

Ohio Department of Natural Resources
Division of Forestry

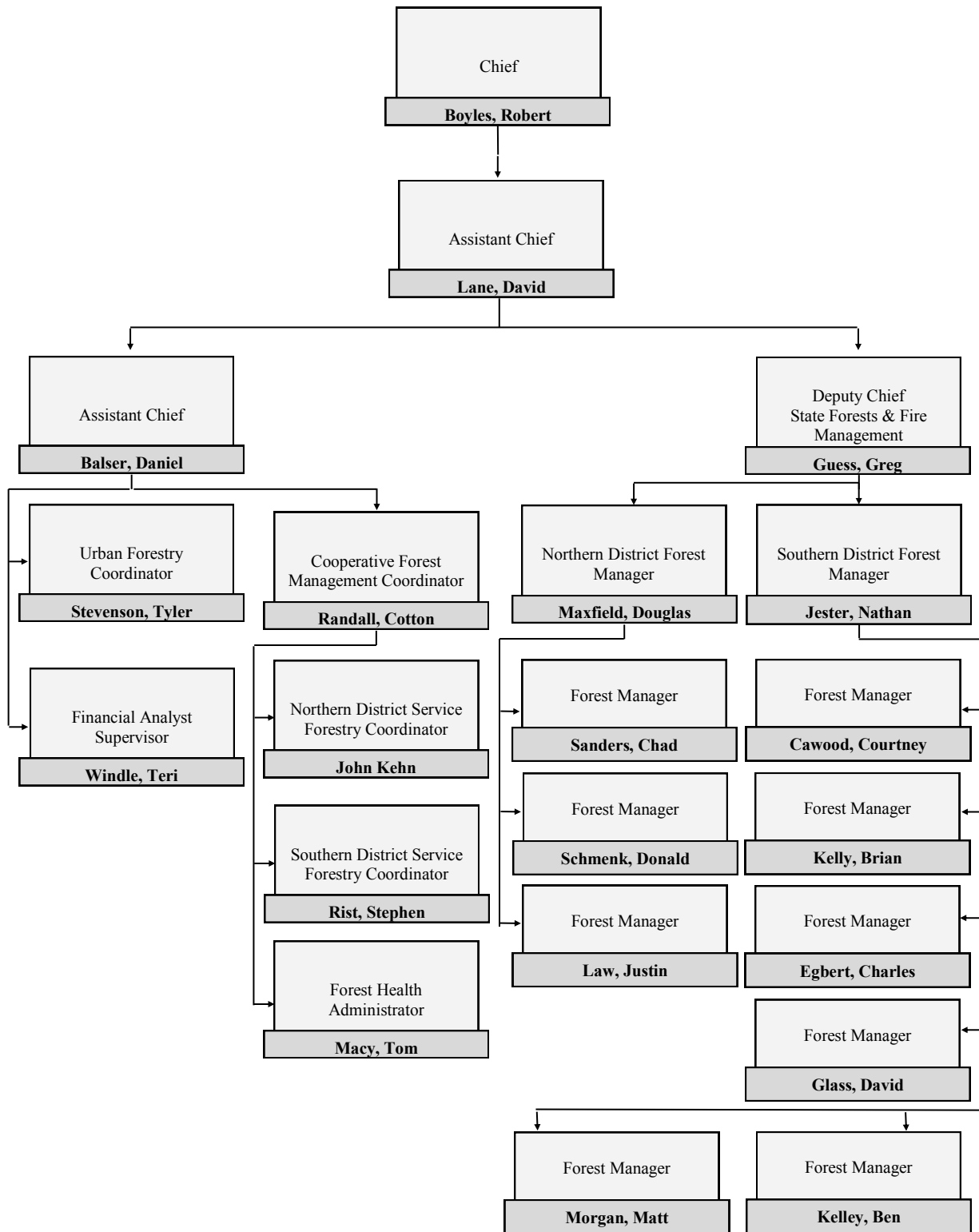


FY 2016
Annual Report





FY2016 ODNR Division of Forestry Managerial Table of Organization



Ohio Department of Natural
Resources
Division of Forestry
2045 Morse Road, H-1





TABLE OF CONTENTS



Urban Forestry Program	2
Northwest Ohio Field Windbreak Program	4
Service Forestry Program	6
Fire Program	7
Cooperative Forest Health Program	10
State Forest Management	14
State Forest Land Inventory.....	14
State Forest Recreation and Facility & Land Management.....	15
Annual Stumpage Payments	20
Fiscal	21

The Ohio Urban Forestry Program provides leadership and scientific-based information to local communities to build capacity to develop and enhance self-sustaining urban forestry and tree care programs that maximize the environmental, economic, and social benefits trees provide for all Ohio residents. ODNR Division of Forestry’s Urban Foresters directly assist Ohio communities with the:



- Development of professionally-based resource assessments and management plans.
- Establishment and training of professional municipal forestry staff.
- Development and review of tree ordinances and policies.
- Establishment of new or enhancement of existing advisory organizations.

2016 Ohio Urban Forestry Statistics

Total Urban Forestry Assists	697
Total Community Assists	657
Total Communities Assisted	202
Tree City USA Communities	241
Growth Awards	36
Tree Campus USA	14
Tree Line USA	5
Volunteer Hours	56,665
Trees Planted	28,759
Trees Pruned	87,153
Trees Removed	33,360
Expenditures	
<i>(Urban forestry-related, Tree City USA community expenditures)</i>	\$44,898,234.10

Tree City USA

For the 35th consecutive year, Ohio was the national leader in the number of Tree City USA communities. The communities of Springfield, Westerville, and Wooster have been recognized as Tree City USA communities since the national program began in 1976 and held special awards programs for the 40th Anniversary. Ohio’s 241 designated Tree City USA cities, villages, and townships, as well as its 14 designated Tree Campus USA educational institutions and five Tree Line USA Utilities demonstrate a continuing commitment to enhance the quality of life for Ohioans through purposeful management of their urban forest resources.

Tree Survival School

Northeast Ohio’s Tree Survival School has evolved over the past decade and a half into one of Urban Forestry’s flagship programs. Years of fine tuning have provided positive long-term outcomes to participating communities and organizations through proper planting techniques, better tree establishment maintenance, and increasing young tree survival rates. The three day course focuses on the purchasing, handling, planting, and maintenance of a new tree through the first 10 years of the trees’ life and is geared toward anyone who purchases, plants, or cares for trees in a commercial or public landscape: City service directors, tree commission members, tree crews, cemetery workers, and professional and school groundskeepers. The broad curriculum includes classroom lecture, hands-on outdoor learning experiences, and a fieldtrip to a local nursery. The Holden Arboretum Horticultural Science Center provides classroom space and long-term field plots for working with cohorts of trees from planting through ten years in the landscape. To date, almost 500 students have completed the course.



