moderate***	***High***
[OH77 9] - SOUTH BRANCH (HEADWATERS TO E. BR. PORTAGE R.) Upper RM: 19.60 / Lower RM: 7.87													
54.00	51.50	56.50	**54.0**	**4.0(6.0)**	4.0(6.0)	4.0(6.0)	**54.20**	54.20	54.20	**2**	WWH	***Moderate-High***	***Low-Mod.***
[OH77 10] - NORTH BRANCH PORTAGE RIVER Upper RM: 25.80 / Lower RM: 0.00													
44.50	29.00	59.50	**44.5**	**1.8(4.3)**	1.4(4.0)	4.0(6.0)	**36.50**	26.00	60.00	**8**	WWH	***Very Low***	***High***
[OH77 10.1] - POE DITCH Upper RM: 4.03 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
LOWER PORTAGE RIVER - [Watershed QHEI: 57.6, N = 29]													
[OH78 3] - PORTAGE RIVER (SUGAR CREEK TO LAKE ERIE) Upper RM: 17.50 / Lower RM: 0.00													
58.58	49.00	71.00	**60.3**	**0.3(4.0)**	0.1(4.0)	0.9(4.0)	**517.85**	494.00	581.00	**13**	WWH	***Moderate-High***	***High***
[OH78 6] - LACARPE CREEK Upper RM: 12.50 / Lower RM: 0.00													
											LRW; WWH	***Unknown***	***High***
[OH78 8] - SUGAR CREEK Upper RM: 17.80 / Lower RM: 0.00													
54.00	44.50	63.50	**58.7**	**6.3(9.0)**	5.1(8.0)	7.6(10)	**50.00**	44.00	56.00	**2**	WWH	***Moderate-High***	***Mod.***
[OH78 9] - PORTAGE RIVER (MIDDLE BRANCH TO SUGAR CREEK) Upper RM: 40.83 / Lower RM: 17.50													
62.21	43.50	84.00	**60.3**	**2.9(7.0)**	0.9(4.0)	5.6(10)	**413.25**	353.00	435.00	**12**	WWH	***High***	***High***
[OH78 10.1] - LACARPE CREEK Upper RM: 5.40 / Lower RM: 0.00													
27.75	26.00	29.50	**27.8**	**0.7(3.0)**	0.1(2.0)	1.2(4.0)	**5.85**	4.90	6.80	**2**	LRW; WWH	***Essentially None***	***High***
TYMOCHTEE CREEK - [Watershed QHEI: 49.2, N = 13]													
[OH79 9] - TYMOCHTEE CREEK (WARPOLE CR. TO L. TYMOCHTEE CR.) Upper RM: 26.74 / Lower RM: 5.36													
65.50	65.00	66.00	**62.0**	**3.3(8.0)**	1.5(6.0)	5.1(10)	**230.50**	229.00	232.00	**2**	WWH	***High***	***Mod.***
[OH79 16] - TYMOCHTEE CREEK (L. TYMOCHTEE CR. TO WARPOLE CR.) Upper RM: 42.30 / Lower RM: 26.74													
69.50	69.50	69.50	**62.0**	**2.7(8.0)**	2.7(8.0)	2.7(8.0)	**136.00**	136.00	136.00	**1**	WWH	***High***	***Low-Mod.***
[OH79 22] - TYMOCHTEE CREEK (HEADWATERS TO L. TYMOCHTEE CR.) Upper RM: 54.80 / Lower RM: 42.30													
57.17	48.50	71.50	**62.0**	**4.6(6.0)**	3.0(6.0)	6.3(6.0)	**35.13**	6.10	64.10	**3**	WWH	***Moderate-High***	***High***
[OH79 23] - PAWPAW RUN Upper RM: 7.40 / Lower RM: 0.00													
55.75	42.50	69.00	**55.8**	**7.9(10)**	7.3(10)	8.5(10)	**16.20**	15.00	17.40	**2**	WWH	***Moderate***	***Mod.***

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH79 24] - CARROLL DITCH Upper RM: 3.60 / Lower RM: 0.00													
25.50	25.50	25.50	**25.5**	**2.7(4.0)**	2.7(4.0)	2.7(4.0)	**7.20**	7.20	7.20	**1**	WWH	***Essentially None***	***Low***
[OH79 25] - ENOCH CREEK Upper RM: 2.90 / Lower RM: 0.00													
47.00	47.00	47.00	**47.0**	**11.1(8.0)**	11.1(8.0)	11.1(8.0)	**7.70**	7.70	7.70	**1**	WWH	***Moderate***	***Low***
[OH79 26] - PRAIRIE RUN Upper RM: 7.10 / Lower RM: 0.00													
28.00	19.00	37.00	**28.0**	**4.8(5.0)**	2.7(4.0)	6.9(6.0)	**5.15**	2.40	7.90	**2**	WWH	***Essentially None***	***Mod.***
[OH79 27] - THOMPSON DITCH Upper RM: 4.20 / Lower RM: 0.00													
27.00	27.00	27.00	**27.0**	**4.1(4.0)**	4.1(4.0)	4.1(4.0)	**2.20**	2.20	2.20	**1**	WWH	***Essentially None***	***Low***
UPPER SANDUSKY RIVER - [Watershed QHEI: 55.6, N = 51]													
[OH80 1] - SANDUSKY RIVER (ROCK RUN TO TYMOCHTEE CREEK) Upper RM: 77.40 / Lower RM: 65.73													
63.00	56.50	72.00	**61.9**	**4.1(9.0)**	2.4(8.0)	5.7(10)	**346.50**	341.00	352.00	**4**	WWH	***High***	***High***
[OH80 4] - NEGRO RUN Upper RM: 4.10 / Lower RM: 0.00													
74.00	74.00	74.00	**74.0**	**12.7(10)**	12.7(10)	12.7(10)	**13.30**	13.30	13.30	**1**	WWH	***High***	***Low***
[OH80 9] - SANDUSKY RIVER (BROKEN SWORD CREEK TO ROCK RUN) Upper RM: 94.48 / Lower RM: 77.40													
62.75	45.00	78.00	**61.9**	**3.0(8.3)**	2.2(8.0)	7.1(10)	**281.38**	236.00	298.00	**8**	WWH	***High***	***High***
[OH80 10] - ROCK RUN Upper RM: 7.00 / Lower RM: 0.00													
68.50	68.50	68.50	**68.5**	**19.2(8.0)**	19.2(8.0)	19.2(8.0)	**10.50**	10.50	10.50	**1**	WWH	***High***	***Low***
[OH80 11] - LITTLE SANDUSKY RIVER Upper RM: 12.50 / Lower RM: 0.00													
42.00	23.50	60.50	**42.0**	**3.4(5.0)**	3.1(4.0)	3.8(6.0)	**15.75**	5.30	26.20	**2**	WWH	***Very Low***	***Mod.***
[OH80 11.1] - TRIB. TO LITTLE SANDUSKY R. (RM 8.93) Upper RM: 4.63 / Lower RM: 0.00													
18.00	18.00	18.00	**18.0**	**2.8(4.0)**	2.8(4.0)	2.8(4.0)	**6.40**	6.40	6.40	**1**	MWH-C	***Essentially None***	***High***
[OH80 13] - BROKEN SWORD CREEK Upper RM: 32.00 / Lower RM: 0.00													
70.67	64.50	80.50	**70.7**	**5.2(8.0)**	5.0(8.0)	5.6(8.0)	**85.67**	82.00	93.00	**3**	WWH	***High***	***Mod.-High***
[OH80 17] - SANDUSKY RIVER (UNNAMED TRIB. TO BROKEN SWORD CR.) Upper RM: 116.32 / Lower RM: 94.48													
67.79	51.50	81.50	**61.9**	**5.1(7.3)**	2.2(4.0)	7.1(10)	**90.83**	80.00	109.00	**12**	WWH	***High***	***High***
[OH80 22] - PARAMOUR CREEK Upper RM: 9.60 / Lower RM: 0.00													
40.56	30.50	72.50	**40.6**	**9.0(5.3)**	0.1(2.0)	45.5(6.0)	**16.50**	4.50	27.00	**8**	WWH	***Low***	***High***
[OH80 22.1] - PPG TRIB. TO PARAMOUR CREEK Upper RM: 5.30 / Lower RM: 0.00													
39.38	25.50	49.00	**39.4**	**20.3(9.5)**	13.3(8.0)	26.3(10)	**2.00**	1.00	4.00	**4**	WWH	***Low***	***Mod.-High***
[OH80 23] - CRESTLINE WWTP TRIBUTARY Upper RM: 6.16 / Lower RM: 0.00													
54.67	51.50	57.00	**54.7**	**9.7(6.7)**	9.3(6.0)	10.6(8.0)	**6.33**	5.00	7.00	**3**	WWH	***Moderate***	***Mod.-High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH80 24] - CRESTLINE TRIBUTARY Upper RM: 5.73 / Lower RM: 0.00													
41.88	26.00	56.00	**41.9**	**11.2(8.0)**	10.8(8.0)	11.5(8.0)	**2.25**	1.50	3.50	**4**	WWH	***Low***	***Mod.-High***
MIDDLE SANDUSKY RIVER - [Watershed QHEI: 62.8, N = 22]													
[OH81 1] - SANDUSKY RIVER (BELLS RUN TO WOLF CREEK) Upper RM: 42.98 / Lower RM: 22.73													
64.40	54.00	80.00	**61.9**	**5.7(8.4)**	0.5(8.0)	12.5(10)	**1032.10**	964.00	1073.00	**10**	WWH	***High***	***High***
[OH81 2] - SUGAR CREEK Upper RM: 10.40 / Lower RM: 0.00													
94.50	94.50	94.50	**94.5**	**20.4(8.0)**	20.4(8.0)	20.4(8.0)	**11.70**	11.70	11.70	**1**	WWH	***Extremely High***	***Low***
[OH81 11] - HONEY CREEK (SILVER CREEK TO SANDUSKY RIVER) Upper RM: 14.52 / Lower RM: 0.00													
72.75	62.00	83.50	**61.2**	**6.3(6.0)**	0.1(4.0)	12.5(8.0)	**162.50**	149.00	176.00	**2**	WWH	***High***	***Mod.***
[OH81 13.1] - WORK DITCH (ATTICA) Upper RM: 1.93 / Lower RM: 0.00													
51.83	32.50	70.50	**51.8**	**12.3(8.0)**	3.6(4.0)	16.7(10)	**1.17**	1.00	1.30	**3**	NONE	***Moderate-High***	***Mod.-High***
[OH81 21] - HONEY CREEK (HEADWATERS TO BROKEN KNIFE CREEK) Upper RM: 41.92 / Lower RM: 32.55													
38.00	38.00	38.00	**61.2**	**4.1(6.0)**	4.1(6.0)	4.1(6.0)	**26.00**	26.00	26.00	**1**	WWH	***MODERATE***	***Low-Mod.***
[OH81 22.1] - KIBLER DITCH (NEW WASHINGTON) Upper RM: 2.66 / Lower RM: 0.00													
23.00	23.00	23.00	**23.0**	**28.6(10)**	28.6(10)	28.6(10)	**0.80**	0.80	0.80	**1**	NONE	***Essentially None***	***Low***
[OH81 23] - SANDUSKY RIVER (SYCAMORE CREEK TO BELLS RUN) Upper RM: 57.71 / Lower RM: 42.90													
70.50	62.00	81.00	**61.9**	**1.1(8.5)**	0.1(6.0)	1.7(10)	**816.50**	761.00	957.00	**4**	WWH	***Moderate - High***	***High***
LOWER SANDUSKY RIVER - [Watershed QHEI: 44.0, N = 27]													
[OH82 1] - SANDUSKY RIVER (WOLF CREEK TO LAKE ERIE) Upper RM: 22.73 / Lower RM: 0.00													
47.80	32.00	80.50	**61.9**	**0.4(6.4)**	0.1(6.0)	3.3(10)	**1269.00**	999.00	1335.00	**10**	WWH	***Moderate-High***	***High***
[OH82 15] - WOLF CREEK Upper RM: 23.90 / Lower RM: 0.00													
42.33	19.00	56.00	**42.3**	**5.3(7.3)**	4.2(6.0)	7.4(10)	**38.50**	35.50	45.00	**6**	WWH	***Low***	***High***
[OH82 18.1] - JOHN SMITH DITCH Upper RM: 8.65 / Lower RM: 0.00													
19.50	19.50	19.50	**19.5**	**14.7(8.0)**	14.7(8.0)	14.7(8.0)	**1.10**	1.10	1.10	**1**	LRW	***Essentially None***	***High***
[OH82 18.11] - MICHAEL GRUSS DITCH Upper RM: 2.93 / Lower RM: 0.00													
18.50	18.50	18.50	**18.5**	**10.4(8.0)**	10.4(8.0)	10.4(8.0)	**0.20**	0.20	0.20	**1**	LRW	***Essentially None***	***High***
[OH82 21] - MUDDY CREEK (GRIES DITCH TO SANDUSKY BAY) Upper RM: 20.06 / Lower RM: 0.00													
32.67	26.00	42.00	**48.7**	**0.1(2.7)**	0.1(2.0)	0.1(4.0)	**90.67**	80.00	111.00	**3**	WWH	***Very Low***	***Mod.-High***
[OH82 21.1] - GRIES DITCH Upper RM: 12.14 / Lower RM: 0.00													
58.75	55.50	62.00	**58.8**	**14.7(10)**	14.7(10)	14.7(10)	**15.00**	15.00	15.00	**2**	NONE	***Moderate***	***Mod.***
[OH82 22] - LITTLE MUDDY CREEK Upper RM: 12.40 / Lower RM: 0.00													
28.25	26.00	30.50	**28.3**	**0.1(2.0)**	0.1(2.0)	0.1(2.0)	**27.00**	26.00	28.00	**2**	WWH	***Essentially None***	***Low-Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH82 23] - MUDDY CREEK (HEADWATERS TO GRIES DITCH) Upper RM: 38.00 / Lower RM: 20.06													
72.75	70.50	75.00	**48.7**	**7.1(7.0)**	3.5(6.0)	10.6(8.0)	**23.50**	4.00	43.00	**2**	WWH	***High***	***Mod.***
LAKE ERIE TRIBS SANDUSKY R. TO VERMILION R. - [Watershed QHEI: 46.0, N = 26]													
[OH83 3.3] - CASWELL DITCH Upper RM: 5.70 / Lower RM: 0.00													
30.75	18.00	43.50	**30.8**	**7.3(6.0)**	7.3(6.0)	7.3(6.0)	**5.00**	5.00	5.00	**2**	WWH	***Low***	***Mod.***
[OH83 3.4] - SNYDERS DITCH Upper RM: 5.52 / Lower RM: 0.00													
44.79	36.00	51.00	**44.8**	**10.6(7.4)**	7.1(6.0)	13.9(8.0)	**3.13**	1.80	4.70	**7**	MWH-C	***Essentially None***	***High***
[OH83 11] - RACCOON CREEK Upper RM: 14.90 / Lower RM: 0.00													
48.33	34.50	74.00	**48.3**	**11.9(8.7)**	3.5(6.0)	25.0(10)	**13.69**	7.90	22.20	**15**	WWH	***Moderate***	***High***
[OH83 11.1] - LITTLE RACCOON CREEK Upper RM: 7.29 / Lower RM: 0.00													
47.75	38.50	57.00	**47.8**	**10.4(8.0)**	10.4(8.0)	10.4(8.0)	**1.90**	1.90	1.90	**2**	WWH	***Moderate***	***Mod.***
VERMILION RIVER - [Watershed QHEI: 56.8, N = 16]													
[OH84 1] - HURON RIVER Upper RM: 14.70 / Lower RM: 0.00													
55.54	40.00	90.50	**55.5**	**1.7(4.8)**	0.1(4.0)	11.8(10)	**384.69**	350.00	403.00	**13**	WWH	***Moderate-High***	***High***
[OH84 8] - WEST BRANCH HURON R. (SLATE RUN TO EAST BRANCH) Upper RM: 10.52 / Lower RM: 0.00													
69.00	69.00	69.00	**69.0**	**11.7(9.0)**	9.8(8.0)	13.5(10)	**234.50**	233.00	236.00	**2**	WWH	***High***	***Low-Mod.***
[OH84 14] - SLATE RUN Upper RM: 19.50 / Lower RM: 0.00													
49.00	49.00	49.00	**49.0**	**9.6(10)**	9.6(10)	9.6(10)	**41.00**	41.00	41.00	**1**	WWH	***Moderate-High***	***Low***
HURON RIVER - [Watershed QHEI: 67.2, N = 13]													
[OH85 3] - BEAVER CREEK Upper RM: 12.20 / Lower RM: 0.00													
68.30	61.00	71.50	**68.3**	**16.0(8.8)**	7.4(6.0)	33.3(10)	**24.66**	10.90	43.40	**5**	WWH	***High***	***High***
[OH85 7] - VERMILION RIVER (EAST FORK TO LAKE ERIE) Upper RM: 15.90 / Lower RM: 0.00													
57.58	34.00	80.50	**62.6**	**2.5(6.0)**	0.1(4.0)	8.3(10)	**263.67**	251.00	268.00	**6**	EWH	***Moderate-High***	***High***
[OH85 12] - VERMILION RIVER (SOUTHWEST BRANCH TO EAST BRANCH) Upper RM: 47.70 / Lower RM: 29.60													
92.50	92.50	92.50	**62.6**	**8.9(10)**	8.9(10)	8.9(10)	**78.00**	78.00	78.00	**1**	WWH	***Extremely High***	***Low-Mod.***
[OH85 16] - BUCK CREEK Upper RM: 8.30 / Lower RM: 0.00													
94.00	94.00	94.00	**94.0**	**14.3(10)**	14.3(10)	14.3(10)	**21.00**	21.00	21.00	**1**	WWH	***Extremely High***	***Low***
BLACK RIVER - [Watershed QHEI: 62.9, N = 59]													
[OH86 1] - LAKE ERIE DIRECT TRIBS. (BLACK R. TO GABLE DITCH) Upper RM:1214.00 / Lower RM:1204.00													
57.00	57.00	57.00	**57.0**	**0.1(6.0)**	0.1(6.0)	0.1(6.0)	******.****	999.00	****.**	**1**	LERIE	***Low - Moderate***	***Low***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH86 2] - BLACK RIVER Upper RM: 15.65 / Lower RM: 0.00													
56.14	23.00	87.50	**56.1**	**0.9(4.9)**	0.1(4.0)	5.6(10)	**447.59**	396.00	466.00	**22**	WWH; WWH-E	***Moderate-High***	***High***
[OH86 3] - FRENCH CREEK Upper RM: 15.80 / Lower RM: 0.00													
64.50	58.00	71.00	**64.5**	**3.5(6.0)**	0.1(2.0)	6.9(10)	**29.25**	27.00	31.50	**2**	WWH; WWH-E	***High***	***Low-Mod.***
[OH86 4] - EAST BRANCH (HILL SPAULDING DITCH TO W BR BLACK R) Upper RM: 12.00 / Lower RM: 0.00													
68.07	53.50	90.00	**66.3**	**12.1(8.0)**	2.4(6.0)	21.7(10)	**198.11**	185.00	215.80	**7**	WWH	***High***	***High***
[OH86 4.2] - WILLOW CREEK Upper RM: 8.93 / Lower RM: 0.00													
72.50	72.50	72.50	**72.5**	**11.6(10)**	11.6(10)	11.6(10)	**12.00**	12.00	12.00	**1**	NONE	***High***	***Low***
[OH86 5] - EAST BRANCH (CROW CR. TO HILL SPAULDING DITCH) Upper RM: 24.39 / Lower RM: 12.00													
73.00	73.00	73.00	**66.3**	**3.0(8.0)**	3.0(8.0)	3.0(8.0)	**166.00**	166.00	166.00	**1**	WWH	***High***	***Low-Mod.***
[OH86 7] - EAST BRANCH BLACK R. (W. FK. E. BR. TO CROW CR.) Upper RM: 45.07 / Lower RM: 24.39													
61.63	54.50	75.00	**66.3**	**2.5(6.0)**	1.6(6.0)	3.3(6.0)	**99.50**	66.00	131.00	**4**	WWH	***High***	***High***
[OH86 10] - EAST FORK EAST BRANCH BLACK RIVER Upper RM: 9.30 / Lower RM: 0.00													
69.00	65.00	71.50	**69.0**	**27.5(6.7)**	21.9(6.0)	30.3(8.0)	**16.43**	16.00	17.30	**3**	WWH	***High***	***Mod.-High***
[OH86 11] - WEST FORK EAST BRANCH BLACK RIVER Upper RM: 17.20 / Lower RM: 0.00													
75.00	75.00	75.00	**75.0**	**18.5(8.0)**	18.5(8.0)	18.5(8.0)	**25.00**	25.00	25.00	**1**	WWH	***Very High Quality***	***Low***
[OH86 13] - WEST BRANCH BLACK R. (ELK CR. TO E. BR. BLACK R.) Upper RM: 14.59 / Lower RM: 0.00													
63.67	51.50	70.00	**63.8**	**4.2(8.0)**	1.9(6.0)	7.1(10)	**158.67**	131.00	174.00	**3**	WWH	***High***	***High***
[OH86 14] - PLUM CREEK Upper RM: 9.72 / Lower RM: 0.00													
71.00	57.00	87.50	**71.0**	**13.1(10)**	9.4(10)	17.2(10)	**8.30**	3.00	10.70	**4**	WWH	***High***	***Mod.-High***
[OH86 16] - WELLINGTON CREEK Upper RM: 17.60 / Lower RM: 0.00													
62.00	55.00	69.00	**62.0**	**7.8(10)**	7.4(10)	8.3(10)	**14.05**	12.90	15.20	**2**	WWH	***High***	***Mod.***
[OH86 17] - WEST BRANCH BLACK R. (CHARLEMONT CR. TO ELK CR.) Upper RM: 26.65 / Lower RM: 14.59													
56.75	49.50	64.00	**63.8**	**3.3(6.0)**	2.9(6.0)	3.6(6.0)	**73.00**	67.00	79.00	**2**	WWH	***Moderate-High***	***Mod.***
[OH86 18] - CHARLEMONT CREEK Upper RM: 11.50 / Lower RM: 0.00													
72.67	70.50	74.50	**72.7**	**11.3(10)**	8.9(10)	16.1(10)	**23.37**	21.90	25.10	**3**	WWH	***High***	***Mod.-High***
[OH86 19] - WEST BRANCH BLACK R. (HEADWATERS TO CHARLEMONT CR) Upper RM: 53.25 / Lower RM: 26.65													
71.00	58.00	84.00	**63.8**	**11.6(10)**	8.5(10)	14.7(10)	**23.25**	15.50	31.00	**2**	WWH	***High***	***Mod.***
[OH86 20] - BUCK CREEK Upper RM: 7.50 / Lower RM: 0.00													
67.50	67.50	67.50	**67.5**	**13.7(8.0)**	13.7(8.0)	13.7(8.0)	**5.50**	5.50	5.50	**1**	WWH	***High***	***Low***

