

NATIONAL PRIORITIES SECTION

STATE OF OHIO 2015

The 2008 Farm Bill, under Title VIII – Forestry, amends the Cooperative Forestry Assistance Act of 1978, to include the requirement that each state develop a long-term, state-wide assessment and strategies for forest resources. These assessments and strategies focused on three national priorities:

1. Conserve and Manage Working Forest Landscapes for Multiple Values and Uses
2. Protect Forests from Threats
3. Enhance Public Benefits from Trees and Forests

These documents were developed with a comprehensive team of stakeholders to address cross-boundary, landscape scale actions that would be the most efficient activities to address issues of concern developed for the assessment phase of the Forest Action plan.

The Ohio Statewide Forest Resource Strategy lays out the key issues facing Ohio’s forests. Each issue is then addressed with Statewide Objectives and Strategies. Matrices are included in Statewide Forest Resource Strategy showing which of the three National Priorities and Objectives are addressed by each Statewide Strategy. Work accomplished on these Statewide Strategies is highlighted in the following section.

Table 1. National Priorities and Objectives.

National Priorities	National Objectives
1. Conserve and Manage Working Forest Landscapes for Multiple Values and Uses	1.1. Identify and conserve high priority forest ecosystems and landscapes
	1.2. Actively and sustainably manage forests
2. Protect Forests from Threats	2.1. Restore fire-adapted lands and/or reduce risk of wildfire impacts
	2.2. Identify, manage and reduce threats to forests and ecosystem health
3. Enhance Public Benefits from Trees and Forests	3.1. Protect and enhance water quality and quantity
	3.2. Improve air quality and conserve energy
	3.3. Assist communities in planning for and reducing forest health risks
	3.4. Maintain and enhance the economic benefits and values of trees and forests
	3.5. Protect, conserve, and enhance wildlife and fish habitat
	3.6. Connect people to trees and forests, and engage them in environmental stewardship activities
	3.7. Manage trees and forests to mitigate and adapt to global climate change

NATIONAL PRIORITY 1.

Conserve and Manage Working Forest Landscapes for Multiple Values and Uses

State Issue 1 Addressed: Sustainable Forest Management on all Forest Lands

Since 1952, inventories by the USDA Forest Service have consistently shown net annual growth in volume of trees, which indicates sustainable management of Ohio's forests. More recent inventories have found that Ohio is no longer gaining forest land and that forestland across the state is maturing. In order to conserve the values and uses of these lands our approach is to utilize sustainable practices on all forestland, both private and public. This will allow lands to stay forested while still getting the maximum value out of all uses that they provide.

Objective 1.1: Sustainably manage public forest lands for multiple public benefits.

Strategy 1.1.1: Manage public forests to ensure the health and sustainability of forest systems.

Strategic Action: The state forest system adopted a desired future condition that included harvest goals responsive to this strategy. A specific item in this desired future condition directs state forest staff to manage for diverse successional stages and adopt harvest targets that provide for sustainable harvests and wildlife habitats.

Strategy 1.1.2: Obtain and maintain third-party forest certification of state forests.

Strategic Action: The Division of Forestry obtained forest certification from the Forest Stewardship Council and the Sustainable Forestry Initiative in 2010 and has maintained certification since.

Strategy 1.1.3: Provide demonstration sites and promote outreach and long-term research on public forest lands.

Strategic Action: The Division of Forestry promotes and participates in the *A Day in the Woods: Second Friday Series* at Vinton Furnace State Forest which is a combination of sessions on different aspects of forest management and science targeted at forest landowners in southeast Ohio (8 programs/year, nearly 1,200 attendees since 2012, reporting to own over 50,000 acres of forest land collectively).

Upon acquiring Vinton Furnace State Forest, the Division of Forestry adopted internal policies that set aside over 2,800 acres for maintaining current and providing areas for future research. In addition, through mutual agreement with the timber rights holder, the fiber supply agreement that was part of the title of the property has been applied in other state forests. This has ensured that the long term research projects at the forest are maintained and available for future studies.

State Issue 2 Addressed: Public Benefits from Ohio's Forests

Ohio's forests provide the public with many ecological, economic, and social benefits and services. While these benefits are enjoyed by many private forest land owners, a vast majority are not seeking management advice from natural resource professionals. Ohio's approaches to addressing this issue are to increase awareness and education among all factions as well as maintaining a supply of qualities forest products and services from Ohio woods indefinitely into the future. This management will enhance and educate the public on variety of values and uses that Ohio's forests can provide.

Objective 2.3: Enhance Ohio's diverse markets for forest products and services.

