

Ohio's Statewide Forest Action Plan

Forest Resource Strategy

December 2020



OHIO’S STATEWIDE FOREST RESOURCE STRATEGY – 2020

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Introduction

The 2020 Statewide Forest Resource Strategy (hereafter “Strategy”) for Ohio is a strategic planning document that will help to guide activities by the Ohio Department of Natural Resources (ODNR) Division of Forestry, including programs with funding from USDA Forest Service State and Private Forestry grants. It supports the ODNR Division of Forestry’s mission to promote and apply management for the sustainable use and protection of Ohio’s private and public forest lands. The Strategy is framed around the key issues identified in the Forest Resource Assessment, as well as the important benefits and services that Ohio forests provide. Stakeholder input was a critical component of the assessment process, in particular, the identification of key threats and opportunities for Ohio’s forests (see Appendix B of the Forest Resource Assessment for details on stakeholder input). A combination of these threats and opportunities were considered when developing the list of five key forest issues for Ohio.

Ohio’s Statewide Forest Issues

State Issue 1: Sustainable forest management on all forest lands

State Issue 2: Public benefits from Ohio’s forests

State Issue 3: Conservation of soil and water resources

State Issue 4: Conservation of biological diversity

State Issue 5: Threats to forest health

State Issue 6: Forest fragmentation, parcelization, and loss

This Strategy introduces objectives and strategies that will help guide forestry programs in the state over the next 10 years to address these issues effectively and efficiently. This Strategy and the accompanying Forest Resource Assessment will be updated after a 10-year period. This document also outlines the resources necessary to address the strategies for each state issue. The priority forest maps developed in the Forest Resource Assessment will be a critical tool to support many of the strategic guidelines that are outlined. They are included in Appendix A. This document provides a general description of each state issue and the broad approach that is envisioned to meet the objectives. Also included are descriptions of ODNR Division of Forestry program areas and how they contribute to the statewide strategies. Collaboration with partners will be critical for success. The Forest Resource Assessment and Strategy is intended for use by partner organizations and agencies to complement their existing planning documents and tools. Various other strategic plans developed by partner groups were consulted during the development of Ohio’s Forest Resource Assessment and Strategy, including the following:

Other Plans Consulted

Ohio State Wildlife Action Plan

Ohio Statewide Comprehensive Outdoor Recreation Plan

Community Wildfire Protection Plans

2006 Land and Resource Management Plan, Wayne National Forest

The strategies for each of the six state issues will include a matrix with the same format to describe the resources necessary for their implementation. Specifically, the matrices identify:

- Column 2: identifies the geographic focus of the strategy, if relevant. Strategies that will incorporate the priority forest maps for rural, urban, or wildland-urban interface (WUI) areas, as identified in the statewide assessment, will be identified using the terms “rural,” “urban,” or “WUI.”

- Column 3: the expected timeframe for strategy completion
- Column 4: existing and potential partners
- Column 5: which resources are limiting (\$ = funding 😊 = personnel)
- Column 6: the national objectives that each strategy supports.

A separate table on page 19 describes how currently funded program areas contribute to the strategies. A key to the listed acronyms for partners and the list of the national priorities and objectives can be found on page 21.

State Issues, Objectives, & Strategies

State Issue 1: Sustainable forest management on all forest lands

Description

Statewide forest inventories by the USDA Forest Service since 1952 have consistently shown a net annual growth in the volume of trees, which indicates sustainable management of Ohio's forests. However, as the statewide Forest Resource Assessment reports, the most recent inventory (2016) found a few new trends with potential implications for future sustainability. Specifically, Ohio is no longer gaining new forest land as it had been from around 1940 to 1990, and existing forestland across the state is becoming more mature. In addition to these changes in forest structure, Ohio's forests are exposed to growing threats like non-native invasive species, forest fragmentation, and poor management practices on private lands. Ohio's urban forests are also vulnerable to threats and trends that impact sustainability including declining urban tree canopy, increasing impervious cover, and a leveling-off of urban forest management indicators. To address these threats and maintain the important ecological, economic, and social benefits that forests provide, natural resource professionals and diverse forest landowners can work together to utilize sustainable forest management practices on all private and public forest lands.

Approach

Sustainable forest management has been and continues to be a central goal for the ODNR Division of Forestry's state forest management. Third party forest certification of state forests, obtained in 2010, is one way in which the ODNR Division of Forestry is ensuring sustainable forest management. All public forest lands in the state can help address state issue 1 by demonstrating sustainability and supporting research with direct applications to such management. Most public forest lands have management or legal guidelines that identify the goals for which they will be managed, with a variety of management practices available for use, such as timber harvesting and prescribed fire. However, with 85% of Ohio's forests under private ownership, the greatest opportunity and challenge for achieving sustainable forest management statewide is on private lands. To successfully address this issue, established programs, such as landowner assistance from ODNR State Service Foresters, the Ohio Forest Tax Law Program, the Ohio Forest Legacy Program, and Ohio State and Central State University Extension landowner workshops, will need to be combined with new or modified approaches. Some examples include an expanded role for private consulting foresters and targeted regional or local programs like cooperative weed management areas (CWMAs) or partnerships for regional invasive species management (PRISM). Some programs will be statewide in scope, but others will use the rural lands priority forest areas identified in the Forest Resource Assessment (also in Appendix A) to focus efforts on areas with the greatest long-term forest stewardship potential. To address the negative trends in urban forests, the ODNR Division of Forestry's Urban Forestry Assistance Program will work with new and existing partners to continue building the capacity of local governments to effectively manage the trees and land within their community.

Objectives and Strategies

1.1 Sustainably manage public forest lands for multiple public benefits

- 1.1.1 Manage public forests to ensure the health and sustainability of forest ecosystems
- 1.1.2 Maintain third-party forest certification of state forests
- 1.1.3 Provide demonstration sites and promote outreach and long-term research on public forest lands

- 1.2 Increase the number of private landowners sustainably managing their forest lands
 - 1.2.1 Increase the number of landowners receiving professional forestry assistance
 - 1.2.2 Increase the capacity of natural resource professionals to service private landowners
- 1.3 Increase the number of municipalities sustainably managing their urban forest resource
 - 1.3.1 Increase the number of municipalities with professional urban foresters, advisory/advocacy groups, tree ordinances, and management plans
 - 1.3.2 Increase the number of municipalities receiving professional urban forestry assistance

Implementation

The following matrix describes the necessary resources and approach to implementing the statewide strategies.

1. Strategy	2. Geographic Focus	3. Timeframe (Short = <5 yrs, Long = >5 yrs)	4. Partners ¹	5. Limiting Resource(s)	6. Supports National Objective ¹
1.1.1: Sustainably manage public forests	Public forests	Ongoing	DOW, USFS-Wayne, NPS, Master Loggers, OFA, DNR-Parks, metroparks		1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.4, 3.5, 3.7
1.1.2: Third party certification of state forests	State forests	Ongoing			1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.4, 3.5, 3.7
1.1.3: Demonstration sites & research on public forests	Public forests	Ongoing	DOW, USFS-Wayne, NPS, DNR-Parks, universities	\$	1.2, 2.1, 2.2, 3.4, 3.6, 3.7
1.2.1: Increase landowners receiving forestry assistance	Rural	Short	Coop-Ext, NRCS, SWCDs, OSAF, ACF, ATFS, RA, auditors, arboreta	\$, 😊	1.1, 1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
1.2.2: Increase capacity to service landowners	Statewide	Short	Coop-Ext, SWCDs, OSAF, ACF, ATFS, RA		1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
1.3.1: Increase municipalities with urban forest programs	Urban	Ongoing	OTA, OML, OISA, ADF, RPC, USFS-SPF	\$, 😊	1.2, 2.2, 3.1, 3.2, 3.3, 3.4
1.3.2: Increase municipalities receiving urban forestry assistance	Urban	Ongoing	OTA, OML, OISA, ADF, RPC, USFS-SPF	\$, 😊	1.2, 2.2, 3.1, 3.2, 3.3, 3.4

¹ A key to the listed acronyms for partners and the list of the national priorities and objectives can be found on page 21.

State Issue 2: Public benefits from Ohio's forests

Description

Ohio's forests provide the public with many ecological, economic, and social benefits and services. In terms of ecology, forests in Ohio are rich in biodiversity, providing habitat for 350 species of terrestrial wildlife and over 500 species of plants, and they play a critical role in maintaining quality aquatic habitat. They also provide significant economic benefits. In 2017, Ohio ranked 8th nationally in GDP from manufacturing of furniture and related products. A 2017 study found that Ohio's forest products industry contributes \$27 billion to Ohio's economy and employs over 132,400 people. Other economic benefits of forests include nature-based tourism and non-timber forest products (i.e., ginseng, maple syrup, Christmas trees). However, the benefits that forests provide go beyond forest products and tourism and include numerous ecosystem services that may not have a dollar amount assigned to them. Some examples of ecosystem services include improved air, soil, and water quality, carbon sequestration, biodiversity, energy reduction in urban areas, and scenic landscapes for recreation. Ohio's urban forests provide \$971 million in annual ecosystem service benefits associated with carbon sequestration, air pollution removal, energy conservation, and avoided emissions. 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. For years, conservation organizations have promoted the use of forest buffers between crop fields and streams. These riparian forest buffers reduce runoff of soil and agricultural pollutants and provide wildlife habitat. On the 15% of Ohio's forest land that is publicly owned, management often focuses on sustaining some or all of these benefits and services. While many private forest landowners enjoy many of these benefits and also manage for them, a recent woodland owner survey found that the vast majority are not seeking management advice from natural resource professionals (only 23% of family forest owners have sought advice). Investments of time, money, and expertise on all forest lands are necessary to sustain the important and diverse benefits and services that Ohio's forests provide to individual forest landowners and the general public.

Approach

Many different programs, organizations, and stakeholders play a role in sustaining benefits from forests. One important role for all stakeholders is to increase public awareness of the benefits forests provide and the role that all Ohioans play in sustaining those benefits. The ODNR Division of Forestry has a Communications Program that is focused on increasing public awareness and communications with its partners. While public awareness campaigns should reach citizens across the continuum from urban to rural areas, three key groups will be those living in the wildland-urban interface, where a unique mix of urban and rural issues occur, the large group of family forest owners who are currently not receiving advice from natural resource professionals, and under-represented communities where access to woodlands and information about them may not be readily available. Another critical group to reach with any public awareness program is children, and Project Learning Tree is an active program in Ohio with that focus. Urban areas and communities across the state will continue to receive technical support from the ODNR Division of Forestry on a variety of urban forest management topics that will improve the quality of urban life. The ODNR Division of Forestry's Urban Forestry Assistance program focuses on providing community officials and allied agencies with the organizational and technical ability to effectively manage the trees along streets, within parks, and on public grounds. In regard to forest recreation, the Statewide Comprehensive Outdoor Recreation Plan (SCORP) serves as a planning and reference document and complements existing strategic plans or management documents guiding recreation programs at land management agencies and organizations. Of the wide range of economic benefits that forests provide, the greatest contribution to Ohio's economy comes from the wood

products industry. Quantifying the value of ecosystem services from forests is more difficult, but with growing pressures on natural resources from threats like development, invasive species, and climate change, the importance of ecosystem services cannot be overlooked. Sustaining or enhancing forest benefits, including forest products and other ecosystem services, will require a mix of approaches from a variety of partners, including technical support and research from state and federal forestry agencies and state universities, administrative support and training by professional organizations, and in some cases, targeted grants or programs to facilitate growth opportunities. Another key strategy in sustaining Ohio's forest benefits is maintaining a supply of quality forests products and services from Ohio forests indefinitely into the future. State issue 1 addresses that need directly. Finally, achieving success in meeting the diverse objectives related to this state issue, as well as the overall statewide strategy, will require enhanced partnerships among stakeholders, increased funding from a variety of sources (including competitive grants), and effective leveraging of existing funds.

Objectives and Strategies

- 2.1 Increase public awareness of forest benefits and services
 - 2.1.1 Increase public awareness of forest benefits and services and major forest threats
 - 2.1.2 Increase public awareness of the public health, socioeconomic, and environmental benefits of urban trees in communities
 - 2.1.3 Increase awareness of ODNR Division of Forestry mission, vision, and programs
 - 2.1.4 Expand partnerships to maximize effectiveness in communications efforts
- 2.2 Increase public safety in and around Ohio's forests
 - 2.2.1 Provide training, information, and resources to reduce risk associated with trees in urban and outdoor recreation sites
 - 2.2.2 Reduce damage to property and values at risk from wildfire
- 2.3 Increase recreational opportunities and use of Ohio's forests
 - 2.3.1 Provide diverse recreational opportunities on public forests
 - 2.3.2 Support private organizations or individuals providing public access to their forest lands
- 2.4 Enhance Ohio's diverse markets for forest products and services
 - 2.4.1 Enhance Ohio's domestic and international wood products marketing opportunities
 - 2.4.2 Support emerging markets for forest products and ecosystem services
 - 2.4.3 Produce high-quality forest products and ecosystem services on public lands that contribute to local communities
 - 2.4.4 Support sustainable production of forest products and ecosystem services on private lands
 - 2.4.5 Provide training opportunities to support businesses and organizations associated with forest products and ecosystem services
- 2.5 Improve the quality of urban life through proper urban forest resource management
 - 2.5.1 Provide direct assistance to communities on how to properly manage their urban forest resource
 - 2.5.2 Administer an urban forestry grant program for Ohio communities that promotes comprehensive tree care programs
 - 2.5.3 Provide training, information, and resources to help communities successfully address food deserts and other environmental inequities
- 2.6 Increase funding for forestry programs and organizations
 - 2.6.1 Increase funding for forest conservation programs administered by natural resource agencies, local governments, and non-governmental organizations

Implementation

The following matrix describes the necessary resources and approach to implementing the statewide strategies.

1. Strategy	2. Geographic Focus	3. Timeframe (Short=1-5 yrs, Long=5+ yrs)	4. Partners ¹	5. Limiting Resource(s)	6. Supports National Objective ¹
2.1.1: Increase public awareness of forest benefits	Statewide	Short	Coop-Ext, DOW, DNR-Parks, OFA, OSAF, ACF, ATFS, USFS-Wayne, RA, NRCS, SWCDs, WIGs, NPS, TNC, metroparks, arboreta, ODE	\$	3.6
2.1.2: Increase public awareness of urban forest benefits	Statewide	Short	Coop-Ext, OISA, OSAF, USFS-SPF	\$	3.6
2.1.3: Increase awareness of ODNR Division of Forestry mission	Statewide	Short			3.6
2.1.4: Expand partnerships	Statewide	Short			3.6
2.2.1: Training to reduce tree risk	Statewide	Ongoing	ODA, APHIS, Coop-Ext, USFS-NRS, USFS-SPF, DOW, DNR-Parks		3.4
2.2.2: Reduce wildfire damage	Statewide	Long	Local FD's, USFS-Wayne, USFS-SPF, TNC, OPFC		2.1, 3.3, 3.4
2.3.1: Provide diverse recreational opportunities on public forests	Statewide	Short	DOW, USFS-Wayne, NPS, DNR-Parks, metroparks	\$	3.4, 3.6
2.3.2: Support public access to private land	Statewide	Long	ATFS, WIGs, COLT, DOW, TNC	\$	3.4, 3.6
2.4.1: Enhance wood product industry	Statewide	Ongoing	OFA, USFS-NRS, OSU		3.4
2.4.2: Support emerging forest markets	Statewide	Ongoing	Coop-Ext, USFS-NRS, OFA, PUCO		3.4
2.4.3: Produce high-quality forest products on public lands	Public forests	Ongoing	USFS-Wayne, DOW		1.2, 3.4
2.4.4: Support sustainable forest products on private land	Statewide	Ongoing	ATFS, AEP, Pixelle, OSAF, ACF, OFA, Coop-Ext		1.2, 3.4, 3.6
2.4.5: Training to support forest products businesses	Statewide	Long	Coop-Ext, OFA, loggers chapters	\$	3.1, 3.4, 3.6
2.5.1: Assist communities with urban forest management	Statewide	Ongoing	OTA, OML, OISA, ADF, OLEC, RPC	\$, 😊	1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
2.5.2: Administer urban forestry grant program	Urban	Ongoing	OTA, OML, OISA, ADF, OLEC, RPC, GLRI	\$	1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
2.5.3: Training to address food deserts	Statewide	Ongoing	OTA, OML, OISA, ADF, OLEC, RPC	\$, 😊	1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
2.6.1: Increase conservation funding	Statewide	Short	All partners	\$	All

¹ A key to the listed acronyms for partners and the list of the national priorities and objectives can be found on page 21.

State Issue 3: Conservation of soil & water resources

Description

The conservation of soil and water resources in Ohio is closely tied to the management of forests. 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. For years, conservation organizations have promoted the use of forest buffers between crop fields and streams. These riparian forest buffers reduce runoff of soil and agricultural pollutants and provide wildlife habitat. Streamside forests are equally important in urban areas. Furthermore, the expansion of urban tree canopy across the urban environment can lessen stormwater management issues resulting from large areas of impervious surfaces such as paved roads, parking lots, and sidewalks. In rural forested landscapes, the use of voluntary Best Management Practices (BMPs) during timber harvesting has been shown to effectively control non-point source pollution.