ROCKY RIVER - [Watershed QHEI: 65.2, N = 93]

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH87 2] - ROCKY RIVER Upper RM: 12.07 / Lower RM: 0.00													
66.89	34.00	80.50	**66.9**	**6.6(9.1)**	0.1(4.0)	8.9(10)	**279.50**	267.00	293.00	**14**	WWH; WWH-E	***High***	***High***
[OH87 3] - ABRAM CREEK Upper RM: 7.40 / Lower RM: 0.00													
57.67	43.00	73.00	**57.7**	**37.3(7.0)**	6.9(4.0)	111.1(	**7.42**	1.80	9.90	**6**	WWH	***Moderate-High***	***High***
[OH87 4] - EAST BRANCH ROCKY RIVER (HEALEY CREEK TO ROCKY R.) Upper RM: 17.00 / Lower RM: 0.00													
64.80	56.00	83.50	**67.7**	**14.5(6.7)**	4.3(4.0)	43.5(10)	**67.95**	57.00	76.00	**15**	WWH	***High***	***High***
[OH87 5] - BALDWIN CREEK Upper RM: 9.20 / Lower RM: 0.00													
62.25	42.50	80.50	**62.3**	**10.7(8.6)**	6.3(6.0)	35.7(10)	**8.50**	0.60	11.80	**10**	WWH	***High***	***High***
[OH87 7] - NORTH ROYALTON "A" TRIB. Upper RM: 3.30 / Lower RM: 0.00													
62.63	44.50	71.00	**62.6**	**28.8(9.0)**	26.3(8.0)	31.3(10)	**2.45**	2.40	2.50	**4**	WWH	***High***	***Mod.-High***
[OH87 8] - EAST BRANCH ROCKY RIVER (HEADWATERS TO HEALEY CR.) Upper RM: 34.50 / Lower RM: 17.00													
73.86	67.00	83.00	**67.7**	**11.4(8.6)**	5.7(8.0)	19.2(10)	**31.71**	12.00	50.00	**7**	WWH	***High***	***High***
[OH87 9] - HEALEY CREEK Upper RM: 5.75 / Lower RM: 0.00													
59.50	59.50	59.50	**59.5**	**35.7(8.0)**	35.7(8.0)	35.7(8.0)	**4.50**	4.50	4.50	**1**	WWH	***Moderate-High***	***Low***
[OH87 10] - WEST BRANCH ROCKY RIVER (PLUM CR. TO EAST BRANCH) Upper RM: 3.10 / Lower RM: 0.00													
63.25	55.00	76.50	**66.0**	**14.2(7.0)**	11.6(6.0)	16.7(8.0)	**185.00**	182.00	188.00	**4**	WWH	***High***	***High***
[OH87 11] - PLUM CREEK Upper RM: 14.80 / Lower RM: 0.00													
49.33	42.50	55.50	**49.3**	**16.7(7.3)**	9.3(6.0)	20.4(8.0)	**14.77**	7.30	18.50	**3**	WWH	***Moderate***	***Mod.-High***
[OH87 12] - WEST BRANCH ROCKY RIVER (COSSETT CR. TO PLUM CR.) Upper RM: 19.60 / Lower RM: 3.10													
66.68	55.50	81.00	**66.0**	**7.6(8.9)**	0.1(4.0)	14.5(10)	**154.27**	133.00	180.00	**11**	WWH	***High***	***High***
[OH87 13] - STRONGSVILLE "A" TRIB. Upper RM: 4.88 / Lower RM: 0.00													
65.33	59.50	73.00	**65.3**	**12.1(8.0)**	10.6(8.0)	13.2(8.0)	**2.20**	1.30	2.70	**3**	WWH	***High***	***Mod.-High***
[OH87 14] - BAKER CREEK Upper RM: 8.20 / Lower RM: 0.00													
68.00	68.00	68.00	**68.0**	**37.0(8.0)**	37.0(8.0)	37.0(8.0)	**5.70**	5.70	5.70	**1**	WWH	***High***	***Low***
[OH87 15] - WEST BRANCH ROCKY RIVER (NORTH BR. TO COSSETT CR.) Upper RM: 34.00 / Lower RM: 19.59													
66.50	57.00	73.50	**66.0**	**10.5(8.0)**	3.5(6.0)	15.4(10)	**37.56**	8.00	83.00	**9**	WWH	***High***	***High***
[OH87 17] - MALLET CREEK Upper RM: 11.40 / Lower RM: 0.00													
69.00	69.00	69.00	**69.0**	**37.0(6.0)**	37.0(6.0)	37.0(6.0)	**17.10**	17.10	17.10	**1**	WWH	***High***	***Low***
[OH87 19] - NORTH BRANCH ROCKY RIVER Upper RM: 5.79 / Lower RM: 0.00													
74.83	71.00	80.00	**74.8**	**14.2(9.3)**	12.1(8.0)	18.5(10)	**35.67**	35.00	37.00	**3**	WWH	***High***	***Mod.-High***
[OH87 20] - PLUM CREEK Upper RM: 7.10 / Lower RM: 0.00													
66.50	66.50	66.50	**66.5**	**14.7(8.0)**	14.7(8.0)	14.7(8.0)	**9.00**	9.00	9.00	**1**	WWH	***High***	***Low***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
UPPER CUYAHOGA RIVER - [Watershed QHEI: 63.2, N = 65]													
[OH88 1] - L. CUYAHOGA R. (WINGFOOT LAKE OUT. TO CUYAHOGA R.) Upper RM: 11.00 / Lower RM: 0.00													
65.68	46.50	81.00	**65.7**	**25.3(7.2)**	9.2(4.0)	71.4(10)	**54.48**	25.80	68.00	**17**	WWH	***High***	***High***
[OH88 1.1] - CAMP CREEK Upper RM: 4.48 / Lower RM: 0.00													
64.20	51.00	76.00	**64.2**	**37.9(6.8)**	27.0(4.0)	45.5(10)	**4.34**	3.60	5.20	**5**	WWH	***High***	***High***
[OH88 1.2] - OHIO CANAL Upper RM: 5.84 / Lower RM: 0.00													
45.58	29.00	65.00	**45.6**	**14.4(5.3)**	0.1(4.0)	76.9(8.0)	**200.00**	200.00	200.00	**6**	MWH-C; LRW; MWH-C	***Essentially None***	***High***
[OH88 4.1] - UNION OIL TRIB. Upper RM: 3.05 / Lower RM: 0.00													
57.25	41.00	73.50	**57.3**	**36.4(7.0)**	22.7(4.0)	50.0(10)	**2.40**	1.50	3.30	**2**	WWH	***Moderate-High***	***Mod.***
[OH88 5] - CUYAHOGA RIVER (CONGRESS LAKE OUT. TO L. CUYAHOGA) Upper RM: 56.80 / Lower RM: 42.30													
70.06	42.50	86.00	**58.9**	**30.4(6.0)**	0.1(4.0)	125.0(	**331.33**	293.00	340.00	**9**	WWH	***High***	***High***
[OH88 6] - FISH CREEK Upper RM: 5.40 / Lower RM: 0.00													
56.75	43.00	70.50	**56.8**	**5.5(6.0)**	5.3(6.0)	5.7(6.0)	**8.30**	6.50	10.10	**2**	MWH-C; WWH	***Essentially None***	***High***
[OH88 8] - BREAKNECK CREEK Upper RM: 18.50 / Lower RM: 0.00													
73.50	69.50	77.50	**73.5**	**1.4(4.0)**	1.3(4.0)	1.6(4.0)	**22.55**	5.10	40.00	**2**	WWH	***Moderate - High***	***Low-Mod.***
[OH88 8.2] - FEEDER CANAL (CONGRESS LAKE OUTLET) Upper RM: 10.80 / Lower RM: 0.00													
											MWH-C	***Essentially None***	***High***
[OH88 9] - WAHOO DITCH Upper RM: 2.15 / Lower RM: 0.00													
37.00	36.00	38.00	**37.0**	**9.6(7.0)**	7.9(6.0)	11.4(8.0)	**1.85**	1.00	2.70	**2**	MWH-C	***Essentially None***	***High***
[OH88 9.1] - HOMMON AVE. DITCH (RAVENNA WWTP) Upper RM: 1.60 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH88 11] - CUYAHOGA RIVER (BLACK BROOK TO CONGESS LAKE OUT.) Upper RM: 76.64 / Lower RM: 56.82													
77.58	66.00	85.00	**58.9**	**3.6(8.0)**	1.6(6.0)	5.6(10)	**167.83**	151.00	177.00	**6**	WWH	***Very High Quality***	***High***
[OH88 13] - CUYAHOGA RIVER (HEADWATERS TO BLACK BROOK) Upper RM: 101.10 / Lower RM: 76.64													
55.80	47.00	67.00	**58.9**	**0.8(2.8)**	0.8(2.0)	0.8(4.0)	**76.40**	20.40	123.00	**5**	WWH	***Low - Moderate***	***High***
[OH88 16] - WEST BRANCH CUYAHOGA RIVER Upper RM: 14.60 / Lower RM: 0.00													
66.00	51.00	76.50	**66.0**	**3.6(5.7)**	3.1(4.0)	4.3(6.0)	**16.87**	7.00	25.40	**6**	WWH	***Moderate - High***	***High***
[OH88 17] - BUTTERNUT CREEK Upper RM: 4.60 / Lower RM: 0.00													
67.25	67.00	67.50	**67.3**	**15.7(9.0)**	11.5(8.0)	20.0(10)	**3.80**	3.50	4.10	**2**	WWH	***High***	***Mod.***
[OH88 19] - TARE CREEK Upper RM: 8.00 / Lower RM: 0.00													
39.50	39.50	39.50	**39.5**	**5.8(6.0)**	5.8(6.0)	5.8(6.0)	**4.10**	4.10	4.10	**1**	WWH	***Very Low***	***Low***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI Mean	Segment QHEI Min	Segment QHEI Max	River-Wide Mean QHEI	Gradient Mean	Gradient Min	Gradient Max	Drainage Area Mean	Drainage Area Min	Drainage Area Max	N	Aquatic Life Use(s)	Restorability Rating[1]	Confidence
LOWER CUYAHOGA RIVER - [Watershed QHEI: 55.9, N = 111]													
[OH89 1] - CUYAHOGA RIVER (BIG CREEK TO LAKE ERIE) Upper RM: 7.20 / Lower RM: 0.00													
37.28	20.00	73.50	**58.9**	**0.4(6.7)**	0.1(6.0)	2.0(10)	**797.57**	786.00	808.00	**23**	WWH; WWH-E	***Very Low***	***High***
[OH89 2] - KINGSBURY RUN Upper RM: 9.50 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH89 3] - MORGANA RUN Upper RM: 4.80 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH89 4] - BURK BRANCH Upper RM: 6.70 / Lower RM: 0.00													
											LRW; LRW	***Essentially None***	***High***
[OH89 5] - BIG CREEK Upper RM: 12.00 / Lower RM: 0.00													
58.50	44.50	72.00	**58.5**	**21.6(8.5)**	12.9(6.0)	38.5(10)	**32.75**	20.00	38.00	**4**	WWH	***Moderate-High***	***Mod.-High***
[OH89 5.1] - FORD BRANCH BIG CREEK Upper RM: 8.75 / Lower RM: 0.00													
62.00	62.00	62.00	**62.0**	**21.3(8.0)**	21.3(8.0)	21.3(8.0)	**10.00**	10.00	10.00	**1**	LRW	***Essentially None***	***High***
[OH89 6] - CUYAHOGA RIVER (TINKERS CREEK TO BIG CREEK) Upper RM: 16.40 / Lower RM: 7.20													
63.61	42.50	75.50	**58.9**	**2.0(10)**	1.8(10)	2.5(10)	**725.79**	694.00	749.00	**14**	WWH	***Moderate - High***	***High***
[OH89 6.3] - WEST CREEK Upper RM: 9.70 / Lower RM: 0.00													
61.63	52.50	68.00	**61.6**	**60.7(6.5)**	20.0(4.0)	142.9(	**7.10**	4.00	13.20	**4**	WWH	***High***	***Mod.-High***
[OH89 7] - MILL CREEK Upper RM: 12.20 / Lower RM: 0.00													
60.88	47.00	71.00	**60.9**	**9.5(10)**	6.7(10)	10.4(10)	**15.25**	10.00	18.00	**4**	WWH	***High***	***Mod.-High***
[OH89 8] - TINKERS CREEK (POND BROOK TO CUYAHOGA RIVER) Upper RM: 22.50 / Lower RM: 0.00													
72.69	60.50	82.50	**71.3**	**7.2(6.8)**	3.6(6.0)	23.8(8.0)	**73.36**	40.90	96.00	**8**	WWH	***High***	***High***
[OH89 8.1] - WOOD CREEK Upper RM: 4.35 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH89 8.2] - DEER LICK RUN Upper RM: 3.80 / Lower RM: 0.00													
											LRW; WWH	***Unknown***	***High***
[OH89 8.3] - BEAVER MEADOW CREEK Upper RM: 5.95 / Lower RM: 0.00													
80.00	80.00	80.00	**80.0**	**7.5(6.0)**	7.5(6.0)	7.5(6.0)	**5.00**	5.00	5.00	**1**	WWH	***Very High Quality***	***Low***
[OH89 8.4] - HAWTHORN CREEK Upper RM: 7.55 / Lower RM: 0.00													
80.50	80.50	80.50	**80.5**	**23.6(10)**	23.6(10)	23.6(10)	**6.40**	6.40	6.40	**1**	WWH	***Very High Quality***	***Low***
[OH89 9] - TINKERS CREEK (HEADWATERS TO POND BROOK) Upper RM: 29.20 / Lower RM: 22.51													
67.50	58.00	77.50	**71.3**	**10.8(7.3)**	5.0(6.0)	15.0(8.0)	**8.00**	3.00	17.00	**3**	WWH	***High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH89 10] - POND BROOK Upper RM: 6.00 / Lower RM: 0.00													
32.96	26.00	41.00	**33.0**	**4.2(5.4)**	3.6(4.0)	4.5(6.0)	**9.41**	2.00	12.00	**13**	MWH-C	***Essentially None***	***High***
