Ohio Department of Natural Resources
DIVISION OF WILDLIFE

2019-2020 RIVER OTTER HARVEST AND POPULATION MONITORING

December 2020

Although once common in Ohio, river otter (*Lontra canadensis*) populations were severely reduced during the mid-1800s due to habitat loss and unregulated trapping. The Division of Wildlife undertook a reintroduction effort and released 47 pregnant females and 76 males in eastern Ohio from 1986-1993. River otters for this restoration program were trapped in Arkansas and Louisiana and released in four eastern Ohio waterways: Grand River (Trumbull County), Killbuck Creek (Wayne and Holmes counties), Stillwater Creek (Harrison County), and Little Muskingum River (Washington County).

As a result of this restoration effort, Ohio's river otter population increased rapidly in size and distribution. In 2002 the river otter was removed from Ohio's list of endangered species, and the first modern-day trapping season for river otter in Ohio occurred in 2005-2006. In the 34 years since river otter were reintroduced, their presence has been confirmed in 84 of the 88 Ohio counties (Figure 1).

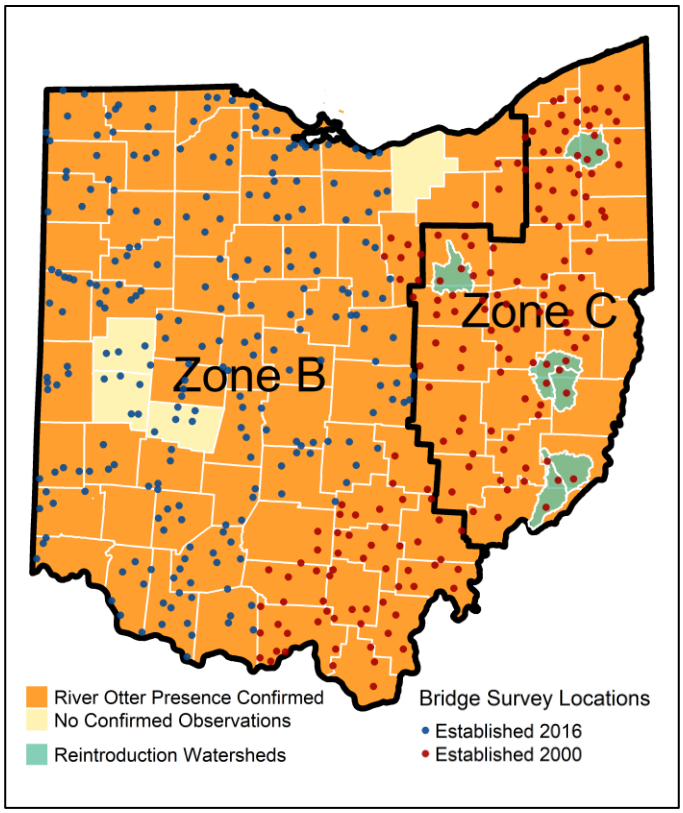

Figure 1. Current Ohio river otter management zones, watersheds where river otter reintroductions took place, Ohio river otter bridge survey locations, and counties with river otter presence confirmed through sightings, surveys, or harvest.

The Division of Wildlife relies on multiple sources of information to track abundance and distribution of the Ohio river otter population and make management recommendations. Annual bridge surveys serve as a standardized method to assess the current distribution of river otters, as well as long-term population trends. River otter harvest reports also provide important information on the distribution of otters, and through required harvest reporting the division is able to track trends in trapper participation and effort. Additional information on otter distribution throughout the state is obtained through reports of road-killed and incidentally trapped animals, conflict reports, results from the division's annual bowhunter observation survey, and sightings reported by members of the public through the division's wildlife species sighting website.

Using information collected from these monitoring efforts, the Ohio Division of Wildlife established river otter zones which serve as management units for setting harvest regulations. From the first harvest season in 2005 until the 2017-2018 season, 31 counties in eastern Ohio were open to trapping with a season limit of three. An additional 12 counties with a one-otter limit provided trapping opportunities in areas where populations were believed to be moderate within the otter's known range in Ohio. The remaining counties, where populations were assumed to be low or absent, were closed to harvest.

Figure 1 shows the current river otter management Zones. In summer 2018 the Ohio Wildlife Council approved changes to the original river otter harvest

zones based on updated information on river otter presence and harvest trends. These changes included decreasing the bag limit in nine southeastern counties and offering limited harvest opportunities in the remaining 45 central and western counties that were previously closed to harvest. Zone C (three otter bag limit) consists of 22 counties in eastern Ohio which support the highest indices of otter in the state and includes all watersheds where river otters were originally reintroduced. Zone B includes the remaining 66 counties in central, southern, and western Ohio.

This report presents the results of 2019-2020 river otter population monitoring, including bridge survey and harvest results.

Bridge Surveys

From 2000 to 2015, river otter bridge surveys were conducted at 180 bridge sites in eastern Ohio to monitor relative population size and dispersal from reintroduction watersheds. In response to increased sightings outside of eastern Ohio, 242 river otter bridge survey locations were added across the remainder of the state in 2016. A total of 422 survey locations are currently used to monitor otter populations and distribution statewide.