Strategy 2.3.3: Produce high-quality forest products and ecosystem services on public lands that contribute to local communities.

Strategic Action: The state forest system directly distributed over \$7 million from stumpage sales from 2011-2015. Nearly all of these products were both harvested and processed in-state providing a significant multiplier effect for local communities.



Figure 1. Logs being sorted at merchandising yard at Scioto Trail State Forest.

Strategy 2.3.4: Support the sustainable production of forest products and ecosystem services on private lands.

Strategic Action: Ohio Division of Forestry administers the Ohio Forest Tax Law (OFTL) program with the primary purpose of encouraging the sustainable production of forest products on private lands through property tax reductions for participating landowners. Currently, 3,751 properties are certified under OFTL, ensuring productive forest land on over 133,000 acres. Ohio is currently

evaluating and revising its tax program to significantly increase both participants and acres enrolled.

State Issue 3 Addressed: Conservation of Soil and Water Resources

Productive soils support healthy forests, and healthy forests, in turn, support high quality water resources. The maintenance of productive soils is also important to sustaining the forest products industry. The protection or expansion of forests within watersheds that supply public water is one of the most economical and effective ways of producing clean water. Ohio will approach these concerns by insuring proper use of forestry BMP's during logging operations as well as maintaining and increasing riparian forest buffers to protect and manage water quality throughout the state. Therefore forest management will be utilized to protect and advance not only forests but the abiotic environment in and around them.

Objective 3.1: Reduce soil and water quality impacts from poor land management practices and urbanization.

Strategy 3.1.2: Promote the use of Best Management Practices during logging operations.

Strategic Action: The Division of Forestry developed a permanent best management practices (BMP) training area at Scioto Trail State Forest that is used annually for master logger training. Only certified master loggers are allowed to harvest timber on state forests. Division of Forestry personnel participate as trainers and use state equipment for BMP installation demonstrations at these trainings.

State Issue 4 Addressed: Conservation of Biological Diversity (Plants and Animals)

Diverse ecosystems are better able to respond to external influences, recover from disturbances, and maintain core ecological functions and services. Ohio's forests play a key role in conserving biological diversity. In order to achieve this conservation, areas of high priority and with high conservation values have been identified to be set aside for protection and effective management to preserve and protect the environment and species within. These areas can be used for education and recreation purposes to show the importance of protect the natural resources found throughout the state.

Objective 4.1: Promote regeneration of oak-hickory forests.

Strategy 4.1.1: Enhance oak regeneration in appropriate forest types.

Strategic Action: The state forest system has adopted the SILVAH-Oak software developed by the USDA Forest Service as a decision support tool for all native hardwood forests. All staff has received training provided by the USDA Forest Service Northern Research Station and use the tool to prescribe silviculture on state forests. The state forest system also adopted a desired future condition statement that recognizes this strategy as the primary objective on state forests. As a

result, silvicultural prescriptions have shifted from primarily uneven-aged regeneration systems to even-aged systems where shelterwood regeneration methods and/or prescribed fire are used if feasible.



Figure 2. Prescribed fire at Tar Hollow State Forest.

On private lands, service foresters develop stewardship plans and recommend practices to landowners that promote oak regeneration on appropriate sites. In 2015, a Joint Chief's project was funded in Ohio that will enhance oak-hickory forests through targeted treatments in the southeastern portion of the state. A large percentage of the project includes treatments on interconnected public and private lands. Projects through this grant will control non-native invasive species that inhibit the health and regeneration of oak-hickory forests. The project also supports an integrated inventories approach to managing oak across all ownerships – private, local, state, and federal. The Joint-Chief's project is a combined effort between the Natural Resource Conservation Service and both the national forest and state and private sections of the US Forest Service.

Objective 4.3: *Maintain habitat for a diversity of forest-associated wildlife.*

Strategy 4.3.1: *Manage for a diversity of forest wildlife by maintaining a sustainable distribution of successional stages.*

Strategic Action: The desired future condition for the state forest system adopted this objective. Tactically this is implemented by increasing the amount of forests <20 years old through even-aged regeneration treatments, increasing the amount of forests >100 years old through high conservation value forest protection, and ensuring critical habitat needs for forest wildlife are met.

Ensuring the presence of key critical habitat needs includes retaining stand level elements such as cavities and snags as well as maintaining buffers around sensitive sites such as wetlands and streams. It also includes maintaining landscape level diversity and continuity of habitats through policies and procedures as well as training on wildlife habitat needs.

All state land management foresters have received training on songbird habitat needs, bat roost tree characteristics, and habitat requirements of several threatened and endangered species.