[OH89 11] - CUYAHOGA RIVER (BRANDYWINE CREEK TO TINKERS CREEK) Upper RM: 24.20 / Lower RM: 16.40													
67.00	60.50	70.50	**58.9**	**3.7(8.7)**	2.5(8.0)	4.8(10)	**578.00**	555.00	596.00	**3**	WWH	***High***	***High***
[OH89 12.1] - TRIB. TO CHIPPEWA CREEK (RM 6.36) Upper RM: 3.80 / Lower RM: 0.00													
52.25	51.50	53.00	**52.3**	**150.0(4.0**	100.0(4.0	200.0(4.0	**0.20**	0.20	0.20	**2**	NONE	***Moderate-High***	***Mod.***
[OH89 13] - BRANDYWINE CREEK Upper RM: 11.50 / Lower RM: 0.00													
53.50	21.00	72.00	**53.5**	**30.4(5.5)**	5.9(4.0)	100.0(6.0	**19.88**	5.00	26.00	**8**	WWH	***Moderate-High***	***High***
[OH89 14] - CUYAHOGA RIVER (YELLOW CREEK TO BRANDYWINE CREEK) Upper RM: 37.20 / Lower RM: 24.20													
73.36	57.00	81.00	**58.9**	**7.1(9.4)**	4.0(8.0)	11.1(10)	**484.57**	443.00	520.00	**7**	WWH	***High***	***High***
[OH89 24] - FURNACE RUN Upper RM: 10.40 / Lower RM: 0.00													
73.00	73.00	73.00	**73.0**	**30.3(6.0)**	30.3(6.0)	30.3(6.0)	**19.80**	19.80	19.80	**1**	WWH	***High***	***Low***
[OH89 25] - YELLOW CREEK Upper RM: 10.30 / Lower RM: 0.00													
72.50	66.50	78.50	**72.5**	**58.3(4.0)**	50.0(4.0)	66.7(4.0)	**25.20**	22.90	27.50	**2**	WWH	***High***	***Low-Mod.***
[OH89 26] - NORTH FORK YELLOW CREEK Upper RM: 6.40 / Lower RM: 0.00													
71.50	71.50	71.50	**71.5**	**40.0(6.0)**	40.0(6.0)	40.0(6.0)	**9.70**	9.70	9.70	**1**	WWH	***High***	***Low***
[OH89 27] - CUYAHOGA RIVER (LITTLE CUYAHOGA R. TO YELLOW CR.) Upper RM: 42.30 / Lower RM: 37.20													
68.86	58.50	81.50	**58.9**	**6.8(10)**	5.4(10)	9.1(10)	**423.36**	401.00	443.00	**11**	WWH	***High***	***High***
LAKE ERIE TRIBS (CHAGRIN RIVER) - [Watershed QHEI: 68.6, N = 90]													
[OH90 5] - CHAGRIN RIVER (EAST BRANCH TO LAKE ERIE) Upper RM: 5.00 / Lower RM: 0.00													
57.60	34.00	77.50	**69.2**	**1.2(5.2)**	0.1(4.0)	5.7(10)	**260.40**	246.00	264.00	**10**	WWH; EWH; WWH-E	***Moderate-High***	***High***
[OH90 5.2] - CHAGRIN RIVER ESTUARY CHANNELS Upper RM: 1.00 / Lower RM: 0.00													
40.63	28.50	49.50	**40.6**	**0.1(4.0)**	0.1(4.0)	0.1(4.0)	**264.00**	264.00	264.00	**4**	NONE	***Very Low***	***Mod.-High***
[OH90 6] - EAST BRANCH CHAGRIN RIVER Upper RM: 19.40 / Lower RM: 0.00													
67.67	49.50	79.00	**67.7**	**16.5(8.9)**	10.9(6.0)	33.3(10)	**29.18**	18.60	46.50	**9**	CWH	***High***	***High***
[OH90 7] - CHAGRIN RIVER (AURORA BRANCH TO EAST BRANCH) Upper RM: 27.10 / Lower RM: 5.00													
79.13	71.00	85.50	**69.2**	**11.2(8.0)**	5.8(6.0)	16.1(10)	**140.50**	119.00	166.00	**4**	WWH	***Very High Quality***	***High***
[OH90 7.3] - TRIB. TO CHAGRIN RIVER (RM 15.4) Upper RM: 3.65 / Lower RM: 0.00													
75.50	75.50	75.50	**75.5**	**122.5(4.0**	120.0(4.0	125.0(4.0	**1.70**	1.70	1.70	**2**	WWH	***Very High Quality***	***Mod.***
[OH90 7.4] - TRIB. TO CHAGRIN R. (RM 14.88) Upper RM: 3.10 / Lower RM: 0.00													
57.50	57.50	57.50	**57.5**	**125.0(4.0**	125.0(4.0	125.0(4.0	**1.80**	1.80	1.80	**1**	NONE	***Moderate-High***	***Low***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH90 7.5] - TRIB. TO CHAGRIN R. (RM 22.81) Upper RM: 5.94 / Lower RM: 0.00													
60.50	60.50	60.50	**60.5**	**55.6(4.0)**	55.6(4.0)	55.6(4.0)	**9.30**	9.30	9.30	**1**	NONE	***High***	***Low***
[OH90 8] - GRISWOLD CREEK Upper RM: 6.10 / Lower RM: 0.00													
63.50	63.50	63.50	**63.5**	**31.3(8.0)**	31.3(8.0)	31.3(8.0)	**6.90**	6.90	6.90	**1**	EWH	***High***	***Low***
[OH90 9] - WILLEY CREEK Upper RM: 5.58 / Lower RM: 0.00													
72.00	72.00	72.00	**72.0**	**100.0(4.0**	100.0(4.0	100.0(4.0	**5.10**	5.10	5.10	**1**	EWH	***High***	***Low***
[OH90 10] - AURORA BRANCH Upper RM: 18.44 / Lower RM: 0.00													
72.68	59.50	81.50	**72.7**	**18.3(8.3)**	3.3(4.0)	50.0(10)	**32.53**	11.00	58.00	**19**	WWH	***High***	***High***
[OH90 10.1] - TRIB. TO AURORA BRANCH (SMITH CREEK) Upper RM: 6.65 / Lower RM: 0.00													
80.19	65.50	90.00	**80.2**	**23.3(8.0)**	23.3(8.0)	23.3(8.0)	**10.60**	10.60	10.60	**8**	NONE	***Extremely High***	***High***
[OH90 11] - MCFARLAND CREEK Upper RM: 5.80 / Lower RM: 0.00													
73.78	62.50	84.50	**73.8**	**35.7(6.0)**	35.7(6.0)	35.7(6.0)	**10.80**	10.80	10.80	**9**	EWH	***High***	***High***
[OH90 12] - CHAGRIN RIVER (HEADWATERS TO AURORA BRANCH) Upper RM: 51.47 / Lower RM: 27.09													
77.72	68.00	84.50	**69.2**	**14.1(6.9)**	0.1(2.0)	23.3(10)	**53.89**	36.00	59.00	**9**	WWH	***Very High Quality***	***High***
[OH90 13] - SILVER CREEK Upper RM: 6.60 / Lower RM: 0.00													
69.00	61.50	76.00	**69.0**	**12.2(10)**	7.1(10)	16.4(10)	**9.67**	4.10	13.30	**3**	CWH	***High***	***Mod.-High***
[OH90 16] - EUCLID CREEK Upper RM: 9.50 / Lower RM: 0.00													
62.25	51.50	73.00	**62.3**	**16.3(6.0)**	0.1(6.0)	32.5(6.0)	**3210.50**	21.00	6400.00	**2**	WWH	***High***	***Low-Mod.***
[OH90 16.1] - EAST BRANCH EUCLID CREEK Upper RM: 9.02 / Lower RM: 0.00													
63.63	58.50	73.00	**63.6**	**75.6(5.5)**	16.7(4.0)	142.9(	**5.83**	1.70	9.90	**4**	WWH	***High***	***Mod.-High***
[OH90 16.11] - TRIB. TO E. BR. EUCLID CREEK (RM 1.55) Upper RM: 2.35 / Lower RM: 0.00													
40.25	24.50	56.00	**40.3**	**104.2(4.0**	83.3(4.0)	125.0(4.0	**0.80**	0.70	0.90	**2**	LRW	***Essentially None***	***High***
[OH90 17] - LAKE ERIE DIRECT TRIBS.(CUYAHOGA R. TO EUCLID CR.) Upper RM:1188.00 / Lower RM:1178.00													
54.50	54.50	54.50	**54.5**	**0.1(6.0)**	0.1(6.0)	0.1(6.0)	******.****	999.00	****.**	**1**	LERIE	***Low - Moderate***	***Low***
UPPER GRAND RIVER - [Watershed QHEI: 63.1, N = 12]													
[OH91 1] - ROCK CREEK (LEBANON CREEK TO GRAND RIVER) Upper RM: 9.64 / Lower RM: 0.00													
73.50	71.50	75.50	**73.5**	**12.4(8.0)**	12.4(8.0)	12.4(8.0)	**57.60**	57.60	57.60	**2**	WWH	***High***	***Low-Mod.***
[OH91 8] - GRAND RIVER (HOSKINS CREEK TO ROCK CREEK) Upper RM: 60.23 / Lower RM: 50.59													
62.00	62.00	62.00	**70.3**	**1.1(6.0)**	1.1(6.0)	1.1(6.0)	**289.00**	289.00	289.00	**1**	WWH	***Moderate - High***	***Low-Mod.***
[OH91 14] - GRAND RIVER (COFFEE CREEK TO HOSKINS CREEK) Upper RM: 75.89 / Lower RM: 60.23													
56.50	56.50	56.50	**70.3**	**1.4(6.0)**	1.4(6.0)	1.4(6.0)	**212.00**	212.00	212.00	**1**	WWH	***Moderate-High***	***Low-Mod.***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH91 15] - PHELPS CREEK Upper RM: 13.00 / Lower RM: 0.00													
78.00	78.00	78.00	**78.0**	**43.5(4.0)**	43.5(4.0)	43.5(4.0)	**23.50**	23.50	23.50	**1**	WWH	***Very High Quality***	***Low***
[OH91 20] - SWINE CREEK Upper RM: 14.10 / Lower RM: 0.00													
58.50	58.50	58.50	**58.5**	**18.5(8.0)**	18.5(8.0)	18.5(8.0)	**15.70**	15.70	15.70	**1**	WWH	***Moderate-High***	***Low***
[OH91 25] - GRAND RIVER (MUD CREEK TO COFFEE CREEK) Upper RM: 84.90 / Lower RM: 75.89													
53.33	52.50	54.00	**70.3**	**2.7(6.0)**	2.7(6.0)	2.7(6.0)	**85.00**	85.00	85.00	**3**	WWH	***Moderate-High***	***High***
[OH91 26] - BAUGHMAN CREEK Upper RM: 9.80 / Lower RM: 0.00													
62.25	50.50	74.00	**62.3**	**7.4(10)**	7.4(10)	7.4(10)	**20.00**	20.00	20.00	**2**	WWH	***High***	***Mod.***
[OH91 28] - GRAND RIVER (HEADWATERS TO MUD CREEK) Upper RM: 102.70 / Lower RM: 84.90													
71.00	71.00	71.00	**70.3**	**21.3(8.0)**	21.3(8.0)	21.3(8.0)	**15.20**	15.20	15.20	**1**	WWH	***High***	***Low-Mod.***
LOWER GRAND RIVER - [Watershed QHEI: 70.5, N = 51]													
[OH92 1] - GRAND RIVER (PAINE CREEK TO LAKE ERIE) Upper RM: 14.31 / Lower RM: 0.00													
72.05	50.50	92.00	**70.3**	**4.3(8.6)**	0.1(6.0)	7.8(10)	**680.15**	630.00	705.00	**20**	EWH; WWH	***High***	***High***
[OH92 5] - KELLOGG CREEK Upper RM: 6.00 / Lower RM: 0.00													
58.00	56.00	60.00	**58.0**	**22.2(8.0)**	22.2(8.0)	22.2(8.0)	**13.00**	13.00	13.00	**2**	WWH	***Moderate***	***Mod.***
[OH92 7] - BIG CREEK Upper RM: 17.20 / Lower RM: 0.00													
66.14	41.00	93.00	**66.1**	**36.9(6.7)**	20.8(4.0)	66.7(8.0)	**12.35**	1.00	35.00	**11**	WWH	***High***	***High***
[OH92 11] - JENKS CREEK Upper RM: 3.40 / Lower RM: 0.00													
70.00	70.00	70.00	**70.0**	**111.1(4.0**	111.1(4.0	111.1(4.0	**2.80**	2.80	2.80	**1**	WWH	***High***	***Low***
[OH92 13] - PAINE CREEK Upper RM: 17.50 / Lower RM: 0.00													
74.50	74.50	74.50	**74.5**	**21.1(8.0)**	21.1(8.0)	21.1(8.0)	**28.60**	28.60	28.60	**1**	WWH	***High***	***Low***
[OH92 16] - GRAND RIVER (MILL CREEK TO PAINE CREEK) Upper RM: 23.58 / Lower RM: 14.31													
83.50	76.50	87.50	**70.3**	**3.1(8.0)**	3.1(8.0)	3.1(8.0)	**581.00**	581.00	581.00	**4**	EWH	***Very High Quality***	***High***
[OH92 20] - GRAND RIVER (MILL CREEK TO MILL CREEK) Upper RM: 41.28 / Lower RM: 23.58													
66.25	57.00	81.50	**70.3**	**2.4(5.5)**	0.8(4.0)	7.1(10)	**541.50**	521.00	554.00	**4**	WWH; EWH	***High***	***High***
[OH92 23] - MILL CREEK (ASKUE RUN TO GRAND RIVER) Upper RM: 19.55 / Lower RM: 0.00													
79.88	65.50	94.50	**79.9**	**8.0(7.5)**	4.1(6.0)	16.1(8.0)	**77.75**	69.00	86.00	**4**	WWH	***Extremely High***	***Mod.-High***
[OH92 24] - CEMETERY CREEK Upper RM: 6.32 / Lower RM: 0.00													
61.88	42.00	90.00	**61.9**	**34.9(8.0)**	14.3(4.0)	83.3(10)	**4.78**	4.50	5.00	**4**	WWH; LWH	***High***	***Mod.-High***
ASHTABULA RIVER AND CONNEAUT CREEK - [Watershed QHEI: 63.1, N = 38]													
[OH93 3] - CONNEAUT CREEK (OH./PA. BORDER TO LAKE ERIE) Upper RM: 23.83 / Lower RM: 0.00													
69.58	35.00	94.00	**69.6**	**5.6(8.0)**	0.1(4.0)	10.5(10)	**1212.00**	152.00	6400.00	**6**	CWH	***High***	***High***