Bridge surveys are conducted annually in January or early February, four or more days after a rainfall or snow event to allow otters time to deposit tracks and other sign on river banks. Each bridge is surveyed once. The surveyed area includes 300 meters upstream and downstream from the bridge. Any otter sign (i.e., tracks, scat, fish kill remains, latrines) and distance from the bridge to the first detected sign is noted. A detectability index, defined as the percentage of stream bank having suitable tracking conditions (sandbar, mud) available for detecting otters, is also estimated for each site. Locations with consistently low detectability are replaced.

Bridge Survey Results **-** In 2020, staff conducted 421 bridge surveys across the state and sign was detected at 103 sites (24.5%; Figure 2). Tracks were the type of sign detected at most sites (89 sites), though a latrine was observed at one site. The other 13 sites had combinations of two or more types of sign present.

We analyzed the results of bridge surveys according to the current River Otter Harvest Zones. All 107 survey locations in Zone C were established

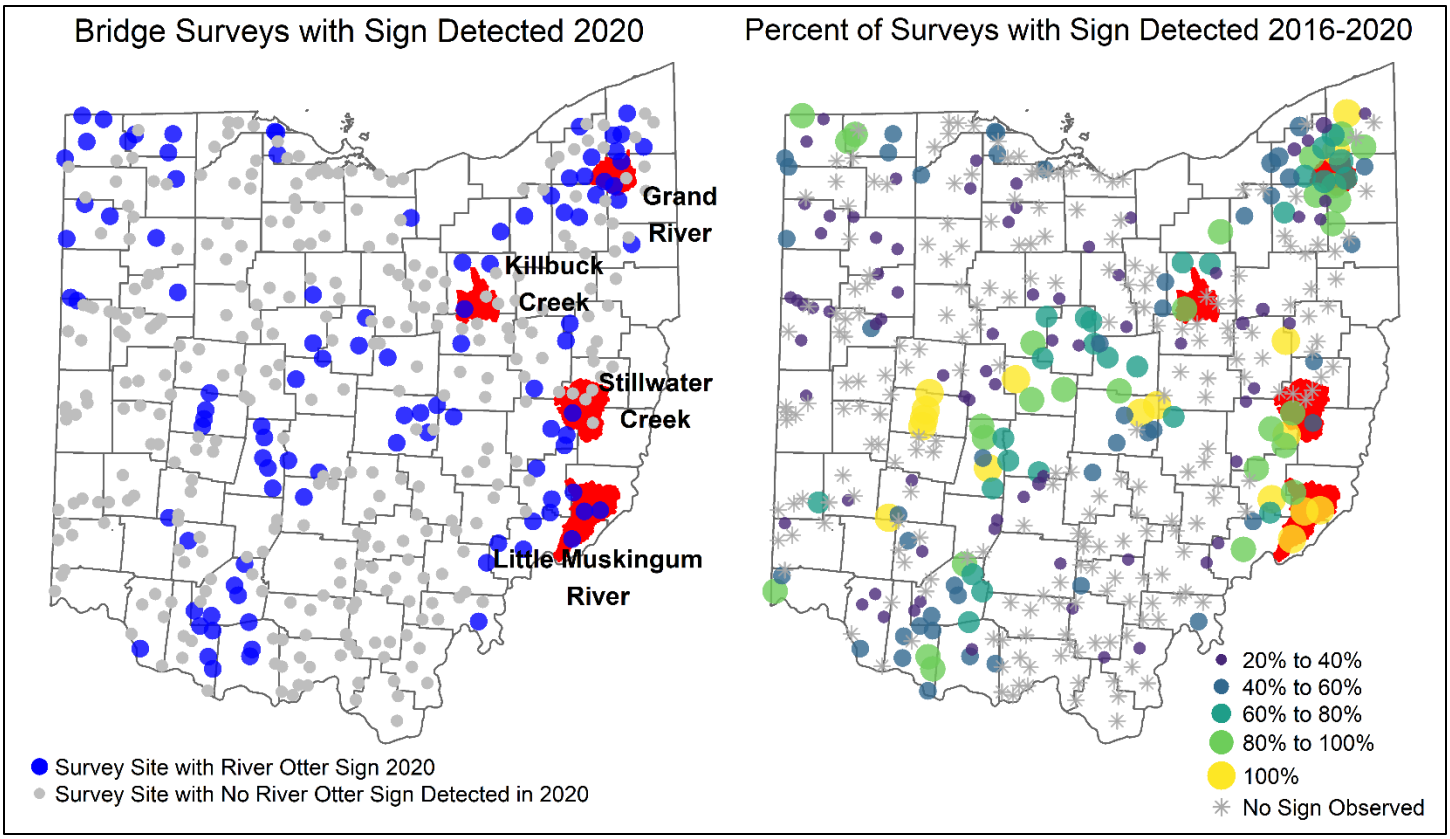

Figure 2. River otter reintroduction release watersheds, bridge survey locations with and without river otter sign detected in Ohio in 2020, and the percent of times sign was detected at each survey location over the past five years (2016-2020).