The many facets of the program are only possible through valued partnerships with several organizations including OSU Extension, Holden Arboretum, Busy Bee Services, Ltd., Klyn Nurseries, Inc., and Associated Green Industries (AGI). The Urban Forestry Program looked to new partners in 2016 for an expansion of the Tree Survival School into Northwest Ohio. The new branch will hold its first class in April 2017 in partnership with the City of Bowling Green, North Branch Nursery, OSU Extension, AGI, and Holden Arboretum.



2016 City Foresters’ Symposium

In March, twenty-three City Foresters from across the state attended the 2016 City Foresters’ Symposium and shared information, expressed areas of mutual concern, and received statewide updates. Each year we invite an industry segment that affects our management decisions in order to build



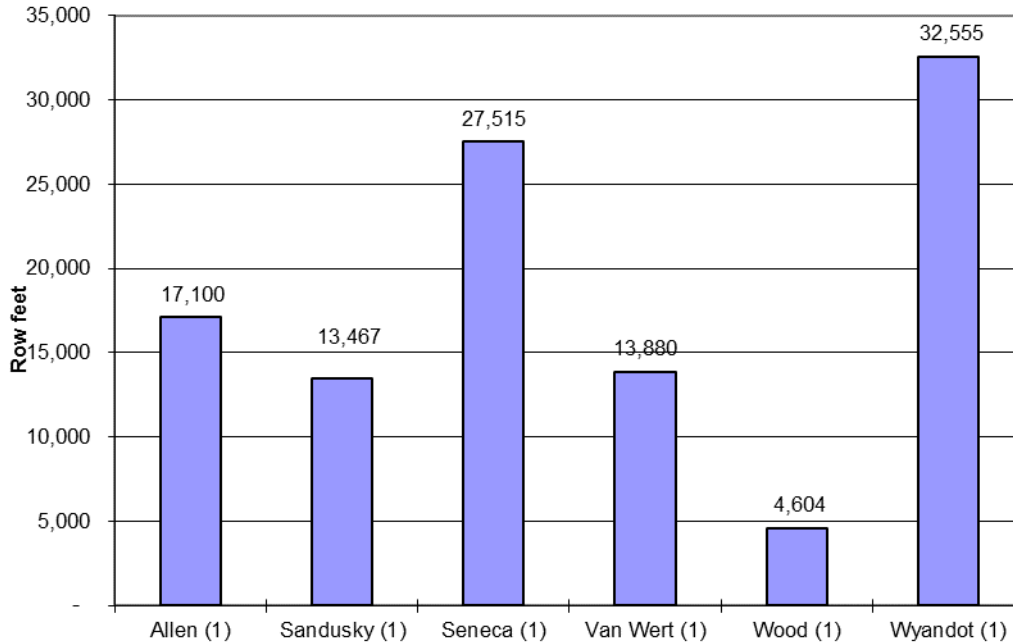
understanding and rapport. Representatives from Ohio’s nursery industry were invited this year to network and discuss ways to improve the efficiency and effectiveness of our relationships. The symposium also featured a talk by ODA’s Assistant Chief, Dan Kenney, on Senate Bill192 and the status of the Invasive Plants Rules Development.



NORTHWEST OHIO FIELD WINDBREAK PROGRAM

The Northwest Ohio Field Windbreak Program, an interagency effort, began in 1977 to encourage planting of field windbreaks in northwestern Ohio to reduce soil erosion, protect crops from wind damage, and enhance wildlife habitat.

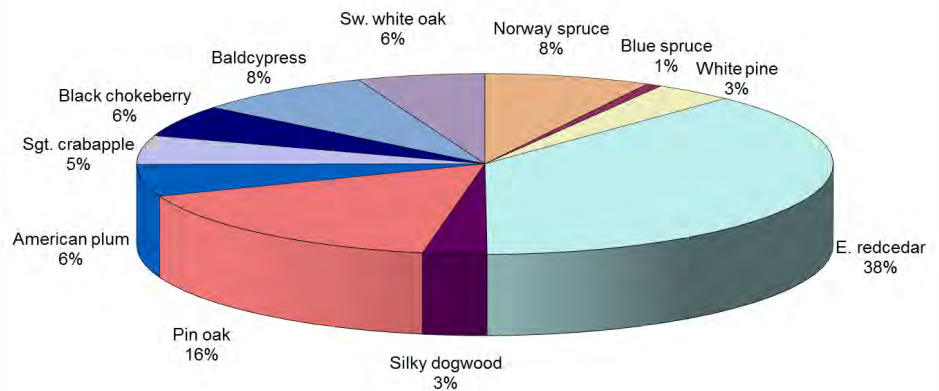
2016 Windbreak Planting by County



County	Row Feet
Allen	17,100
Sandusky	13,467
Seneca	27,515
Van Wert	13,880
Wood	4,604
Wyandot	32,555
Total	109,121

Species	Number
Norway spruce	866
Blue spruce	80
White pine	414
E. redcedar	4,236
Silky dogwood	332
Pin oak	1,826
American plum	647
Sgt. crabapple	574
Black chokeberry	640
Baldcypress	934
Sw. white oak	665
Total	11,214