OHIO EPA Ecological Priority List: Ultimate Aq. Life Restorability Factors

Segment QHEI			River-Wide	Gradient			Drainage Area				Aquatic Life	Restorability	Confi-
Mean	Min	Max	Mean QHEI	Mean	Min	Max	Mean	Min	Max	N	Use(s)	Rating[1]	dence
[OH93 5] - ASHTABULA RIVER Upper RM: 27.54 / Lower RM: 0.00													
62.42	35.00	84.50	**62.4**	**7.0(6.8)**	0.1(4.0)	17.5(10)	**1159.00**	72.00	6400.00	**12**	WWH	***High***	***High***
[OH93 6.1] - WEST BROOK Upper RM: 0.75 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH93 7] - STRONG BROOK Upper RM: 1.34 / Lower RM: 0.00													
											LRW	***Essentially None***	***High***
[OH93 10] - WEST BRANCH ASHTABULA RIVER Upper RM: 16.50 / Lower RM: 0.00													
71.00	65.50	76.50	**71.0**	**18.6(9.0)**	17.5(8.0)	19.6(10)	**26.00**	25.00	27.00	**2**	WWH	***High***	***Low-Mod.***
[OH93 11] - EAST BRANCH ASHTABULA RIVER Upper RM: 10.70 / Lower RM: 0.00													
73.00	73.00	73.00	**73.0**	**12.5(10)**	12.5(10)	12.5(10)	**23.10**	23.10	23.10	**1**	CWH	***High***	***Low***
[OH93 16] - COWLES CREEK Upper RM: 10.50 / Lower RM: 0.00													
63.92	55.50	80.00	**63.9**	**15.4(8.2)**	0.1(2.0)	22.7(10)	**12.73**	6.00	17.00	**12**	WWH	***High***	***High***
[OH93 18] - ARCOLA CREEK Upper RM: 9.30 / Lower RM: 0.00													
49.70	34.00	67.50	**49.7**	**15.7(8.0)**	6.2(6.0)	29.4(10)	**13.04**	7.80	19.50	**5**	WWH	***Moderate***	***High***

Aquatic Life Long Term Restorability Categories:

Protection - Outstanding Candidate: Mean QHEI >= 75; Minimum QHEI >= 60; Maximum QHEIs > 90

Protection - Superior Candidate: Mean QHEI >= 75; Minimum QHEI >= 60; Maximum QHEIs < 90

Very High - Superior Candidate: Mean QHEI >= 75; Minimum QHEI < 60; Maximum QHEIs > 90

Very High Mean QHEI >= 75; Minimum QHEI < 60; Maximum QHEIs < 90

High Mean QHEI >= 60 and < 75; Mean Gradient Score > 4

Moderate - High Mean QHEI >= 60 and < 75; Mean Gradient Score <= 4

Moderate: Mean QHEI > 45 and < 60; Mean Gradient Score >= 7

Low - Moderate: Mean QHEI > 45 and < 60; Mean Gradient Score < 7

Low: Mean QHEI > 30 and <= 45; Mean Gradient Score >= 7

Very Low: Mean QHEI > 30 and <= 45; Mean Gradient Score < 7

Essentially None: LRW or MWH Use

Little or No Data: {

Unknown: No Aquatic Life Use

Unknown: Could Be High - WWH Designation

Unknown: Likely High - EWH or CWH Designation

Appendix Table H. Sites with elevated levels of sediment total metals compared to reference sites in Ohio. Data from 1995-1999.

Waterbody ID#	Slightly and Moderately Elevated	Highly and Extremely Elevated
[03001] - Grand River		
OH91 25	Al (2),Ar (1),Ba (2),Cr (1),Cu (1),Fe (1),Pb (1),Mn (1),Ni (1),	Ar (1),Ba (1),Cd (3),Cr (2),Cu (2),Fe (2),Pb (2),Mn (1),Ni (2),Zn (3),
OH92 1	Al (3),Ar (3),Ba (3),Cr (3),Cu (3),Fe (3),Pb (2),Mn (2),Ni (3),Zn (2),	Al (1),Ar (1),Ba (1),Cd (4),Cr (1),Cu (3),Fe (3),Pb (2),Ni (1),Zn (4),
[03022] - Baughman Creek		
OH91 26	Mn (1),	Ar (1),Ba (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),
[03105] - Cutts Creek		
OH92 12	Ar (1),Ba (1),Cr (1),Fe (1),Ni (1),	Cd (1),Cu (1),Pb (1),Zn (1),
[03120] - Mill Creek (Grand R. RM 41.28)		
OH92 23	Ar (2),Cd (2),Cu (1),Fe (1),Pb (1),Zn (2),	Pb (1),
[04001] - Maumee River		
OH65 1	Al (1),Ba (2),Cd (1),Cr (2),Cu (1),Fe (2),Ni (2),Zn (2),	Al (1),Cd (1),Cu (1),Pb (1),
OH73 18	Al (1),Cd (1),Cr (1),Cu (1),Fe (1),Zn (1),	Cd (1),Pb (1),
OH75 1	Al (2),Ar (1),Ba (1),Mn (1),Ni (1),	Ar (1),Ba (1),Cd (2),Cr (2),Cu (2),Fe (2),Pb (2),Ni (1),Zn (2),
OH75 27	Al (1),Ba (1),Fe (1),Mn (1),Ni (2),	Al (1),Ar (3),Ba (1),Cd (3),Cr (3),Cu (3),Fe (2),Pb (3),Ni (1),Zn (3),
OH74 3	Cu (1),	Ar (1),Ba (1),Fe (1),Mn (1),
[04002] - Duck Creek		
OH75 2	Al (2),Ba (2),Cd (1),Cr (2),Fe (2),Pb (1),Ni (1),	Al (1),Ar (1),Cd (2),Cr (1),Cu (3),Fe (1),Pb (2),Mn (1),Ni (1),Zn (3),
[04003] - Swan Creek		
OH75 9	Fe (1),Ni (1),	Ar (1),Cd (1),Cr (1),Cu (1),Pb (1),Zn (1),
[04006] - Blue Creek		
OH75 6	Ar (1),Fe (1),	Cd (1),Cr (1),Cu (1),Pb (1),Ni (1),Zn (1),
[04052] - Gordon Creek		
OH65 6	Ar (1),Ba (1),Fe (1),Ni (1),	Cd (1),Cr (1),Cu (1),Pb (1),Zn (1),
[04100] - Auglaize River		
OH70 13	Al (1),Fe (1),Mn (1),	Ar (2),Ba (1),Cd (2),Cr (2),Cu (2),Fe (1),Pb (2),Ni (2),Zn (2),
OH71 1	Al (1),Ba (1),Mn (1),	Ar (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),
OH71 19	Al (1),Ba (1),Cr (2),Cu (2),Fe (1),Pb (1),Ni (1),Zn (1),	Ar (1),Ba (2),Cd (3),Cr (1),Cu (1),Fe (1),Pb (2),Mn (1),Ni (1),Zn (2),
OH70 3	Fe (1),Ni (1),	Ar (1),Cd (1),Cr (1),Cu (1),Pb (1),Zn (1),
OH70 25	Fe (1),	Ar (1),Cd (1),Cr (1),Cu (1),Pb (1),Ni (1),Zn (1),
[04110] - Powell Creek		
OH71 2	Mn (1),	Ar (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),
[04120] - Blue Creek		

Appendix Table H. Sites with elevated levels of sediment total metals compared to reference sites in Ohio. Data from 1995-1999.