State Issue 6 Addressed: Forest Fragmentation and Land Use Conversion

Forest land conversion for development and forest fragmentation are often listed as two key threats to forest, both nationally and in Ohio. As population centers grow and expand into adjacent rural areas, parcelization and land conversion are common and can lead to forest fragmentation. It can also be a result of mining, agriculture, or development of roads. Some of the concerns associated with forest fragmentation are regularly addressed in landowner and community assistance programs like the Ohio Division of Forestry's Service Forestry and Urban Forestry programs. Landowner incentives are provided in order to persuade the keeping for forestland to private landholders. By providing this information to owners of both public and private forestland it can help to protect the forests and the values that can be used in those areas.

Objective 6.1: Slow the trend of increasing forest fragmentation and urban development in previously rural forest land.

Strategy 6.1.1: Maintain economic benefits and ecological values of working forests through landowner incentives, conservation easements, and property tax programs.

Strategic Action: On private lands in Ohio, various programs are supporting sustainable forest management and maintaining forests and their many benefits. Specifically, the Ohio Forest Tax Law program provides landowners with a reduction in property taxes to maintain productive forest lands (10.0 acres or greater). The Environmental Quality Incentives Program (EQIP) administered by the USDA Natural Resources Conservation Service (NRCS) continues to be an important program in Ohio for getting woodland improvement practices done on private lands and helping landowners achieve their goals and hold on to their properties. Finally, the Forest Legacy Program in Ohio offers options for landowners with unique, important forest land to protect woodland benefits from those lands in perpetuity through conservation easement or fee simple purchases by the State with support from the USDA Forest Service.



Figure 3. Signage describing forest protected under the Forest Legacy Program.

NATIONAL PRIORITY 2.

Protect Forests from Threats

State Issue 5 Addressed: Health and Vitality of Ohio's Forests

Forests are regularly exposed to various threats that impact their health and vitality. The primary threats to Ohio's forests include native and non-native insects and diseases, natural events and disturbances, non-native invasive plants, air pollution, and climate change. Managing the various health threats to Ohio's forests requires a combination of monitoring and control programs, and in some cases, threat or risk reduction. Through the management programs created there is potential to slow or reduce different threats impacting Ohio forests.

Objective 5.1: Monitor and manage for existing and future forest health threats.

Strategy 5.1.1: Monitor existing forest health threats and mitigate their impact.

Strategic Action: The Division of Forestry's Forest Health Program conducts an annual aerial forest health detection survey each spring in cooperation with the Ohio Department of Agriculture (ODA). Two observers map observed defoliation, discoloration, or mortality of trees using fixed-wing aircraft and pilots provided by the Ohio Department of Natural Resources Division of Wildlife. Approximately 57% of the state (16 million acres) is covered annually. Some of the areas mapped from the air are then ground-checked by Division of Forestry staff throughout the summer.



Figure 4. 2010 tornado damage at Maumee State Forest recorded during annual aerial survey.

The hemlock woolly adelgid is an invasive insect from Asia that poses a major threat to Ohio’s eastern hemlock forests. While eastern hemlock does not make up a large proportion of Ohio’s forests, where it does occur, it is extremely important both ecologically and economically. The largest concentration of eastern hemlock forests in Ohio is located in the Hocking Hills region in southeastern Ohio, centered on Hocking County. This is a major eco-tourism destination that attracts roughly 2 million visitors annually. Several groups and agencies including the Ohio Division of Forestry, Hocking Hills Conservation Association, ODA, USDA Forest Service, and Ohio State University Extension have recognized the threat that HWA poses to the region and have all made efforts to increase awareness and early detection of this invasive pest. With funding from the USDA Forest Service, The Ohio Division of Forestry has coordinated with ODA to implement systematic surveys for HWA in counties where eastern hemlock is present. Since 2012, HWA has been discovered in seven Ohio counties, and measures have been taken to minimize the effects of HWA.

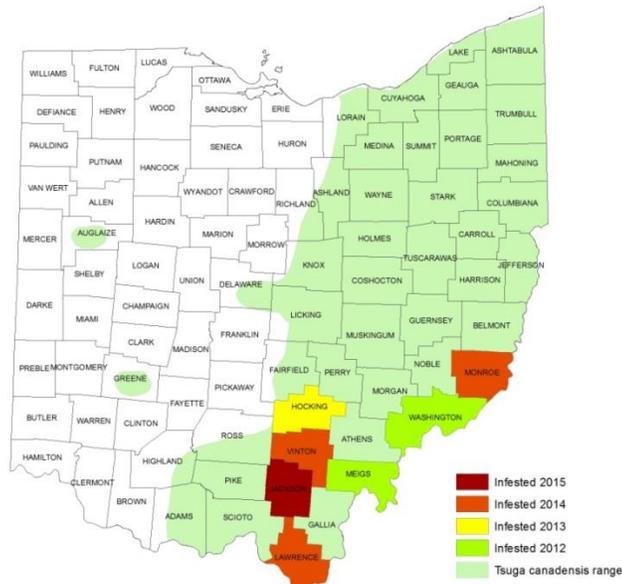


Figure 5. The native range of eastern hemlock in Ohio and counties with confirmed HWA infestations.