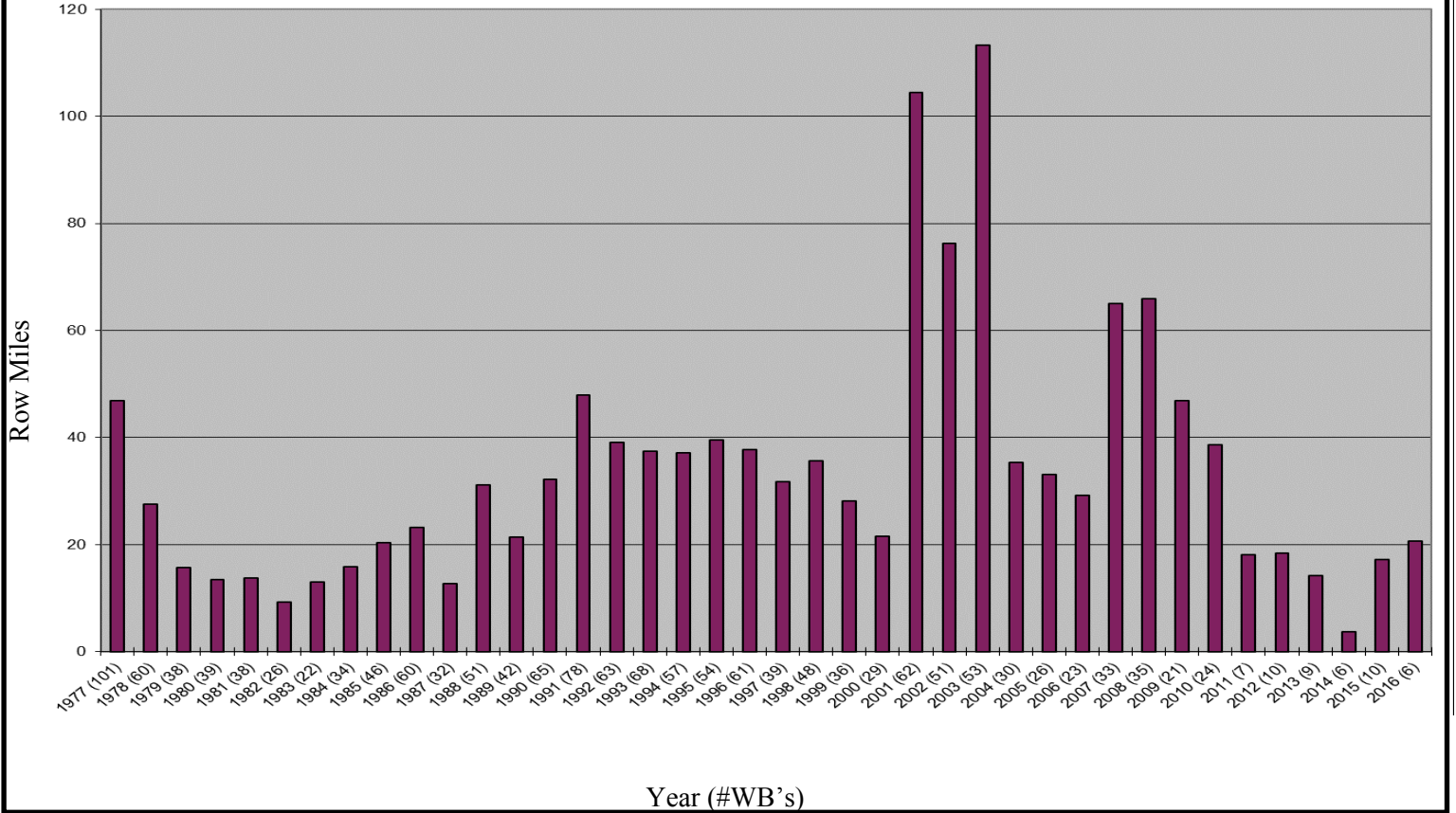
2016 WINDBREAK PLANTING BY SPECIES





Northwest Ohio Field Windbreak Program — *continued*

Northwest Ohio Windbreak Program—Row Miles Per Year 1977-2016



Year	Total Miles
1977 (101)	46.8
1978 (60)	27.5
1979 (38)	15.7
1980 (39)	13.4
1981 (38)	13.8
1982 (26)	9.3
1983 (22)	13.0
1984 (34)	15.8
1985 (46)	20.4
1986 (60)	23.2
1987 (32)	12.8
1988 (51)	31.1
1989 (42)	21.4

Year	Total Miles
1990 (65)	32.2
1991 (78)	47.9
1992 (63)	39.0
1993 (68)	37.5
1994 (57)	37.2
1995 (54)	39.6
1996 (61)	37.8
1997 (39)	31.8
1998 (48)	35.7
1999 (36)	28.2
2000 (29)	21.5
2001 (62)	104.4
2002 (51)	76.2
2003 (53)	113.3

Year	Total Miles
2004 (30)	35.4
2005 (26)	33.1
2006 (23)	29.1
2007 (33)	65.1
2008 (35)	65.9
2009 (21)	46.8
2010 (24)	38.7
2011 (7)	18.2
2012 (10)	18.4
2013 (9)	14.2
2014 (6)	3.6
2015 (10)	17.3
2016 (6)	20.7
Total	1,352.9



SERVICE FORESTRY PROGRAM

The Division of Forestry’s Service Forestry program is the primary source of forestry assistance for private woodland owners in the State of Ohio. Service foresters provide one-on-one assistance to landowners, developing woodland stewardship management plans, helping them prepare for timber sales, create wildlife habitat, plant trees for future forests, and better understand the benefits of forests. Service foresters also administer Ohio’s property tax reduction program for woodlands, called Ohio Forest Tax Law, and provide technical assistance to landowners participating in the USDA’s Environmental Quality Incentives Program (EQIP) and other federal cost-share or incentive programs. The Division of Forestry works with many partners, including the American Tree Farm System, US Department of Agriculture, local Soil & Water Conservation Districts, Wayne National Forest, and other state agencies like the Ohio Division of Wildlife, Ohio Department of Agriculture, and Ohio State University Extension.

2016 Ohio Service Forestry Report

Forest Stewardship Program and Rural Forestry Assistance	
Number of landowners receiving technical assistance	1,979 landowners
Number of landowners participating in educational programs	6,881 landowners
Number of acres covered by new or revised Forest Stewardship Management Plans	27,572 acres
Number of new and/or revised Forest Stewardship Management Plans	352 plans
Number of acres covered by current Forest Stewardship Management Plans	303,104 acres
EQIP Cost Share Assistance	
Number of new and/or revised Environmental Quality Incentives Program (EQIP) Management Plans	19 plans
Number of acres of new and/or revised EQIP Management Plans	1,500 acres
Supplemental Information	
Total Forest Stand Improvement	11,718 acres
Saw Timber Harvested	0.46 million board feet
Referrals to Consultants	307



The Division of Forestry provides leadership in wildfire prevention, training, suppression, and prescribed fire management. The division participates in cooperative agreements with local fire departments, as well as in training, equipping, and coordinating the Ohio Interagency Fire Crew and specialized individual resource personnel for wildfires and disasters in and out of state. The division also administers federal grants and federal excess property to rural fire departments.

Fall and spring of fiscal year 2016 did not have any significant dry windy periods which typically result in large fires. In fact, no fires were recorded in the size class of “100 acres or more.” The reported acres burned by wildfires for the fiscal year is the fifth lowest total the division has recorded for a fiscal year since record keeping began in 1922. The leading cause of wildfires remained debris burning, which accounted for more than half of all reported fires. The remaining causes were distributed among remaining common causes.

Wildfires and Acres Burned by Causes

Between 07/01/15 and 06/30/16

Cause	Number of Fires	Forested Acres	Total Acres
CAMPFIRE	10	81	91
CHILDREN	2	1	1
DEBRIS BURNING	216	314	527
EQUIPMENT	10	6	8
FIREWORKS	1	0	2
INCENDIARY	18	28	45
LIGHTNING	2	1	1
MISCELLANEOUS	99	261	376
POWERLINE	33	83	106
SMOKING	14	8	12
STRUCTURE	3	8	8
Totals	408	791	1,177

Wildfires and Acres Burned by Size Class

Between 07/01/15 and 06/30/16

Size Class	Number of Fires	Forested Acres	Total Acres
Class A - .25 Acres or less Total	135	10	22
Class B - .26 to 9.9 Acres Total	241	328	502
Class C - 10 to 99.9 Acres Total	32	452	652
Totals	408	790	1,176



FIRE PROGRAM — *continued*

The Division of Forestry continued to provide leadership in prescribed fire management in 2016. Waivers of ORC 1503.18 were issued by the Division of Forestry to federal, state, and local government partners, as well as to private companies, NGOs, and citizens to facilitate prescribed fires across Ohio.