Waterbody ID#	Slightly and Moderately Elevated	Highly and Extremely Elevated
OH71 20	Al (1),Fe (1),	Cu (1),
[04131] - Prairie Creek		
OH69 9	Al (1),Ba (1),Mn (1),	Ar (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),
[04160] - Blanchard River		
OH66 13	Al (1),Ar (1),Ba (1),Cr (1),Cu (1),Pb (1),	Ar (1),Cd (2),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (2),
[04185] - Eagle Creek		
OH66 5	Al (1),Ba (1),Mn (1),	Ar (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),
[04200] - Ottawa River		
OH68 1	Al (1),Ar (3),Ba (2),Cd (1),Fe (6),Pb (1),Ni (3),	Ar (3),Cd (5),Cr (6),Cu (6),Pb (5),Ni (3),Zn (6),
[04203] - Sugar Creek		
OH68 4	Ba (1),Mn (1),	Ar (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),
[04240] - Huffman Creek		
OH70 24	Al (1),Ba (1),Mn (1),	Ar (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),
[04300] - Ottawa River		
OH75 16	Al (8),Ar (1),Ba (9),Cd (2),Cr (2),Pb (1),Mn (8),Ni (2),	Al (2),Ar (9),Ba (2),Cd (10),Cr (10),Cu (12),Fe (11),Pb (11),Ni (9),Zn (12),
[04320] - Tenmile Creek		
OH75 18	Ba (1),Mn (1),	Ar (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),
[04321] - North Branch Tenmile Creek		
OH75 19	Al (1),Ba (1),Mn (1),	Ar (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),
[04518] - Center Branch St. Marys River		
OH64 30	Cu (1),Pb (1),	Cd (1),
[04519] - Carter Creek		
OH64 31	Al (1),Ar (1),Ba (1),Cd (1),Pb (1),Mn (1),Zn (1),	Ar (1),Cd (1),Cr (1),Cu (2),Fe (1),Pb (1),Ni (1),Zn (1),
[04600] - Tiffin River		
OH72 1	Al (1),Ar (1),Ba (1),Cr (1),Pb (1),Mn (1),Ni (1),Zn (1),	Al (1),Ar (1),Ba (1),Cd (2),Cr (1),Cu (2),Fe (2),Pb (1),Ni (1),Zn (1),
OH72 16	Al (6),Ba (1),Cd (1),Cr (3),Cu (3),Fe (4),Mn (1),Zn (4),	Ar (2),Ba (1),Cd (2),Cr (2),Cu (3),Fe (2),Pb (3),Ni (2),Zn (2),
[04609] - Lick Creek		
OH72 13	Al (1),Cr (1),Cu (1),Fe (1),Zn (1),	Cu (1),
[04614] - Brush Creek		
OH72 18	Al (1),Cr (1),Cu (1),Fe (1),Zn (1),	Pb (1),
[04617] - Beaver Creek		
OH72 21	Al (1),Mn (1),	Ar (1),Ba (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb

Appendix Table H. Sites with elevated levels of sediment total metals compared to reference sites in Ohio. Data from 1995-1999.

Waterbody ID#	Slightly and Moderately Elevated	Highly and Extremely Elevated
		(1),Ni (1),Zn (1),
[05001] - Sandusky River		
OH81 1	Al (2),Ar (1),Ba (1),Cu (2),Fe (1),Pb (1),Mn (1),Zn (1),	Ar (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),
OH82 1	Al (1),Ar (1),Ba (2),Cr (1),Pb (1),Mn (3),Ni (2),	Al (2),Ar (2),Ba (2),Cd (2),Cr (3),Cu (4),Fe (4),Pb (3),Mn (1),Ni (2),Zn (4),
[05219] - Muddy Creek		
OH82 23	Al (1),Ba (1),Fe (1),Ni (1),	Cr (1),Cu (1),Pb (1),Zn (1),
[07001] - Ashtabula River		
OH93 5	Al (4),Ba (2),Cr (2),Cu (1),Fe (2),Pb (1),Mn (2),Ni (2),	Al (1),Ar (3),Ba (2),Cd (4),Cr (2),Cu (5),Fe (4),Pb (3),Mn (1),Ni (2),Zn (6),
[07004] - West Branch Ashtabula River		
OH93 10	Ar (2),Ba (4),Cd (1),Cr (1),Pb (1),Mn (4),Ni (1),	Al (2),Ar (1),Cd (3),Cr (3),Cu (4),Fe (4),Pb (3),Ni (3),Zn (4),
[07007] - Cowles Creek		
OH93 16	Ar (1),Ba (1),Mn (1),	Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),
[07019] - Trib. to Lake Erie (N. Kingsville)		
OH93 4.3	Al (3),Ba (1),Mn (2),	Al (1),Ar (5),Ba (4),Cd (5),Cr (5),Cu (5),Fe (5),Pb (5),Mn (3),Ni (5),Zn (5),
[07020] - Trib. to Lake Erie (Berkshire Rd.)		
OH93 4.2	Fe (1),Ni (1),	Ar (1),Cd (1),Cr (1),Cu (1),Pb (1),Zn (1),
[07100] - Conneaut Creek		
OH93 3	Al (1),Cu (1),Fe (3),Zn (1),	Cu (1),Zn (1),
[12001] - Huron River		
OH84 1	Al (5),Ar (2),Ba (3),Cd (1),Cr (1),Cu (1),Fe (2),Mn (2),Ni (2),Zn (1),	Ar (2),Cd (3),Cr (3),Cu (4),Fe (3),Pb (3),Ni (2),Zn (4),
[12200] - West Branch Huron River		
OH84 8	Al (1),Ar (1),Ba (1),Cr (1),Pb (1),Mn (1),Ni (1),	Cd (1),Cu (1),Fe (1),Zn (1),
[12206] - Slate Run		
OH84 14	Al (1),Ar (1),Ba (1),Mn (2),	Al (1),Ar (1),Ba (1),Cd (2),Cr (2),Cu (2),Fe (2),Pb (2),Ni (2),Zn (2),
[13001] - Rocky River		
OH87 2	Al (1),Cu (1),Fe (1),Mn (1),Zn (1),	Cu (1),Fe (1),Zn (1),
[13100] - East Branch Rocky River		
OH87 8	Ar (1),Cr (1),Fe (1),Pb (1),Ni (1),	Cd (1),Cu (1),Zn (1),
[13200] - West Branch Rocky River		
OH87 15	Ar (1),Ni (1),Zn (1),	Cr (1),Cu (1),Pb (1),
[15001] - Chagrin River		
OH90 5	Al (2),Ba (1),Cu (3),Fe (3),Mn (1),Ni (1),Zn (1),	Ar (1),Cd (3),Cr (1),Cu (1),Fe (1),Pb (3),Ni (1),Zn (3),
OH90 12	Ar (1),Ba (1),Mn (1),	Cd (2),Cr (1),Cu (1),Fe (1),Pb (2),Ni (1),Zn (2),
[16001] - Portage River		

Appendix Table H. Sites with elevated levels of sediment total metals compared to reference sites in Ohio. Data from 1995-1999.

Waterbody ID#	Slightly and Moderately Elevated	Highly and Extremely Elevated
OH78 3	Al (1),Ar (1),Ba (1),Cd (2),Cr (1),Cu (1),Fe (1),Pb (2),Ni (1),Zn (2),	Cu (1),Fe (1),
OH78 9	Ar (1),Ba (1),Fe (1),Ni (1),Zn (1),	Cd (2),Cr (1),Cu (1),Pb (2),Zn (1),
[16100] - South Branch Portage River		
OH77 9	Al (2),Ar (1),Ba (2),Mn (2),	Ar (1),Cd (2),Cr (2),Cu (2),Fe (2),Pb (2),Ni (2),Zn (2),
[16103] - Rocky Ford		
OH77 4	Zn (1),	Cd (1),
[16205] - Crane Creek		
OH76 11	Al (2),Ba (2),Mn (3),	Ar (4),Cd (4),Cr (4),Cu (4),Fe (4),Pb (4),Ni (4),Zn (4),
[17500] - Tuscarawas River		
OH15 31	Al (1),Ba (1),Mn (1),	Ar (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),
OH15 32	Al (1),Ba (1),Mn (2),	Ar (2),Cd (2),Cr (2),Cu (2),Fe (2),Pb (2),Ni (2),Zn (2),
OH10 1	Ar (1),Fe (4),Ni (1),	Ar (3),Cd (4),Cr (4),Cu (4),Pb (4),Ni (3),Zn (4),
[19] - Cuyahoga River Basin		
OH89 11.1	Al (1),Ba (1),Mn (1),	Ar (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),
[19001] - Cuyahoga River		
OH88 5	Ba (1),Mn (1),	Al (1),Ar (2),Ba (1),Cd (2),Cr (2),Cu (2),Fe (2),Pb (2),Mn (1),Ni (2),Zn (2),
OH88 11	Al (2),Ba (2),Cr (1),Cu (1),Fe (1),Pb (1),Mn (2),Ni (1),	Ar (2),Ba (1),Cd (3),Cr (2),Cu (2),Fe (2),Pb (2),Ni (2),Zn (3),
OH89 1	Cd (1),Cr (1),Fe (1),Pb (1),Mn (1),	Al (1),Cd (1),Cu (1),Fe (1),Zn (1),
OH89 14	Al (1),Ba (1),Mn (2),	Ar (2),Ba (1),Cd (2),Cr (2),Cu (2),Fe (2),Pb (2),Ni (2),Zn (2),
OH89 27	Al (2),Ba (1),Mn (2),	Ar (2),Ba (1),Cd (2),Cr (2),Cu (2),Fe (2),Pb (2),Ni (2),Zn (2),
[19006] - Mill Creek		
OH89 7	Al (1),Cd (1),Cr (2),Cu (2),Fe (2),Ni (1),Zn (1),	Cd (1),Cu (1),Pb (1),Zn (1),
[19007] - Tinkers Creek		
OH89 9	Al (2),Fe (2),	Ba (1),Cd (1),Cr (1),Cu (1),Pb (1),Ni (1),Zn (1),
[19008] - Pond Brook		
OH89 10	Fe (1),	Al (1),Cu (1),Zn (1),
[19009] - Chippewa Creek		
OH89 12	Ba (1),Cr (1),Pb (2),Mn (1),Ni (1),	Al (1),Ar (1),Ba (1),Cu (2),Fe (2),Zn (1),
[19020] - Furnace Run		
OH89 24	Cr (1),Pb (1),Mn (1),Ni (1),	Al (1),Cd (1),Cu (1),Fe (1),Zn (1),
[19022] - North Fork Yellow Creek		
OH89 26	Al (1),Pb (1),Mn (1),	Cu (1),Fe (1),Zn (1),

Appendix Table H. Sites with elevated levels of sediment total metals compared to reference sites in Ohio. Data from 1995-1999.

Waterbody ID#	Slightly and Moderately Elevated	Highly and Extremely Elevated
[19028] - Breakneck Creek		
OH88 8	Al (3),Ba (1),Cr (2),Fe (1),Pb (1),Mn (1),Ni (1),	Ar (2),Ba (3),Cd (3),Cr (2),Cu (3),Fe (2),Pb (2),Mn (1),Ni (2),Zn (3),
[19029] - Potter Creek		
OH88 10	Al (2),Ar (1),Ba (1),Mn (2),	Ar (1),Ba (1),Cd (2),Cr (2),Cu (2),Fe (2),Pb (2),Ni (2),Zn (2),
[19030] - Little Cuyahoga River		
OH88 1	Al (1),Ba (1),Cr (1),Cu (1),Fe (3),Mn (1),Ni (1),	Ar (1),Cd (2),Cr (1),Cu (2),Pb (2),Ni (1),Zn (2),
OH88 4	Al (1),Ba (1),Cr (1),Pb (1),Ni (1),	Cd (1),Cu (1),Fe (1),Mn (1),Zn (1),
[19031] - Springfield Lake Outlet		
OH88 2	Al (1),Ar (1),Ba (1),Cr (1),	Cd (1),Cu (1),Fe (1),Pb (1),Zn (1),
[19032] - Wingfoot Lake Outlet		
OH88 3	Al (2),Ba (2),Cd (1),Cr (2),Pb (2),Mn (1),Ni (1),	Cd (1),Cu (2),Fe (2),Mn (1),Zn (2),
[19045] - Ford Branch Big Creek		
OH89 5.1	Ba (1),Fe (1),Ni (1),	Cd (1),Cr (1),Cu (1),Pb (1),Zn (1),
[20001] - Black River		
OH86 2	Al (2),Ba (2),Cr (2),Pb (1),Mn (4),Ni (1),	Al (1),Ar (2),Cd (4),Cr (2),Cu (4),Fe (4),Pb (2),Ni (2),Zn (4),
[20002] - French Creek		
OH86 3	Al (1),Ba (1),Fe (1),Pb (1),Zn (1),	Cd (1),Cr (1),Cu (2),Fe (1),Mn (1),Ni (1),Zn (1),
[20010] - East Branch Black River		
OH86 4	Al (2),Ar (1),Ba (2),Cr (1),Fe (1),Mn (1),Zn (1),	Cd (1),Cr (1),Cu (2),Fe (1),Pb (1),Ni (1),Zn (1),
OH86 7	Al (1),Ar (1),Ba (1),Pb (1),	Cd (1),Cr (1),Cu (1),Fe (1),Ni (1),Zn (1),
[20020] - West Branch Black River		
OH86 17	Ar (1),Ba (1),Ni (1),	Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Zn (1),
[21001] - Vermilion River		
OH85 7	Al (3),Ar (2),Ba (3),Cd (2),Cr (2),Cu (2),Fe (1),Pb (1),Mn (2),Ni (2),Zn (1),	Ar (2),Cd (3),Cr (2),Cu (3),Fe (4),Pb (2),Ni (2),Zn (4),
[23001] - Mill Creek		
OH62 27	Ar (1),Ba (1),Mn (1),	Al (1),Cd (1),Cr (1),Cu (1),Fe (1),Pb (1),Ni (1),Zn (1),

Appendix I. Stream and river locations in Ohio with high rates (> 5%) of deformites, lesions, eroded fins, or tumors. Data collected from 1994-1998.