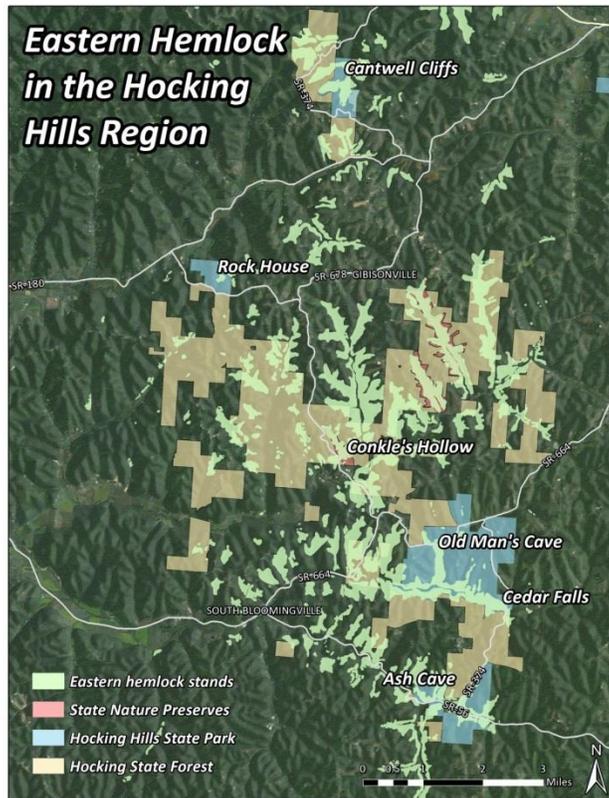


Figure 6. Eastern hemlock stands and Ohio Department of Natural Resources lands in the Hocking Hills area of Hocking County.

Thousand cankers disease is a fungal pathogen that causes the decline of walnut species (genus *Juglans*) and has the potential to significantly impact Ohio's black walnut trees. Since the disease was identified in the eastern United States in 2010, the Ohio Division of Forestry has been monitoring for symptomatic walnut trees and trapping for the insect vector of the disease, walnut twig beetle using USDA Forest Service grant funding. 30-40 walnut twig beetle traps are monitored every spring through fall across the state near lumber processing mills or in areas where black walnut is prevalent. These traps detected an infestation of walnut twig beetle in 2012 in southwestern Ohio (Butler County) and the thousand cankers disease fungus was positively identified there in 2013. This early pest detection allowed for the removal and study of infested trees and no walnut twig beetles have been caught in Ohio since that time.



Figure 7. Black walnut branch with outer bark peeled to show cankers caused by thousand cankers disease in Butler County Ohio in 2013.

The Ohio Division of Forestry conducts surveys for evidence or presence of Asian longhorned beetle. This insect, native to Asia, has the potential to kill a wide variety of hardwood tree species, and an infestation was discovered in southwestern Ohio (Clermont County) in 2011. High-risk sites (firewood distributors, campgrounds, and distributing facilities that receive items from Asia with wood-packaging materials) are targeted for visual survey of nearby trees.

Invasive plants are a major concern for the health and sustainability of Ohio's forests. On Ohio's state forests, staff use herbicides and mechanical methods to reduce the prevalence of invasive plants, particularly the invasive tree species tree-of-heaven (or *Ailanthus*) and princess tree (or *Paulownia*). A 2015 grant (Joint Chiefs Collaborative Oak Management Project) is funding the treatment of 1,500 acres of invasive plants on state and partner lands. The Ohio Division of Forestry has partnered with the USDA Forest Service Northern Research Station to aerially map infestations of tree-of-heaven within and around the Wayne National Forest and state forests in southeast Ohio. Because female trees hold their seeds into the winter, they can be efficiently identified from a helicopter. Resulting infestation maps are used to target tree-of-heaven control efforts on the ground. The Division of Forestry has also partnered with researchers from the USDA Forest Service Northern Research Station to examine the efficacy of *Verticillium nonalfalfae*, a soil borne fungus, as a potential biocontrol for tree-of-heaven. 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.