Period	Report	Quantity
FY 2016 (July 1, 2015 – June 30, 2016)	Waivers issued	109 waivers
FY 2016 (July 1, 2015 – June 30, 2016)	Division of Forestry activity	15 Rx reports, 916 acres
FY 2016 (July 1, 2015 – June 30, 2016)	All Prescribed Fire reports	239 Rx reports, 6,279 acres

FY 16 Division of Forestry Prescribed Fire

The Division of Forestry completed the following prescribed burns during FY 16:

Name	Forest	Date	Burn Season	Area	Comments
CCC	Zaleski	3/18/2016	Spring 2016	150	Site prep
REMA 4 FFS Burn	Vinton Furnace	3/30/2016	Spring 2016	48	Research
REMA 3 FFS Burn	Vinton Furnace	3/30/2016	Spring 2016	54	Research
Zaleski FFS Burn	Zaleski	4/15/2016	Spring 2016	111	Research
Devils Den	Zaleski	3/18/2016	Spring 2016	72	Prior shelterwood and clearcuts
Turner Pine	Zaleski	3/23/2016	Spring 2016	19	Pine Shelterwood then burn
Tar Hollow FFS Burn	Tar Hollow	4/14/2016	Spring 2016	112	Research
A-17 Shelterwood	Blue Rock	11/16/2015	Fall 2015	162	Release Burn after Shelterwood
Riddle Burn	Zaleski	11/17/2015	Fall 2015	30	Release burn after 2007 Shelterwood
Middle Meadow	Maumee	11/3/15	Fall 2015	7	Restoration/Maintenance
North Meadow	Maumee	11/2/15	Fall 2015	6	Restoration/Maintenance
Muck Farm 2015	Maumee	11/3/15	Fall 2015	9.5	Restoration/Maintenance
Muck Farm Roadside	Maumee	4/5/16	Spring 2016	3.2	Restoration/Maintenance

Several of these burns were conducted for research purposes as part of the National Fire and Fire Surrogates study (FFS). These burns measure many factors including pre and post burn vegetation, soils information, insect and wildlife populations along with other information that is used to make a data set of information about the effects of fire and surrogate treatments nationwide. These areas have been burned approximately every 5 years since 2001. The data is collected by researchers from the US Forest Service, Northern Research Station in Delaware, OH.

The other burns that were conducted can generally be classified by site prep burns or release burns. Site prep burns are conducted generally in stands that are more closed canopy and have not been harvested for several years. Generally speaking there are not many oak/hickory seedlings or saplings present before the burn. The site prep burns help to reduce the red maple and other shade tolerant species components of the understory. These seedlings/saplings reduce the amount of light that is able to reach the forest floor because they grow dense in the shady conditions. The oaks and hickories are shaded out and cannot survive. By reducing this competition as well as reducing the duff layer so that acorns can germinate more easily, the end state is to encourage more and more vigorous oak/hickory seedlings.

Release burns are similar to the site prep burns in the end goal of encouraging more and more vigorous oak/hickory seedlings, but release burns rely on having oak/hickory regeneration already present and established. The release burns help to reduce the competition from more shade tolerant and other thin barked tree species that grow rapidly after opening the canopy from some sort of management activity which is usually a shelterwood type harvest. By conducting low to moderate intensity burns through these stands, we are able to top kill the shade tolerant and thin barked tree species that compete with the oaks and hickories for sunlight and resources. This top killing reduces their ability to re-sprout repeatedly where the oak and hickory seedlings and saplings can re-sprout many times since they store energy reserves in their taproots. After one or two release burns, the competition is reduced enough that the oaks and hickories are in a better competitive environment that once the overstory is removed from these stands, they will become the dominant trees in the next stand.

FY 16 Division of Forestry Firefighter Training

The Ohio Department of Natural Resources Division of Forestry offers training to firefighters ranging from basic wildfire instruction to specialized courses to improve skills necessary in the complex and dangerous business of wildland firefighting. In Fiscal Year 2016, the following courses were held:

July 1, 2015 - June 30, 2016 Courses	Dates	Number of Students
S-190/130/L-180, 1865-2016-001	9/28/2015	31
S-190/130/L-180, 1865-2016-401	10/10/2015	8
S-211	10/6/2015	23
I-300, 2174-2016-001	11/2/2015	8
I-400, 2175-2016-001	11/4/2015	6
Wildfire Refresher	2/18/2016	24
Wildfire Refresher	2/24/2016	23
Wildfire Refresher	3/3/2016	28
Wildfire Refresher	4/28/2016	21
Wildfire Refresher	5/5/2016	33
Wildfire Refresher	5/12/2016	34
S-190/130/L-180, 1865-2016-002	2/27/2016	28
S-133	5/23/2016	26
S-131	5/24/2016	26
L-481	6/6/2016	27
I-300, 2174-2016-401	6/4/2016	6
I-400, 2175-2016-401	6/11/2016	6



2016 Ohio Forest Health Report

The Ohio Department of Natural Resources (ODNR) Division of Forestry’s Forest Health Program is a cooperative initiative among Ohio and its surrounding states. Since insects and pathogens do not recognize state boundaries, it is important for these states to work together to mitigate potential threats to each other’s forest resources. This is achieved through rigorous field work and various investigative techniques. Additionally, state forest managers, service foresters, and urban foresters are periodically asked for assistance and provide input related to forest health issues they find throughout the year.

Landowners and the general public are encouraged to call the Ohio Division of Forestry, toll free at 1-877-247-8733, and report any strange or unusual forest health patterns or occurrences they feel are abnormal and potentially threatening.

Pests and Surveys

Aerial Detection Survey—Each year, the Ohio Division of Forestry, with the use of Ohio Division of Wildlife aircraft, conducts an aerial survey over the majority of the state to survey Ohio’s forest health. This year’s survey began on June 13 and concluded on June 24. Flight lines were flown in an east to west direction with spacing of about four miles. Each flight day, two observers were equipped with digital mobile sketchmap (DMSM) tablet computers containing a GIS/GPS mapping system. The observers identified 260 different sites from the air with discoloration, defoliation or mortality, totaling 7,652 acres. One-hundred thirty-six of these sites were inspected on the ground by Ohio Division of Forestry staff. The top five damage-causing agents (DCA) and associated acreage are below (other than “unknown” DCA, which totaled 867 acres):

Damage Causing Agent	Acres
Water/flooding damage	2,574
Emerald ash borer	2,085
Diplodia tip blight	788
Oak decline	361
Anthraxnose	275

Periodical Cicadas—“Brood V” of the 17-year periodical cicadas emerged across much of eastern Ohio in the spring of 2016. Peak activity for the cicadas was during most of the month of June. Flagging damage as a result of oviposition by the female cicadas was readily visible starting in early July across the range of the emergence on many tree and shrub species. While visually striking, the damage will most likely not cause significant harm to established trees and shrubs. Mortality of newly planted seedlings and saplings was observed in some areas.