Approach

All soil and water conservation concerns have statewide applications in Ohio. However, some of the management tools for addressing soil and water conservation issues may have regional emphasis based on differences in the key threats. For example, forestry BMPs, while important everywhere, probably have a greater potential impact in the steep, hilly country of southern Ohio than in relatively flat, northwestern Ohio. In northwest Ohio, traditional agricultural fields dominate the landscape, and riparian forest buffers are a critical management tool. Geospatial data accumulated through the Statewide Forest Assessment project will be useful in guiding some programs areas that address strategies under this State Issue. For example, regions of the state with the lowest percentage of riparian areas with forest cover could be prioritized for riparian forest buffer programs, while programs that permanently protect forest land through fee acquisition or conservation easements might prioritize subwatersheds with the highest ability to produce clean water.

Objectives and Strategies

- 3.1 Reduce soil and water quality impacts from poor land management practices and urbanization
 - 3.1.1 Expand riparian forest buffers in agricultural areas and urban tree canopy in urban areas
 - 3.1.2 Promote, and if required, enforce the use of best management practices during logging operations
 - 3.1.3 Increase soil volume and quality available to trees in urban areas
 - 3.1.4 Promote reforestation or afforestation of agricultural areas within at-risk watersheds
- 3.2 Maintain high quality public water supplies
 - 3.2.1 Maintain high-quality public water supplies by protecting and restoring critical forest areas, riparian buffers, forested wetlands, and natural stream channels
 - 3.2.2 Protect and enhance urban tree canopy cover in urban and developing areas
 - 3.2.3 Promote green infrastructure, low-impact development, and other best management practices in re-development and capital improvement projects

Implementation

The following matrix describes the necessary resources and approach to implementing the statewide strategies.

1. Strategy	2. Geographic Focus	3. Timeframe (Short=1-5 yrs, Long=5+ yrs)	4. Partners ¹	5. Limiting Resource(s)	6. Supports National Objective ¹
3.1.1: Expand riparian forest buffers in agricultural areas and urban tree canopy in urban areas	Rural, Urban	Long	NRCS, FSA, SWCDs, DOSW, OAPA, OTA, OML, OISA, ADF, OLEC, RPC, GLRI	\$	1.1, 1.2, 2.2, 3.1, 3.4, 3.5, 3.6, 3.7
3.1.2: Promote and enforce use of logging best management practices	Statewide	Ongoing	Coop-Ext, OFA, SWCDs, DOSW, OEPA	\$, 😊	1.2, 2.2, 3.1, 3.4, 3.5, 3.6, 3.7
3.1.3: Increase soil volume and quality for urban trees	Urban	Long	OISA, RPC, SWCDs, DSWC	\$, 😊	1.2, 2.2, 3.1, 3.3, 3.4, 3.5, 3.7
3.1.4: Promote reforestation of agricultural areas in at-risk watersheds	Rural	Long	NRCS, FSA, SWCDs, DOSW, OAPA, OTA, OML, OISA, ADF, OLEC, RPC, GLRI	\$	1.1, 1.2, 2.2, 3.1, 3.4, 3.5, 3.6, 3.7
3.2.1: Protect riparian forests to maintain water quality	Rural	Long	NRCS, FSA, SWCDs, DOSW, OEPA, COLT, FWS, DOW, TNC	\$	1.1, 1.2, 2.2, 3.1, 3.4, 3.5, 3.6, 3.7
3.2.2: Protect and enhance urban tree canopy cover	Urban	Long	OEPA, OISA, OSAF, Coop-Ext, RPC, SWCDs	\$, 😊	1.2, 3.1, 3.2, 3.4, 3.5, 3.6, 3.7
3.2.3: Promote green infrastructure	Urban	Long	OEPA, OISA, OSAF, Coop-Ext, RPC, SWCDs	\$, 😊	3.1, 3.2, 3.5, 3.6, 3.7

¹ A key to the listed acronyms for partners and the list of the national priorities and objectives can be found on page 21.

State Issue 4: Conservation of biological diversity

Description

The conservation of biological diversity is a critical component of the sustainable management of forest ecosystems. Diverse ecosystems are better able to respond to external influences, recover from disturbances, and maintain core ecological functions and services. An important aspect of conserving biodiversity is the protection of rare plants, animals, and biological communities, as well as areas with high species diversity that are experiencing outside pressures such as human development. Forest ecosystems play a key role in conserving Ohio's biological diversity. Forests serve as critical habitat for many plants and animals both in heavily forested parts of the state and in relatively open agricultural or urban areas. At the landscape scale, forest management for biodiversity often focuses on providing various forest successional stages to encourage a diversity of habitat and providing connectivity of habitat, which may require habitat corridors in fragmented landscapes. Management may also focus on promoting or maintaining plant species that have the greatest value to the greatest number of wildlife species. Prior to its functional extinction, the American chestnut was a good example of such a "foundation" species. Other nut-producing trees, like oaks and hickories, have filled some of the void left by the chestnut's decline, and they currently play a critical nutritional role for wildlife. The most recent forest inventory for Ohio found some concerning trends related to these topics. First, Ohio's forests tend to be maturing but the age class distribution of forest stands is unbalanced with over 87% classified between 20 and 100 years old. The observed decline in early-successional forest habitat is a threat to biodiversity, as is the lack of old forests (4% of forests in Ohio are over 100 years old). Ohio's State Wildlife Action Plan recognized these as major threats and identified tactical plans to address them. The composition of tree species is also shifting with a decline in oak and an increase in tree species like maple and yellow-poplar, which have relatively less value to wildlife. Other key threats to biodiversity in Ohio's forests include the loss of forest habitat due to development or land conversion, habitat modification and fragmentation, and non-native invasive species.

Approach

The conservation of biological diversity is an important component of all natural resources management. As such, relevant objectives and strategies can be found throughout this statewide strategy, as well as the strategic plans of many partner agencies and organizations (i.e., Ohio State Wildlife Action Plan). Many of the objectives and strategies outlined under this state issue are specific to some of the key threats to biological diversity in Ohio's forests. The declining relative abundance of oak is being addressed on multiple fronts, from research by the USDA Forest Service and various universities which includes studies on prescribed fire as a management tool and management prescriptions being applied on public forests that favor oak regeneration. Regionally, the oak-dominated forest types are most prevalent in the unglaciated Allegheny Plateau of southern and eastern Ohio. This area is also the most heavily forested part of the state, and therefore provides the greatest opportunities for managing forests for a more sustainable distribution of successional stages. However, those strategies will also be applied elsewhere in the state, when appropriate. Finally, several strategies under this state issue relate to protecting critical habitat for rare plant and animal species and biological communities. Priority areas have been identified utilizing data from the Ohio Natural Heritage Database, including the rural lands priority forest areas identified in the Statewide Forest Resource Assessment (included in Appendix A). High conservation value forests are also defined and identified for management of their unique attributes within state forests. In addition, several key partners have identified their own priority areas for conserving biodiversity, and future collaborative efforts will likely rely on data and maps from various organizations. An initial analysis found good compatibility and overlap between priority forest areas

identified in the Forest Resource Assessment and those developed by a few key partners, including the ODNR Division of Wildlife and The Nature Conservancy.

Objectives and Strategies

4.1 Sustain oak-dominated forests

- 4.1.1 Enhance oak regeneration in appropriate forest types
- 4.1.2 Promote management that sustains oak-dominated forests

4.2 Protect Ohio's native forest plant and animal species and biological communities

- 4.2.1 Protect unique or rare forest communities, including old forests, through conservation easements, fee simple acquisition, and other available means
- 4.2.2 Provide information and resources to private landowners to conserve native forest communities and rare species where present

4.3 Maintain habitat for forest-associated wildlife

- 4.3.1 Manage for a diversity of forest wildlife by maintaining a sustainable distribution of successional stages
- 4.3.2 Increase the area of early-successional forest habitat (age class <20 years old) and forests over 100 years old (i.e., old forests) on public and private lands
- 4.3.3 Ensure that critical habitat requirements for rare forest wildlife species are being met

4.4 Promote long-range planting designs to encourage urban forest species diversity

- 4.4.1 Provide training, information, and resources for municipalities to assess, plan, and implement community master planting designs

Implementation

The following matrix describes the necessary resources and approach to implementing the statewide strategies.

1. Strategy	2. Geographic Focus	3. Timeframe (Short=1-5 yrs, Long=5+ yrs)	4. Partners ¹	5. Limiting Resource(s)	6. Supports National Objective ¹
4.1.1: Enhance oak regeneration	Statewide	Ongoing	DOW, USFS-Wayne, OSAF, ACF, OFA, Coop-Ext, USFS-NRS, ATFS, AEP, Pixelle, RGS, WMI		1.1, 1.2, 2.1, 3.4, 3.5, 3.6
4.1.2: Promote management that sustains oak-dominated forests	Statewide	Ongoing	DOW, USFS-Wayne, OSAF, ACF, OFA, Coop-Ext, USFS-NRS, ATFS, AEP, Pixelle, RGS, WMI		1.1, 1.2, 2.1, 3.4, 3.5, 3.6
4.2.1: Protect unique or rare forest communities	Rural	Ongoing	COLT, TNC, USFS-Wayne, DOW, NRCS, Metroparks, TPL, TCF, DNR-Parks	\$, 😊	1.1, 1.2, 3.5, 3.7
4.2.2: Provide resources to landowners on conservation of native forest communities	Statewide	Ongoing	Coop-Ext, FWS, SWCDs	😊	1.1, 1.2, 3.1, 3.5, 3.6, 3.7
4.3.1: Manage for a diversity of wildlife by maintaining distribution of forest successional stages	Statewide	Ongoing	USFS-Wayne, DOW, ATFS, AEP, Pixelle, OSAF, ACF, OFA, Coop-Ext, SWCDs, RGS, NWTF, PF, WMI, NWF	\$	1.1, 1.2, 3.1, 3.5, 3.6, 3.7
4.3.2: Increase early-successional and old forests	Statewide	Ongoing	USFS-Wayne, DOW, ATFS, AEP, Pixelle, OSAF, ACF, OFA, Coop-Ext, SWCDs, RGS, NWTF, PF, WMI, NWF		1.1, 1.2, 3.1, 3.5, 3.6, 3.7
4.3.3: Ensure critical habitat needs for rare wildlife species	Rural	Short	FWS, DOW, Audubon, NWF	\$	1.1, 1.2, 3.1, 3.5, 3.6, 3.7
4.4.1: Provide resources for municipalities to implement master planting designs	Urban	Ongoing	OAPA, OISA, OLA, RPC, SWCDs		1.1, 1.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.7

¹ A key to the listed acronyms for partners and the list of the national priorities and objectives can be found on page 21.

State Issue 5: Threats to forest health

Description

Forests are regularly exposed to various threats that impact their health and vitality. Some of the primary forest health threats include native and non-native insects and diseases, natural events or disturbances such as wildfires; drought; tornadoes; and ice storms, and non-native invasive plants. Climate change also presents several potential threats to forest health including impacts from changes in weather patterns and growing seasons, shifts in native plant species' geographic ranges, and potential increased impact of non-native invasive species. Some of these climate change impacts may confound or amplify some of the common forest health threats listed previously. Currently, the major established insect threats to Ohio's forests are emerald ash borer, Asian longhorned beetle, gypsy moth, and hemlock woolly adelgid, and diseases (or other organisms) are oak wilt, beech leaf disease, oak decline, white pine decline, and sudden oak death. Several insects or diseases that have not yet been observed in Ohio, but present significant threats are spotted lanternfly and laurel wilt. Monitoring for these existing and potential insect and disease threats is ongoing. Many of the natural disturbances that impact forest health are difficult to prevent or mitigate; however, opportunities exist to mitigate wildfires through active management that reduces forest fuels (i.e., downed wood, leaves, and flammable vegetation). Ohio has an active wildland fire prevention and management program that includes suppression and prescribed burning activities, as well as a significant training and capacity building program. Another major forest health threat in Ohio are non-native invasive plants. Invasive plants have significant impacts in Ohio's forests. Some of the biggest problem species are tree-of-heaven (*Ailanthus*), bush honeysuckle, Japanese stiltgrass, and garlic mustard, but many other problem species exist.

Approach

Managing the various health threats to Ohio's forests requires a combination of monitoring and control programs, and in some cases, suppression and management actions. Strong partnerships and collaboration are essential to successfully addressing this issue. Monitoring and control programs for insects and disease involve multiple agencies, with the Ohio Department of Agriculture and USDA Animal and Plant Health Inspection Service (APHIS) often taking the lead with state and federally regulated plant pests. For forest insect and disease issues, the ODNR Division of Forestry also plays a significant role through annual statewide forest health aerial surveys, service forestry assistance with private landowners, urban forestry assistance to communities, and targeted grant programs. Management or suppression programs related to forest health threats include gypsy moth and hemlock woolly adelgid (through survey, treatments, and quarantines), invasive plant control on public lands (state forests, national forest, wildlife areas, and metroparks) and private lands (land trust lands, USDA landowner incentive programs like EQIP, U.S. Fish & Wildlife Service private lands program), and general technical assistance to private landowners and communities on identifying and controlling forest health threats. Efforts to identify potentially pest or disease resistant or tolerant trees that can be brought into a breeding program can offer the potential for greater availability for pest and disease tolerant stock for restoration of rural or urban forest areas that have been impacted, or even proactively established in areas that have yet to be impacted. Statewide risk assessment maps will be used when applicable to target risk reduction efforts where they will be most effective and efficient. Forest management to mitigate the impacts of climate change is an active area of research. Strategies to address climate change impacts to forest ecosystems may include reducing the impact of biotic (i.e., insects and diseases) and abiotic (i.e., wildfire) stressors, maintaining or creating refugia and unique sites, maintaining biological diversity, promoting landscape connectivity, facilitating and promoting species

best adapted to future conditions, and promoting forest regeneration. The wildfire risk assessment map for Ohio can help guide fire management programs, like the development of community wildfire prevention plans, Firewise communities, and the distribution of grants and wildland fire equipment to volunteer fire departments.

Objectives and Strategies

5.1 Monitor and manage for existing and future forest health threats

- 5.1.1 Monitor existing forest health threats and mitigate their impact
- 5.1.2 Identify future forest health threats and minimize their potential impact

5.2 Increase the resiliency of Ohio's forests to a changing climate

- 5.2.1 Consider climate change impacts in ODNR Division of Forestry programs
- 5.2.2 Evaluate potential climate change impacts to Ohio's forests and plan and implement strategies to minimize those impacts
- 5.2.3 Position Ohio's urban forestry managers to manage and adapt to the impacts of climate change

5.3 Reduce the impact of forest health stressors including non-native invasive species

- 5.3.1 Reduce the impact of invasive species in Ohio's forests through active control, public awareness campaigns, and proactive identification of future problem species
- 5.3.2 Mitigate the damage of invasive species that impact public health, safety, and economy in Ohio's urban and rural forests
- 5.3.3 Promote age and species diversity in urban forests

5.4 Apply appropriate wildland fire management

- 5.4.1 Develop future ODNR Division of Forestry fire management leadership
- 5.4.2 Appropriately apply wildland fire management actions
- 5.4.3 Position rural fire departments for success

Implementation

The following matrix describes the necessary resources and approach to implementing the statewide strategies.

1. Strategy	2. Geographic Focus	3. Timeframe (Short=1-5 yrs, Long=5+ yrs)	4. Partners ¹	5. Limiting Resource(s)	6. Supports National Objective ¹
5.1.1: Monitor and mitigate forest health threats	Statewide	Ongoing	ODA, APHIS, Coop-Ext, USFS-NRS, USFS-SPF	\$, 😊	1.2, 2.2, 3.3, 3.4, 3.5, 3.6
5.1.2: Identify future forest health threats	Statewide	Ongoing	ODA, APHIS, Coop-Ext, USFS-NRS, USFS-SPF	\$, 😊	1.2, 2.2, 3.3, 3.4, 3.5, 3.6, 3.7
5.2.1: Consider climate change impacts in ODNR Division of Forestry programs	Statewide	Short	USFS-NRS, NIACS, FWS, NWF, TNC, USFS-Wayne, USFS-SPF, Coop-Ext	\$	1.2, 2.2, 3.4, 3.5, 3.6, 3.7
5.2.2: Evaluate climate change impacts and strategies to minimize	Statewide	Short	USFS-NRS, NIACS, FWS, NWF, TNC, USFS-Wayne, USFS-SPF, Coop-Ext	\$	1.2, 2.2, 3.4, 3.5, 3.6, 3.7
5.2.3: Position urban forest managers to adapt to climate change	Urban	Short	NIACS, GLRI, OISA, OLA, USFS-NRS, USFS-SPF, TNC	\$	1.2, 2.2, 3.4, 3.6, 3.7
5.3.1: Reduce impact of invasive species	Statewide	Ongoing	Coop-Ext, USFS-NRS, USFS-Wayne, USFS-SPF, FWS, DOW, DNR-Parks, OFA, OSAF, ACF, ATFS, RA, NRCS, SWCDs, WIGs, NPS, TNC, metroparks, arboreta, Audubon, OIPC, OISA, ADF, GLRI, CWMAs, TSI vendors	\$, 😊	1.2, 2.2, 3.3, 3.4, 3.6, 3.7
5.3.2: Mitigate damage by invasive species to public health, safety, and economy	Statewide	Ongoing	Coop-Ext, APHIS, ODA, USFS-Wayne, DOW, DNR-Parks, OFA, OSAF, ACF, ATFS, NRCS, SWCDs, WIGs, TNC, Metroparks, arboreta, OISA, ADF, GLRI	\$, 😊	1.2, 2.2, 3.1, 3.3, 3.4, 3.5, 3.6, 3.7
5.3.3: Promote tree age and species diversity in urban forests	Urban	Ongoing	OISA, RPC	\$, 😊	1.2, 2.2, 3.3
5.4.1: Develop ODNR Division of Forestry fire mgmt. leadership	Statewide	Ongoing	ORFC, OPFC, MAFC, Fire Academy	\$	2.1, 3.3
5.4.2: Appropriately apply wildland fire mgmt. actions	Statewide	Ongoing	ORFC, OPFC, MAFC, EMAs, RFDs, USDOD, TNC, DOW, FWS	\$, 😊	1.2, 2.1, 2.2, 3.3, 3.4,
5.4.3: Position rural fire departments for success	Statewide	Ongoing	ORFC, OPFC, MAFC, EMAs, RFDs, USDOD	\$	2.1, 3.3,

¹ A key to the listed acronyms for partners and the list of the national priorities and objectives can be found on page 21.