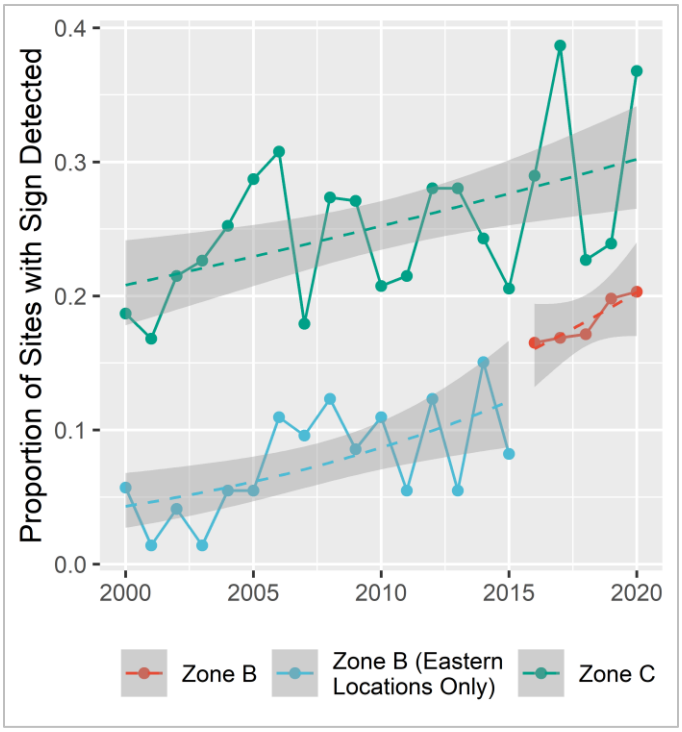

Figure 3. Proportion of river otter bridge survey locations with sign detected from 2000 to 2020 in Ohio's Otter Management Zones B and C, and trendline with 95% confidence interval. Note, prior to 2016, only a portion of Zone B was surveyed.

in 2000. In Zone B, 73 survey locations in southeast Ohio were established in 2000, and the remaining 242 locations were added when surveys were expanded in 2016 (Figure 1).

From the time when surveys were first implemented in eastern Ohio, river otter sign has predominantly been detected near the watersheds where river otter reintroductions took place. The waterways where otters were released were chosen because they contained habitat highly suitable for sustaining otter populations, so it is not unexpected that these areas will continue to support high otter indices. Since the addition of new survey locations in 2016, detection rates and distribution of detections have been higher than expected in central and southwest Ohio, which may be indicative of higher otter populations in these regions than previously thought.

The proportion of survey sites with sign in both zones has increased over the 21 years of surveys, indicating an increase in otter abundance and distribution statewide (Figure 3). Sign was detected at 36.8% of survey locations in Zone C in 2020 which is the second highest percentage of locations with sign in these counties since surveys began in 2000. Sign was detected at 20.3% of locations in Zone B in 2020 and the proportion of Zone B survey locations with sign present has increased since surveys were expanded statewide.

Harvest Results

In the 2019-2020 season, 256 otters were harvested in 38 counties. This was the highest modern-day harvest on record (Figure 4). Eighty-three of the harvested otters were female, 167 were male, and sex was not reported for the remaining six otters.

In Zone C, 215 otters were harvested in 18 counties, a 29% increase over the previous season. Like previous years, during the 2019-2020 trapping season otters were primarily taken from counties near the original release-site watersheds, particularly in and around the Grand River basin in northeast Ohio. Harvest was highest in Trumbull County, as it has been in all except the 2018-2019