Adult periodical cicada



Flagging damage caused by periodical cicada oviposition

Summer drought—Rainfall amounts for June and July were about 25% below normal across Ohio with some local areas experiencing more severe drought. This drought, in combination with 30% higher than normal rainfall in the spring of 2015, stressed many plants. Diseases of ornamental conifers like *Rhizosphaera* needle-cast, *Cytospora* canker, and *Phomopsis* canker, particularly on blue spruce, were commonly reported. Anthracnose was evident on such tree species as sycamore, sil-



Cooperative Forest Health Program — continued

ver maple, and ash. It is possible that these fungal diseases proliferated during the wet spring of 2015, and their effects became readily observed with the additional heat and drought stress in 2016. Aside from non-native ornamentals, significant impacts to tree health are not expected.

Asian Longhorned Beetle—In June of 2011, an Asian longhorned beetle (ALB) infestation was identified in Tate Township in Clermont County (southwest Ohio). The USDA Animal & Plant Health Inspection Service (APHIS) and Ohio Department of Agriculture have enacted a quarantine area of 61 square miles, centered over Tate Township, including East Fork State Park and Wildlife Area to prevent the movement of regulated items, including wood from any hardwood tree species, out of the quarantine area. Surveys as of November 12 have located 18,710 infested trees, out of over 2 million trees surveyed. As of November 12, 18,158 infested trees have been removed. A replanting project was initiated by the Division of Forestry in the fall of 2012, with non-host tree species available to landowners who were impacted by landscape tree removals by the Ohio ALB program. Since the start of this program, approximately 1,600 trees have been distributed. In 2014, a special Environmental Quality Incentives Program (EQIP) was offered by the USDA Natural Resources Conservation Service (NRCS). The ALB EQIP is a cost-share program just for affected landowners within the quarantine area to assist them with tree planting and invasive plant control.

Hemlock Woolly Adelgid—In 2012, hemlock woolly adelgid (HWA) was discovered in southeast Ohio in Shade River State Forest (Meigs County) -- the first detection of HWA in a natural stand of eastern hemlock. Since 2012, HWA infestations have been discovered in seven southeastern Ohio counties. Since 2013, the Ohio Department of Natural Resources Division of Forestry, with assistance from several governmental and non-governmental partners, has protected more than 1,300 eastern hemlock trees with insecticide (220 trees treated in 2016 at the writing of this report). Treatment methods consisted of either soil drench or trunk injection with imidacloprid or basal bark spray with dinotefuran. Winter mortality of HWA from 2015-16 was assessed from two locations in southern Ohio. Mortality rates from these locations averaged 28%, compared to 82% in winter 2014-15. Also since 2013, the Ohio Department of Natural Resources Division of Forestry and partners have conducted biocontrol predator beetle releases. More than 3,700 beetles (*Laricobius nigrinus* and *L. osakensis*) have been released on HWA-infested trees. These beetles were collected in the field from North

Carolina and Washington, and shipped to Ohio from the Virginia Tech HWA predator beetle rearing facility. Monitoring of treatment success and additional predator beetle releases are expected over the next several months. Continued hemlock surveys are planned for this winter. All counties with confirmed HWA infestations are quarantined by the Ohio Department of Agriculture to prevent the movement of potentially infested hemlock materials out of the infested areas.



Laricobius osakensis beetles on HWA infested tree

In late 2015, a partnership known as the Ohio Hemlock Conservation Partnership (OHCP) received funding from The Nature Conservancy, Hocking Hills Tourism Association, and Crane Hollow Nature Preserve, to fund the hiring of two temporary positions by the Ohio Division of Forestry. Their work involved the inventory of hemlock stands and survey for HWA mainly in the Hocking Hills region. Seventy-eight percent of hemlock stands on public land in the Hocking Hills were surveyed and more than 2,000 acres were inventoried.



HWA survey work being completed as part of the Ohio Hemlock Conservation Partnership



Emerald Ash Borer—Emerald ash borer (EAB) has been the most devastating forest pest in Ohio in recent years, and quite possibly in history. As of 2016, all 88 of Ohio's counties have confirmed infestations. New county EAB confirmations in 2016 were Adams and Vinton. In northwest Ohio, where EAB was discovered in 2002, the vast majority of native ash species have been killed. Significant mortality of ash is now occurring in central, southwest, and northeast Ohio. In late 2014, a researcher at Wright State University discovered EAB infesting white fringetree. Subsequent experiments have confirmed the ability of EAB to complete its lifecycle within white fringetree as well as in cultivated olive. The impact EAB will have on these tree species needs further research. The Ohio Division of Forestry is working with several partners to monitor native populations of white fringetree in southern Ohio. The Division of Forestry continues to help woodland owners manage their forests and utilize their ash resources, assist communities that are dealing with current and future EAB issues, and work to increase public awareness about the insect.

Walnut Twig Beetle/Thousand Cankers Disease—In late 2012, walnut twig beetle (WTB), the insect vector of thousand cankers disease (TCD), was caught in Ohio Department of Natural Resources Division of Forestry traps in Butler County (southwest Ohio). The fungal pathogen that causes TCD, *Geosmithia morbida*, was subsequently confirmed from infested trees in Butler County in 2013. In 2014, the known infested black walnut trees were removed and examined as part of a U.S. Forest Service research project. The Ohio Division of Forestry has been monitoring more than 30 Lindgren funnel traps from spring through fall across the state in black walnut plantations and forested areas with a large component of black walnut. Traps are checked at least every two weeks and samples are sent to Ohio State University's Ohio Agricultural Research & Development Center (OARDC) for analysis. The Ohio Department of Agriculture monitors more than 100 traps within Butler County in addition to traps at wood processing facilities around the state. No WTB has been detected in any Ohio traps since 2013 (including 2016). The Ohio Department of Agriculture has quarantined Butler County to prevent the movement of potentially infested walnut material out of the county. Further research on this pest will help to guide future management activities.

Gypsy Moth—The European gypsy moth saw a decrease in abundance in 2016. In Ohio, gypsy moth occurs in the majority of the eastern half of the state, with the edge of the infested area extending generally from

northwest Ohio to southeast Ohio. Fifty-one of Ohio's 88 counties are quarantined by the Ohio Department of Agriculture to prevent the movement of gypsy moth out of those counties. No additional counties were added to the quarantine in 2016. Male gypsy moth catch was down 15% from 2015. The Ohio Department of Agriculture continued their treatment efforts within the Slow the Spread transition zone with four types of treatments occurring in 2016: Gypchek (gypsy moth virus), Foray 48b (Btk bacterium), Mimic 2LV (chemical insecticide), and Disrupt II (mating disruption pheromone). A total of 2,853 acres were treated with chemical larvacide treatments (Foray, Mimic, or Gypchek). Disrupt II mating disruption was applied to 142,993 acres. The Ohio Department of Agriculture will continue to monitor gypsy moth populations and assess treatment effectiveness.