State Issue 6: Forest fragmentation, parcelization, and loss

Description

Forest land conversion for development and forest fragmentation are often listed as two of the key threats to forests, both nationally and in Ohio. As population centers grow and expand into adjacent rural areas, parcelization and land conversion are common, and many of Ohio's largest metropolitan areas have nearby counties with significant forest cover that are being impacted. Forest fragmentation can result from urban development, but it can also occur when land is cleared for mining or traditional agriculture or when roads are improved or expanded. Urbanization and fragmentation often reduce the capacity of forests to provide ecological, economic, and social benefits as described under state issue 2. For example, the management of forests for traditional uses like timber products and hunting becomes increasingly difficult as forest landscapes become urbanized and more fragmented. Fragmentation also provides access for the entry of various forest health threats discussed in issue 5, like invasive plants and insects, and can negatively impact biological diversity. Ohio experienced the highest rate of forest conversion to wildland urban interface (WUI), from 1990-2010, of any state in the USDA Forest Service's Region 9 (20-state area of the Northeast and Midwest) – an average of 7.5% of forest land becoming WUI each decade.

Approach

Some of the concerns associated with forest fragmentation are regularly addressed in landowner and community assistance programs like the ODNR Division of Forestry's Service Forestry and Urban and Community Forestry programs. State Service Foresters often advise forest landowners on how to manage fragmented forests that may have invasive plant problems, lack of suitable wildlife habitat, or limited timber management potential due to a small land base. Urban Foresters advise community officials on how to effectively manage trees along streets, within parks, and on public grounds. Private landowners who own small, forested properties of less than 10 acres are an important and expanding group in Ohio, but they may not be reached effectively under current programs. Efforts to work with stakeholders to address the significant threats of forest fragmentation and urbanization will require collaboration among various partners, including Urban Foresters, State Service Foresters, extension personnel, and others, like local and regional land use planners. The Statewide Forest Resource Assessment includes several maps of current or future areas affected by fragmentation and urbanization. Those maps will be useful in focusing efforts on the most heavily impacted areas.

Objectives and Strategies

- 6.1 Slow the trend of increasing forest fragmentation, parcelization, and loss in previously rural forest land
 - 6.1.1 Maintain economic benefits and ecological values of working forests through landowner incentives, conservation easements, and property tax programs
 - 6.1.2 Support efforts to improve comprehensive land use planning and zoning in urbanizing areas
- 6.2 Mitigate the impact of forest fragmentation and urban development in forested landscapes
 - 6.2.1 Sustain forest benefits and services in parcelized forest landscapes (i.e., parcels <10 acres)
 - 6.2.2 Promote retention and establishment of green and wildlife corridors
- 6.3 Increase education and outreach to small woodlot owners on sustaining forest benefits in urbanizing areas
 - 6.3.1 Provide information, education, and workshops for small woodlot owners

Implementation

The following matrix describes the necessary resources and approach to implementing the statewide strategies.

1. Strategy	2. Geographic Focus	3. Timeframe (Short=1-5 yrs, Long=5+ yrs)	4. Partners ¹	5. Limiting Resource(s)	6. Supports National Objective ¹
6.1.1: Maintain benefits of working forests through landowner incentives	Statewide	Ongoing	Auditors, TNC, COLT, NRCS, TPL, TCF, USFS-SPF	\$, 😊	1.2, 2.2, 3.1, 3.2, 3.4, 3.5, 3.6, 3.7
6.1.2: Support efforts to improve comprehensive land use planning	Wildland-Urban Interface	Long	OLEC, GLRI, RPC, OAPA, OTA, OML, Coop-Ext, TNC	\$, 😊	1.1, 3.1, 3.2, 3.4, 3.5, 3.6, 3.7
6.2.1: Sustain forest benefits in parcelized landscapes	Wildland-Urban Interface	Short	Coop-Ext, OISA, OSAF	\$, 😊	1.2, 2.2, 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7
6.2.2: Promote retention and establishment of green corridors	Statewide	Long	DOW, FWS, RPC, SWCDs, TNC, USFS-SPF, COLT	\$	1.1, 2.2, 3.5, 3.6, 3.7
6.3.1: Provide information and education for small woodlot owners	Statewide	Short	Coop-Ext, SWCDs		1.2, 3.4, 3.5, 3.6, 3.7

¹ A key to the listed acronyms for partners and the list of the national priorities and objectives can be found on page 21.

Key to partners:

ACF = Association of Consulting Foresters
 ADF = Arbor Day Foundation
 AEP = American Electric Power
 APHIS = USDA Animal & Plant Health Inspection Service
 ATFS = American Tree Farm System
 COLT = Coalition of Ohio Land Trusts
 DNR-Parks = ODNR Division of Parks & Watercraft
 DSWC = Ohio Department of Agriculture Division of Soil & Water Conservation
 DOW = ODNR Division of Wildlife
 EMAs = County Emergency Management Agencies
 FSA = USDA Farm Service Agency
 FWS = U.S. Fish & Wildlife Service
 GLRI = Great Lakes Restoration Initiative
 MAFC = Mid-Atlantic Fire Compact
 NIACS = Northern Institute of Applied Climate Science
 NPS = National Park Service
 NRCS = USDA Natural Resources Conservation Service
 NWF = National Wildlife Federation
 NWTF = National Wild Turkey Federation
 OAPA = Ohio Chapter American Planning Association
 ODA = Ohio Department of Agriculture
 ODE = Ohio Department of Education
 OEPA = Ohio Environmental Protection Agency
 OFA = Ohio Forestry Association
 OIPC = Ohio Invasive Plants Council

OISA = Ohio Chapter Intl. Society of Arboriculture
 OLA = Ohio Landscape Association
 OLEC = Ohio Lake Erie Commission
 OML = Ohio Municipal League
 OPFC = Ohio Prescribed Fire Council
 ORFC = Ohio Rural Fire Council
 OSFA = Ohio Chapter Society of American Foresters
 Coop-Ext = Cooperative Forestry Extension (Ohio State and Central State Universities)
 OTA = Ohio Township Association
 PF = Pheasants Forever
 RA = Rural Action
 RFDs = Rural Fire Depts.
 RGS = Ruffed Grouse Society
 RPC = Regional Planning Commissions
 SWCDs = Soil & Water Conservation Districts
 TCF = The Conservation Fund
 TNC = The Nature Conservancy
 TPL = Trust for Public Land
 USDOD = U.S. Department of Defense
 USFS-NRS = USDA Forest Service Northern Research Station
 USFS-SPF = USDA Forest Service State & Private Forestry
 USFS-Wayne = Wayne National Forest
 WIGs = Woodland Interest Groups
 WMI = Wildlife Management Institute

List of the National Priorities and Objectives (developed by the USDA Forest Service, State & Private Forestry):

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 reduce risk of wildfire impacts
	2.2. Identify, manage, and reduce threats to forest 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

Crosswalk of statewide strategies and the criteria and indicators that they address from the Statewide Forest Resource Assessment.

Statewide Strategy	Criteria	Indicator
1.1.1	1, 2, 3, 4, 5, 6	1-16
1.1.2	6	15
1.1.3	1, 2, 3, 4, 5, 6	1-16
1.2.1	1, 2, 3, 4, 5, 6	1-16
1.2.2	1, 2, 3, 4, 5, 6	1-16
1.3.1	All	All
1.3.2	All	All
2.1.1	All	All
2.1.2	All	All
2.1.3	All	All
2.1.4	All	All
2.2.1	3, 6	7, 13
2.2.2	3	7
2.3.1	6	13
2.3.2	6	13
2.4.1	6	12, 14, 16
2.4.2	6	12, 14, 16
2.4.3	3, 4, 5, 6	7, 8, 10, 11, 12, 13, 14
2.4.4	3, 4, 5, 6	7, 8, 10, 11, 12, 13, 14
2.4.5	3, 4, 5, 6	7, 8, 10, 11, 12, 13, 14, 16
2.5.1	All	All
2.5.2	All	All
2.5.3	6, 7	12, 16, 17, 18
2.6.1	All	All
3.1.1	4	8, 9, 10
3.1.2	4	8, 9, 10
3.1.3	4	8, 9, 10
3.1.4	4	8, 9, 10
3.2.1	4	8, 9, 10
3.2.2	4, 7	8, 9, 10, 17, 18
3.2.3	4, 7	8, 9, 10, 17, 18
4.1.1	1, 2, 3, 6	2, 4, 5, 6, 7, 12
4.1.2	1, 2, 3, 6	2, 4, 5, 6, 7, 12
4.2.1	1, 3, 5	1, 2, 3, 4, 7, 11
4.2.2	1, 3, 5	1, 2, 3, 4, 7, 11
4.3.1	1, 3, 5	1, 2, 3, 4, 7, 11
4.3.2	1, 3, 5	1, 2, 3, 4, 7, 11
4.3.3	1	2, 4
4.4.1	1, 3, 7	1, 2, 4, 7, 17, 18
5.1.1	3	7
5.1.2	3	7
5.2.1	3	7
5.2.2	3	7
5.2.3	3	7
5.3.1	3	7
5.3.2	3	7
5.3.3	3	7
5.4.1	3	7
5.4.2	3	7
5.4.3	3	7
6.1.1	7	17, 18
6.1.2	7	17, 18
6.2.1	All	All
6.2.2	1, 2, 3, 7	3, 4, 5, 7, 18
6.3.1	All	All

ODNR Division of Forestry Programs & Statewide Strategies

The Ohio Department of Natural Resources (ODNR) Division of Forestry and partners have established program areas that are currently working on many of the strategies listed in the previous section or have the capacity to address them in the future. An evaluation of how currently funded programs contribute to each of the statewide strategies provides additional information on the necessary resources to implement the Statewide Strategy. This section includes a table that crosswalks current ODNR Division of Forestry program areas and statewide strategies. Descriptions of each of the programs follow.

The program areas are:

- State Forests (including land management and recreation)

- Fire Management

- Private Landowner Assistance (including Ohio Forest Tax Law, USDA NRCS Forestry Programs, and Call Before You Cut)

- Forestry Pollution Abatement

- Urban and Community Forestry

- Forest Health

- Forest Industry, Utilization, and Marketing

- Information and Education

- Project Learning Tree

- Forest Legacy

The ODNR Division of Forestry program areas that contribute to each statewide strategy:

Statewide Strategy	State Forests	Fire Mgmt.	Landowner Assistance	Pollution Abtmnt.	Urban Forestry	Forest Health	Forest Industry	Info & Educ.	PLT	Forest Legacy
1.1.1	X	X		X		X		X		
1.1.2	X									
1.1.3	X	X				X		X		
1.2.1			X					X		X
1.2.2			X					X		
1.3.1					X			X		
1.3.2					X			X		
2.1.1	X	X	X	X	X	X	X	X	X	X
2.1.2					X			X		
2.1.3	X	X	X	X	X	X	X	X	X	X
2.1.4	X	X	X	X	X	X	X	X	X	X
2.2.1	X				X			X		
2.2.2	X	X						X		
2.3.1	X							X		
2.3.2	X		X					X		
2.4.1							X	X		
2.4.2	X		X			X	X	X		
2.4.3	X						X	X		
2.4.4			X			X		X		X
2.4.5							X	X		
2.5.1					X					
2.5.2					X			X		
2.5.3					X			X		
2.6.1	X	X	X		X	X	X	X	X	X
3.1.1			X		X			X		
3.1.2	X		X	X			X	X		X
3.1.3					X					
3.1.4	X		X							
3.2.1	X		X		X			X		X
3.2.2					X			X		
3.2.3					X		X	X		
4.1.1	X	X	X					X		X
4.1.2	X	X	X					X		X
4.2.1	X									X
4.2.2		X	X			X		X		X
4.3.1	X	X	X				X	X		X
4.3.2	X	X	X				X	X		X
4.3.3	X	X	X			X		X		X
4.4.1						X		X		
5.1.1	X	X	X		X	X		X		X
5.1.2	X	X	X		X	X		X		
5.2.1	X	X	X		X	X		X		X
5.2.2	X		X		X	X		X		
5.2.3					X	X		X		
5.3.1	X	X	X		X	X		X	X	
5.3.2	X		X		X	X		X		
5.3.3					X			X		
5.4.1		X								
5.4.2		X						X		
5.4.3		X						X		
6.1.1			X					X		X
6.1.2		X	X		X			X		
6.2.1			X		X	X		X		
6.2.2	X		X		X			X		X
6.3.1			X					X		

State Forests

The ODNR Division of Forestry operates 24 state forests, covering more than 200,000 acres in 23 counties, mostly in Ohio's unglaciated southeastern region. The Chief of the Division, and State Forester of Ohio, is given statutory authority for multiple-use management of state forests through Ohio Revised Code (ORC), Section 1503. State forest management involves a balanced approach to several, and sometimes conflicting, programmatic areas that include: land management (real estate, timber, minerals), fire management (both prescribed and wildland), backcountry recreation (motorized and non-motorized), and forest operations (infrastructure maintenance). This management is accomplished on the ground by eight forest managers and eight land management foresters that have the large responsibility of developing and implementing Annual Work Plans for each state forest. The forest managers answer directly to the three district forest managers (one in the North District, one in District 4 in Athens, and one in District 5 in Chillicothe). District managers are responsible for consistent implementation of programs and work plans and provide both programmatic and administrative support to the forest managers. They help forest managers provide a balanced and prioritized approach to multiple use management. The District Managers also serve on the integration committee which approves all Annual Work Plans and develops the comprehensive five-year Forest Management Plan for all state forests.

Land Management

Forest management occurs on state forests to promote forest health and sustainability, wood products that contribute to local communities, and outreach and education to private landowners. The ODNR Division of Forestry completes forest inventory and silvicultural prescriptions on approximately 5% of the total land base each year. Silvicultural prescriptions are guided heavily by decision support tools such as SILVAH-Oak or other appropriate silvicultural guides. All forest management activities are tracked in a central GIS database. Updated forest inventory information is held digitally but not yet integrated into a central database. Timber sales average approximately 10.5 million board feet on approximately 1,900 acres each year. Both even-aged and uneven-aged management occurs on state forests. State forest silviculture is actively focusing on the oak regeneration problem and developing even-aged harvesting coupled with prescribed fire silvicultural systems. Partial timber harvesting occurs on approximately 1,500 acres per year and regeneration harvesting occurs on approximately 400 acres per year. Revenue from state forest timber sales are distributed to local governments and the ODNR. Prescribed burning activities average approximately 1,000 acres each year on approximately four different units. The last 10 years have had more limited burning than planned due to uncharacteristically wet burn windows.

Management of Ohio's state forests is guided by a five-year Forest Management Plan that covers all state forests. Annual work plans consist of specific activities and are presented to the public each year for comment. Further, all land management and prescribed fire activities follow the policies and procedures of the ODNR Division of Forestry's Land Management Manual that contains all aspects of operational, environmental, and governmental policies. Finally, the ODNR Division of Forestry is certified through the Sustainable Forestry Initiative and the Forest Stewardship Council, both of which are third-party certification systems.

Integration across program areas is important to effectively manage the entire forest system and ensure consistency across unit boundaries. An integration team exists that is composed of the Chief of the ODNR Division of Forestry, land management administrative staff and other program

administrative staff. The integration team meets on an “as-needed” basis to review plans and other projects. State forests are the only forest lands in Ohio that are “dual-certified,” by both the Forest Stewardship Council and the Sustainable Forestry Initiative and the efforts of the integration team are largely a means to implement these certification programs. The integration team will review forest management plans and annual work plans prior to public release, review the Shawnee Wilderness Area plan update every 10 years, and review public comments from open houses. They will review any expanded recreation proposals recommended at the forest level. They will also review other projects as needed, particularly when they cross unit boundaries and program areas.

Recreation

State forests support numerous outdoor recreational opportunities. Visitors to state forests can enjoy over 570 miles of recreational trails, as well as camping, hunting, shooting ranges, wildlife viewing, and some non-timber forest products gathering. The ODNR Division of Forestry is the sole provider on state lands of four designated all-purpose vehicle (APV) areas for off-road four-wheeler and motorcycle riding on a total of 54 miles of motorized trails. Mohican-Memorial State Forest contains the only trail with a primary use designation for mountain bikes, a 24-mile trail rated as an “epic” trail by the International Mountain Bike Association. The ODNR Division of Forestry also manages the only state designated wilderness area at Shawnee State Forest in southern Ohio.