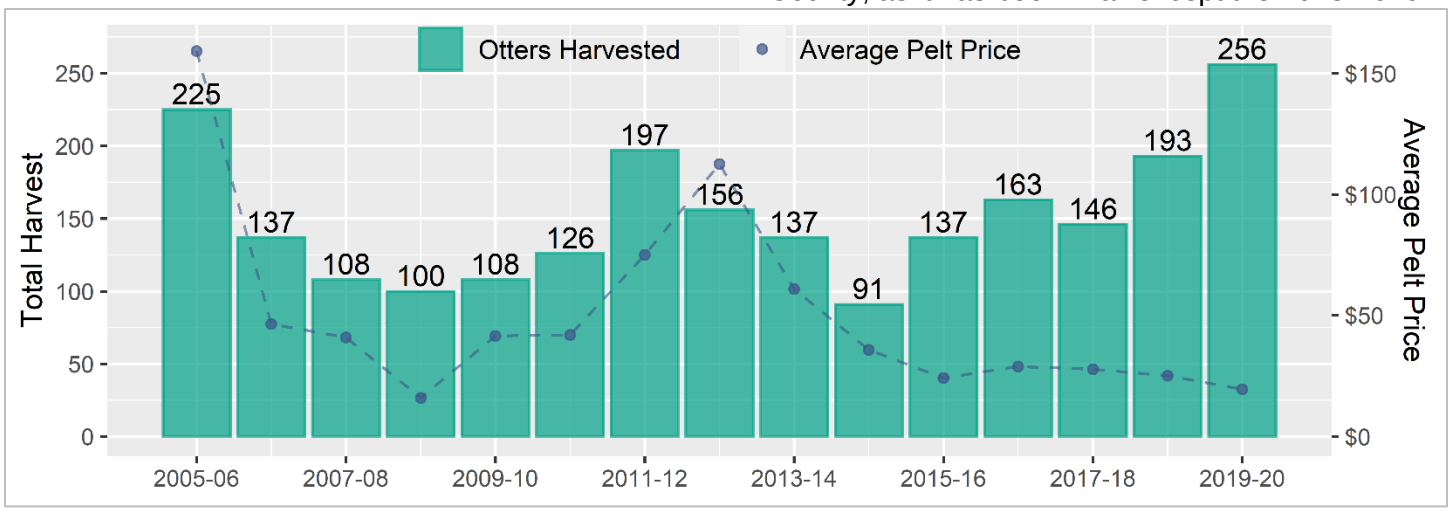

Figure 4. River otter Harvest in Ohio by season from 2005-2006 to 2019-2020.

season. No harvest was reported in Columbiana, Stark, Lake, or Jefferson counties, and harvest was below average in Wayne, Holmes, Tuscarawas, and Coshocton counties. In each of the remaining 14 counties in Zone C, harvest was higher than average.

In Zone B, 41 otters were harvested in 2019-2020, a 58% increase over the previous season's Zone B harvest. Otters were harvested in 20 counties in Zone B (Figure 5), including seven counties with no previous harvest.

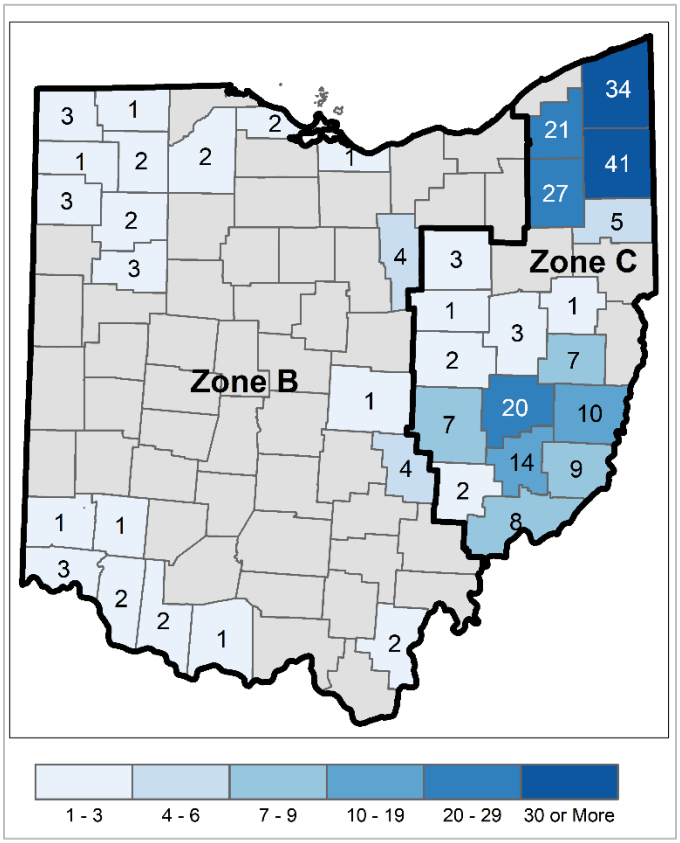

Figure 5. 2019-2020 Ohio river otter harvest by county.

While the increase in harvest in Zone B can more than likely be attributed to the recent changes in zones that permit harvest in more counties, the reason for the increase in harvest in Zone C is not as clear. In the past, river otter harvest in Ohio has increased in response to an increase in market prices, however the average pelt prices based on Ohio Fur Dealer reports has remained below $30 for the past five years. Continued monitoring of harvest effort in future years is recommended to assess if this increased harvest is a response to changes in harvest regulations, price, or other factors. In addition, ongoing efforts to collect information on age distribution of harvested animals is being used to model if or how changes in harvest rates impact the Ohio otter population.

Trapper Participation, Effort, and Success

Trapper participation levels were calculated from the results of the division's annual fur taker survey. In the 2019-2020 season, 6.9% of active trappers (survey respondents that trapped for at least one species) indicated that they targeted otter at some point during the season (Figure 6-a). Statewide participation has increased each of the past five seasons. As is expected based on the distribution of the otter population, participation rates for trappers in Zone C are higher than in Zone B.