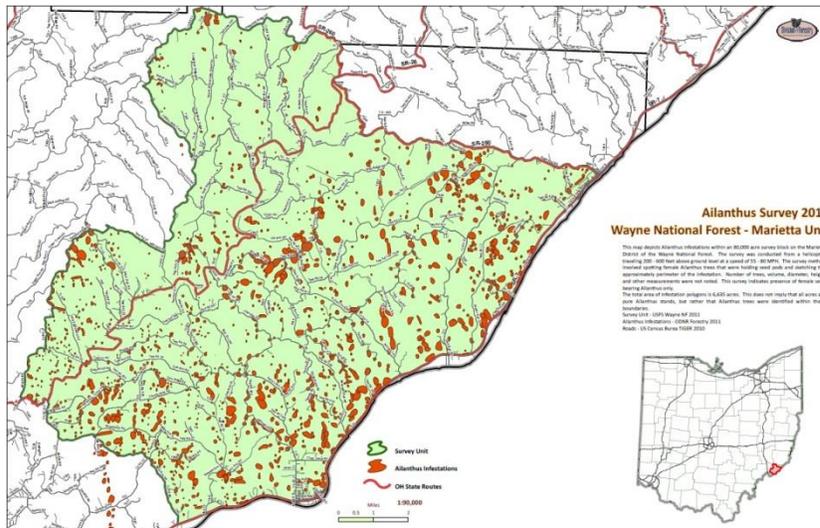


Figure 8. Aerially mapped locations of tree-of-heaven on a unit of the Wayne National Forest in southeast Ohio.

Objective 5.2: Reduce the impact of exotic invasive species.

Strategy 5.2.1: Reduce the impact of invasive species in Ohio's forests through active control, public awareness campaigns, and proactive identification of future problem species.

Strategic Action: The Ohio Division of Forestry's Forest Health Program conducts active management of several important forest pests. Several tools are available for the suppression of the invasive insect, hemlock woolly adelgid. Using the experience of other states that have developed techniques for combatting this pest has allowed Ohio to develop a comprehensive integrated pest management (IPM) approach. With funding from the USDA Forest Service, since the first finding of HWA in Ohio in 2012, both chemical and biological methods have been used. Over 1,100 hemlock trees have been treated imidacloprid or dinotefuran, two insecticides proven to be highly effective at controlling HWA for multiple years with a single treatment. Two species of biological control beetles that are effective predators of HWA have been released in Ohio. Nearly 2,400 beetles have been released on HWA-infested hemlock trees since 2013. A statewide HWA management is currently being developed by several divisions within the Ohio Department of Natural Resources, with the Division of Forestry as the lead agency. This document will identify priority hemlock stands based on biological and recreational value and outline a systematic plan for survey and treatment of these stands. A webpage was recently developed through a USDA Forest Service grant that provides information for Ohio residents on the biology of HWA, how to survey their trees for the pest, and a map tool for reporting where HWA surveys have been conducted.



Figure 9. Ohio Department of Natural Resources staff conducting insecticide treatments for HWA in 2013 in Hocking Hills State Park.



Figure 10. *Laricobius nigrinus* beetles, a biological control for HWA, ready for release on infested hemlock trees.

An infestation of Asian longhorned beetle (ALB) was identified in Clermont County in southwestern Ohio in 2011. Since that time, USDA APHIS and Ohio Department of Agriculture have been carrying out the ALB eradication program, involving the systematic survey for the insect and removal of infested trees. To reduce the impact of these activities, the Ohio Division of Forestry has implemented a Tree Canopy Enhancement Program (TCEP) to provide landscape trees to landowners who have had trees removed from their property as a result of the ALB eradication program. Over 1,200 relatively large (1-3" caliper) trees of non-ALB host species have been distributed to impacted landowners since 2012.



Figure 11. Tree being planted as part of the Ohio Division of Forestry’s Tree Canopy Enhancement Program to help landowners who have lost trees on their property due to Asian longhorned beetle-infestation.

Invasive plants are a significant threat to Ohio’s forests. Ohio state forest staff regularly treat invasive plants using herbicides and mechanical means. Treatments are focused on corridors which could facilitate spread of invasive plants (roadways, utility rights-of-way, etc.) as well areas where recent tree harvesting has occurred or where it is planned in the near future. A 2015 USDA Forest Service grant (Joint Chiefs Collaborative Oak Management Project) is funding the treatment of 1,500 acres of invasive plants on state and partner lands. Activities for this grant have already resulted in treatment of infestations of tree-of-heaven and princess tree on state forests and partner lands.