Forest Insect Pests—Several pests of oak species were widely reported throughout the state in 2016. Damage by oak shothole leafminer and spiny oak sawfly was very common across Ohio this spring. While the effects of these fly and sawfly species, respectively, were obvious, they did little or no harm to their host oak species. Oak lace bug populations were high in late-summer, but, like the oak shothole leafminer and spiny oak sawfly, had little to no effect on tree health. Viburnum leaf beetle, which has been established in the northeastern part of the state for several years, was discovered in central Ohio in 2016 defoliating highbush cranberry, arrowwood, and other viburnum species. Similarly, basswood leafminer, which has mainly been observed in the northern half of the state, was discovered in southwestern Ohio, skeletonizing foliage of American basswood.



Holes in oak leaves created by oak shothole leafminer



Adult viburnum leaf beetle

Beech Leaf Disease—An as yet unidentified decline of American beech has been observed for the last several years in northeastern Ohio, and is being referred to as “beech leaf disease” (BLD). Beech leaf disease was also reported from northwest Pennsylvania in 2016. The decline is first expressed as banding of dark interveinal leaf tissue, and progresses to leaf curling, callousing, and disfigurement. Eventually branch dieback and lack of bud production is noticed. Personnel from several groups and agencies including the USDA Forest Service State and Private Forestry, Ohio Division of Forestry, Ohio Department of Agriculture, Ohio State University, USDA APHIS PPQ, Lake County Metroparks, Cleveland Metroparks, and Holden Arboretum have been investigating this decline and continue to monitor decline progression.



Leaf wilting symptoms of beech leaf disease

Non-native Invasive Plants—Non-native invasive plants are a threat to the biodiversity of forests throughout Ohio. Some forests are already declining due to severe infestations of invasive plants such as *Ailanthus*, bush honeysuckles, autumn-olive, multiflora rose, and Japanese stiltgrass, while other areas remain largely uninvaded. Aerial mapping of *Ailanthus* in southern Ohio has allowed for targeted treatments to reduce infes-

tations on state forest, national forest, and neighboring lands. The Division of Forestry has partnered with researchers from the U.S. Forest Service Northern Research Station to examine the efficacy of *Verticillium nonalfalfae*, a soil borne fungus, as a potential biocontrol for *Ailanthus*. The Division of Forestry promotes invasive plant control by working with Ohio’s only Cooperative Weed Management Area (CWMA), the Appalachian Ohio Weed Control Partnership (AOWCP), and on private land through its Service Forestry Program and through other outreach events.



Japanese stiltgrass



State Forest Land Inventory

1. **Beaver Creek:** 1,122 acres, Columbiana County
2. **Blue Rock:** 4,578 acres, Muskingum County
3. **Brush Creek:** 13,492 acres, Scioto/Adams/Pike counties
4. **Dean:** 2,749 acres, Lawrence County
5. **Fernwood:** 3,023 acres, Jefferson County
6. **Gifford:** 320 acres, Athens County
7. **Harrison:** 1,345 acres, Harrison County
8. **Hocking:** 9,809 acres, Hocking County
9. **Maumee:** 3,307 acres, Fulton/Henry/Lucas counties
10. **Mohican-Memorial:** 4,541 acres, Ashland County
11. **Perry:** 4,706 acres, Perry County
12. **Pike:** 12,403 acres, Pike/Highland counties
13. **Richland Furnace:** 2,524 acres, Jackson/Vinton counties
14. **Scioto Trail:** 9,600 acres, Ross/Pike counties
15. **Shade River:** 2,859 acres, Meigs County
16. **Shawnee:** 63,806 acres, Scioto/Adams counties
17. **Sunfish Creek:** 637 acres, Monroe County
18. **Tar Hollow:** 16,446 acres, Ross/Vinton/Hocking counties
19. **Vinton Furnace:** 12,086 acres, Vinton County
20. **West Blue Rock:** 698 acres, Muskingum County
21. **Yellow Creek:** 756 acres, Columbiana County
22. **Zaleski (+ Waterloo @ 447acres):** 27,375 acres, Vinton/Athens counties

Fiscal Year 2016

Recreational Activities

Backpackers	960
Horse Campers.....	1,145
Family Campers.....	1,042
Hunter Campers	275
APV Riders	2,949
Snowmobilers	17
Horse Riders	4,251
Hunters/Anglers.....	9,317
Hikers.....	4,180
Gun Range Users	14,100
Mountain Bikers	1,755
Harvesters	1,322
Misc. Day Use	21,587

State Forest Recreation

State Forest	Acres	Miles of Trails - Primary Use					Shooting Range	Campsites	Fire Tower	State Park w/in State Forest	Other Features
		Hiking	Bridle	APV	Backpack	Mtn. Bike					
Beaver Creek	1,122									Adjacent to Little Beaver Creek State & National Wild, Scenic River	
Blue Rock	4,576		15					Y	Y		
Brush Creek	13,615	2.8	10.2								
Dean	2,745		7.8							Trail connects to Wayne National Forest	
Fernwood	3,023	4.8					Y	F-22		Trap, pistol, rifle ranges, fishing ponds	
Gifford	320									Experimental seed orchards, fishing pond, picnic area	
Harrison	1,345		12.5				Y	H-20 & F-7		Fishing ponds	
Hocking	9,817	7.3	31.3					H-23	Y	Y	Rock climbing, rappelling, Buckeye Trail
Maumee	3,299	1.9	8.3	8.2							Windbreak arboretum, tree improvement area, wet sedge meadows
Mohican-Memorial	4,541		19.7			18.1		P-10	Y	Y	Memorial Forest Shrine, Discovery Forest
Perry	4,705		16.2	19.7							
Pike	12,159	28.2	28.5	10.3						Y	Buckeye Trail
Richland Furnace	2,524			7.3							Historic iron ore area
Scioto Trail	9,900	4.5	25						Y	Y	Buckeye Trail
Shade River	2,856	2									Fishing pond
Shawnee	63,776	9.6	67.2		46.4			H-58	Y	Y	8,000 acre wilderness area, Buckeye Trail, fishing lakes
Sunfish Creek	637										Steep terrain along Ohio River
Tar Hollow	16,486	24.4	27.5					H-46	Y	Y	Buckeye Trail, Logan Trail, Grouse Mgmt Area
Vinton Furnace	12,086	14.1									Hunters Camp
West Blue Rock	696										
Yellow Creek	766										Adjacent to Highlandtown Wildlife Area
Zaleski	27,851	0.5	29.5		23.9		Y	H-16	Y	Y	Grouse Mgmt Area, Hunters Camp, Forest of Honor
								F-Family; H-Horse; P-Park & Pack			

Ohio’s State Forest Facilities

Throughout Ohio’s state forest districts, there are nine staffed state forest locations. Each of these facilities is maintained by division staff. Managers and staff complete much of the maintenance and upkeep in order to save cost and fully utilize the expertise of staff. Routine maintenance includes cleaning, painting, vegetation management, and minor repairs. In-house staff also conduct many of the larger renovation and repair projects such as remodeling, roofing, demolition, and minor plumbing and electrical work.