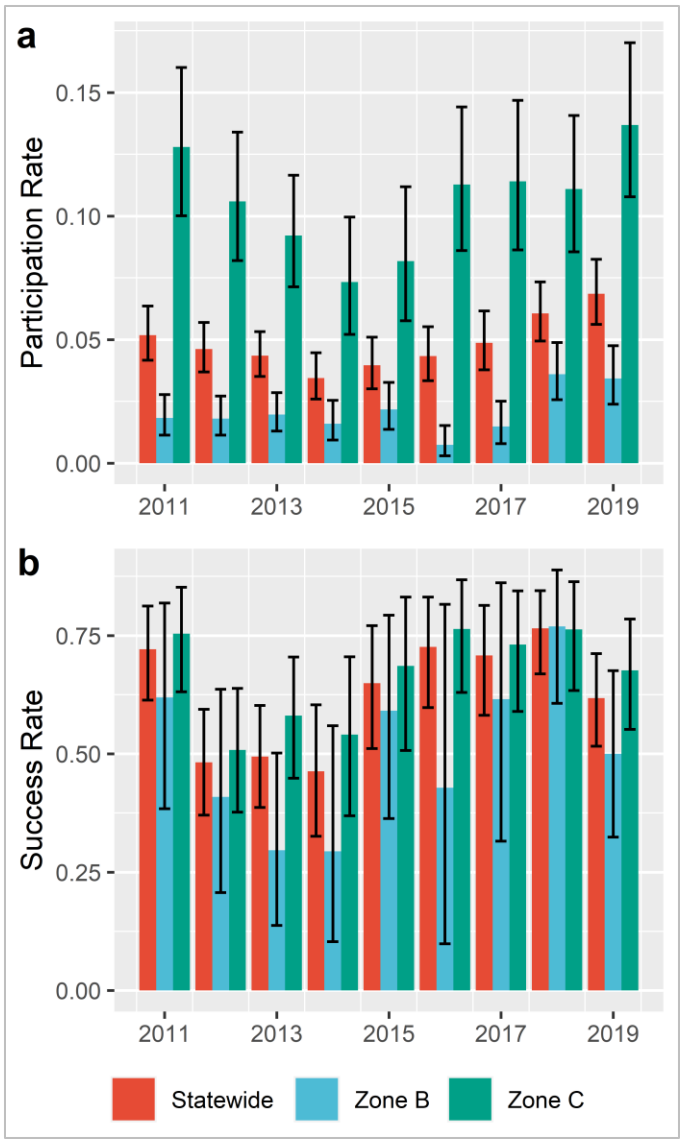

Figure 6. River otter trapper participation and success rates statewide and by zone based on annual fur taker survey responses: a. Proportion of active trappers that targeted otter; b. Proportion of trappers that targeted otter that successfully harvested at least 1 otter.

While the river otter is not one of the species most commonly targeted by Ohio trappers, success rates are high for those that do participate (Figure 6-b). Of the survey respondents who indicated that they targeted otter in the 2019-2020 season, 61.8% were successful in trapping at least one otter. Despite the differences in participation rates, success rates did not differ significantly between Zone C and Zone B.

During the 2019-2020 season, 165 trappers harvested otter in Ohio, and 37.6% of successful trappers harvested more than one otter (Table 1). One hundred and twenty-four trappers were successful in Zone C (75.2%), and 41 (24.8%) were successful in Zone B.

Table 1. Number of trappers who harvested one, two, or three river otters, total number of successful trappers, and number (and percent) of trappers that harvested their first otter in Ohio each season from 2005 to 2019.

	Number of Trappers				
	1 Otter	2 Otters	3 Otters	Total Trappers	First Time Harvesting
2005	68	32	31	131	131 (100%)
2006	55	24	11	90	46 (51.1%)
2007	43	15	11	69	40 (58.0%)
2008	38	16	10	64	24 (37.5%)
2009	34	19	12	65	38 (58.5%)
2010	37	25	13	75	35 (46.7%)
2011	81	25	22	128	67 (52.3%)
2012	56	29	14	99	49 (49.5%)
2013	59	24	10	93	40 (43.0%)
2014	39	14	8	61	23 (37.7%)
2015	50	15	19	84	32 (38.1%)
2016	43	21	26	90	32 (35.6%)
2017	46	26	16	88	30 (34.1%)
2018	86	19	23	128	63 (49.2%)
2019	103	33	29	165	81 (49.1%)

There is a large amount of turnover in the trappers that are successful at harvesting otter each year. A total of 731 trappers have harvested an otter over the 15 years of modern-day seasons, 439 of whom (60.0%) have only harvested otter during one season. In 2019, 49.1% of successful otter trappers harvested an otter in Ohio for the first time. Over the past two seasons, since trapping has been permitted statewide, 34.7% of trappers harvesting their first otter in Ohio have done so in a Zone B county. In contrast, prior to the 2018-19 season, an average of 5.5% of each year's newly successful trappers harvested an otter in one of the current Zone B counties.

Since 2014, as part of the required otter harvest check-in process, the division has asked successful trappers to report the number of days trapped and average number of traps set for each otter harvested. From this we calculated the number of otters harvested per trap night for each successful trapper (known as catch per unit effort or CPUE). CPUE can be used as an index for populations based on the assumption that as otter populations increase, less effort will be required to harvest each animal, and therefore the number of otters harvested per trap night will increase. The estimated CPUE from successful trappers will be larger than the actual CPUE (which would also include effort from trappers who were not successful in harvesting an otter), but still serves as a viable index for the population as long as we can assume the overall skill level of trappers in the state remains constant.