In addition to hosting an annual Forest Health Meeting, the Ohio Division of Forestry’s Forest Health Program staff and other personnel regularly staff displays and give presentations at a wide variety of natural resource-related conferences and meetings across the state. Some of the larger events include the Ohio State Fair, Paul Bunyan Show, Ohio Wildlife Diversity Conference, and Ohio Farm Science Review, and thousands of attendees are provided with educational and outreach materials regarding invasive forest pests and threats.

State Issue 6 Addressed: Forest Fragmentation and Urbanization

Forest land conversion for development and forest fragmentation are often listed as two key threats to forest, both nationally and in Ohio. As population centers grow and expand into adjacent rural areas, parcelization and land conversion are common and can lead to forest fragmentation. It can also be a result of mining, agriculture, or development of roads. Some of the concerns associated with forest fragmentation are regularly addressed in landowner and community assistance programs like the Ohio Division of Forestry’s Service Forestry and Urban Forestry programs. Landowner incentives are provided in order to persuade the keeping for forestland to private landholders. By decreasing risk of

fragmentation and urbanization, larger tracts of forest can be conserved and the ecological function of these areas can be preserved.

Objective 6.2: Mitigate the impact of forest fragmentation and urban development in forested landscapes.

Strategy 6.2.1: Sustain forest benefits and services in parcelized forest landscapes (e.g., parcels < 10 acres).

Strategic Action: The Ohio Division of Forestry recently completed a competitive grant project funded by the USDA Forest Service that developed two landscape stewardship plans in key urbanizing areas of Ohio that have priority forest landscapes (from the 2010 Forest Action Plan). Both landscape plans emphasize the importance of small woodlots and support their management for multiple benefits. Educational resources were developed, including a small woodlot website (<http://forestry.ohiodnr.gov/smallwoodlots>) and four demonstration sites, where landowners can see examples of things they can do on their properties to sustain woodland benefits. A small woodlot interest group was started and numerous outreach events and workshops have been held. This effort will continue into the future with a good foundation that was created over the past four years through this project.

NATIONAL PRIORITY 3.

Enhance Public Benefits from Trees and Forests

State Issue 1 Addressed: Sustainable Forest Management on all Forest Lands

Inventories by the USDA Forest Service show a net annual growth in the volume of trees on Ohio's forest land, recent trends could have implications for future sustainability. One such trend shows that the area of forest land in the state is no longer increasing, while at the same time, these forests are maturing. These changes in forest structure are occurring along with increased threats from non-native invasive species, forest fragmentation, and improper forest management practices on private lands. In order to maintain the many benefits provided by healthy functioning forests, collaboration between natural resource professionals and forest landowners to implement sustainable forest management practices on private and public forest land must occur.

Objective 1.2: Increase the number of private landowners sustainably managing their forestlands.

Strategy 1.2.1: Increase the number of landowners receiving professional forestry assistance.

Strategic Action: Over the past three years (2013-2015), service foresters have assisted 6,858 landowners (total) and added an annual average of 28,600 acres of family forests managed under a stewardship plan to bring Ohio's total acreage covered by Forest Stewardship Plans to 322,113 acres.

State Issue 2 Addressed: Public Benefits from Ohio's Forests

Ohio's forests provide the public with many ecological, economic, and social benefits and services. While these benefits are enjoyed by many private forest land owners, a vast majority are not seeking management advice from natural resource professionals. Ohio's approaches to addressing this issue are to increase awareness and education among all factions as well as maintaining a supply of qualities forest products and services from Ohio woods indefinitely into the future. By educating the public on the values and uses of Ohio's forests we can increase support for conservation and growth of sustainable practices within them.

Objective 2.1: Increase public awareness of forest benefits and services.

Strategy 2.1.1: Increase public awareness of forest benefits and services and major forest threats.

Strategic Action: The Division of Forestry annually sponsors, co-facilitates, or staffs numerous woodland owner workshops, field days, displays, and events where forest stewardship practices, invasive pests and plants, and wildfire prevention are highlighted. These include Ohio State University Extension Woodland Stewards programs, *A Day in the Woods: Second Friday Series* at Vinton Furnace State Forest (8 programs/year, nearly 1,200 attendees since 2012, reporting to own over 50,000 acres of forest land collectively), regional woodland owner association programs, county SWCD forestry and farm field days, Urban Tree Commission Academy classes, Arbor Day events, school programs, Ohio Forestry Association Forestry and Wildlife Camp (80-120), Pike County Forestry Field Day for 5th graders (350), Teachers Forestry Field Days (27), wildfire prevention and Smokey Bear programs, Ohio State Fair, Farm Science Review, Paul Bunyan Show, and Forest Heritage Festival. For the Ohio Tree Farm Committee, Division of Forestry foresters provide leadership and inspectors for 1,600 certified tree farms, edit *The Ohio Woodland Journal* (13,200 distributed annually), and lead the Ohio Tree Farm of the Year field day.