State Forest Recreation

State forests offer visitors numerous outdoor recreation opportunities that require a large land base and are compatible with sustained forest management, including backcountry bridle trails, backpack trails, mountain bike trails, day-use hiking trails, camping, hunting, wildlife viewing, and gathering. More than 300 miles of backcountry bridle trails, 80 miles of hiking and backpacking trails, and 50 miles of mountain bike trails are found on Ohio’s 21 state forests. The Division of Forestry is the sole provider of designated motorized trail riding areas on state lands for off-road APV’s and motorcycle riding.

Each year the state forest staff maintain the trails through vegetation management, trail blazing, monitoring, and implementing soil and erosion control practices.

The camps are also maintained with practices such as mowing, hazard tree removal, kiosk and sign management, manure and trash removal, as well as latrine cleaning and maintenance.

Roadway Maintenance

Roads with a “state forest road” designation are maintained by the forest crews. Funding and technical expertise may be provided by ODOT on larger projects. These projects include, but are not limited to; road and parking lot paving, large quantities of aggregate or culvert placement, bridge repairs or replacement, and large road slip repairs.

Within the state forest road system there are more than 200 miles of road, more than 65 bridges, and several thousand culverts and headwall systems. There are numerous parking areas, pull-offs, scenic vistas, and service roads. All routine maintenance is conducted by district employees.

Special Use

State forests may be utilized in various ways by the public, stakeholders, other government agencies, companies, etc. There are laws, rules, and policies that dictate how the Division evaluates and grants permission for these land-use requests.

One of the most common venues for allowing a special use is the issuance of a “special use permit.” When relevant, an interested party would complete a special use permit application. It would then be evaluated by Division staff, and if approved, a permit for that use would be issued. These are commonly issued for short-term events in which one or more of the “forest rules” would need to be waived in order for the event to take place. In some cases, the division may require an application fee, proof of insurance, and a surety bond. These events include, but are not limited to:

<ul style="list-style-type: none"> • Competitive trail races • Large groups utilizing recreation trails • Short term access to private land or utility lines across state forest property • Research 	<ul style="list-style-type: none"> • Events such as weddings, group tours, group camp use • Hay production from state forest fields • Geocaches • Concessions taking place on state forests • Filming
--	--

Dams

Lakes, dams, and spillway maintenance continues to be a priority for Division of Forestry staff. There are several small unclassified wildlife ponds that require minimal maintenance, but the Division also manages nine classified dams. These lakes and associated infrastructure are frequently inspected and the dam's Emergency Action Plan or Emergency Preparedness Plan is followed if concerning issues are developing. The Division of Forestry utilizes the Division of Engineering for technical expertise and the Division of Soil and Water regulates these classified structures. Maintenance items on these dams include mowing the earthen levees, minor repair to spillway and associated structures, vegetation clearing, spillway clearing, ice mitigation, and exercising the drain valves if present. Lake maintenance may include seasonal water level lowering, inlet maintenance, snag removal, perimeter vegetation clearing, and mowing.

Reforestation Tree Plantings

The Ohio Division of Forestry received a grant through Appalachian Forest Renewal Initiative, Hardwood Forestry Fund, and Rockler Woodworking and Hardware to implement a 10-acre tree planting at Gifford State Forest. Tree species planted included white oak, northern red oak, chinkapin oak, black walnut, and yellow poplar.

Seedlings provided by the Ohio Chapter of The American Chestnut Foundation were utilized to plant hundreds of seedlings several state forests and one Division of Wildlife area. In December 2015 trees were planted at Mohican State Park, Scioto Trail State Forest and Waterloo Wildlife Area. In March/April 2016 tree were planted at Hocking State Forest at 2 different sites. A new kiosk was constructed at the Scioto Trail and Mohican site to illustrate the history of the American chestnut as well as the planting project. Panels for these kiosks were provided by The American Chestnut Foundation.

State Park Ash and Hazard Tree Removal Projects

Beginning in the winter of 2012, State Forest staff have assisted the Division of Parks in making state parks safer with the removal of ash trees impacted by the emerald ash borer (EAB). In FY16, skilled sawyers with the DOF worked in 16 state parks removing more than 4,500 EAB impacted ash and other hazard trees from state park campgrounds, cabins, and picnic areas.



FSC and SFI Certification of State Forests

The Ohio Department of Natural Resources Division of Forestry has continued to maintain certification of state forests under the Forest Stewardship Council® (FSC®) and the Sustainable Forestry Initiative® (SFI®). Ohio's state forests are the only dual-certified forests in Ohio and have been recognized by independent third party auditors as being "well-managed." NSF-ISR, an accredited SFI certification body, and Scientific Certification Systems, an accredited FSC certification body, continue to provide auditing services under the standards. Fiscal year 2016 was the first year of a new forest management certificate, meaning the division was evaluated against every criterion in each standard. The Division chose to continue the certification process and will undergo a full audit for both the FSC and SFI standard in 2016. Reports of the audit findings are available on the division's website.

State Forest Timber Sales

Each year, the Division of Forestry evaluates a portion of the forest to assess inventory and determine potential harvesting opportunities. Harvesting can improve the overall health and condition of the forest by removing trees of poor health and vigor that are prone to attack from insects and disease. It also can reduce the stand's susceptibility to natural disturbances such as wildfire and ice storms. Timber harvests are one way that the Division meets the requirement in the Ohio Revised Code to "bring about a profitable growth of timber."

Most state forest timber sales are advertised and sold through a competitive sealed bid process. The purchasers of our timber sales are part of Ohio's \$15 billion forest industry that employs over 65,000 people. The successful purchaser is required to use an Ohio Forestry Association – Certified Master Logging Company. These companies have completed training on environmentally sensitive harvesting. Division foresters supervise this process carefully by marking trees to be harvested and administering the operations as they proceed. Ohio's state forests are working forests that provide forest products and a diversity of wildlife habitats that are enjoyed by all.

The Division harvested 1,984 acres in FY 16. Forty-eight percent of sales were even-aged thinnings or singletree selection harvests, 3% were clearcut harvests or group openings, and 49% percent were deferment or shelterwood harvests. Meeting the division's goals of forest health improvement, creating young forest wildlife habitat, and oak regeneration remain the focus and priority of management actions.