We calculated statewide CPUE by averaging the CPUE of each successful trapper. Successful trappers caught an average of 0.69 otters per 10 trap nights in 2019-2020. Average CPUE since 2014 has varied non-significantly (Figure 7). While

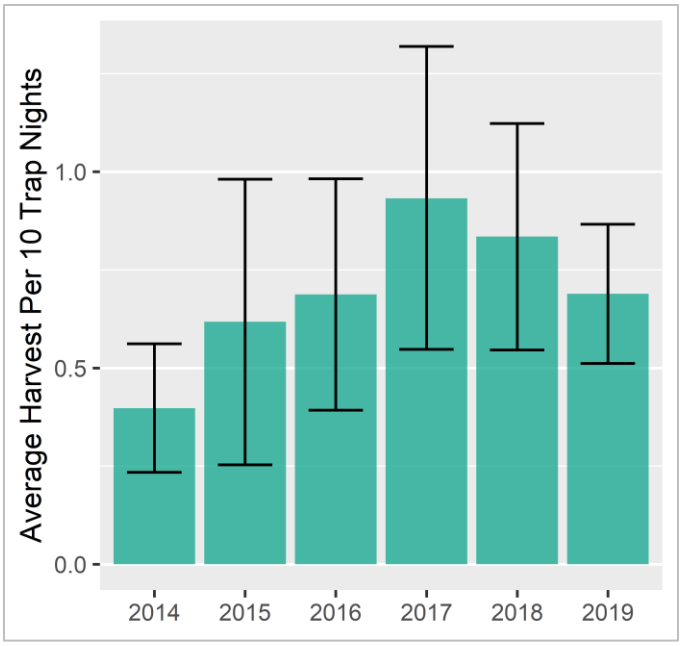

Figure 7. River otter average catch per unit effort and 95% confidence interval in Ohio 2014-2015 through 2019-2020.

it is still early to draw strong conclusions from this new dataset, we will continue to monitor CPUE and use it in conjunction with other indices to better understand the status of Ohio's river otter population.

River Otter Distribution

The new availability of multiple years of statewide data from bridge surveys and harvest provides expanded opportunity to evaluate river otter distribution in Ohio. We assessed river otter relative distribution by watershed across the state. Watershed boundaries used for the analysis were the 10-digit hydrologic units outlined in the Watershed Boundary Dataset (U.S. Geological Survey 2020).

We used the proportion of times that river otter presence was detected at each survey location over the past 5 years to create a map of predicted values throughout the state (Figure 8). Values for each watershed were interpolated based on the results from nearby survey locations with a kriging function using the automap package (v1.0-14, Hiemstra, 2015) in R version 3.6.0 (R Core Team, 2019). This map serves to predict relative otter distribution across the state based on the assumption that river otter sign will be observed more frequently in areas with higher otter abundance. It should be noted that this a relatively simple model based only on location, and does not incorporate other factors, such as available habitat, which will impact the likelihood of otters being present in an area, and factors such as high water or track substrate, which may impact the likelihood of detecting otters if they are present. Nevertheless, it provides a method to compare patterns in results from bridge surveys to patterns in harvest results. Total harvest for the past two years (2018-2019 and 2019-2020 seasons) was mapped by watershed based on location information provided by trappers.