Figure 12. Animatronic Smokey Bear greets visitors at the Ohio State Fair.



Figure 13. Teachers learn how to peel bark off of ash logs to look for emerald ash borer at a *Day in the Woods-2nd Friday Series* at Vinton Furnace State Forest.

Project Learning Tree (PLT) is a comprehensive environmental education program that strives to deliver all aspects of the award-winning international PLT program. In 2013, PLT-Ohio prioritized the issues identified in the Forest Action Plan and developed and presented six regional themed professional development PLT educator workshops throughout the state based, with each workshop focused on a different Ohio forest issue. Co-facilitators and presenters for all of the PLT professional development regional workshops were local and state staff, as well as volunteers.

At least 41,537 youth as reported by PLT workshop participants throughout Ohio were impacted in 2013; 545 PLT guides and secondary modules were distributed to educators in PLT workshops.

In 2014, PLT-Ohio, using ideas generated in the professional development educator workshops, with the help of an Ohio EPA Environmental Education Fund grant, developed an eye-catching educational two poster set showing the six Ohio forest issues. They have been readily received and used by over 1,000 youth leaders/educators as well as natural resource professionals throughout the state, upon their production in early January 2015. An educational support thumb drive with connections to educational standards and additional resources are available for use by educators, both formal and non-formal, to accompany the posters, from regional offices as well as online at the Division of Forestry website.



Figure 14. Two posters describing Ohio’s forests developed by Project Learning Tree in 2014 to be used by educators and natural resource professionals.

Also since late 2013, PLT-Ohio, in cooperation with the Ohio Division of Forestry, has developed and made available *Ohio’s Trees & Shrubs*, a pamphlet that has been used at all PLT workshops, provided to all Ohio Division of Forestry staff, and the general public. It has been very well received, and has been frequently noted as a much-needed tool for Ohioans of all ages for native and invasive tree and shrub identification.

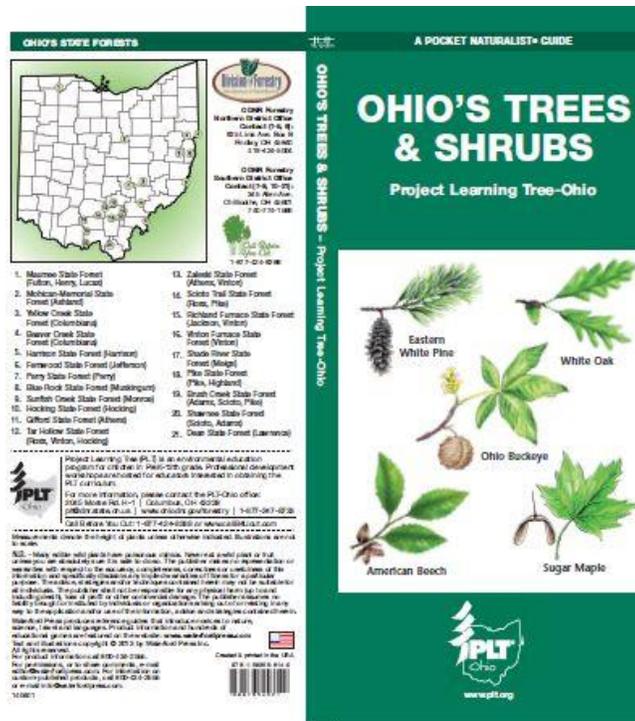


Figure 15. Ohio tree and shrub identification pamphlet developed by Project Learning Tree staff to be used by educators, natural resource professionals, and the general public.

Ohio's Urban Forestry Program has annually hosted six regional urban forestry conferences for a total of 30 conferences over the last five years. These conferences are tailored for local community officials and interested citizens by providing information to help community leaders successfully implement their urban forest management programs and increase the public's understanding of the environmental value of trees.