RM	Year	DELT	Percent Tolerants	IBI
UPPER MAHONING RIVER - [1]				
[18001] - Mahoning River				
0.2	1994	13.99	59.9	26
1.1	1994	14.66	58.8	23
3.1	1994	10.51	60.9	21
7.1	1994	24.03	43.9	22
47.5	1994	9.66	48.0	25
54.8	1994	6.01	31.2	22
[18040] - Eagle Creek				
0.8	1994	5.89	45.5	23
[18100] - Beaver River (Pa.)				
15.8	1994	15.91	36.5	26
18.0	1994	9.75	24.6	27
20.1	1994	10.08	37.3	30
[18001] - Mahoning River				
57.8	1994	5.12	37.4	26
70.3	1994	7.37	18.4	27
85.5	1994	5.52	23.2	28
89.4	1994	9.07	66.5	23
LOWER MAHONING RIVER - [2]				
[18001] - Mahoning River				
12.0	1994	14.99	45.9	21
13.6	1994	11.22	66.4	18
15.6	1994	15.34	58.6	18
16.3	1994	11.11	71.1	16
19.2	1994	26.93	78.0	17
19.4	1994	19.30	47.3	22
19.4	1994	23.40	51.0	16
20.4	1994	24.44	68.1	20
21.1	1994	21.81	59.2	22
21.1	1994	23.68	63.1	16
[18020] - Mill Creek				
1.9	1994	13.43	47.8	25
7.7	1994	5.36	93.1	16
11.0	1994	7.25	58.2	17
[18001] - Mahoning River				
23.0	1994	11.47	52.2	20
23.0	1994	37.90	73.4	14
25.1	1994	14.13	43.2	23
26.2	1994	6.40	35.7	24
28.5	1994	5.22	32.0	23
28.5	1994	13.79	37.9	18
29.0	1994	6.22	31.2	24
30.0	1994	5.07	24.7	26
30.0	1994	23.83	34.2	22
[18015] - Meander Creek				
0.1	1994	11.60	13.7	21
1.7	1994	5.52	61.0	20
[18030] - Mosquito Creek				
1.0	1994	7.92	25.7	21
[18001] - Mahoning River				
30.6	1994	10.70	33.8	27
35.0	1994	10.76	42.4	22
35.2	1994	6.46	12.1	37
35.4	1994	11.47	31.4	25
39.0	1994	8.53	48.9	27
40.6	1994	7.62	37.5	25
43.3	1994	7.21	32.0	28
45.5	1994	5.61	32.6	33
37.3	1997	13.04	36.9	20
37.6	1997	11.11	36.1	24
38.8	1997	5.31	25.9	40
PYMATUNING CREEK - [3]				
[18504] - Little Yankee Creek				
0.4	1994	10.09	28.4	24
[18550] - Pymatuning Creek				
2.2	1994	5.26	21.2	33
15.7	1994	16.97	73.1	23
LITTLE BEAVER CREEK - [4]				
[08200] - Middle Fork Little B				
11.1	1998	5.14	30.3	40
UPPER TUSCARAWAS RIVER - [10]				
[17500] - Tuscarawas River				
73.4	1995	24.55	58.7	20
78.2	1995	14.69	53.6	24
78.2	1995	9.84	37.7	26
79.8	1995	14.28	53.2	24
79.8	1995	12.04	70.1	22
81.4	1995	17.92	58.4	28
NIMISHILLEN CREEK - [11]				
[17450] - Sandy Creek				
24.1	1996	57.07	57.1	12
27.8	1996	7.69	76.9	14
28.2	1997	6.39	57.2	28
LOWER TUSCARAWAS RIVER - [15]				
[17500] - Tuscarawas River				
64.1	1995	31.85	53.0	22

Appendix I. Stream and river locations in Ohio with high rates (> 5%) of deformites, lesions, eroded fins, or tumors. Data collected from 1994-1998.

RM	Year	DELT	Percent Tolerants	IBI
64.1	1995	17.69	84.6	14
68.7	1995	10.87	31.2	38
70.8	1995	22.53	46.8	28
UPPER MUSKINGUM RIVER AND WAKATOMIKA CREEK - [20]				
[17001] - Muskingum River				
92.2	1994	6.29	13.0	35
104.8	1994	5.44	2.9	36
WILLS CREEK - [21]				
[17800] - Wills Creek				
75.7	1994	7.42	13.9	29
UPPER SCIOTO RIVER (AND LITTLE SCIOTO RIVER) - [34]				
[02158] - Little Scioto River				
2.7	1998	36.63	91.5	15
2.7	1998	36.63	91.5	15
UPPER OLENTANGY RIVER - [36]				
[02400] - Olentangy River				
27.9	1996	8.59	19.8	37
LOWER OLENTANGY RIVER - [37]				
[02001] - Scioto River				
118.1	1994	6.15	8.0	47
118.1	1995	12.69	11.8	44
124.0	1995	16.51	14.2	36
118.3	1996	9.15	8.0	35
126.4	1995	7.14	17.0	40
129.1	1994	6.88	3.7	45
129.1	1995	7.25	7.6	46
[02400] - Olentangy River				
5.5	1996	8.09	16.9	35
19.8	1996	7.29	16.3	39
WALNUT CREEK - [40]				
[02001] - Scioto River				
102.0	1995	5.59	7.4	44
107.4	1995	7.88	9.5	48
109.2	1995	8.52	10.3	40
113.8	1994	5.03	5.0	45
113.8	1995	6.76	7.2	46
116.3	1994	5.42	3.6	46
116.3	1995	5.57	15.3	44
117.0	1995	7.40	12.5	42
117.1	1995	10.59	16.8	36
MIDDLE SCIOTO RIVER (INCLUDING DEER CREEK) - [41]				
[02300] - Deer Creek				
11.6	1997	7.76	12.1	45
21.4	1997	10.25	15.9	41
[02001] - Scioto River				
99.7	1995	5.08	5.9	38
100.1	1994	5.68	2.8	40
99.2	1997	5.10	21.2	22
LOWER PAINT CREEK (N. FK. AND ROCKY FK.) - [43]				
[02510] - North Fork Paint Cre				
3.8	1997	7.80	10.3	50
UPPER LITTLE MIAMI RIVER - [50]				
[11001] - Little Miami River				
51.2	1998	5.60	5.6	46
53.6	1998	6.67	11.0	39
59.8	1998	5.03	17.6	44
LOWER LITTLE MIAMI RIVER - [54]				
[11001] - Little Miami River				
3.5	1998	8.76	10.4	38
3.7	1998	7.08	23.8	22
23.9	1998	6.67	2.6	41
32.1	1998	5.15	1.6	44
33.6	1998	5.60	4.9	45
38.5	1998	12.95	2.6	43
45.7	1998	5.67	5.1	42
UPPER GREAT MIAMI RIVER - [55]				
[14072] - Stony Creek				
3.2	1994	5.47	36.8	42
[14001] - Great Miami River				
153.1	1994	5.50	29.2	41
157.3	1994	7.14	64.6	32
MAD RIVER - [58]				
[14170] - Trib. to Kings Creek				
0.4	1994	6.31	54.9	34
[14137] - Glady Creek				
0.5	1994	13.37	71.0	24
MIDDLE GREAT MIAMI RIVER - [60]				
[14001] - Great Miami River				
31.4	1995	9.50	17.9	20
31.6	1995	7.69	7.6	30
33.6	1995	9.31	5.7	38
33.9	1995	5.48	9.5	34
34.2	1995	8.41	10.6	43
45.5	1995	10.14	18.3	32

Appendix I. Stream and river locations in Ohio with high rates (> 5%) of deformites, lesions, eroded fins, or tumors. Data collected from 1994-1998.

RM	Year	DELT	Percent Tolerants	IBI
47.5	1995	19.92	12.3	44
[14018] - Dicks Creek				
0.4	1995	13.36	42.1	21
2.4	1995	5.48	78.9	20
3.0	1995	5.38	34.5	25
[14001] - Great Miami River				
52.4	1995	8.78	40.1	29
55.1	1995	11.65	13.0	44
59.4	1995	11.72	16.3	39
59.6	1995	7.46	10.7	39
60.2	1995	9.75	14.3	41
62.1	1995	6.87	16.2	40
63.3	1995	6.98	12.6	50
64.0	1995	9.48	17.1	41
64.3	1995	7.96	8.0	40
64.8	1995	9.63	37.4	32
65.0	1995	6.31	32.6	34
65.9	1995	10.46	37.0	30
69.0	1995	11.52	16.8	44
69.2	1995	7.32	42.3	21
69.3	1995	8.92	20.0	34
69.9	1995	7.75	7.3	43
71.4	1995	21.58	26.1	32
71.9	1995	6.18	8.0	47
74.8	1995	11.54	33.8	32
[14089] - Owl Creek				
0.1	1995	8.51	53.1	40
[14037] - Wolf Creek				
0.2	1995	10.22	22.6	40
FOURMILE CREEK - [61]				
[14400] - Fourmile Creek				
0.2	1996	12.62	9.9	40
LOWER GREAT MIAMI RIVER AND WHITEWATER RIVER - [62]				
[14001] - Great Miami River				
5.6	1995	5.84	5.4	30
11.6	1995	5.03	3.9	30
14.8	1995	10.34	7.8	36
[14300] - Whitewater River				
7.7	1997	5.07	4.1	48
[14001] - Great Miami River				
16.9	1995	6.03	5.5	34
21.1	1995	6.73	5.7	26
23.4	1995	5.66	4.7	34
24.7	1995	8.70	8.7	32
ST. JOSEPH RIVER (INCLUDING GORDON CREEK) - [65]				
[04001] - Maumee River				
89.9	1997	5.22	22.2	23
[04061] - North Creek				
2.8	1997	5.26	81.5	22
[04400] - St. Joseph River				
42.2	1996	5.71	60.0	24
[04421] - Pioneer Lake				
0.1	1995	10.73	27.8	22
OTTAWA RIVER - [68]				
[04200] - Ottawa River				
1.2	1996	14.29	21.5	36
3.8	1996	33.45	27.0	37
5.6	1996	12.92	28.0	32
21.0	1996	10.98	68.7	21
25.5	1996	13.30	66.9	27
28.8	1996	16.66	42.5	27
28.9	1996	21.70	86.1	18
32.4	1996	28.02	80.3	18
32.8	1996	28.37	83.4	21
34.7	1996	31.72	87.0	18
35.5	1996	29.20	72.4	20
36.0	1996	29.49	85.7	17
36.7	1996	38.86	73.9	26
36.8	1996	12.34	87.1	22
37.0	1996	11.47	68.9	24
37.1	1996	17.47	81.1	28
37.4	1996	13.85	69.2	22
37.6	1996	8.85	52.3	29
37.7	1996	14.49	58.2	29
37.9	1996	7.41	46.9	37
38.5	1996	8.72	62.7	26
39.9	1996	12.64	79.2	25
40.2	1996	5.13	69.2	22
40.8	1996	5.81	47.8	27
43.6	1996	5.33	44.1	32
UPPER MAUMEE RIVER - [71]				
[04100] - Auglaize River				
3.2	1996	6.17	21.0	23
UPPER MIDDLE MAUMEE RIVER - [73]				
[04001] - Maumee River				
49.6	1996	5.57	11.0	31
54.7	1996	8.33	11.6	34

Appendix I. Stream and river locations in Ohio with high rates (> 5%) of deformites, lesions, eroded fins, or tumors. Data collected from 1994-1998.

RM	Year	DELT	Percent Tolerants	IBI
58.1	1996	8.88	20.8	24
LOWER MAUMEE RIVER (AND OTTAWA RIVER) - [75]				
[24100] - Lake Erie - Lucas Co				
1302.5	1995	5.43	32.1	24
1302.5	1995	5.43	32.1	0
[04300] - Ottawa River				
5.3	1996	24.63	37.6	19
5.5	1996	14.24	39.9	20
5.3	1996	24.63	37.6	0
5.5	1996	14.24	39.9	0
LAKE ERIE TRIBS MAUMEE R. TO PORTAGE R. - [76]				
[16213] - Toussaint River				
2.5	1995	5.17	35.4	20
4.4	1995	5.63	33.3	30
2.5	1995	5.17	35.4	0
4.4	1995	5.63	33.3	0
[16210] - Turtle Creek				
0.1	1995	5.45	30.0	30
1.0	1995	15.39	33.2	27
3.2	1995	24.87	49.2	14
0.1	1995	5.45	30.0	0
1.0	1995	15.39	33.2	0
3.2	1995	24.87	49.2	0
[24201] - South Bass Island				
2.8	1994	16.75	3.2	0
6.2	1994	47.17	2.9	0
[24202] - Middle Bass Island				
5.8	1994	8.36	0.3	0
[24203] - Gibralter Island				
0.2	1994	5.21	13.9	0
[24100] - Lake Erie - Lucas Co				
1289.5	1996	55.56	65.5	16
1299.5	1995	5.46	17.5	25
1289.5	1996	55.56	65.5	0
1299.5	1995	5.46	17.5	0
LOWER PORTAGE RIVER - [78]				
[16001] - Portage River				
5.9	1994	12.08	41.4	0
12.3	1994	15.44	21.3	0
13.3	1994	8.64	16.9	0
LAKE ERIE TRIBS SANDUSKY R. TO VERMILION R. - [83]				
[24401] - Kellys Island				
4.7	1994	23.31	1.8	0
HURON RIVER - [85]				
[24500] - Lake Erie - Lorain C				
1214.6	1994	5.05	16.2	0
BLACK RIVER - [86]				
[20001] - Black River				
5.6	1997	6.52	39.1	0
4.8	1997	6.41	42.1	0
4.8	1997	7.50	31.7	0
5.5	1997	6.52	39.1	0
5.8	1997	6.36	36.3	0
ROCKY RIVER - [87]				
[13001] - Rocky River				
1.0	1995	10.93	45.0	23
0.1	1997	8.78	9.9	36
1.0	1997	5.23	14.7	36
0.1	1997	8.78	9.9	0
0.2	1997	5.71	17.9	0
1.0	1995	10.94	45.0	0
1.0	1997	5.06	18.6	0
UPPER CUYAHOGA RIVER - [88]				
[19030] - L. Cuyahoga River				
5.1	1996	5.00	90.3	20
[19001] - Cuyahoga River				
51.0	1996	7.40	17.6	30
54.2	1996	7.26	42.7	28
LOWER CUYAHOGA RIVER - [89]				
[19001] - Cuyahoga River				
5.6	1996	9.91	28.2	23
7.0	1996	6.21	16.7	18
7.2	1996	5.21	19.8	18
4.8	1994	11.30	22.4	0
5.6	1996	9.91	28.2	0
7.0	1994	12.00	47.1	0
7.0	1996	6.21	16.7	0
8.3	1996	6.95	48.4	17
9.6	1996	22.65	63.7	17
10.4	1996	10.00	4.0	31
11.5	1996	5.31	40.5	18
15.9	1996	7.69	36.9	24
15.9	1996	12.50	42.5	20
16.5	1996	15.23	45.9	15
37.2	1996	7.06	51.8	22
37.4	1996	5.26	71.3	19

Appendix I. Stream and river locations in Ohio with high rates (> 5%) of deformites, lesions, eroded fins, or tumors. Data collected from 1994-1998.