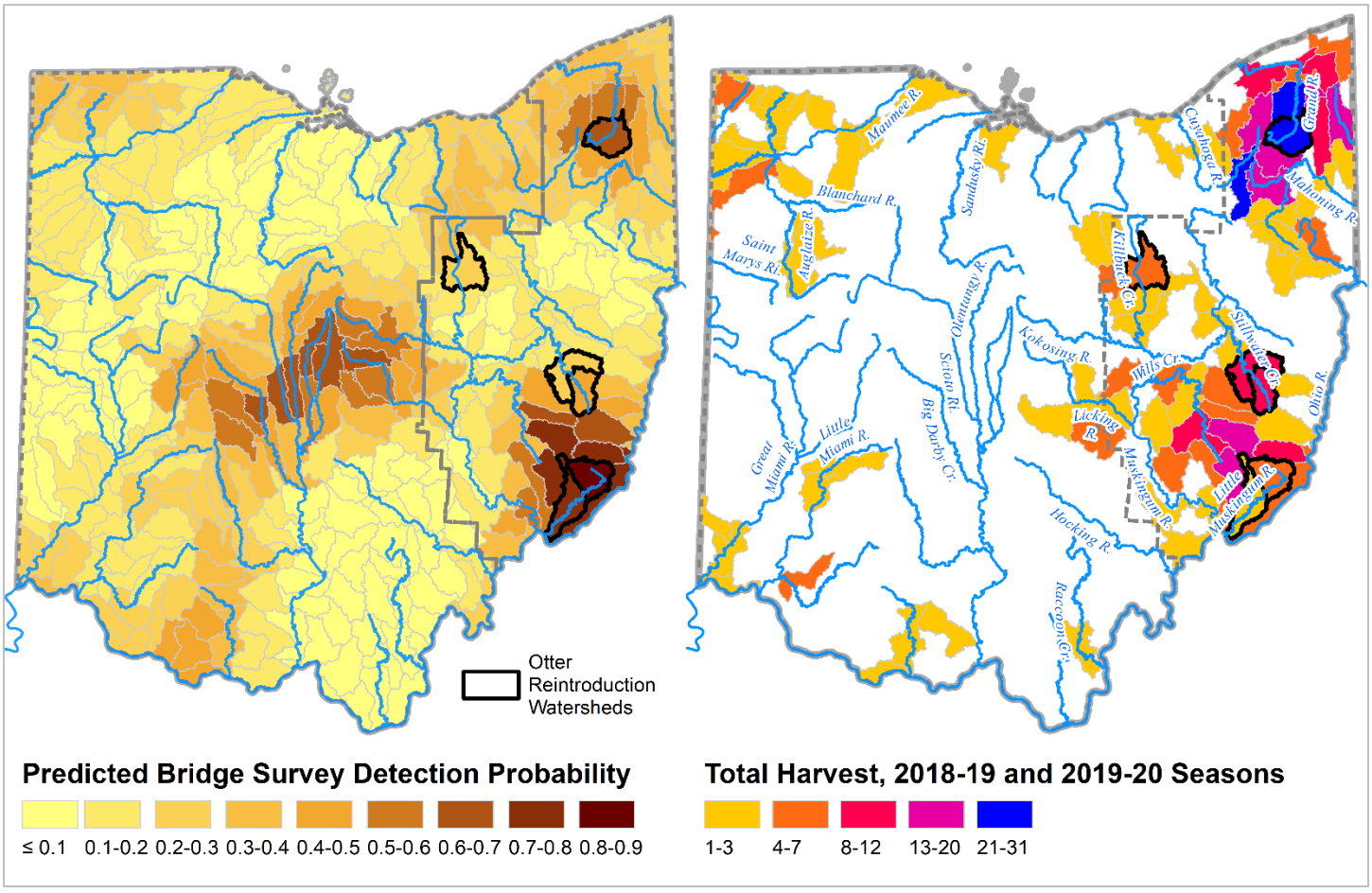

Figure 8. Predicted otter bridge survey detection probability by watershed based on survey results from 2016-2020, and total reported harvest by watershed in Ohio during the 2018-2019 and 2019-2020 seasons.

Predicted detection rates in Zone C were highest near the Little Muskingum River and the Grand River, and lower in the watersheds between these areas. Distribution of otter harvest in Zone C was similar. Otter harvest rates were highest in far northeast Ohio watersheds, including the upper reaches of the Grand River and Cuyahoga River in northeast Ohio, as well as in a group of watersheds associated with the Little Muskingum River, and the upper reaches of Wills Creek, and Stillwater Creek. Low levels of harvest in Zone C also took place in watersheds associated with Killbuck Creek and the Licking River.

Since the addition of surveys in central and western Ohio, otter sign has been regularly detected at survey locations throughout in the Scioto River Basin in central Ohio. Despite high predicted detection rates in this area, no harvest has occurred in recent years. It's possible the low harvest rates in this area are due to a lack of trapper effort, however we would expect to see some harvest if river otters are as relatively abundant in this area as indicated on bridge surveys. It may also be possible that some sign on these surveys is being misidentified as otter or that substrate or weather conditions make it easier to detect otters in this area in comparison to other areas of the state.

In Zone B, low numbers of otters were harvested in far northwest Ohio in watersheds associated with the Maumee river and its tributaries as well as in southwest Ohio along the Great Miami River, Little Miami River, and Ohio Brush Creek. Predicted detection rates from bridge surveys near these waterways were also slightly higher than in surrounding areas.

Conclusion

The recovery of North American River Otter is not limited to Ohio. In addition to the reintroduction effort in Ohio, reintroductions have taken place in all neighboring states except Michigan, and otter populations are reported to be stable or increasing in all surrounding states (Roberts et al. 2020). The expansion of the Ohio otter population, particularly in locations far from Ohio reintroduction sites (southwest and northwest Ohio) may be aided by the expansion of populations in neighboring states.

Ohio's river otter bridge surveys and harvest reporting continue to be important tools for tracking the distribution and relative abundance of river otters in Ohio. We are grateful to the division staff who put time and effort into conducting surveys, and checking in and tagging otters. Thanks also go out to the many private landowners who allow staff access to their properties to conduct surveys, and to the trappers who provided information via otter registration stations and the fur taker survey.

References

U.S. Geological Survey, 2020, National Watershed Boundary Dataset, accessed October 27, 2020 at URL https://www.usgs.gov/core-science-systems/ngp/national-hydrography/access-national-hydrography-products

Roberts, N. M., M. J. Lovallo, and S. M. Crimmins. 2020. River otter status, management, and distribution in the United States: Evidence of large-scale population increase and range expansion. Journal of Fish and Wildlife Management, 11:279-286.