Fire Management

The ODNR Division of Forestry administers the state’s Fire Management Program and is responsible for direct wildfire protection on state and private lands in 40 of Ohio’s counties in the unglaciated and forested southeastern part of the state, as well as 3 counties that surround Maumee State Forest in northwest Ohio. Each year, fire departments within this area report an average of approximately 400 wildfire occurrences that burn roughly 2,000 acres of forests and grasslands. These wildfires are attributed primarily to careless debris burning, arson, and other miscellaneous human-caused ignitions. Wildfires in Ohio annually result in significant damage to forests and landscapes, water quality, and improvements such as structures, fences, and outbuildings. Due to the nature of predominantly human-caused ignitions, the majority of wildfires in Ohio tend to burn in close proximity of structures and valuable property. The ODNR Division of Forestry provides critical support to Ohio’s rural fire departments through training, grant opportunities, equipment programs, fire prevention efforts, and technical support. Good working relationships and close cooperation with local fire departments is essential in accomplishing community wildfire prevention and safety in Ohio.

Utilizing prescribed fire as a resource management tool is indispensable in certain fire adapted ecosystems in Ohio, and the ODNR Division of Forestry serves as a statewide leader in prescribed fire management. In addition to actively applying prescribed fire to appropriate sites on state forests, the ODNR Division of Forestry operates the Ohio Certified Prescribed Fire Manager training and certification program, holds membership on the Ohio Prescribed Fire Council, and has statutory authority regarding prescribed burning within the State of Ohio. Throughout all sections of the fire management program, the ODNR Division of Forestry works closely with a wide variety of local, state, and federal agencies to share knowledge and resources that lead to the advancement of safe practices in Ohio. Key partners include local fire departments, local land management agencies such as county and city park districts, other ODNR divisions, the Wayne National Forest, U.S. Fish and Wildlife Service, and National Park Service.

Private Landowner Assistance: Forest Stewardship

Seventy percent of all forestland in Ohio, or 5.6 million acres, is privately owned by family forest owners. Private forestland contributes significantly to the state's clean water and air, wildlife habitat, recreational resources, and timber supplies. Authorized by the federal Cooperative Forestry Assistance Act of 1978, the Forest Stewardship Program is a federal-state partnership program that provides forestry technical assistance to private landowners. In Ohio, the Forest Stewardship Program is administered through the ODNR Division of Forestry's Service Forestry Program to encourage and enable active long-term forest management by private landowners. A key aspect of the Forest Stewardship Program is the development of comprehensive, multi-resource management plans, called a Woodland Stewardship Management Plan in Ohio, that provide landowners with the information they need to manage their forests for a variety of products and services. Woodland owners may also meet with State Service Foresters for assistance on various forest management topics without developing a written plan. State Service Foresters are uniquely qualified to work one-on-one with landowners to determine what can and should be done to develop their woodlands for wildlife habitat, timber production, rare species habitat, hunting, and/or recreation.

Ohio currently has 22 Service Foresters, who each provide private landowner assistance over a multi-county project area. Service Forester project areas range in size from one to ten counties. Three regional Service Forestry Coordinators directly supervise the Service Foresters and report to the Cooperative Forest Management Administrator who oversees the Service Forestry Program at the state level. For more information about woodland owner assistance programs in Ohio, as administered under the ODNR Division of Forestry's private landowner assistance program, visit the ODNR website at <https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/forestry>. Some more specific programs administered under the Service Forestry Program include the Ohio Forest Tax Law program, USDA Natural Resources Conservation Service (NRCS) programs, and the Call Before You Cut program.

Ohio Forest Tax Law

The Ohio Forest Tax Law (OFTL) program is administered by the ODNR Division of Forestry, according to the Ohio Revised Code and the Ohio Administrative Code. Under the OFTL program, landowners agree to manage their forest land for the commercial production of timber and other forest products and to abide by pertinent rules and regulations in exchange for a 50% reduction of the local property tax rate.

The requirements for the OFTL program are as follows.

- Forest land must be 10 or more acres (home sites or other building sites excepted) and not less than 120 feet wide.
- Property boundary lines must be clearly marked prior to examination and those markings continuously maintained.
- All forest land must be managed according to a woodland stewardship management plan approved by the State Forester. The owner shall follow all provisions of the plan, which may include commercial timber harvesting.
- Every five years, the owner must self-certify that they are in compliance with the program and following their woodland management plan; the ODNR Division of Forestry may inspect certified forest land to ensure compliance.
- There is a one-time \$75 application fee.

USDA NRCS Forestry Programs

The USDA Natural Resources Conservation Service (NRCS) administers incentive and cost share programs for private landowners, and the ODNR Division of Forestry provides technical assistance on forestry practices through an agreement with NRCS. The Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program (CSP) assist private forest landowners in establishing new trees or improving the health and vigor of their existing woods through management practices and enhancements. The EQIP-Forestry Program is a way for landowners to receive program payments and technical advice from professional foresters. Forestry practices that are eligible under the EQIP-Forestry Program include: tree planting, grape vine control, crop tree release (selective cutting of trees to allow other trees of value to grow faster), thinning, and control of woody invasive plants (i.e., bush honeysuckle and tree-of-heaven). Under the CSP forestry program, landowners get financial incentives to continue management on their woodlands and achieve enhanced woodland health and sustainability through additional activities. For both EQIP and CSP, landowners apply for programs at their local NRCS office. More information can be found on the NRCS website at <https://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/>.

Call Before You Cut

The Call Before You Cut (CBYC) program is an outreach program focused on providing information to landowners considering a commercial timber harvest. In addition to providing basic information and resources about timber harvesting, the program promotes the use of a professional forester at the time of harvest. A key message of the program is that “healthy woods grow on good advice.” Ohio was the first to offer a statewide Call Before You Cut program, but a total of nine Eastern and Midwestern states now have CBYC programs. For more information, visit the website at <https://callb4ucut.com/>.

Forestry Pollution Abatement

The Ohio Forestry Pollution Abatement Program is designed to protect Ohio’s waters from degradation caused by soil erosion from private and public woodlands. Current program rules and standards require landowners, loggers, and others responsible for silvicultural operations to utilize best management practices (BMPs) to reduce the risk of eroded soil sediment reaching “waters of the state.” The Ohio Forestry Pollution Abatement Program consists of three interrelated components: public education, pre-harvest planning and complaint investigation/legal enforcement.

Public education

The ODNR Division of Forestry works closely with Ohio’s 88 Soil and Water Conservation Districts (SWCDs), Ohio State University Extension, Central State University Extension, and others, to educate forest landowners about the important role that BMPs play in minimizing soil erosion and protecting water quality. Landowners are also informed of their legal responsibility to utilize BMPs when conducting harvests and other silvicultural activities. Logger education is another vital part of the program. In addition to providing education to individual loggers, the ODNR Division of Forestry works closely with the Ohio Forestry Association to provide group education sessions through their Master Logger certification program. Continuing education sessions are also provided to local logger’s chapters throughout the state as well as large public events such as the annual Paul Bunyan Show. These trainings focus on the technical aspects of BMP installation and erosion control methods.

Pre-harvest planning

Ohio's forestry pollution abatement rules provide the opportunity for landowners, operators, or others responsible for forestry operations to file a voluntary "timber harvest plan" with the ODNR Division of Forestry or the local SWCD in the county where the timber harvest is to take place. Although these plans are voluntary, they do provide important legal benefits. In a private civil action for nuisances involving forestry pollution, it is an affirmative defense if the parties are operating under a timber harvest plan approved by the Chief of the ODNR Division of Forestry or the SWCD board of supervisors.

Complaint Response/Legal Enforcement

BMPs are legally required when conducting harvests and other forest management operations on all private and public land in Ohio. When the ODNR Division of Forestry identifies a site that is lacking adequate BMPs, either through our own observations or through a complaint from the public, an investigation is conducted. The ODNR Division of Forestry currently has a memorandum of understanding with each of Ohio's 88 SWCDs to assist with this investigative process. The ODNR Division of Forestry and SWCD work with violators to bring the sites back into compliance in a timely manner. If the owner, operator, or person responsible for the activity is unwilling or unable to achieve voluntary compliance, the Chief of the ODNR Division of Forestry may issue a "Chief's order," which is a legal order that establishes timelines for compliance to be reached. Failure to comply with an order is a first-degree misdemeanor, with each day of violation being a separate offense.

Urban and Community Forestry

For the nearly 80% of Ohioans that live in urban areas, the trees lining their street, in their backyard, or in their neighborhood park are their most frequent, if not only, connection to our natural resources. Research shows this connection is critical to their health and well-being. Ohio's urban forests provide ecosystem services in the form of pollution removal, carbon sequestration, avoided building energy use, and avoided emissions that is valued at \$971 million annually. These ecosystem services and other quantifiable social, economic, and environmental benefits are maximized and sustained when local governments implement comprehensive urban forestry programs that are integrated and commensurate with other community services.

Ohio's Urban Forestry Assistance Program was created in 1979 to extend technical forestry assistance to municipalities and enhance the ecosystem services of natural resources within our cities, villages, and townships. The purpose of the program is to provide community officials and allied agencies with the organizational and technical ability to effectively manage the trees and land within their community. The program's six regional urban foresters develop and support sustainable urban forest management programs and empower communities to manage their urban forest resources to meet their local needs.

Objective Statement:

Through this program, we envision an improved quality of urban life for all Ohio communities. We believe this can only be achieved when comprehensive urban forestry programs (organizations within the community infrastructure that have the authority and ability to effectively manage its urban forest resource) are integrated and on par with other community services.

Urban Forestry Assistance Program Strategy:

1. Direct assistance: Regional urban foresters provide one-on-one assistance to enhance and expand local tree care programs within participating communities.
2. Grant program: Administer a grant program that is funded by federal, state, and/or private sector funding when available. The program is a competitive process based on community commitment rather than community need.
3. Information facilitation: Ohio's Urban Forestry Program provides relevant information through workshops, conferences, and a regularly updated website to help communities successfully implement their urban forest management programs. Regional and statewide activities include annual urban forestry conferences and City Foresters' Symposium, Tree Commission Academy classes, Tree Survival School program, Young Tree Training workshops and Tree City USA awards programs.
4. Urban forest threats and pressures: Partnering with federal and state agencies, the Urban Forestry Program helps communities prepare for, avoid, or address threats to Ohio's urban forest resource. Activities include disaster preparation, Urban Forest Strike Team and Forest Action Strike Team training and deployment, Canopy Replacement programs, and emerald ash borer & Asian longhorned beetle assistance.

Forest Health

The goal of the ODNR Division of Forestry's Forest Health Program is to monitor, eradicate, and suppress forest pests as well as conduct outreach and education to increase awareness of forest pest issues within the state. The purpose of the program is to work cooperatively with partner agencies, organizations, and all Ohioans to detect and effectively manage threats to forest ecosystems to maximize the benefits Ohio's forests provide for all. The ODNR Division of Forestry works cooperatively with the Ohio Department of Agriculture (ODA) and the USDA Animal and Plant Health Inspection Service (APHIS) on survey, monitoring, and quarantines of state and federally regulated plant pests, respectively (such as gypsy moth and Asian longhorned beetle). The main activities of the Forest Health Program are forest pest survey and monitoring (both aerial and ground based), active management and suppression of forest pests, and outreach, education, and technical assistance. The USDA Forest Service State & Private Forest Health Protection assists with and provides funding for much of this work through grants. Aerial surveys using fixed wing aircraft, helicopter (usually ODNR Division of Wildlife aircraft), or unmanned aircraft systems (UAS) are conducted annually to identify areas of forest defoliation, discoloration, mortality, or invasive plant infestations. These activities are generally followed by ground-based surveys to further identify and delineate issues mapped from the air. Ground-based detection survey for forest health issues such as hemlock woolly adelgid (HWA), beech leaf disease, Asian longhorned beetle, walnut twig beetle, southern pine beetle, oak wilt, sudden oak death, and invasive plants, are commonly accomplished through visual detection or trapping techniques.

The ODNR Division of Forestry's Forest Health Program also conducts management and suppression of some forest pests and diseases. In 2017, the ODNR Division of Forestry Forest Health Program led the development of the ODNR Eastern Hemlock Conservation Plan, which guides activities for managing various stressors of eastern hemlock in Ohio (HWA being the main threat), with applicability to both ODNR lands and other land ownerships. Chemical and biological controls are used in high-priority eastern hemlock stands to protect them from HWA and conserve the critical ecological and economic ecosystem services of these unique forests. Management activities also

occur on state land, and in some cases private land, for oak wilt, invasive plants, and emerald ash borer. Finally, outreach, education, and technical assistance are critical in raising awareness of forest health concerns and facilitate early detection of forest pest infestations, allowing for more rapid response measures.

Forest Industry, Utilization, and Marketing

Ohio grows over 580 million cubic feet of wood and harvests less than 230 million cubic feet of timber each year. The ODNR Division of Forestry's Forest Industry Program seeks to conserve Ohio's timber resources through promoting the idea that increased markets for forest products creates incentives to practice sustainable forest management. Staff work cooperatively with government agencies, research institutions, and industry associations to enhance Ohio's domestic and international wood products marketing opportunities while also exploring opportunities for promoting the use of underutilized forest products. Key partners include other ODNR divisions, the USDA Forest Service, the Ohio State University, and the Ohio Forestry Association. In recognition of the fact that forest industries function at a multi-state level, the ODNR Division of Forestry has also collaborated with others states and Canada through the Northeast-Midwest State Foresters Alliance in order to better understand and report on issues that affect forest utilization and marketing at a regional scale.

Information & Education

Ohio's forests contain a wealth of natural information that can be experienced firsthand by visiting any of Ohio's 24 state forests. Through additional education, one can become an informed steward of the land. The ODNR Division of Forestry is committed to helping Ohioans and other visitors understand the full importance of well-managed woodlands. Information and education activities are an important component of all ODNR Division of Forestry program areas. To assist in educating Ohio's youth, the ODNR Division of Forestry's Communications Program supports and coordinates Project Learning Tree workshops so educators and youth leaders can incorporate quality environmental education into their lessons or programs. The Project Learning Tree program is described in more detail in a separate program description that follows.

The Ohio Division of Forestry has a communications team, whose guiding principles include:

- ODNR Division of Forestry Vision: Healthy, diverse forests valued for the life-sustaining benefits they provide now and forever.
- ODNR Division of Forestry Mission: To promote and apply management for the sustainable use and protection of Ohio's private and public forest lands.
- Forests are crucial to all Ohioans for the benefits they provide.
- The Division of Forestry is the leader on forestry issues in Ohio.
- Communications (both internal and external) is a critical part of fulfilling a leadership role.
- Division messages cross program areas and responsibilities.
- Communications efforts reflect the professionalism of our staff.

Project Learning Tree

Project Learning Tree (PLT)-Ohio is a comprehensive environmental education program that strives to deliver the award-winning international Project Learning Tree. PLT helps educators with balanced non-biased learning experiences for Pre-K through 12th grades that encompass our environment –

land, air, water, plants, animals, and people. PLT emphasizes the benefits of youth experiencing and learning outside in the natural world. Since 1980, PLT-Ohio has provided professional development training to thousands of educators. First managed by the Ohio Department of Education, PLT-Ohio is now a non-profit 501(c)(3) organization. Ohio's PLT has been received enthusiastically by educators, natural resource professionals, and youth leaders. A strong state board, made up of volunteer educators and natural resource professionals, is responsible for overseeing the PLT-Ohio program. Since 1986, the ODNR Division of Forestry has been a state sponsor.

Nationwide, PLT is a program of the Sustainable Forestry Initiative (SFI), a non-profit organization that works for a vision of a world that values and benefits from sustainably managed forests and has a mission to advance sustainability through forest-focused collaborations. PLT was developed by classroom teachers, other educators, and conservation and forestry groups. Delivery of PLT's professional development is done via online and in-person events and workshops. PLT ultimately helps develop students' awareness, knowledge, and appreciation of the environment, builds their skills and ability to make informed decisions, and encourages them to take personal responsibility for sustaining the environment and our quality of life that depends on it. PLT also helps prepare a 21st century workforce faced with devising solutions to increasingly complex environmental issues.

Forest Legacy

Ohio's Forest Legacy Program is a partnership between state and federal forestry agencies to permanently protect important forest lands through conservation easements and land purchases. This section is intended to meet the requirements of the Forest Legacy Program as outlined in the Forest Legacy Program Implementation Guidelines, May 2017. The required assessment of forest resource conditions and trends is covered in Ohio's Forest Action Plan assessment section with a summary crosswalk of the assessment elements in Appendix A of the Forest Action Plan assessment (page 205-206). Per the 2017 FLP Implementation Guidelines, the following elements will be discussed:

- Specific goals and objectives to be accomplished by the FLP.
- Eligibility Criteria the State used to identify and delineate Forest Legacy Areas (FLAs).
- Delineation of Forest Legacy Areas and identification of goals for each FLA.
- Outline of the State's project evaluation and prioritization procedures.

Description of Ohio's Forest Legacy Program

In the 1990 Farm Bill, the Forestry Legacy Program (FLP) was one of several programs created to help promote the long-term protection and viability of our nation's forestlands. The Secretary of Agriculture is responsible for the development and administration of the FLP. The US Forest Service in cooperation with States and other units of government is responsible for the implementation of the FLP. The FLP is a Federal cost-share program that coordinates with states and local agencies to provide forestland protection from development relying primarily on conservation easements as the protection tool. The State of Ohio agrees to secure at least 25 percent of the total program cost.

The primary national objective of the FLP is to identify and protect environmentally important forests from conversion to non-forest uses. Individual states establish eligibility criteria and identify areas that meet the eligibility criteria and propose them for inclusion in the FLP. Moreover, the State identifies goals and objectives within the framework of the national FLP to help address the specific needs of their state.