State Forest Timber Sale Revenue & Harvesting Activity—Stumpage

In fiscal year 2016, revenue received from State Forest stumpage timber sales totaled 3,693,528.41. Revenue lags sale advertisement because purchasers pay for sales as they are harvested via cutting section control or weekly payments in pay-as-cut sales. The Division continues to supply stumpage timber to Glatfelter Corporation as part of a supply agreement obligation that is part of the Vinton Furnace State Forest acquisition.

A portion of the revenue from state forests stumpage sales is distributed to local governments. The Division of Forestry is allowed to recover the costs associated with timber management. The net revenue is then divided as follows according to Ohio Revised Code; Section 1503.05: 35% to the Division of Forestry and 65% to the local county. For FY 16, \$2,038,898.93 was distributed among local governments. The county treasurers are instructed to distribute 50% of that amount to the local school district, 25% to the township, with the county government keeping the remaining 25% pursuant to ORC. The Division of Forestry uses its share of stumpage revenue to fund the division's operations as well as transferring funds to the wildfire protection assistance account to fund fire departments in support of wildland fire suppression.

Forest Product Sale Revenue and Merchandising

The sale of forest products continues to provide significant revenue for the Division. These sales are differentiated from standing timber sales. These products are mostly sold as cut and sorted logs rather than as standing trees.

The largest contributor to this program is the log merchandising program. Merchandising sales are generated from service contractors who harvest timber and deliver the logs to a central location for Division staff to sort the logs into separate lots for sale. Eighteen different purchasers were successful bidders for at least one lot of logs off the merchandising yards.

The Division also harvests some timber utilizing in-house staff. The Division sold merchandised logs from Scioto Trail and Yellow Creek state forests.

The Division also sells other products throughout the year. These include sawdust, lumber, and logs salvaged by state forest crews from storms or right-of-way construction. Salvage logs from Maumee State Forest and lumber from the Zaleski State Forest sawmill accounted for the majority of this revenue in 2016.

In total, the division sold 2.074 million board feet in merchandising and miscellaneous product sales.

Work Plan Implementation

The division's foresters and forest managers worked throughout the year to implement the land management portion of the annual work plans. Forest inventory, timber marking, and sale inspections made up the bulk of activities that foresters worked on during the year.

Activities

Timber Sale Inspections	577
Acres cruised	6,419
Acres marked	1,420
Acres pre-commercial	659
Mineral inspections	127



Summary of Timber Distribution for Revenue Received in Fiscal Year 2016

ADAMS			MUSKINGUM		
	COUNTY	\$145,427.43		COUNTY	\$5,621.21
	FRANKLIN TWP	\$54,944.44		BLUE ROCK TWP	\$5,196.57
	GREEN TWP	\$18,957.17		SALT CREEK TWP	\$424.71
	JEFFERSON TWP	\$71,525.83		FRANKLIN LSD	\$11,242.55
	ADAMS CO. - OHIO VALLEY LSD	\$180,966.00		TOTAL PAYMENT	\$22,485.04
	Manchester LSD	\$109,888.87	<hr/>		
	TOTAL PAYMENT	\$581,709.74	PIKE		
<hr/>				COUNTY	\$24,927.16
ATHENS				BENTON TWP	\$6,346.76
	COUNTY	\$690.03		MIFFLIN TWP	\$16,822.93
	YORK TWP	\$690.02		PERRY TWP	\$1,757.47
	NELSONVILLE LSD	\$1,380.05		WESTERN LSD	\$49,854.32
	TOTAL PAYMENT	\$2,760.10		TOTAL PAYMENT	\$99,708.64
<hr/>			<hr/>		
HIGHLAND			ROSS		
	COUNTY	\$20,986.06		COUNTY	\$141,155.15
	BRUSH CREEK TWP	\$20,986.07		COLERAIN TWP	\$17.75
	OHIO VALLEY LSD	\$41,972.13		FRANKLIN TWP	\$104,201.02
	TOTAL PAYMENT	\$83,944.26		HARRISON TWP	\$36,936.37
<hr/>				ZANE TRACE LSD	\$35.51
HOCKING				SOUTHEASTERN LSD	\$282,274.79
	COUNTY	\$2,030.07		TOTAL PAYMENT	\$564,620.59
	BENTON TWP	\$1,936.99	<hr/>		
	GOOD HOPE TWP	\$93.08	SCIOTO		
	LOGAN HOCKING LSD	\$3,873.97		COUNTY	\$76,625.21
	HOCKING LSD	\$186.16		BRUSH CREEK TWP	\$9,420.92
	TOTAL PAYMENT	\$8,120.27		MORGAN TWP	\$46.85
<hr/>				NILE TWP	\$41,169.50
JACKSON				UNION TWP	\$25,987.94
	COUNTY	\$26.50		NORTHWEST LSD	\$70,911.44
	COAL TWP	\$26.50		WASHINGTON-NILE LSD	\$82,339.02
	WELLSTON LSD	\$52.99		TOTAL PAYMENT	\$306,500.88
	TOTAL PAYMENT	\$105.99	<hr/>		
<hr/>			VINTON		
JEFFERSON				COUNTY	\$91,315.49
	COUNTY	\$690.02		BROWN TWP	\$15,272.96
	WAYNE TWP	\$690.03		ELK TWP	\$49,555.47
	INDIAN CREEK LSD	\$1,380.05		KNOX TWP	\$6,608.72
	TOTAL PAYMENT	\$2,760.10		MADISON TWP	\$11,233.59
<hr/>				SWAN TWP	\$8,644.75
MEIGS				VINTON LSD	\$182,630.98
	COUNTY	\$230.34		TOTAL PAYMENT	\$365,261.96
	OLIVE	\$230.34	<hr/>		
	EASTERN LSD	\$460.68			
	TOTAL PAYMENT	\$921.36			

Revenue by Fund

Fund	Fund Description	FY 2016
4M70	Wildfire Suppression	0
5090	State Forest	7,753,337
5100	Property Management	15,188
5210	State Recreational Vehicle	430,894
5SX0	Pollution Abatement	0
GRF	Allocation	4,571,903
R017	Bond Refunds	141,675
R043	Timber Sales Redistribution	2,035,486
	TOTAL	14,948,483

Expenses

FY16 Expenses*	Fund								
	5090	GRF	4M70	5100	5210	5SX0	R017	R043	TOTAL
Payroll	3,635,995	4,349,976			38,768				8,024,739
Purchased Personal Svcs	97,585	1,962							99,547
Supplies & Maintenance	2,642,717	219,964		19,446	302				2,882,429
Equipment	346,342	0		9,650	99,684				455,676
Subsidies & Shared Rev.	524,865		40,555					2,054,354	2,619,774
Capital Items	603,350				425,000				1,028,350
Refunds	60						62,965	2,768	65,793
Total	7,850,914	4,571,902	40,555	29,096	563,754	0	62,965	2,057,122	15,176,308

*Note: includes encumbrances as of 11/30/16. May change as POs are closed.