Appendix 1. River otter harvest in Ohio by county and season.

County	Current Zone	Original Zone	Trapping Season															
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	All Years
Ashtabula	C	C	33	18	18	12	7	13	23	21	13	14	11	15	21	22	34	275
Belmont	C	C	4	5	4	2	5	1	7	1	1	1	8	8	3	2	10	62
Carroll	C	C	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	3
Columbiana	C	C	1	0	0	0	0	0	2	0	0	0	1	1	2	3	0	10
Coshocton	C	C	0	1	4	3	1	3	2	6	7	6	8	4	3	6	2	56
Geauga	C	C	19	10	6	8	8	11	11	18	14	7	11	16	19	12	21	191
Guernsey	C	C	3	3	3	1	9	6	3	6	7	5	4	7	5	11	20	93
Harrison	C	C	12	11	5	3	4	5	7	8	6	3	11	8	11	3	7	104
Holmes	C	C	11	7	5	10	5	6	3	6	4	2	5	7	6	1	1	79
Jefferson	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lake	C	C	0	0	0	0	0	0	3	0	0	0	1	0	0	0	0	4
Mahoning	C	C	1	0	0	0	2	0	2	5	1	2	0	1	2	1	5	22
Monroe	C	C	17	7	3	6	10	10	9	10	4	7	7	11	10	13	9	133
Morgan	C	C	0	0	0	0	0	0	0	0	1	0	2	1	2	3	2	11
Muskingum	C	C	5	2	2	2	1	7	11	9	4	5	6	9	7	6	7	83
Noble	C	C	5	7	5	6	10	8	11	4	8	7	6	15	21	11	14	138
Portage	C	C	9	8	11	9	5	9	16	8	16	4	12	15	7	31	27	187
Stark	C	C	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Trumbull	C	C	66	39	23	25	23	22	55	30	33	15	31	34	21	29	41	487
Tuscarawas	C	C	10	6	0	3	0	11	6	3	4	2	4	8	1	0	3	61
Washington	C	C	0	0	1	0	0	1	7	3	3	8	3	0	2	9	8	45
Wayne	C	C	23	7	15	6	11	8	15	15	5	1	1	0	0	3	3	113
Athens	B	C	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
Gallia	B	C	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	3
Hocking	B	C	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Jackson	B	C	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
Lawrence	B	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meigs	B	C	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Perry	B	C	0	0	0	0	0	0	0	0	0	0	0	0	1	2	4	7
Scioto	B	C	5	1	2	2	4	0	0	0	1	0	0	1	0	0	0	16
Vinton	B	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Adams	B	B	0	0	1	0	1	1	0	1	0	0	0	0	0	3	1	8
Ashland	B	B	1	1	0	0	0	2	2	1	3	0	0	0	0	2	4	16

Appendix 1 (continued). River otter harvest in Ohio by county and season.

County	Current Zone	Original Zone	Trapping Season															
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	All Years
Delaware	B	B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fairfield	B	B	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Franklin	B	B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Knox	B	B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Licking	B	B	0	0	0	1	0	0	1	1	0	1	3	0	1	2	1	11
Morrow	B	B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pickaway	B	B	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Pike	B	B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Richland	B	B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ross	B	B	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
Allen	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	1	3	4
Auglaize	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Brown	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	2	2
Butler	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	1	1
Champaign	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Clark	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Clermont	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	2	2	4
Clinton	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Crawford	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Cuyahoga	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Darke	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Defiance	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	3	1	4
Erie	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	1	1
Fayette	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Fulton	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	1	1
Greene	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	1	0	1
Hamilton	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	1	3	4
Hancock	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Hardin	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Henry	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	1	2	3
Highland	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Huron	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Logan	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0

Appendix 1 (continued). River otter harvest in Ohio by county and season.

County	Current Zone	Original Zone	Trapping Season															
			2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	All Years
Lorain	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Lucas	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Madison	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Marion	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Medina	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Mercer	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Miami	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Montgomery	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Ottawa	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	2	2
Paulding	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	1	3	4
Preble	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Putnam	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	2	2	4
Sandusky	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Seneca	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Shelby	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Summit	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Union	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Van Wert	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Warren	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	1	1
Williams	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	5	3	8
Wood	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	2	2
Wyandot	B	A	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0	0
Unknown	U	U	0	4	0	0	0	0	0	0	0	0	0	1	0	0	0	5
Total counties open to harvest			43	43	43	43	43	43	43	43	43	43	43	43	43	88	88	--
Total counties with at least one harvested otter			17	16	16	17	18	19	21	19	21	18	21	18	20	31	38	50
Total harvest - Zone C (based on zone lines for that year)			224	136	107	98	107	122	194	153	133	90	134	162	145	167	215	2187
Total harvest - Zone B			1	1	1	2	1	4	3	3	4	1	3	1	1	26	41	93
Total harvest			225	137	108	100	108	126	197	156	137	91	137	163	146	193	256	2280