RM	Year	DELT	Percent Tolerants	IBI
[24600] - Lake Erie - Cuyahoga				
1188.2	1994	6.93	14.7	0
1188.6	1994	15.96	29.7	0
1190.2	1994	8.25	5.6	0
LAKE ERIE TRIBS (CHAGRIN RIVER) - [90]				
[24700] - Lake Erie - Lake Cou				
1168.4	1994	12.17	1.3	0
[15001] - Chagrin River				
1.3	1994	10.18	18.9	0
[24600] - Lake Erie - Cuyahoga				
1185.0	1994	8.65	19.8	0
1187.2	1994	24.42	10.7	0
LOWER GRAND RIVER - [92]				
[03001] - Grand River				
4.6	1994	7.79	18.1	36
4.6	1994	7.47	14.0	0
ASHTABULA RIVER AND CONNEAUT CREEK - [93]				
[24800] - Lake Erie - Ashtabul				
1114.5	1995	7.47	6.0	28
1115.8	1995	8.60	2.0	27
1114.5	1995	7.47	6.0	0
1115.8	1995	8.60	2.0	0
[07100] - Conneaut Creek				
0.5	1995	15.84	0.0	13
0.5	1995	15.84	0.0	0
[24800] - Lake Erie - Ashtabul				
1129.2	1995	5.51	2.2	31
1129.2	1995	5.52	2.2	0
[07001] - Ashtabula River				
1.3	1995	7.90	29.0	26
1.3	1995	7.90	29.0	0
[24800] - Lake Erie - Ashtabul				
1131.0	1995	6.89	2.4	30
1131.0	1995	6.90	2.4	0
[24700] - Lake Erie - Lake Cou				
1158.2	1994	17.31	0.0	0

Appendix K. Individual Lake Summaries

With the decline in a focused lake sampling program, the few lakes that are sampled are typically done with in the five-year basin cycle with other watershed sampling. Included here are summaries of the assessments taken from Technical Support Documents done on these watersheds.

Monitoring and assessing the condition of natural lakes and reservoirs is one component of the Ohio EPA five year surface water quality monitoring strategy. Reservoirs act as watershed sinks for the upstream releases of nutrients, soil, pesticides, and toxic pollutants. The assessment of impounded stream reservoirs is one way to monitor the combined effects that both point sources and non-point source pollutant loadings have on surface water quality. Natural glacial lakes, many over 10,000 years old, are unique water resources and are commonly associated with rare and endangered plant and animal species. In Ohio, lakes and reservoirs are the primary recreational and public drinking water resource for millions of citizens.

Long Lake (Portage Lakes), Summit County

Summary of 1998 Ohio EPA Survey, Division of Surface Water, Northeast District Office

Long Lake is the final water body in a highly regulated series of lakes located within the Portage Lakes State Park. The lake has a glacial origin but had been modified to serve the Ohio canal system in the early 1900's. The lake hydrology is unique in that the outflow is at the terminus of the United States continental divide and water leaving the lake is regulated daily to discharge into both the Lake Erie basin (Little Cuyahoga River) and the Ohio River basin (Tuscarawas River) via the Ohio canal. The lake use is mostly small boat fishing and the game fishery is managed by the Ohio Department of natural Resources. The lake was previously sampled by Ohio EPA in 1976 and 1993. A nutrient survey was conducted by Kent State University in 1993 and a follow-up assessment of the lake ecosystem was conducted in 1998 by the Ohio EPA. Trophic state data from the most recent 1998 survey showed a highly significant increase in total phosphorus concentration as compared to previous studies [1990-1993 median range = 60-80 ug/l, 1998 median = 120 ug/l]. However, there was no significant change in total chlorophyll-a concentrations [1990-1993 median range = 30-60 ug/l, 1998 median = 35 ug/l], or Secchi disk transparency [1990-1993 range = 0.6-0.8 m, 1998 median = 0.7 m]. Measured ratios of total nitrogen to total phosphorus were below 10:1 in all but one sample. One explanation for the lack of association between phosphorus and chlorophyll is that the lake phytoplankton in 1998 was limited more by available nitrogen than by phosphorus. This idea is suggested by the N:P ratios less than 10:1, some as low as 1:1. In general, N:P ratios less than 16:1 suggest the possibility of increasing nitrogen limitation of algae production. Another possibility is that the form of phosphorus in the lake water in 1998 was not biologically available to the algae. Many forms of phosphorus bind to organic molecules, clay, and silt particles and are not available for uptake by aquatic plants and algae. Thus it is possible to have a relatively high concentration of total phosphorus with low chlorophyll pigments if the phosphorus is not in a dissolved form that is available to enter the algae cells. The possible causes of increased total phosphorus measured during the 1998 survey include: (1) resuspension of organic matter and/or silt particles during the in-lake disposal of dredged soils from the Ohio DNR dredging of one of the four inlet channels (Stone Creek) in 1998; (2) increased loadings of phosphorus from the watershed such as the Summit County Upper Tuscarawas WWTP, which stopped treating to remove phosphorus from their discharge in 1995. This WWTP discharge has increased average flow from less than 1.0 mgd in 1995 to greater than 2.0 mgd in 1998, and (3) changes in the regulation of outflow from Long Lake into the Tuscarawas River and Ohio Canal from Long Lake over the past five year in order to maintain a daily minimum flows in the Ohio Canal. Continued monitoring of total phosphorus after the Stone Creek dredging project is completed will help determine the contribution this dredging project may have had on phosphorus levels during the 1998 survey. Other threatened conditions observed in Long Lake in 1998 include low dissolved oxygen and elevated levels of ammonia-N and manganese in bottom waters in the summer, a common observation in nutrient enriched lakes in Ohio. Elevated levels of lead, arsenic, and zinc in the sediment in 1993 survey were not detected in 1998, which suggests that these metals are not evenly distributed along the lake bottom. A fecal coliform bacteria sample collected near the outlet of Stone Creek was at 12/100 ml, and a second sample near the boat ramp was 64/100 ml, both values being less than the 200/100 ml bathing water standard. A survey of the algae species in 1998 showed high numbers of blue green algae in the summer months, another indication of the nutrient enriched condition of the lake. Long Lake is one of the few inland lakes in Ohio where Ohio EPA has conducted a detailed electro-fishing survey of the entire fish community. The survey was conducted in 1986 on three

different days. During this survey the Ohio EPA documented the presence of two rare species of fish, the Iowa Darter, listed as state ìSpecial Interestî and the Pugnose Minnow, listed as state “Endangered” The potential for rare aquatic plants also exists given the glacial origin of the lake ecosystem, however, no survey of aquatic plants has been conducted. In 1986 the overall fish community was dominated by Bluegill sunfish (40 to 60 % of all fish collected), Warmouth sunfish (9 to 20 %), and Bluntnose Minnow (1 to 18 %). Other game fish collected included White and Black Crappie, Largemouth Bass, Yellow Perch, and Pumpkinseed Sunfish. It is recommended that a follow-up survey using the Ohio EPA IBI sample methods be conducted to determine if the fish community has changed over time since the 1986 survey. In 1988 the Ohio EPA developed a multi-metric lake condition evaluation method known as the Ohio Lake Condition Index, the most recent revision being found in the Ohio EPA 1996 305(b) Water Resources Inventory Report. Using data collected in 1998 Long Lake scored a Lake Condition Index (LCI) value of 39.1, which indicates the lake should be given high priority for future funding to develop a comprehensive lake and watershed management plan. In general, lakes in Ohio with LCI values over 31 show increased signs of impairment for recreational, aquatic life, or public drinking water supply uses. Analysis of fish tissue samples collected in 1993 and 1994 by the Ohio Department of Natural Resources did not show chemicals of concern in Largemouth Bass above Ohio Department of Health fish consumption restrictive consumption ìaction levels. In June 1997, the OhioDepartment of Health issued a statewide fish tissue consumption advisory for children age 6 and under and for women of childbearing age. The advisory is due to low level statewide mercury contamination, with the likely source being atmospheric deposition. The advisory is to ìeat no more than one meal of fish (any species) per week from any Ohio body of waterî. No other more restrictive advisories are listed specifically for Long Lake based on the 1993 and 1994 data collected. A variety of possible lake and watershed management options are recommended for Long Lake: 1.) long term monitoring of game fish species to allow for optimal management of populations; 2.) a survey of the aquatic plants to determine the extent of lake coverage and the potential presence of rare species that are known to exist in other glacial lakes in Northeast Ohio; 3.) controls on loadings of nutrients to the lake from both point and non-point sources--especially phosphorus and nitrogen compounds; long term monitoring of nutrient and chlorophyll-a concentrations; and a detailed analysis of the loadings of nutrients from the four major inflow streams in relation to the regulated inflow from North Reservoir.

Findley Lake

Findley Lake, a shallow impoundment of Wellington Creek, was sampled in 1997 as part of the Ohio EPA 5-year Black River watershed assessment. The reservoir is located within Findley Lake State Park, which is managed by the Ohio Department of Natural Resources. Previous surveys of the lake had been conducted in 1977, 1980, and 1989. The results of the 1997 survey indicated that the lake continues to show hypereutrophic conditions in the summer due to excessive amounts of phosphorus and blooms of algae. Diatoms, blue-green algae, and dinoflagellates attained bloom conditions at different times of the year. By late summer, large particle size colonial and filamentous forms of blue-green algae and dinoflagellates dominated the primary production of the aquatic food web. An analysis of nitrogen and phosphorus data
indicates that the growth of algae is mostly stimulated by phosphorus. A significant source of phosphorus loading during the summer is the discharge from the campground WWTP. Other than the effects of nutrient enrichment, the 1997 survey showed low dissolved oxygen during the summer at water depths below 10 feet, elevated levels of ammonia-N in bottom waters, shallow stream inlet from soil deposition, lack of surface water flushing for extended periods of time in the summer, and elevated copper in the lake sediment. A 1989 fishery survey by Ohio DNR showed reduced rate of growth of Largemouth Bass. The lake showed Partial attainment of its Recreational Designated Use, and Full Use-Threatened attainment for Aquatic Life and Public Water Supply.

Recommendations

Findley Lake scored a Lake Condition Index (LCI) value of 35.8, which indicates the lake should be given high priority for the development of a lake and watershed management plan. In general, lakes in Ohio with LCI values above 31.0 show signs of impairment for one of its four designated uses, whereas lakes with LCI values below 25.0 have essentially full attainment of all possible uses. A variety of possible lake management options are recommended for consideration: (1) closing the upper boat ramp and allowing the inlet stream to become a wetland to filter and buffer the loading of nutrients and sediment from Wellington Creek, (2) placement of fish habitat structures in areas less than 10 feet in water depth, (3) controls on phosphorus loadings from cleaning compounds andthe campground WWTP discharge, and (4) long term monitoring of nutrients and game fish

populations, especially Bluegill, Largemouth Bass, and White Crappie.

Nesmith Lake

Nesmith Lake is a 80 acre natural lake that is part of the Portage Lakes system. The outflow from the lake is regulated by the State of Ohio via a series of locks and dams Current lake uses include shore fishing, boating, and shoreline wading. No swimming beaches are located on the lake. The 1996 sampling effort included water column field profile data; chemical samples for the surface and bottom waters; a single sediment sample for heavy metals, pesticides, and PCBs; and a fecal coliform bacteria sample. The L-1 sample location was in the deep hole of the nearly circular lake located at lat: 41/01/36; long: 81/33/04.

The results of the 1996 assessment of Nesmith Lake indicate that 8 of 12 measured LCI metrics showed less than full use condition and that the lake was in non-attainment for full aquatic life and recreational uses, and partial attainment for potential public water supply. Results of fish tissue sampling in late 1980s and again in 1992 indicate the Carp and Bullhead Catfish have elevated levels of PCBs in fish tissue. The City of Akron has issued a public consumption advisory for these two species of fish. The sediment of the lake showed elevated levels of PCBs, As, Pb, and Zn. The source of the PCB is most likely from the Summit Equipment and Supply Company superfund site, which released PCBs into a drainage ditch that flows into Nesmith Lake. The site and ditch sediment has been remediated. The level of PCBs in five composite fillets collected by Ohio EPA is 1992 was 1400 ug/kg. No PCBs were detected in Largemouth Bass composite fillet samples. The bottom waters were anoxic in the summer which resulted in the release of Mn and ammonia-N into the water from the lake sediments. Nutrient enrichment has resulted in blooms of algae with summer chlorophyll-a values in the 48 to 57 ug/l range, an indication of a hypereutrophic nutrient condition. The source(s) of the nutrients are unknown. The number of fecal coliform bacteria was measured at 53/100 ml, well below the 100/100 ml bathingwater standard. Data collected over time for trophic condition indicate there has been no significant change in trophic state over time (i.e. +- 4 TSI points). TSI changed from a value of 68 in 1979 to a value of 69.5 in 1996 (note: the spring TP value was not included in the 1996 TSI calculation due to potential analytical error). Fish tissue data on PCBs in Carp collected in 1992 indicates a reduction in concentration from tissue samples collected in 1980. Future monitoring of PCBs in Carp and Catfish are needed to determine if the consumption public health advisory should be continued.

Summit Lake

Summit Lake is a 100 acre natural lake that is part of the Portage Lakes system. Lake access is owned by the city of Akron. The flow out of the lake is regulated by the State of Ohio via a series of locks and dams. Current lake uses include shore fishing, and boating. No swimming beaches are located on the lake. The 1996 sampling effort included water column field profile data; chemical samples for the surface and bottom waters; a single sediment sample for heavy metals, pesticides, and PCBs. A fecal coliform bacteria sample was collected near the public boat ramp .