The Forest Legacy Program in Ohio:

In 1993, then Governor George Voinovich designated the Ohio Department of Natural Resources (ODNR) Division of Forestry as the lead agency for Ohio for the Forest Legacy Program.

In 2004-2005, the Ohio Forest Stewardship Coordinating Committee coordinated the development of the original Assessment of Need (AON) and advised the ODNR Division of Forestry on the implementation of the Forest Legacy Program. In addition to input from the Ohio Forest Stewardship Coordinating Committee, a series of public input meetings were conducted in 2004 around Ohio to obtain feedback from citizens and interest groups. The original AON was approved on August 5, 2005.

Through this process, the Ohio Forest Stewardship Coordinating Committee identified the following threats to Ohio's forestland and traditional forest uses:

- Fragmentation, conversion, and parcelization from development
- Influx of aggressive, non-native plant and animal species
- Lack of professional forest management plans
- Livestock grazing
- Insects and diseases

In the process of integrating Ohio's Forest Legacy Program Assessment of Need into Ohio's Forest Action Plan, new data were considered, and they show the same threats are present, although livestock grazing may be less widespread. All other threats are represented in the state issues and strategies outlined in this document.

Specific Goals of Ohio's Forest Legacy Program:

The mission of the Ohio Forest Legacy Program, as defined by the Committee, is to protect working forests, which are defined as a forest with a management plan stating clearly identified management goals that incorporate timber harvesting as an essential management tool.

The goals defined by the Ohio Forest Stewardship Coordinating Committee for the Ohio Forest Legacy Program are to:

1. Protect working forests threatened by conversion to non-forest uses
2. Protect and enhance social/cultural values associated with forest uses
3. Improve/enhance biodiversity
4. Improve water quality and protect water quantity
5. Enhance economic productivity through traditional forest uses

The Committee also determined that in order to meet these goals the following objectives should be achieved:

1. Foster and connect large and intact forest tracts,
2. protect areas of social, recreational, cultural and historic significance;
3. focus on the most ecological significant areas of the state;
4. support communities by focusing on conserving the most economically significant areas for forest related industries.

Based on the national criteria and the committee's recommended program goals and eligibility criteria, two Forest Legacy Areas (FLAs) were identified in Ohio; The Grand River Lowlands FLA and The Unglaciaded Appalachian Plateau FLA.

Eligibility Criteria for Ohio's Forest Legacy Areas:

These eligibility criteria satisfy both the national criteria set forth in the FLP Implementation Guidelines as well as the additional criteria developed by Ohio to further refine the state's FLP requirements.

In order to be eligible as an Ohio Forest Legacy Area, an area must aid in achievement of the goals defined by the Ohio Forest Stewardship Coordinating Committee for the Ohio Forest Legacy Program.

The goals are to:

1. Protect working forests threatened by conversion to non-forest uses
2. Protect and enhance social/cultural values associated with forest uses
3. Improve/enhance biodiversity
4. Improve water quality and protect water quantity
5. Enhance economic productivity through traditional forest uses

To achieve these goals, areas must meet the following objectives:

1. Foster and connect large and intact forestland tracts.
 1. Contain Public land
 2. Contain Private forestland
 3. Contain other Protected land (e.g., conservation easements, federal, state or other public land)
 4. Show a change in the number of housing units less than 20% over the past ten years and possess indicators of a continuing trend in this direction.
2. Protect areas of social, recreational, cultural and historical significance.
 1. Have a concentration of areas utilized for forest based recreation
 2. Contain significant historic sites
 3. Have areas significant to travel and tourism
3. Focus on the most ecologically significant areas of the state.
 1. Contain significant concentration of plants and animals as recorded in the Ohio Natural Heritage database
 2. Have forests that can or do contribute to improved water quality
 3. Contain concentrations of important bird areas as identified by the Ohio Audubon Society
4. Support communities by focusing on conserving the most economically significant areas for forest related activities and industries.
 1. Produce or have the potential to produce high dollar volume of timber and forest products
 2. Produce significant hunting opportunities
 3. Have forests that contribute significantly to the economic health of the community
 4. Provide forest based opportunities for tourism and recreation
 5. Provide opportunities for employment related to the forest industry

In addition, to be eligible as Ohio Forest Legacy Areas, forestland areas should also meet one or more of the following criteria:

- Likelihood of sustaining traditional forest management by exceeding the state average of 30% forest cover.
- Contain environmentally important forests that are threatened by present or future conversion to non-forest uses.
- Be an area of high timber resource productivity and dependency on forest products and outdoor recreation.
- Areas with low likelihood of having separated mineral rights that might be susceptible to surface mining.
- Contain areas of known historic, cultural and archaeological resources.
- Contain scenic resources and recreation opportunities.
- Contain wetlands, riparian areas, floodplains and/or areas of predominantly high groundwater recharge, and the likelihood of improving the quality and quantity of water resources.
- Contain habitat for known rare, endangered and threatened species.

The Ohio Forest Stewardship Coordinating Committee (OFSCC) determined that in addition to other selection criteria, potential FLAs would coincide with county lines to facilitate data collection, area description, government jurisdictions and program implementation.

The initial requirement of exceeding the state average of 30% forest cover was used as a primary filter. This eliminated nearly three-fourths of the state from consideration, based on forest cover alone. Those counties meeting the 30% threshold were identified and then over-laid with data on the change in the number of housing units during the past ten years and a review of factors that may continue or enhance the potential for development/conversion such as infrastructure development. In addition, threats of conversion from surface mining were also included in this filter.

Data on significant plants and animals from the Ohio Natural Heritage Database and Important Birding Areas was used as the primary environmental filter. Also considered was data on stream quality.

Timber production and the dependence on the timber industry was included by plotting the location of primary forest product businesses, that would serve as the first step in producing value added products. Limited or no data are available on specific dollar amounts or quantities of timber or other commodity level timber products on a county/regional basis.

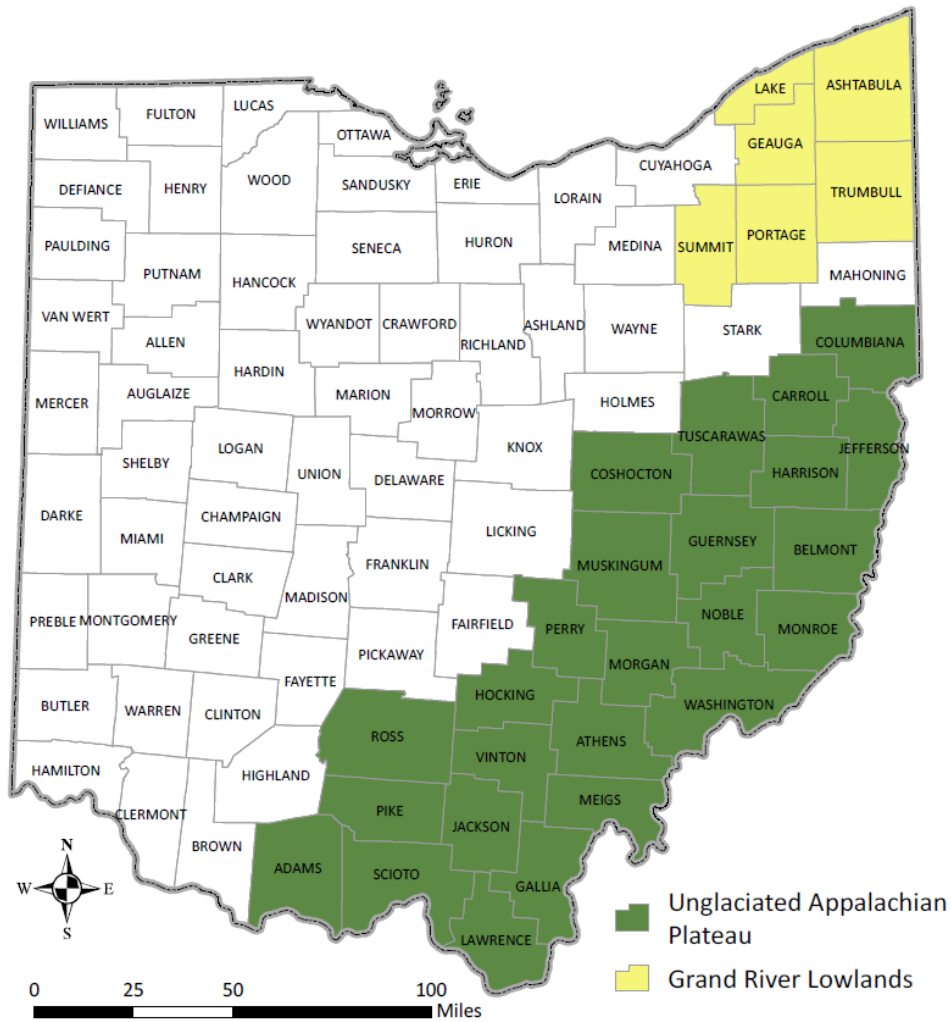
Recreational land and opportunities were determined based on site maps of public and private lands open to the public for recreation.

When the original AON was completed, only two factors proved to be effective filters for identifying FLAs; forest cover greater than 30% and a change in the number of housing units less than 20%. All of the counties from the original two approved FLAs still meet these two filters using current data presented in Ohio's 2020 Forest Resource Assessment, as well as the additional eligibility criteria for Ohio's FLAs. However, several additional counties located in southwest Ohio and central Ohio also meet the two initial filters. To evaluate if expansion of FLAs was warranted in Ohio, the state

reviewed the FLA eligibility criteria from the original AON and considered the new data in Ohio's 2020 State Forest Resource Assessment. The state also considered the effectiveness of the program through its first 15 years in Ohio. A decision was made that additional outreach to stakeholders and partners would be necessary to confirm if FLA expansion is needed. Some concerns about expansion to these new counties include: greater distance from major state and federally-owned public forests lands (critical to Ohio FLP goals 1 & 2), outside of existing landscape-scale conservation focus areas (e.g., Southeastern Ohio Collaborative Focus Area and Grand River Conservation Area of partners), and the challenges that Ohio has had in producing FLP projects with national significance that are competitive for funding. The largest forest patches of core forests with the highest spatial integrity currently lie within defined FLAs (Figure 23, Assessment).

Forest Legacy Areas:

Based on the eligibility criteria listed above, two areas were approved as Forest Legacy Areas in Ohio's original AON, and the intention is to continue with the same areas. The two areas are quite similar from the standpoint of meeting FLA criteria, but are different ecologically, geologically, and demographically. Although both FLAs contain non-forested areas, the Unglaciated Appalachian Plateau FLA is by far more rural, less populated, contains more public lands, and has a greater potential for protecting larger contiguous areas of private land. Using updated data on forest cover, all counties in the Unglaciated Appalachian Plateau FLA had greater than 40% forest cover. The below map shows Ohio's approved Forest Legacy Areas.



Forest Legacy Area Descriptions:

Forest Legacy Area 1 –Unglaciaded Appalachian Plateau

The Unglaciaded Appalachian Plateau FLA consists of 25 counties making up the southeastern and east central regions of Ohio and includes the following counties: Columbiana, Carroll, Tuscarawas, Jefferson, Coshocton, Harrison, Belmont, Guernsey, Muskingum, Noble, Monroe, Washington, Morgan, Perry, Hocking, Athens, Meigs, Vinton, Ross, Pike, Jackson, Gallia, Lawrence, Scioto, and Adams.

This is a region of deep valleys, and high hills representing the most “rugged” portion of Ohio topographically, with some hills-tops reaching 1,400 feet above sea level. This area represents one of the most scenic regions of the state due in large part to the sandstone bedrock outcroppings throughout the region forming cliffs, caves, high-walls and scenic gorges.

The Unglaciaded Appalachian Plateau is comprised of three predominant forest types, associated with the elevations and geology of the region; Lowland forests, Mixed Mesophytic forests and Upland mixed oak forests. The severe topography, infertile soils, inaccessibility and variety of forest types has resulted in this region being relatively undeveloped and the predominant region in the state for forest related industry and recreation.

This FLA encompasses an area of 7.9 million acres. The area possesses public land holdings of over 810,000 acres, represented primarily by the Wayne National Forest, several state forests, state parks, state nature preserves and wildlife areas. But, private ownership still accounts for almost 90 percent of the landholdings within the region, creating a significant potential market for the Forest Legacy Program. This combination provides an excellent opportunity to develop larger contiguous tracts of protected forestland through Forest Legacy easements in combination with public land already protected. This FLA has over 60% forest cover and represents the highest forest cover region in the state, nearly twice the state average.

No data are available to document the county-by-county economic importance of the forest products industry of this region or any county in Ohio. Traditionally and anecdotally this area has served as a primary source of forest products, timber and the location of related businesses, such as sawmills and wood products manufacturing. A majority of Ohio's major sawmills are located within or in close proximity of this FLA.

The original approved FLAs had two areas of preference that were designated. Those areas of preference were intended to connect groups of state-owned working forests and support a forest habitat strategic plan created by the ODNR Division of Wildlife. However, in practice, the preference areas had no impact on the federal requirements or review of projects and within the state, did not result in more focused project selection. Therefore, Ohio intends to drop the preference areas, while still looking for project opportunities that meet the original intent.

Important Environmental Values:

The Unglaciated Appalachian Plateau is one of the most ecologically significant and diverse regions in Ohio. This region serves as an "ecological mixing zone" of both southern species such as the bigleaf magnolia as well as northern species like eastern hemlock, which can be found growing in the same ravine.

Three primary watersheds make up this region, The Muskingum, Hocking and Scioto. Unfortunately, even with limited industrial discharges, these primary watersheds have been impacted primarily through non-point pollution as well as acid mine drainage. Significant improvement in water quality has been made in the last ten years. Protecting riparian and up-land forested areas will help in the effort to improve water quality for these main stems as well as their tributaries.

The Ohio Audubon Society has designated eight major areas within the FLA as Important Birding Areas (Figure 38, Assessment). These areas are primarily forested areas and provide important breeding areas as well as stopover areas for migrant species.

This area provides the greatest opportunity for the protection of large, contiguous tracts of forest land.

Public Benefits:

The public will benefit from this area being designated as an FLA in a number of ways.

- Maintain the state's largest and intact forestland properties currently held in private ownership.

- Conserve tracts with high or potentially high timber resource productivity and other forest related product potential to enhance the local and state economy.
- Protect those forested areas that support critical ecosystems, important birding areas, and habitat for rare, endangered or threatened species.
- Protect those forested areas that are adjacent or in close proximity to public or privately protected forestland in an effort to establish a large critical mass of protected working forests.
- Protect forested riparian corridors within the Muskingum, Hocking and Scioto river watersheds, especially in the headwaters and higher quality tributaries to maximize water quality.
- Enhance potential recreational opportunities by working with private landowners to provide some public access (by permission only) to forestlands under an FL easement.

FLA Objectives:

The Unglaciated Appalachian Plateau Forest Legacy Area has specific objectives as follows:

1. Foster and connect large and intact forestland tracts.
 - a. FLA Specific Objective: connect large existing tracts of working public forest land;
 - b. FLA Specific Objective: contribute towards ODNR Division of Wildlife forest habitat focus areas.
2. Protect areas of social, recreational, cultural and historical significance.
 - a. FLA Specific Objective: foster a range of forested habitats on private lands that may be accessible for hunting or passive pursuits such as wildlife viewing.
 - b. FLA Specific Objective: foster working forest land that provides a backdrop to recreation/tourism in the area.
3. Focus on the most ecologically significant areas of the state.
 - a. FLA Specific Objective: support The Nature Conservancy efforts in the Allegheny Plateau due to its ecological significance.
4. Support communities by focusing on conserving the most economically significant areas for forest related industries.
 - a. FLA Specific Objective: protect and expand the working forest resource.

Forest Legacy Area 2- Grand River Lowlands

The Grand River Lowlands Forest Legacy Area is comprised of six counties in the northeastern corner of Ohio: Ashtabula, Lake, Geauga, Trumbull, Portage, and Summit.

In contrast to the Unglaciated Appalachian Plateau FLA, the Grand River Lowlands is located within the glaciated portion of Ohio, characterized by a gently rolling to relatively flat, poorly drained landscape. Several counties within this area make-up the shoreline for Lake Erie.

The Grand River Lowlands FLA consists of 1.8 million total acres. The area encompasses several highly populated counties yet over 684,000 acres or 38% is forest. Of these, approximately 115,000 acres or just over 1% are under public ownership. This represents a significant opportunity for the protection of private woodlands.

In addition, this FLA is the primary maple syrup producing region of the state. This culturally and economically important forest industry is dependent on the numerous “sugar bushes” prominent throughout this region helping Ohio rank eighth in the nation for maple syrup production. This area supports an important forest product and value-added wood industry. There is a significant Amish population in portions of this region operating sawmills as well as furniture manufacturing, and woodcrafts businesses serving as an important economic driver and tourist attraction in this area

Similar to the other FLA, an area of preference was originally designated within this area, focused on linking protected properties in the Grand River Lowlands. While that goal still exists, the formal preference area is being removed for the same reasons previously stated for the other FLA.

Important Environmental Values:

While there are numerous streams and rivers in the region, the Cuyahoga, Chagrin, Grand, Conneaut and Ashtabula are the major watersheds containing a higher percent of wooded areas. Three of the streams have been designated by ODNR as State Scenic Rivers (Cuyahoga, Chagrin, and the Grand). There are seven Audubon Society Important Birding Areas located within the six county FLA.