Objective 2.4: *Improve the quality of urban life through proper urban forest resource management.*

Strategy 2.4.1: *Provide direct assistance to communities on how to properly manage their urban forest resource.*

Strategic Action: Regional urban foresters, through direct, one-on-one assistance, encourage, enhance, and/or expand local tree care programs within participating communities. The urban foresters convey the benefits of a safe, healthy, and functional urban forest resource to community leaders and demonstrate how to effectively provide these benefits by properly managing the urban forest resource. Since 2010, 4,876 technical assists have been provided to 406 different communities to support existing municipal tree care programs and to encourage additional communities to begin actively managing urban forests, while positively impacting an average of 5.8 M Ohioans each year.

Strategy 2.4.2: *Administer an urban forestry grant program for Ohio communities that promotes comprehensive tree care programs.*

Strategic Action: Over the past five years the Ohio Division of Forestry has administered an urban forestry grant program, funded by federal, state, and/or private sector monies, for Ohio communities and partners, when available. The grant program is based on community commitment rather than community need and the reimbursable grants require a 50/50 match, used to promote comprehensive tree care programs.

Strategy 2.4.3: Provide information to help communities successfully implement their urban forest management programs.

Strategic Action: The six regional urban foresters facilitate two training opportunities for communities each year on topics including young tree pruning and tree planting. The urban foresters also provide Tree Commission Academy classes to communities each year. Since 2010 the award winning course has been offered in 55 branch locations, each branch holding four, two day classes and educating over 700 tree commissioners, mayors, public works employees, and municipal foresters and arborists.

State Issue 3 Addressed: Conservation of Soil and Water Resources

Productive soils support healthy forests, and healthy forests, in turn, support high quality water resources. The maintenance of productive soils is also important to sustaining the forest products industry. The protection or expansion of forests within watersheds that supply public water is one of the most economical and effective ways of producing clean water. Ohio will approach these concerns by insuring proper use of forestry BMP's during logging operations as well as maintaining and increasing riparian forest buffers to protect and manage water quality throughout the state. Therefore forest management will be utilized to protect and advance not only forests but the abiotic environment in and around them for the public to see and enjoy the total positive effect of forestland management.

Objective 3.1: Reduce soil and water impacts from poor land management practices and urbanization.

Strategy 3.1.1: Expand riparian forest buffers in agricultural areas and urban tree canopy in urban areas.

Strategic Action: From 2010 through 2015 the Division of Forestry administered several rounds of a competitive ash tree removal and canopy restoration grant program successfully mitigating the impacts of EAB in Ohio by removing over 10,200 ash trees and replanting over 4,800 new trees in 74 communities throughout Ohio.

This program accomplished several goals including:

- Restoring damaged community tree canopy
- Promoting species diversity
- Improving watershed health

- Enhancing the quality of life in participating cities, villages, and townships
- Promoting urban forestry benefits through the proper planting, care, and removal of trees
- Strengthening and supporting existing comprehensive community tree care programs
- Promoting Ohio's nursery industry through the sale of replacement stock
- Promoting Ohio's arboriculture and landscape industries through tree removal and installation contracts

For the 2011 Project Clean Lakes grant, the Division of Forestry provided technical transfer and passed through approximately \$200,000 funding to support local NE Ohio community Urban Tree Canopy (UTC) projects. UTC projects were completed for the entire Cuyahoga County encompassing 59 communities as well as five communities outside Cuyahoga County. Nine municipalities utilized the UTC assessments to prioritize tree planting locations and planted a total of 1,075 trees.

Under this same grant the Division of Forestry also provided leadership and passed through \$150,000 funding to match equivalent Northeast Ohio Regional Sewer District (NEORS) investment to complete eleven Low Impact Development (LID) demonstration projects in NE Ohio including bioswales, infiltration basins, rain gardens, stormwater harvesting, restored stream channels, and tree plantings.

State Issue 4 Addressed: Conservation of Biological Diversity (Plants and Animals)

Diverse ecosystems are better able to respond to external influences, recover from disturbances, and maintain core ecological functions and services. Ohio's forests play a key role in conserving biological diversity. In order to achieve this conservation, areas of high priority and with high conservation values have been identified to be set aside for protection and effective management to preserve and protect the environment and species within. These areas can be used for education and recreation purposes to show the importance of protecting the natural resources found throughout the state and for the public to enjoy indefinitely into the future.

Objective 4.2: Protect Ohio's unique or rare forest plant species and biological communities.

Strategy 4.2.1: Protect high conservation value forests, including old forests, through conservation easements, fee simple acquisition, and other available means.

Strategic Action: On state forest land, the Ohio Division of Forestry has identified high conservation value forests (HCVF) and limited management activities on those areas to maintain their conservation benefits. All HCVFs are monitored periodically to ensure those benefits are not being negatively impacted. Ohio's Forest Legacy program also protects high value private forest lands through conservation easements and fee simple acquisitions.