The L-1 sample station was located in the center of the lake at the south end deep hole at lat : 41/03/12; long: 81/32/43. The results of the 1996 assessment of Summit Lake indicate that 7 of 13 measured LCI metrics showed less than full use condition and that the lake was in non attainment for aquatic life, recreational uses, and public water supply designated uses. The City of Akron has issued a public consumption advisory for Carp and Bullhead Catfish. Results of fish tissue sampling by Ohio EPA in 1992 indicate that Carp had measurable but not elevated levels of PCBs in fish tissue. No PCBs were detected in Largemouth Bass collected from Summit Lake. The sediment of the lake showed highly elevated levels of As, Pb, Cd, Cr, Hg and Zn. The bottom waters were anoxic in the summer which resulted in the release of Mn and ammonia-N into the water from the lake sediments. Nutrient enrichment has resulted in blooms of algae with summer chlorophyll-a values in the 31 to 37 ug/l range, an indication of a hypereutrophic nutrient condition. The source(s) of the nutrients are unknown, but urban runoff and CSOs are two potential sources. The number of fecal coliform bacteria was measured at 13/100 ml at the boat dock area, well below the 100/100 ml bathing water standard. The lake showed elevated levels of chlorides and total dissolved solids (TDS), most likely a result of the discharge from the Akzo Salt Company discharge. Local fisherman indicate that the lake has a good population of largemouth bass, with many individual over 12 inches in length. Data collected over time for trophic condition indicate that Summit Lake is getting more nutrient enriched, with a change in Carlson Trophic State Index (TSI) value of 67 in 1986 to a TSI of 76 in 1996. Future monitoring of PCBs in Carp are needed to determine if the consumption public health advisory should be continued.

Mogadore Reservoir

Mogadore Reservoir is a 900 acre impoundment located in the headwaters of the Little Cuyahoga River. The lake is owned and managed by the city of Akron. Current lake uses include fishing, a swimming beach, and boating. The 1996 sampling effort included water column field profile data; chemical samples for the surface and bottom waters; a single sediment sample for heavy metals, pesticides, and PCBs collected near the dam at station L-1 (lat: 41/03/51; long: 81/22/18); surface water trophic state samples only at station L-2 (lat: 41/03/32; long: 81/21/03), located just west of the State Route 43 bridge, and a fecal coliform bacteria sample collected at the public swimming beach. The results of the 1996 assessment of Mogadore Reservoir indicate that 7 of 12 measured LCI metrics showed less than full use condition and that the lake was in partial use attainment for aquatic life, recreational uses, and public water supply designated uses (Table 2). Fish tissue samples indicated elevated level of mercury in Largemouth Bass. The Ohio Department of Health has proposed that consumption of Largemouth Bass be limited to one meal per month. Zinc was elevated in a sample of the bottom sediment. Mogadore Reservoir showed extreme variation in water clarity and chlorophyll-a concentrations between the spring and summer values. Secchi disk values decreased from 4.0 m to 0.7 m and chlorophyll values increased from 4.5 ug/l to 346.2 ug/l. The seasonal extremes are the most divergent of any lakes sampled by the Ohio EPA in northeast Ohio. The lake has a long history of
algal blooms in the summer. While collecting a fecal bacteria sample on August 28th at the swimming beach an extensive bloom of blue green algae was observed, with a strong odor.

It is possible that the lake management practice of releasing water only from the hypolimneon in the summer may help contribute to the seasonal problems with blooms of algae. City personnel indicated that about 4.0 mgd is released from the bottom waters of the lake, while no water flows over the surface of the dam for most of the summer. While this lake management practice doe s have the ability to release bottom water nutrients from an oxic water in the summer months. It also has the potential to accumulate algae in the upper waters of the lake if no water flows ov er the lake dam. The constant realease of bottom waters can also break summer temperature st atification thus leading to complete lake mixing during high winds. That this process may be occurring in Mogadore Reservoir is seen from the field profile data for water temperature. At best only a weak summer thermocline was found in the summer samples.. Mixing of high nutrient anoxic bottom water into the surface water during the summer could be a cause of the excessive blooms of surface water algae observed in the reservoir. Diversion of inflow water also has the potential to limit the flushing of surface water algae out of Mogadore Reservoir. Thus it appears that the wide seasonal variation in algal production in Moga dore Reservoir may be related to a combination of causes including lack of flow over the dam during the summer, nutrient regeration, and/or high nutrient loadings. Although the lake is highly nutrient enriched the recreational fishery of Mogodore Reservoir is viewed to be acceptable, with largemouth bass and bluegill the most common species captured. It is unlikely that the swimming beach is utilized to its fullest potential given the odorous blue green algae bloom that w as observed during the August sampling.

Data collected over time indicates that Mogodore Reservoir is maintaining itself at a highly nutrient enriched hypereutrophic condition during the summer months. There has been little change in final TSI values from 1990 (TSI = 72) to 1996 (TSI=74.5). Very clear water in the spring continues to exist. Future monitoring of the health of the overall game fishery is needed to quantify the long-term effect of hypereutrophic nutrient enrichment. More intensive sampling of fish tissue for all game fish species is need to determine the extent of mercury contamination. The feasibility of stopping the practice of summer release of hypolimnetic water and instead allowing the lake to discharge over the dam surface needs to be investigated.

Sippo Lake

History of Sippo Lake

Sippo Lake, a shallow glacial lake, is located in the North Canton area of Stark County. The lake area (about 107 acres) has been impounded by a dam since the late 1890's. Sippo Lake is owned and managed by the Stark County Park District. The lake was dredged in 1997 and 1998, with about 250,000 cubic yards of bottom sediment removed. This dredging project was funded in part by a Section 314, U.S. EPA Clean Lakes Program grant administered by the Ohio EPA. The primary purpose of the dredging project was to increase the average depth to a point where aquatic submerged plants would not receive sufficient sunlight for optimal growth, a depth between 10-12 feet based on preliminary SCUBA surveys. A previous study of the lake and watershed was conducted in 1989 and 1990 by Ohio EPA as part of the Section 314 Clean Lakes Program Phase I Diagnostic-Feasibility study (NEFCO, 1992). The Secchi disk turbidity of the lake has been sampled since 1988 by citizen

volunteers under the direction of the NEFCO volunteer lake monitoring program, and by Stark County Park District employees.

A variety of lake management techniques have been used at Sippo Lake to control aquatic plant growth. Prior to the early 1990s, chemicals were added to the lake to suppress the growth of aquatic plants, which provided for about 20% open water for recreation. A 1990 Ohio EPA survey indicated that 82% of the surface water was impacted by aquatic macrophytes to such an extent that recreational boating was not possible. From 1988 to 1990 about 500 triploid White Amur (Grass Carp) were added to the lake with no visible impact on plant growth. From 1992 to 1995 the Stark County Park District conducted macrophyte harvesting to remove plant biomass. This management technique was not effective at long term control of the aquatic plants due to equipment problems and staffing. The purpose of the 1999 Ohio EPA survey was to determine if there were any significant "short-term" impacts on the trophic state of Sippo Lake one year after completion of the 1997-1998 dredging project.

The attainment or non attainment of Clean Water Act designated uses for Sippo Lake was determined using the multi parameter Ohio Lake Condition Index (LCI) assessment protocol that was developed by the Ohio EPA (Davic and DeShon; 1989, Ohio EPA, 1996 update). The Ohio LCI uses fourteen metrics to determine the biological, chemical, physical, and aesthetic conditions of a lake or reservoir. Attainment of designated uses (e.g., aquatic life, recreation, public water supply, human fish consumption) is determined by the relative number of threatened and impaired sub-metric conditions for each designated use (see Appendix B)

Results and Discussion

The results of the 1999 survey indicated that the trophic state of Sippo Lake has significantly changed since the previous 1989-1990 Ohio EPA water quality survey. Analysis of long-term Secchi disk data indicates that a shift in lake trophic state occurred about four years prior to the dredging project, during the period of macrophyte harvesting. The removal of the aquatic weeds, especially Coontail (Ceratophyllum demersum), appears to have resulted in an increase in the numbers of planktonic algae, resulting in decreased Secchi disk clarity. Coontail is well known to compete with planktonic algae for limiting nutrients, especially phosphorus. This submerged plant does not have a root system, but takes in nutrients through leaves and stems. The data suggest that the removal of aquatic macrophytes has allowed for an increase in the availability of lake water phosphorus, which can now be used by planktonic algae to increase their biomass and numbers. This hypothesis is supported by the observation that significantly higher levels of chlorophyll-a were found in August, 1999 (68.4 to 51.5 ug/l) compared to samples collected in August, 1990 (20.6 to 21.4 ug/l), driven by an increase in summer phosphorus concentrations.

The 1999 survey data suggests that the dredging project alone did not have a significant impact on Secchi disk turbidity that was not already present due to the previous macrophyte harvesting and/or addition of White Amur. There was no significant difference in Secchi disk depth in 1999 compared to data collected in 1995 after the harvesting program ended (Figure 2). These data underscore the importance of citizen volunteer data to monitor the long term change of lake trophic state before and after various lake management techniques.

The 1999 survey indicated low dissolved oxygen in surface water samples from late June to early August, which could result in a significant stress on fish populations if the trend continues over time. Similar problems were noted in 1990 in the surface waters. As was found in the previous survey, low dissolved oxygen was present in the bottoms waters of Sippo Lake in summer below 3.0 meters depth (see Table 1). These anoxic conditions at the sediment-water interface allow for the summer release of nutrients from the sediment into the bottom waters, which can then be resuspended into the surface waters during lake mixing for use by algae.

During the 1999 survey the level of phytoplankton as measured by chlorophyll-a, and total phosphorus, were in the eutrophic range. The chlorophyll and phosphorus TSI (Trophic State Index) values were higher in 1999 than during the previous survey. An analysis of nitrogen and phosphorus data indicates that the growth of algae is mostly stimulated by phosphorus. Spring TN/TP ratios were above 16:1, an indication of phosphorus limitation. These ratios fell to 7:1 in the summer due to: (1) an increase in total phosphorus from internal loading from anoxic sediment, and (2) a decrease in nitrates due to algal assimilation during photosynthesis. The most significant factor driving the nutrient dynamics in Sippo Lake appears to be summer time internal loading. It is also possible that spring-summer runoff of lawn fertilizers from the watershed contribute phosphorus to Sippo Lake resulting in stimulated growths of algae. The application of lawn fertilizers usually occurs from April to November.

Sippo Lake showed Partial Attainment of its Recreational Designated Use (Ohio Water Quality Standards, Chapter 3745-1 of Ohio Administrative Code), and Full Use-Threatened attainment for Aquatic Life and Public Water Supply. The final LCI (Lake Condition Index) value was calculated to be 27.1 for the 1999 assessment. In general, LCI values above 31.0 indicate signs of significant impairment for one of its four designated uses, whereas lakes with LCI values below 25.0 have essentially full attainment for all possible uses. The final LCI value of 27.1 obtained from the 1999 assessment is significantly improved from the LCI of 35.0 that was measured prior to the dredging project in 1996. The end result of the dreding project appears to have improved the recreational use potential of the lake, primarily from added depth and increased boat access to lake water. Since increased boating access was the primary goal of the Clean Lake Section 314 restoration project, it would appear that this goal has been achieved. However, the shift in the lake plant community from one dominated by submerged plants, to one dominated by planktonic algae, could have future negative effects on the lake fishery and aesthetics. The relatively low levels of dissolved oxygen in surface waters during dry periods could result in a stress on lake fishery if it continues. A more complete assessment of the game fishery such as a creel survey and/or electrofishing survey is needed to determine the current condition of the aquatic life of Sippo Lake after the the dredging project.

Recommendations

Sippo Lake appears to be undergoing a shift in trophic state (nutrient enrichment in water) as a result of removal of aquatic macrophytes due to (1) harvesting and White Amur between 1990 and 1995, and (2) dredging between 1997 and 1998. The effect of increased biomass of the phytoplankton algal community needs to be followed closely, especially the complex relationship of nutrients, algae, dissolved oxygen, and well balanced game fishery during the summer. A monitoring program to track these parameters over time is strongly recommended.

It is recommended that a follow-up survey be conducted to determine the relative contribution of internal loading of phosphorus (from the newly exposed bottom sediment) vs watershed runoff. This monitoring effort would involve a sampling program over a 12 month period somewhat similar to the effort conducted in 1989-1990 for the Clean Lakes Program Section 314 project. One goal of this monitoring effort would be to determine the feasibility and cost effectiveness of sealing the bottom sediments of Sippo Lake with ALUM or some other chemical known to bind phosphorus, or the use of hypolimnetic aeration to remove the anoxic chemical conditions over the summer months. Such a survey should also consider the potential effects of shallow lake hydrology, wind mixing, and sediment deposition on the long term potential for success of binding phosphorus in bottom sediments. If it can be shown that internal loading of phosphorus from summer anoxic bottom sediment is a significant source of nutrients driving the current eutrophic algal conditions, and that these nutrients are having an adverse effect on the lake fishery, then application of ALUM to the zone of anoxia would be recommended to allow Sippo Lake to reach a desired goal of full use attainment for recreation and aquatic life potential. Another option would be hypolimnetic aeration to remove the low dissolved oxygen conditions during the summer at the sediment-water interface. A cost benefit analysis of these two methods to control internal loading of nutrients would need to be conducted.

Finally, it is recommended that the Stark County Park District establish a long term inspection and maintenance program for the "biolog" sediment barriers that are currently being used to trap watershed runoff of silts and soils to the lake. These barriers act to protect the main body of water from future sedimentation. Where feasible, additional barriers should be installed. Future sources of sediment from the watershed due to construction activities need to be controlled by appropriate BMP activities.

Literature Cited

Carlson, R.E. 1977. A trophic state index for lakes. Limnology and Oceanography. 22:361-369.

Carlson, R.E. 1991. Expanding the trophic state concept to identify non-nutrient limited lakes and reservoirs. In: North American Lake Management Society. Enhancing the states' lake management programs, 1991: 59-71.

Davic, R.D. and J.E.DeShon. 1989. The Ohio lake condition index: a new multiparameter approach to lake classification. NALMS Journal, Lake and Reservoir Management 5:1-8.

NEFCO, 1992. Sippo Lake Phase I diagnostic-feasibility study. Final draft report. Milestone 9, Section 314 Clean Lakes Program grant.

Ohio EPA. 1996. Ohio Water Resources Inventory Report. Vol. III. Ohioís public lakes,ponds, and

reservoirs. By: R.D. Davic, D. Eicher, J.E. DeShon. Division of Surface Water. Ecological Assessment Unit. Columbus, Ohio.

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