A portion of the 33,000 acre Cuyahoga Valley National Recreation Area and the Ohio & Erie Canal National Heritage Corridor is within the FLA along the Cuyahoga River. This is the largest tract of forest cover in the region being permanently protected. The city of Akron Division of Water is another primary landholder in the region. Over 3,000 acres of predominantly forested land is protected around LaDue Reservoir to help protect the watershed and water supply for the city of Akron and surrounding municipalities.

This FLA also serves as the shoreline for Lake Erie. While much of the shoreline has been developed, the Water quality of Lake Erie can benefit from the protection/restoration of timbered stream corridors. Privately held, wooded tracts often associated with the riparian corridor of the region’s streams characterize the Grand River Lowlands.

Public benefits:

The public will benefit from this area being designated as an FLA in a number of ways:

- Establish an initial “foothold” of protected working forestlands to serve as a catalyst for developing larger tracts of protected forestland.
- Complement the coordinated effort to connect public land and existing conservation easements in the Grand River watershed.
- Complement and expand through protected private land, existing large tracts of public owned forestland such as the Cuyahoga Valley Recreational Area, LaDue Reservoir and state owned land adjacent to the Grand River.
- Conserve tracts that provide or have the potential to provide high quality timber resources, and other forest products to support local forest products businesses, Amish businesses/tourism and the statewide economy from forest related products.
- Ensure continuation of the culturally and economically important maple syrup industry through the protection of “sugar bushes” prevalent in this region.
- Protect and enhance high quality streams with particular focus on the Grand, Upper Cuyahoga, Chagrin, Conneaut and Ashtabula Rivers that will provide additional water quality benefits to Lake Erie.

- Protect significant ecosystems and Important Birding Areas through the expansion of protected working forests and other privately held land owned and managed by local land conservancies and other land protection organizations.
- Coordinate with local land trusts and other land conservation entities seeking partnership opportunities to protect working forests.

FLA Objectives:

The Grand River Lowlands Forest Legacy Area has specific objectives as follows:

1. Foster and connect large and intact forestland tracts.
 - a. FLA Specific Objective: connect large existing tracts of working public forest land;
 - b. FLA Specific Objective: contribute towards ODNR Division of Wildlife, et al efforts to connect protected land in the Grand River riparian area.
2. Protect areas of social, recreational, cultural and historical significance.
 - a. FLA Specific Objective: maintain quality stream and near stream habitats to support forest and river recreation in the FLA.
3. Focus on the most ecologically significant areas of the state.
 - a. FLA Specific Objective: support ODNR Division of Wildlife efforts in the Grand River Lowlands due to its ecological significance.
4. Support communities by focusing on conserving the most economically significant areas for forest related industries.
 - a. FLA Specific Objective: protect and expand the working forest resource.

Implementation of Ohio's Forest Legacy Program

The Forest Legacy Program in Ohio is implemented through the State Grant Option. The State of Ohio will hold title to all conservation easements and any land that may be acquired in fee from willing sellers. The ODNR Division of Forestry is the lead agency for the program in consultation with the Ohio Forest Stewardship Coordinating Committee.

The Forest Legacy Program provides Ohio a powerful tool to help keep working forests an important part of Ohio's future environment, economy, and quality of life for all of its citizens. Through conservation easements coupled with forest stewardship management plans, landowners can be assured of retaining the right to earn income from their forests, control access, and help maintain ecological values, while protecting the land from conversion to non-forest uses.

The ODNR Division of Forestry will hold all conservation easements acquired through the FLP, although some monitoring responsibilities may be shared with partner agencies or organizations. In those situations where fee title interests are acquired, the State of Ohio will hold title and be responsible for land management activities.

Forest Legacy Project Selection Criteria

FLP Projects will be selected competitively on the basis of meeting the criteria outlined below. An ODNR Division of Forestry staff person will assist landowners with an initial evaluation of their land, deciding whether or not to apply, and completing the necessary application materials. Each project must demonstrate the following criteria in order to be eligible for the program.

Project Requirements

1. FLA Area Inclusion: The proposed property boundary must lie, at least in part, within a defined Forest Legacy Area.
2. Willing Landowner: Written expression of interest must be received from the landowner stating their willingness to participate.
3. Conservation Easement Condition: Conservation easement terms must be clearly consistent with FLP guidelines. Landowners must either own subsurface rights or have formal assurance that major surface disruption is not possible.
4. Forest Stewardship Plan: The landowner must be committed to compliance with a Forest Stewardship Plan.
5. Financial Leverage: At least 25% of the project costs must be secured from non-federal cash, landowner donation or in-kind sources.
6. Readiness: The current status of project development and the preferred timeline for transaction completion should be clearly stated.
7. Property Tax Program: The proposed property must be enrolled in, or eligible for enrollment with an application in progress for one of the two property tax programs for woodlands in Ohio, Ohio Forest Tax Law or Current Agricultural Use Value.
8. County Commissioner Resolution: The landowner or state must seek a resolution from the County Commissioners in favor of the project. If no resolution is received within 60 days of the written request, an affirmative resolution will be assumed.

Project Evaluation Criteria

In addition, ODNR Division of Forestry and the SFSCC will evaluate potential projects on the basis of the following evaluation criteria. These criteria will be used to prioritize between competing projects.

1. Degree of threat: Priority will be given to properties that have a high degree of threat from development or parcelization. This will be assessed through location, size, suitability for development, road frontage, access to utilities, and growth dynamics of the area and mineral rights ownership. Areas with a likelihood of surface mining will not be considered.
2. Forest resource economic benefits: Priority will be given to properties that are likely to have significant forest resource economic benefits. This will be assessed through forest and soil productivity, size of parcel, site index, history of forest management, forest conditions (stocking, maturity, etc.) access to property, access to markets, proximity to related forest product industries.
3. Scenic and outdoor recreation benefits: Priority will be given to properties that are likely to have significant scenic and outdoor recreation benefits. This will be assessed through; conveyed access rights (if any), important scenic resources and view-shed benefits, proximity to public land, trails, or waters, and other potential economic benefits derived from outdoor recreation.
4. Water quality and watershed protection: Priority will be given to properties that are likely to have significant water quality and watershed protection benefits. This will be assessed through importance of the watershed for aquatic biodiversity, presence of high quality streams, wetland and riparian resources, benefits to municipal water source or recharge area.
5. Ecological values: Priority will be given to properties that are likely to have significant ecological values. This will be assessed through the presence of rare or important forest types, important wildlife habitat / plant communities, proximity to ecologically important

areas, habitat for declining or endangered species, or that complements a landscape level strategic plan (e.g., ODNR Division of Wildlife forest focus areas or The Nature Conservancy's strategic plan for the Western Allegheny Plateau).

6. Community support: Priority will be given to properties that have a demonstrated base of community support, committed matching funds, and partnership involvement.
7. Historical or cultural resources: Priority will be given to properties that have or benefit historical or cultural resources.
8. Educational opportunities and other important values: Priority will be given to projects that provide for forestry and/or environmental educational opportunities and/or provide for important values not adequately represented in the other criteria.
9. FLA Specific Objectives Priority will be given to projects that best fulfill the FLA specific objectives.

Project Selection Process:

Project proposals will be identified through a continuous application process. The basic components of the application process include:

- Application by the landowner
- Meeting with an ODNR Division of Forestry Forest Legacy Program coordinator to evaluate proposal
- Prioritization of all eligible projects by the Ohio Forest Stewardship Coordinating Committee; initial evaluation is done by the Forest Legacy Subcommittee.
- Submittal of the top 1 to 3 prioritized projects by ODNR Division of Forestry to USFS
- Review of all projects by a national review panel coordinated by the USFS and release of a ranked list of top projects to Congress. This could be part of the President's budget.
- Congressional Appropriations
- Preparation of transaction (due diligence work, appraisal, agreement on conservation easement terms and purchase price)
- Completion of transaction (record deed(s) with required Forest Legacy language, payment to landowner)

The ODNR Division of Forestry will be responsible for communicating with interested landowners and assisting them in understanding the program, although it is recommended that landowners seek legal and tax counsel while reviewing conservation easement language. Projects that meet federal requirements for emergency purchase projects (e.g., projects where a non-profit land trust purchases and holds properties or easements on a temporary basis prior to state acquisition) will be considered under the Ohio FLP only if they are done at the request of the state prior to the third party purchase.

Means for Protection of Forest Legacy Area Tracts:

The resource values and goals for the FLP will be achieved through the acquisition of property rights as detailed below. The terms of each acquisition, whether in full-fee interest or a conservation easement, will be subject to negotiation and on a willing seller-willing buyer basis. The framework below is intended as a guide—all acquisitions are subject to approval by the ODNR Division of Forestry, USFS, and the landowner.

1. Acquisition of full fee interest is appropriate for tracts within all the FLAs but acquisition of conservation easements is preferred. Full fee interest acquisition is

- most appropriate on tracts that have significant recreational and/or ecological value and are located within the immediate vicinity of current state forests.
2. Development rights will be acquired on all tracts, especially the rights to subdivide, construct buildings, and utilize the property for non-compatible use (e.g., landfill). Subdivision to correct minor boundary disagreements should be permissible.
 3. Timber harvesting will be actively encouraged but shall be conditioned upon:
 - a. Compliance with a Forest Stewardship Plan approved by the ODNR Division of Forestry
 - b. Compliance with and use of all applicable Best Management Practices (BMPs)
 - c. Compliance with all applicable laws and regulations
 - d. Properties that have received green certification under the Sustainable Forestry Initiative or the Forest Stewardship Council will be considered if they meet the intent of the FLP and all eligible criteria.
 4. No disposal of waste or hazardous material will be allowed on properties.
 5. The use of signs and billboards is prohibited on all properties, except to state the name and address of the property owner, safety concerns, sale of forest products from the property, access restrictions, and/or provide Forest Legacy information.
 6. Existing dams or water impoundments or similar structures may be allowed to remain and be maintained. New impoundments shall be agreed upon prior to finalizing the conservation easement.
 7. Industrial, commercial, and residential development, except those used in conjunction with on-site traditional forest uses, is prohibited.
 8. Control the mineral rights in a manner that extraction will not significantly disturb the surface features of the property.
 9. The conservation easement may be amended upon mutual approval by the grantor and grantee, as well as the US Forest Service as the federal granting agency. However, any such amendment shall not diminish the conservation values of the property.

Public Involvement Process:

As part of the Forest Legacy Program, and as listed in the Federal Forest Legacy Guidelines, the public has a role in determining how the FLP will be developed and what criteria will be used to prioritize the projects that receive consideration.

The goals of the public involvement process included providing information to stakeholders about the FLP, eliciting concerns, suggestions, and comments about Ohio's involvement in the FLP, and to promote forest stewardship. To this end, a wide array of potential stakeholders were invited to a series of meetings in 2004 at different locations around the State. These included Findlay, Burton, Barnesville, Lebanon, New Philadelphia, Columbus, and Chillicothe.

All elected county, state and federal officials were notified via mail that their county was being considered for inclusion as a Forest Legacy Area.

In addition, general information about the Forest Legacy Program and the Assessment of Need (AON), a list of meeting dates and locations were posted on a project website.

After a draft of the AON was prepared, it was posted on the project website. Comments were accepted and changes to the document were made, where applicable.

Overall, comments about Ohio's involvement in the FLP were positive. One county in the Southern Allegheny FLA has raised a question regarding the potential acquisition of FL land by the U.S. Forest Service. They believe land under the FL program may be more attractive for acquisition by the U.S. Forest Service. This county has over 70% of their land in public ownership primarily the Wayne National Forest. The concern is the additional loss to the local property tax base. A representative from the ODNR met with the County Commissioners to address their concern. Basically, a landowner has the right to sell their property to any buyer, including the government. In deference to this concern, a requirement for a resolution in favor of the project is now a project requirement (see Project requirements section on pages 37). No other negative comments on the intent of the program have been voiced.

2010 Forest Action Plan Strategy Implementation Highlights (National Priorities Report)

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 Forest Action Plan 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 Forest Resource Strategy showing which of the three national priorities and objectives are addressed by each statewide strategy. Work accomplished on the 2010 Forest Action Plan statewide strategies from 2015-2020 is highlighted in the following section.

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. 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 is implementing a small grant project with funding through the broader White Oak Initiative Landscape Scale Restoration (LSR) grant for enhancing its demonstration area at Vinton Furnace State Forest, which shows a variety of silvicultural and non-silvicultural treatments to demonstrate what to do and what not to do when managing oak-dominated forests. This work supports a broader outreach strategy with partners on promoting oak management and will also improve training sites for oak management and other forestry topics.

The Division of Forestry has 2,800 acres at Vinton Furnace State Forest, dedicated to forest-based research and demonstration. The division also facilitates and permits research projects on state forests outside of this area as requested.

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 landowners, 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 sustainable supply of quality forest products and services from Ohio forests 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 \$9.4 million from stumpage sales from 2016-2020. Nearly all of these products were both harvested and processed in-state providing a significant multiplier effect for local communities. The division also sold \$9.9 million in log, pulpwood, and byproduct sales in the same time period.



Logs being sorted at merchandising yard at Brush Creek State Forest.

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

Strategic Action: The 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, 3,477 properties are certified under OFTL, ensuring productive forest land on 127,760 acres. Ohio continues to explore opportunities to improve 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 ensuring proper use of forestry best management practices (BMPs) 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 conducted a statewide assessment of BMP use and effectiveness in 2016 and is currently updating Ohio's statewide forestry BMP guide.

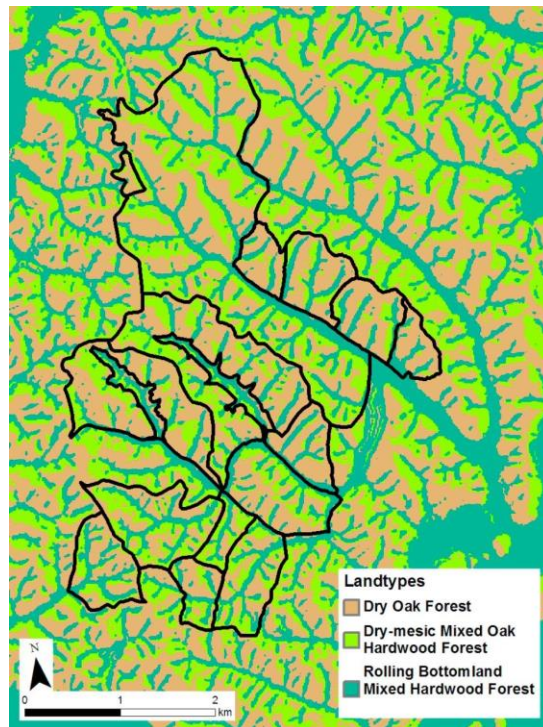
State Issue 4 Addressed: Conservation of Biological Diversity (Plants and Animals)

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. 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 have 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. The Division relies heavily on the USDA Forest Service Northern Research Station's (NRS) ecological mapping for land type phases created for southeastern Ohio in prioritizing treatments for oak forests (spatial modeling and inventories for prioritizing investment into oak-dominated forest restoration: https://www.fs.fed.us/nrs/pubs/jrnl/2018/nrs_2018_iverson_001.pdf).



Map of forest landtypes in an area of southeastern Ohio.

On private lands, service foresters assist landowners and recommend practices that promote oak regeneration on appropriate sites. From 2015 through 2019, a Joint Chief’s project was funded in Ohio that enhanced oak-dominated forests through special, targeted Oak Environmental Quality Incentives Program (EQIP) funds for timber stand improvement on private lands, as well as funds on state and partner lands to control competing vegetation. The Joint Chief’s project also supports an integrated inventories approach to managing oak across all ownerships – private, local, state, and federal. Ohio NRCS committed to continuing the special Oak EQIP funding with state service foresters providing the technical assistance to administer that program in the field.

The ODNR Division of Forestry Fire Management Program has administered 32 pass-through grants to various land management agencies since 2016 totaling approximately \$70,000 to help them build capacity for prescribed fire programs. One key objective with the use of prescribed fire in Ohio’s forests is to create conditions conducive to the establishment of competitive oak saplings through the reduction of shade-tolerant and/or fire-intolerant competing tree species, and increase light levels to the forest understory, allowing oaks to reach the mid-story. From 2015-2019, 1,099 prescribed burns encompassing 30,570 acres were conducted in Ohio on all land ownerships.



Prescribed fire at Tar Hollow State Forest.

The Ohio Interagency Forestry Team (OIFT) was formed in 2008 to address forest management needs across land ownership and agency boundaries in the 17-county area to help increase and restore healthy, regenerating oak-dominated ecosystems. The OIFT recognizes that “going alone” will result in little change. Working together with agencies, non-profits, and private landowners is the most efficient and effective way to “tip the scale” toward these desired changes and keep oak on the landscape for future generations. The current OIFT includes the Ohio Department of Natural Resources (ODNR) Divisions of Forestry and Wildlife, United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) and Forest Service, and Ohio cooperative extension. These are the agencies in Ohio with forest management in their mission areas. Leaders of these agencies have a grand vision for the forested landscape, requiring cooperation as well as expansions of public and private programs and partnerships. They recognize that relationship building and investment in programs and staff are cornerstones of this work. The OIFT envisions working with others to restore a vibrant and sustainable working landscape that includes healthy forest ecosystems through science-based, economically viable forest management. The mission of the OIFT is to work together to restore healthy forest ecosystems, especially oak-dominated forests, in a mix of age classes in southeastern Ohio. These ecosystems will contribute to a vibrant, working landscape that sustains both people and wildlife.

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. In the period from 2016–2020, an average of 800 acres of state forests received even-aged or two-aged regeneration harvests annually. On private lands, the Division of Forestry has been working, with support through a National Fish & Wildlife Foundation grant, to educate landowners on the value of oak-dominated forests to a diversity of wildlife. Foresters are then making management recommendations on private lands to sustain oak forests across the landscape.

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 forests, 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. Mining, agriculture, or development of roads can also contribute to forest fragmentation. 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 to landowners to keep their land in forest cover. This in turn helps to maintain forests and the many ecosystem services and values they provide.

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 acres or greater). The Environmental Quality Incentives Program (EQIP) and Conservation Stewardship Program (CSP) administered by the USDA Natural Resources Conservation Service (NRCS) continue to be important programs 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.



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, wildfire, 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. Forest health management programs have the 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

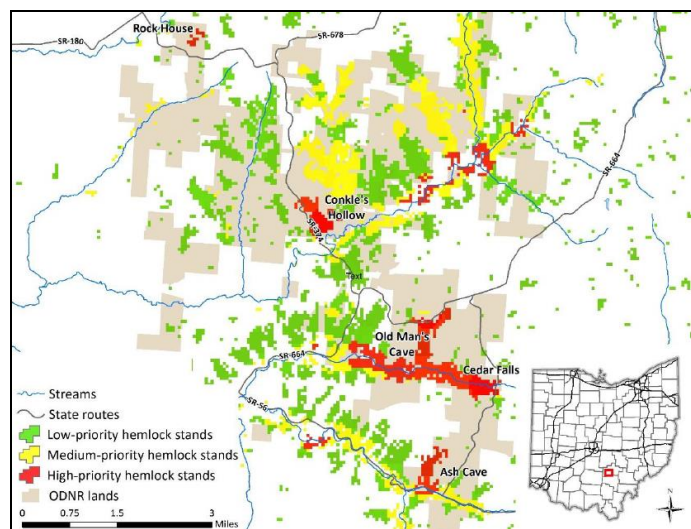
Strategic Action: The Division of Forestry's Forest Health Program conducts an annual aerial forest health detection survey each spring in cooperation with the Ohio Department of Agriculture (ODA). Two observers map observed defoliation, discoloration, or mortality of trees using fixed-wing aircraft 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 areas mapped are subsequently ground-checked by ODNR Division of Forestry staff throughout the summer.



Tornado damage in Hocking County recorded during the 2019 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 several million visitors annually. Organizations and agencies including the ODNR 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 ODNR Division of Forestry has coordinated with ODA to implement systematic surveys for HWA in counties where eastern hemlock is present.

In 2017, the ODNR Eastern Hemlock Conservation Plan was finalized. Efforts to create the plan were led by the ODNR Division of Forestry along with several other ODNR divisions and partners. The plan is guiding work to detect and manage eastern hemlock pests in Ohio. One key piece of this plan is the identification of the highest priority hemlock stands in the state, based on various biological or anthropogenic values. Integrated pest management strategies can be adopted by private landowners or other conservation organizations to conserve eastern hemlock on their land.



Hemlock stand prioritization for the Hocking Hills region, from the ODNR Eastern Hemlock Conservation Plan.

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 (HWA). In 2017, the ODNR Eastern Hemlock Conservation Plan was completed and lays out strategies to be used to monitor and manage pest and disease threats to eastern hemlock, HWA being the principal threat. 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 15,000 hemlock trees have been treated with insecticides registered for HWA control since 2012. Two species of beetles that are effective predators of HWA have been released as a biological control in Ohio. Since 2013, over 8,000 beetles have been released on HWA-infested hemlock trees since 2013.



Eastern hemlock tree being treated by ODNR Division of Forestry personnel.

Non-native 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*), invasive shrubs such as Asian bush honeysuckles; privet; and autumn-olive, and herbaceous plants such as Japanese stiltgrass. In 2020, the ODNR Division of Forestry conducted invasive plant control on 1,900 acres of state forest land.

Objective 5.3: Apply appropriate wildland fire management

Strategy 5.3.2: Appropriately apply wildland fire management actions

Strategy 5.3.3: Position rural fire departments for success

Strategic Action: The ODNR Division of Forestry's Fire Management Program provides statewide leadership in wildfire management through fire department support programs, wildfire prevention efforts, and promotion of prescribed fire as a resource management tool. In 2019, the ODNR Division of Forestry wildfire protection area was expanded. The previous wildfire protection area had been determined in the 1970s. Since then, through successful forest management activities, forest cover in Ohio has increased, which also increased the need to



Wildland fire suppression equipment provided to a rural fire department.



A screengrab of a Smokey Bear video produced to reach wider audiences.

Objective 5.4: *Manage forests for the impacts associated with climate change*

Strategy 5.4.1: *Evaluate potential climate change impacts to Ohio's forests and develop a plan to manage for those impacts*

Strategic Action: In October, 2015, staff from the Ohio Division of Forestry worked with the Northern Institute of Applied Climate Sciences (NIACS) and the Wayne National Forest to consider broad climate trends summarized in the Central Appalachians Forest Ecosystem Vulnerability Assessment, and identify specific climate change impacts that are relevant to the site conditions within the 243-acre Hobey Hollow project area of Shawnee State Forest. Some of these impacts included warmer temperatures throughout the year, increased variability in precipitation and soil moisture, more frequent extreme weather events, changes in tree species abundance (potentially favoring oak and hickory species and becoming less suitable for maples), increases in invasive species, and increased wildfire severity. Several potential actions to adapt to these changing conditions were identified, including restoring and maintaining fire in fire-adapted ecosystems, maintain or restore hydrology, promote forest age class diversity, establish or encourage new mixes of native species expected to perform well in future climate projections, maintain or

improve forest health through appropriate silvicultural methods, and prevent introduction and establishment of invasive species through early detection and rapid response.

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

Strategic Action: The Division of Forestry's Service Forestry program updated its strategic plan in 2018 with a primary focus of reaching and engaging more landowners. This involves a multi-pronged approach that combines streamlining some of our services, expanding the capacity of partners and other natural resource service providers, and increasing outreach efforts. This new strategic shift is still early in the process but has been positive to date.

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 landowners, 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 quality 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 presents, sponsors, co-facilitates, and/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 Urban Tree Commission Academy classes, Arbor Day events, school programs, Pike County Forestry Field Day for 5th graders (350 students annually), Teachers' Forestry Field Days (30 teachers annually), wildfire prevention and Smokey Bear programs, the Ohio State Fair, Farm Science Review, Paul Bunyan Show, Hocking State Forest Fall Color Tour, Ohio State University Extension Woodland Stewards programs, *A Day in the Woods: Second Friday Series* (8 programs/year, over 2,900

attendees since 2012, reporting to own over 122,000 acres of forest land collectively), regional woodland owner association programs, county SWCD forestry and farm field days, and the Ohio Forestry Association Camp Canopy. For the Ohio Tree Farm Committee, Division of Forestry foresters and staff members provide leadership and inspectors for certified tree farms, editing of *The Ohio Woodland Journal*, and leading the Ohio Tree Farm of the Year field day.



Animatronic Smokey Bear greets visitors at the Ohio State Fair.



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. Annually since 2015, PLT has hosted an average of 32 events with 400 formal and non-formal educators along with natural resources professionals participating. Based on numbers reported by PLT workshop participants, at least 70,000 youth are impacted by PLT programming annually.

PLT-Ohio, using ideas generated in the professional development educator workshops, with the help of an Ohio EPA Environmental Education Fund grant, has updated and continues to produce

an eye-catching educational two-poster set showing the key Ohio forest issues identified in the Forest Action Plan. They have been readily received and used by many 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 ODNR Division of Forestry website. In 2018, PLT-Ohio received the Environmental Education Council of Ohio (EECO) *Outstanding Organization Award*.



Two posters describing Ohio's forests produced by Project Learning Tree in 2015 for use by educators and natural resource professionals.

Ohio's Urban Forestry Program has continued to annually host six regional urban forestry conferences for three of the last five years. In 2019, the Urban Forestry Program held the first statewide urban forestry conference to mark the 40th anniversary of delivering technical and organizational urban forestry assistance directly to communities through a network of professional urban foresters. In response to COVID-19 in 2020, the program held its first month-long, virtual conference series. 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. Over the past five years, the Urban Forestry program has also developed an Urban Forestry Toolbox for the program's webpage which houses tools, information, videos, and other resources for our communities and the public.

Urban Forestry > Programs > Urban Forestry Toolbox

Urban Forestry Toolbox

With over 100 years of combined experience, Ohio's Urban Foresters have collected and developed many resources for local communities. Our Urban Forestry Toolbox has ready-to-use and sample documents, articles, web links, videos, and much more.

Popular Items

- [Ohio USI with Key \[xls\]](#)
- [Master Planting Design Tree List \[xls\]](#)
- [Master Planting Design Overview \[pdf\]](#)
- [Four Faces of a Tree Decision \[pdf\]](#)
- [Sample Planting Specs \[doc\]](#)

All topics are listed below. Looking for something more? Contact your Regional Urban Forester.

Community Program Management

- [Benefits of Trees & Urban Forests](#)
- [Inventory](#)
- [Management Planning](#)
- [Marketing & Arbor Day](#)
- [Municipal Relations](#)
- [Ohio Master Planting Design](#)
- [Ohio Urban Site Index \(USI\)](#)
- [Sample Contracts & Specifications](#)
- [TCA Forms & Downloads](#)
- [Tree Law & Ordinances](#)
- [Volunteer Management](#)

Tree Care

- [Tree Biology](#)
- [Tree Health](#)
- [Tree Care](#)
- [Planting](#)
- [Soils](#)
- [Tree Risk Assessment](#)

Other Resources

- [Articles Ready to Use](#)
- [Climate Change](#)
- [Interesting Reads](#)
- [Street Tree Identification](#)
- [Web Resources Links](#)

URBAN FORESTRY PROGRAMS MENU

- [Tree Commission Academy](#)
- [Tree City USA](#)
- [Urban Forestry Toolbox >](#)
- [Jobs & Grants](#)

Urban Forestry Toolbox developed by Urban Forestry Program staff to be used by tree commissioners, administrators, natural resource professionals, and the general public.

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 2015, the urban foresters have assisted an average of 339 communities annually 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 million 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 regional urban foresters facilitate an average of 25 workshops and training opportunities for communities each year on topics including young tree pruning, tree risk assessment, root collar excavation, tree ID, tree protection, and tree planting. The urban foresters also provide Tree Commission Academy classes to communities each year. Since its inception in 2009, the course has been attended by more than 1,200 citizens from over 300 communities impacting over 4.9 million Ohioans.

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 ensuring proper use of forestry BMPs 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 quality 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 2015 through 2020 the Division of Forestry awarded over \$609,000 in pass-through funds to 14 communities for tree canopy analysis and tree planting.

- 2015 Lake Erie Watershed Canopy Replacement Grant Program (GLRI)
 - \$190,144 to 9 communities
 - 1,486 trees
- 2016 Integrating Tree Planting within a Framework of Regulatory Compliance and Economic Development in Ohio's Largest Watershed of the Ohio River (LSR)
 - \$230,00 to 3 communities
 - 2,648 trees
- 2019 Longitudinal Assessment of Urban Tree Canopy following Emerald Ash Borer (LSR)
 - \$141,000 to 1 community and 1 non-profit organization
 - 10 acres (in-progress)
- 2020 Eastern Region Urban and Community Forestry Emerald Ash Borer Demonstration Project
 - \$48,000 to 1 community
 - Estimated 200 trees (in-progress)

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

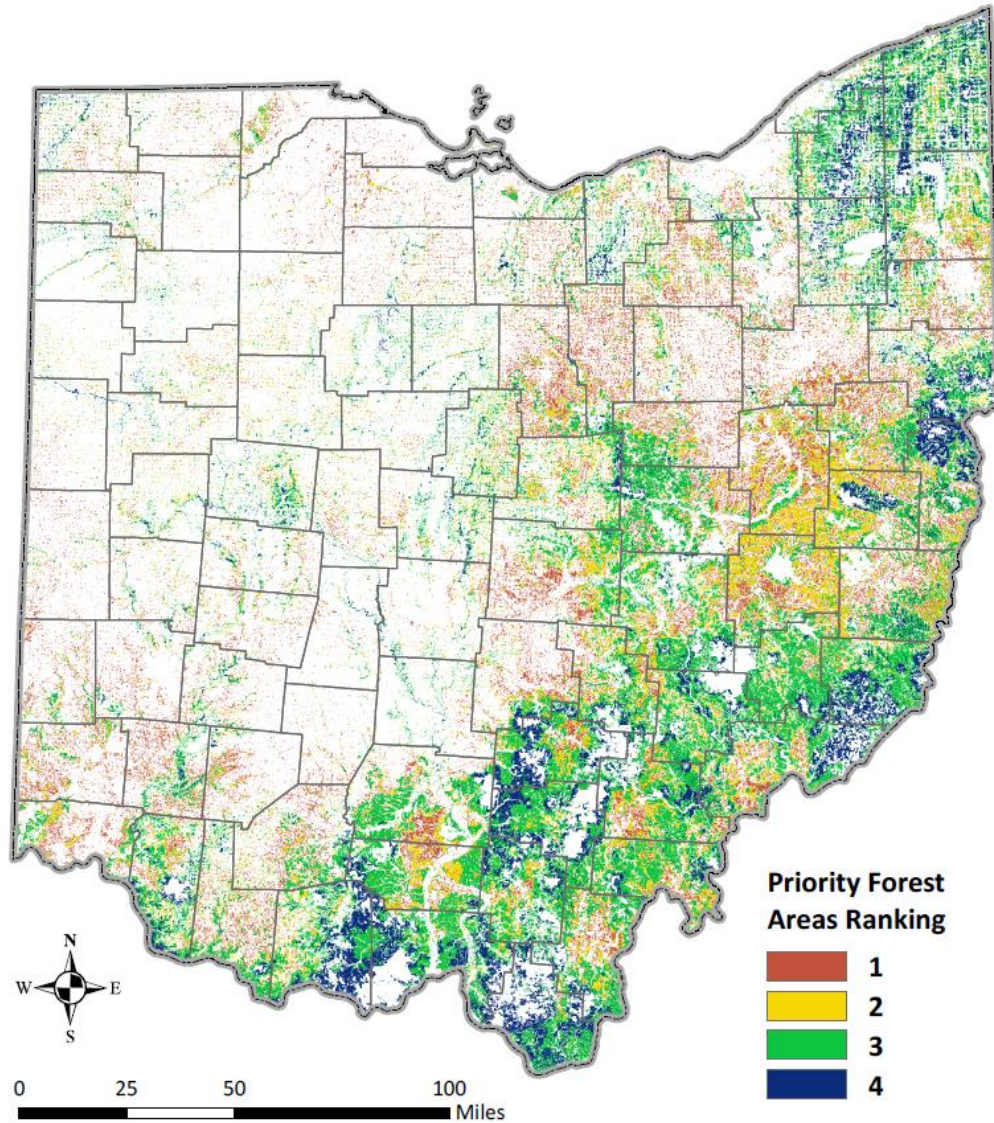
Strategic Action: On state forest land, the Ohio Division of Forestry has identified high conservation value forests (HCVF) and limited management activities in those areas to maintain their conservation benefits. All HCVFs are monitored periodically to ensure those benefits are not being negatively impacted. Ohio's Forest Legacy program also protects high-value private forest lands through conservation easements and fee simple acquisitions. Since 2010, Ohio has had two funded Forest Legacy Projects in the strategic Shawnee State Forest area in southern Ohio, one completed acquisition of 929 acres and a second project in the appraisal phase to acquire an additional ~1,200 acres.

Appendix A

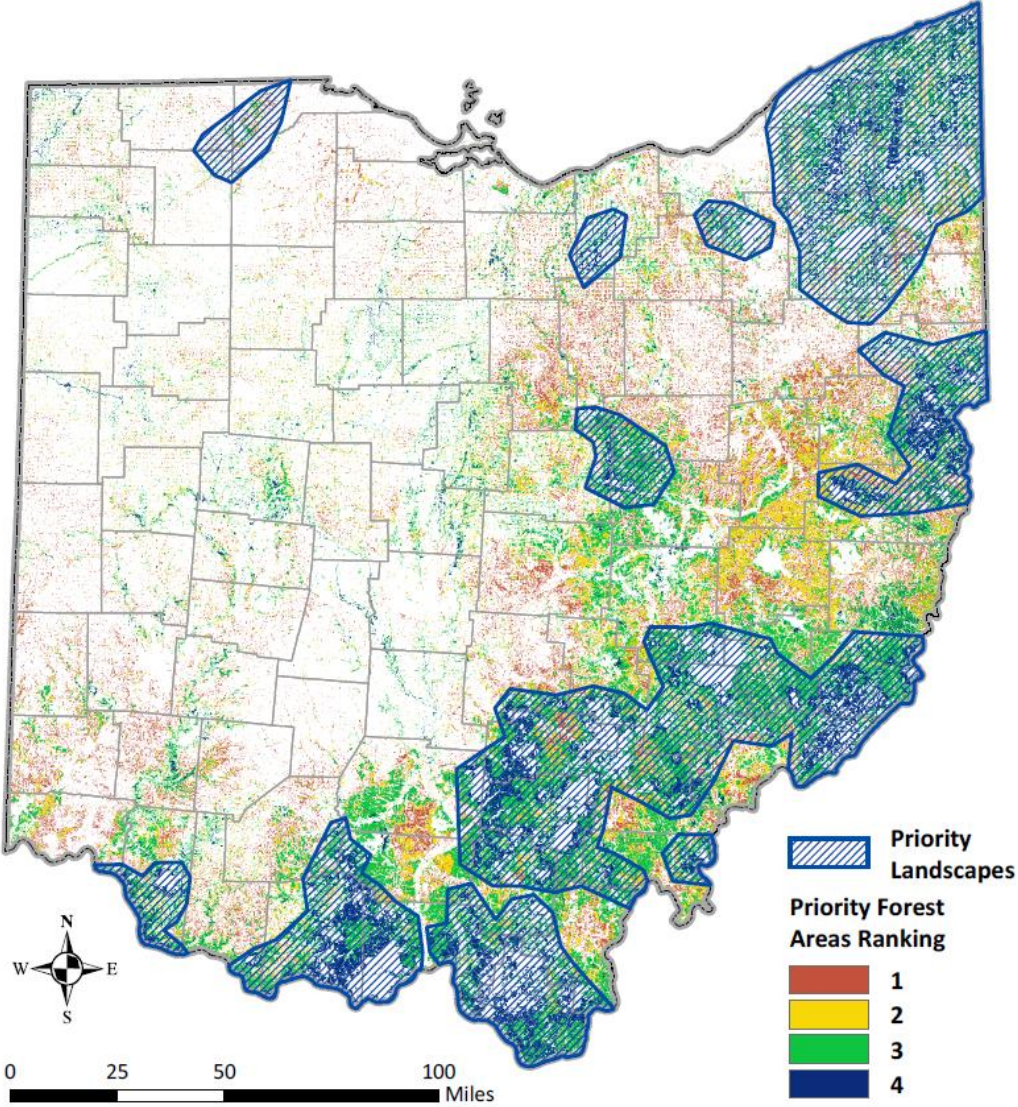
Priority Forest Areas

This section includes maps of the priority forest areas identified in the Ohio Forest Action Plan Forest Resource Assessment. For more information on data and rationale for the identified priority forest areas, please refer to the Forest Resource Assessment.

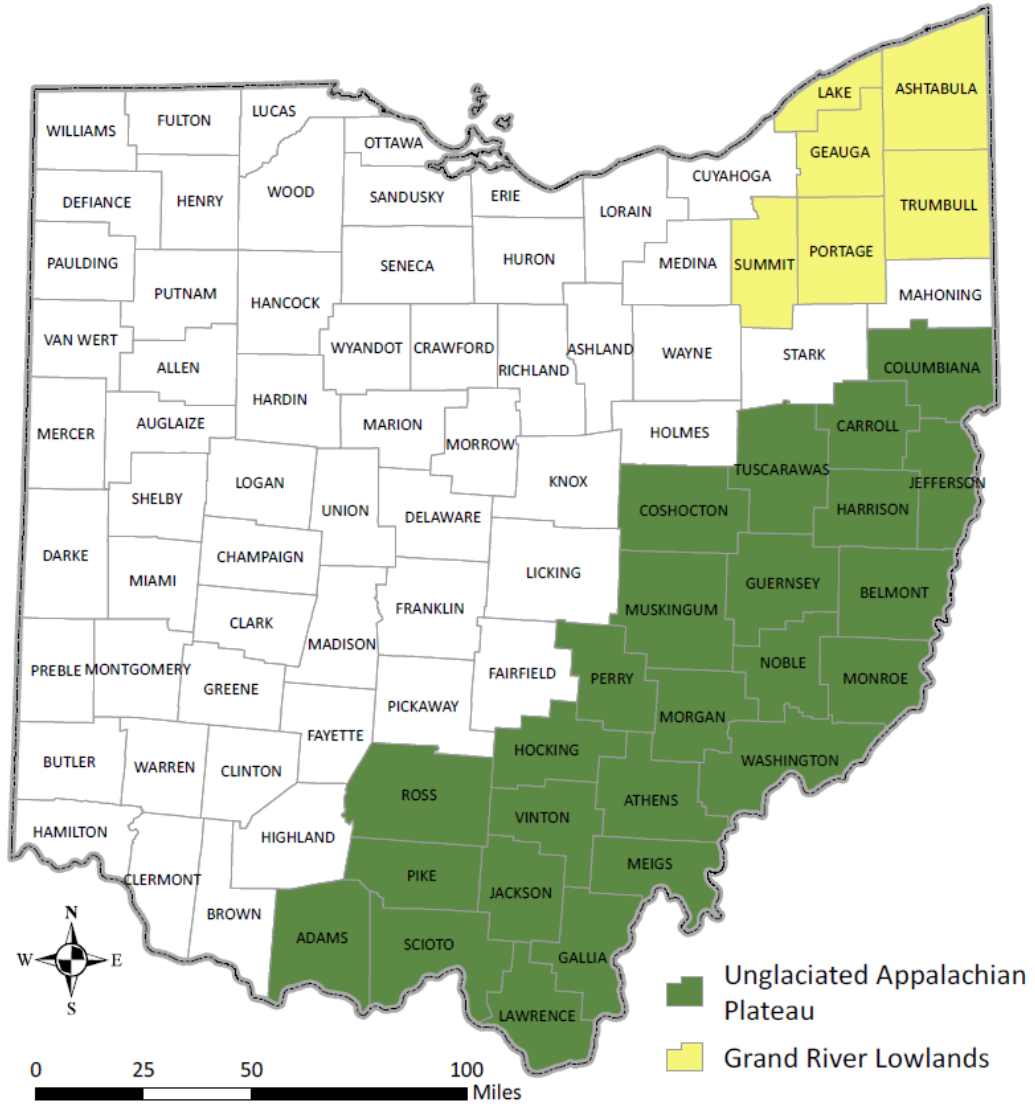
Rural, private land priority forest areas (ranking 4 is highest priority):



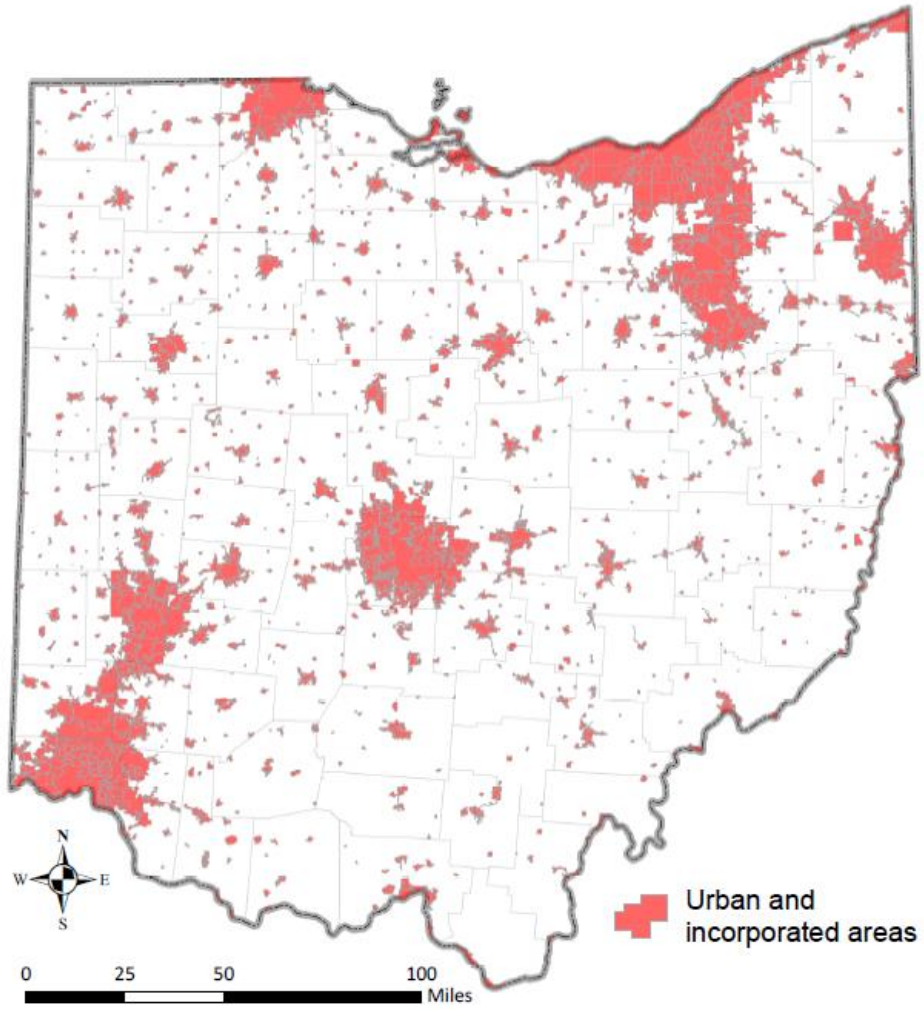
Priority forest landscapes:



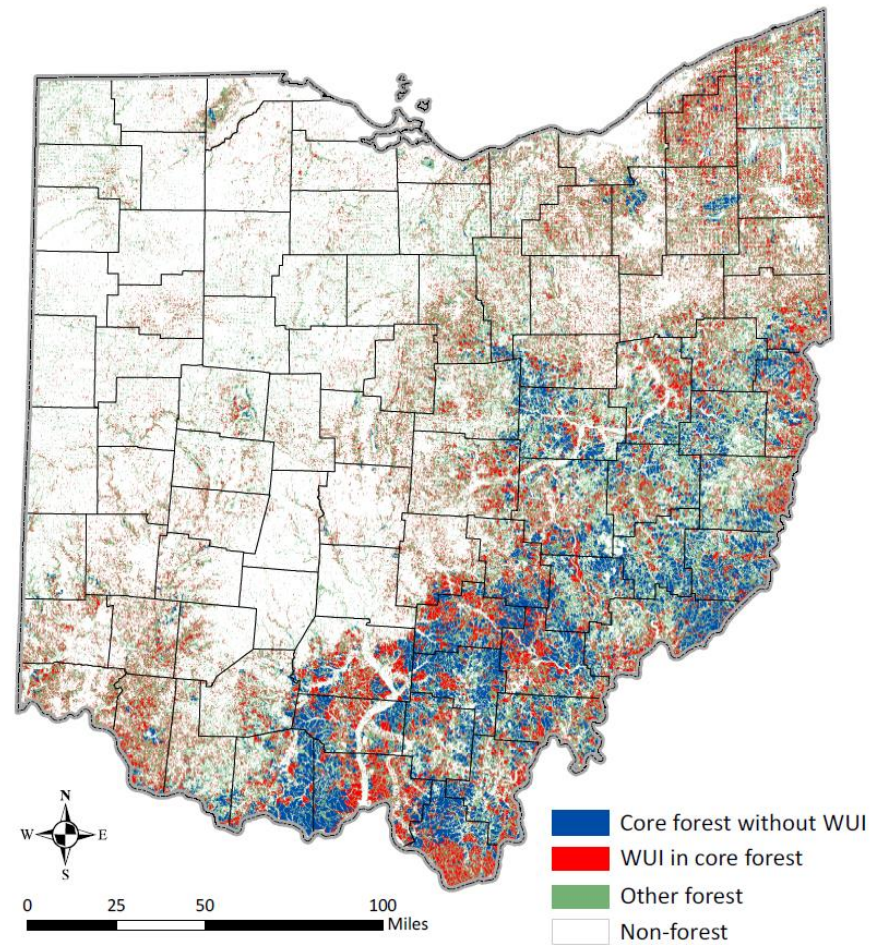
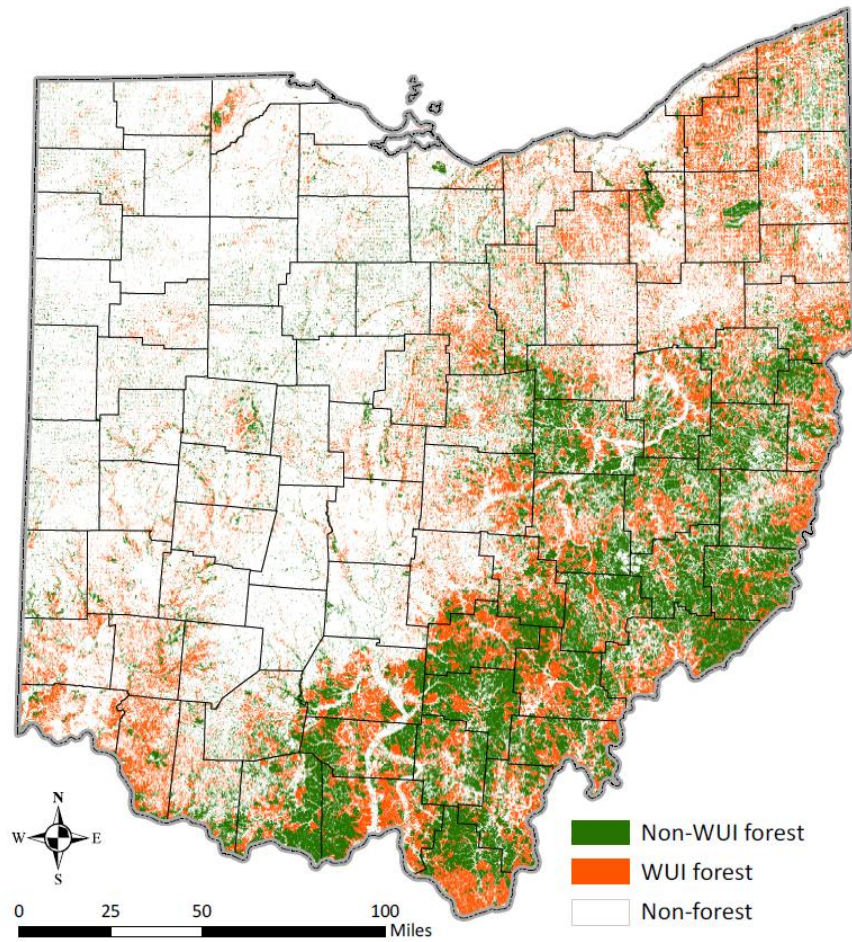
Forest Legacy areas:



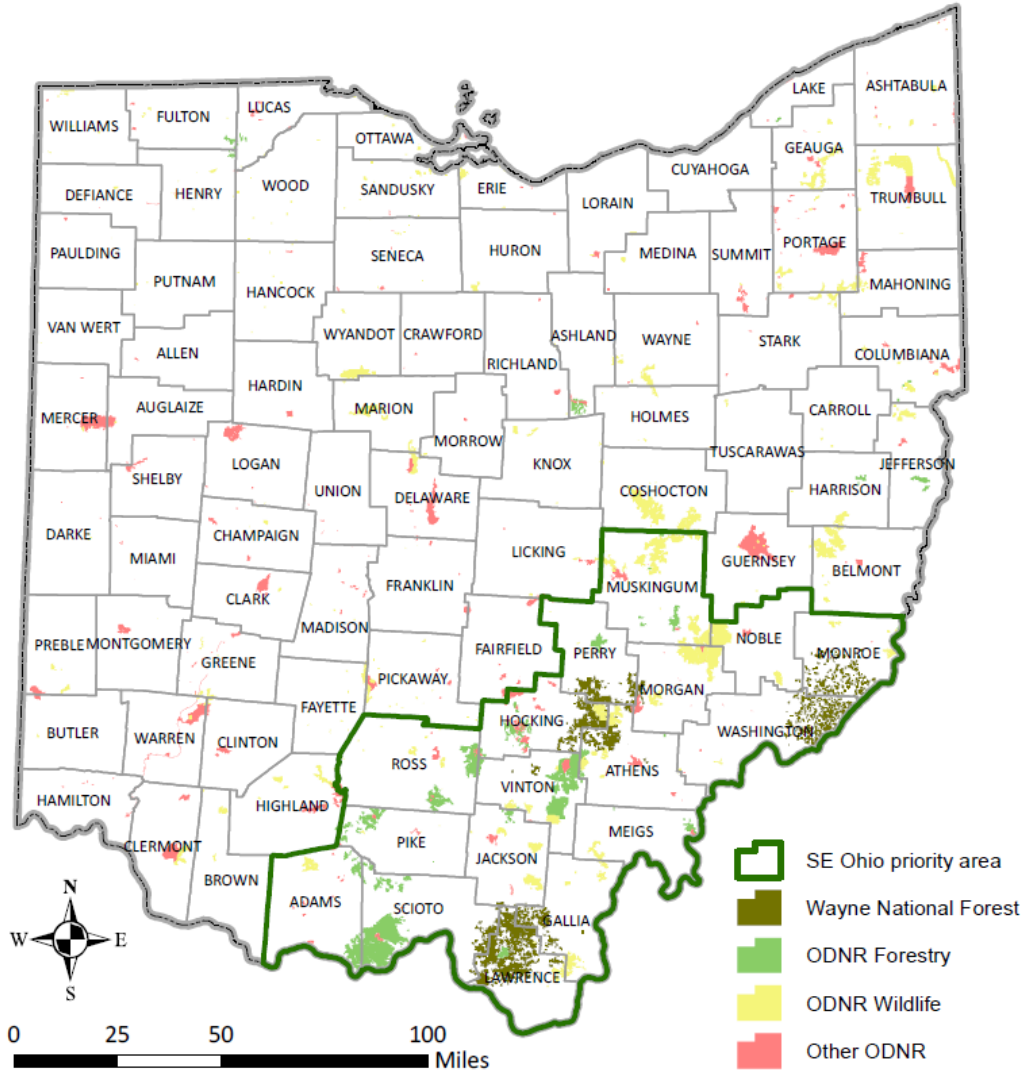
Urban forests:



Wildland-urban interface (WUI) lands:



Southeast Ohio collaborative focus area:



Forest stewardship priority areas:

