Overview of Ohio's Forest Action Plan

Dear Ohio Citizen,

Forests are critical to public health and well-being. They filter air and water, provide places for recreation for families, and are places where our children can enjoy wildlife and nature. They also produce many things that we use everyday, from furniture to maple syrup. Ohio's forests are under threat and need protection. Diseases and insects like the Asian longhorned beetle, emerald ash borer, and thousand canker disease can cause extensive damage and pose a significant threat to the health of our forests. Healthy forests are as important to our national infrastructure as roads and bridges; the jobs and products they produce are worth protecting. Most of Ohio's forests are owned by families, not the government, and the Ohio Division of Forestry is committed to helping landowners protect their woods from threats and helping them to continue to benefit from their land.

In 2010, the Ohio Division of Forestry completed the Statewide Forest Resource Assessment that included a comprehensive evaluation of Ohio's forests and identified key forest threats. That information led to the development of Ohio's Forest Resource Strategy, which is specific to Ohio, reflects public opinion, and offers the best thinking of experts on how to maintain the critical values and benefits of our forests in the face of numerous threats. That effort, collectively called Ohio's Forest Action Plan, targets resources efficiently, and we look forward to working with all Ohioans to implement it. Please contact us if you have any questions or comments. To view or download the Ohio's Forest Action Plan, go to: http://ohiodnr.com/tabid/22319/Default.aspx

Robert L. Boyles, State Forester and Chief
Ohio Division of Forestry

Mission

The Ohio Division of Forestry's mission is to promote and apply management for the sustainable use and protection of Ohio's private and public forest lands.

Ohio's Statewide Forest Issues

In 2010, the Ohio Division of Forestry worked with partner agencies and organizations to complete a comprehensive statewide assessment of current conditions and trends of Ohio's forests, as well as the many benefits these forests provide. Considering the results of that assessment, citizen input, and input from other conservation organizations, the following list of six key forest issues was developed for Ohio.

1. Sustainable forest management on all forest lands
2. Public benefits from Ohio's forests
3. Conservation of soil and water resources
4. Conservation of biological diversity (plants and animals)
5. Health and vitality of Ohio's forests
6. Forest fragmentation and land use conversion

Ohio's Forest Action Plan addresses these six statewide forest issues through a series of broad objectives that guide Ohio Division of Forestry programs and its work with partners. The underlying vision of the Forest Action Plan is that Ohio's forests continue to provide many important benefits and services for people and wildlife, now and in the future.

Forest Issue 1: Sustainable Forest Management on All Forest Lands

Overview:

Forests provide many benefits and services that meet societal needs (see Forest Issue 2), and a core goal for the Ohio Division of Forestry is to promote sustainable forest management on all lands to ensure that those needs continue to be met for current and future generations of Ohioans. One basic indicator of forest sustainability is the change in the number of trees over time. Statewide forest inventories over the past 60 years have consistently shown a net annual growth in the volume of trees, and the area of forest land in Ohio expanded steadily from 1940 to 1990. But that expansion essentially stopped in the early 1990s, and the area of forest land has remained steady since then at around 30% of Ohio's land (Figure 1).

Evaluating forest sustainability requires a more in-depth look at things like tree species composition, forest health, wildlife populations, and overall biological diversity. Most public lands already have management or legal guidelines that are based on sustainable forestry principles, but only 12% of Ohio's forests are publicly owned (Figure 3). The greatest opportunity and challenge for achieving sustainable forest management statewide is on private lands. To address this issue, established programs, such as landowner assistance from ODNR service foresters, the Ohio Forest Tax Law Program, Ohio Forest Legacy Program, and OSU Extension programs will need to be combined with new approaches.

Objectives:

- Sustainably manage public forest lands for multiple public benefits
- Help more landowners achieve sustainable forest management of their woods

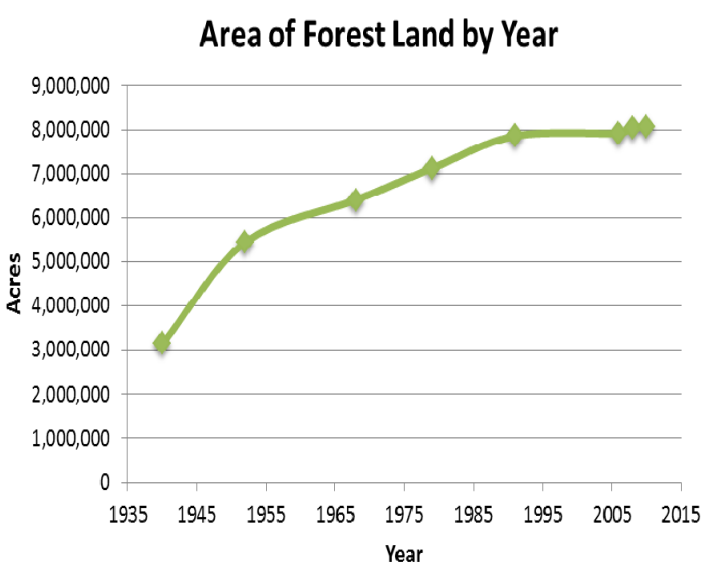


Figure 1—Source: USDA Forest Service, FIA

Forest Issue 2: Public Benefits from Ohio's Forests

Overview:

Ohio's forests provide the public with many ecological, economic, and social benefits and services. The ecological value of forests is demonstrated by the rich biodiversity they support, including 350 species of terrestrial wildlife and over 500 species of plants, and forests play a critical role in maintaining quality aquatic habitat. They also provide significant economic benefits. Ohio ranks in the top ten nationally for economic production from manufacturing of furniture and related products, as well as maple syrup, ginseng, and Christmas trees. A 2006 report found that the forest products industry contributes $15.1 billion to Ohio's economy and employs over 119,000 people. Forests provide many additional benefits that may not have a dollar amount assigned to them, like increasing the quality of urban life, providing scenic recreational opportunities, and improving air and water quality. Sustaining these important forest benefits will require multiple approaches from a variety of partners, including technical support and research from public forestry agencies and state universities, administrative support and training by professional organizations, and in some cases, targeted grants or programs to facilitate growth opportunities.

Objectives:

- Increase public awareness of forest benefits and services
- Increase recreational opportunities and use of Ohio's forests
- Enhance Ohio's diverse markets for forest products and services
- Improve the quality of urban life through proper urban forest resource management
- Increase funding for forest conservation programs and organizations

Forest Issue 3: Conservation of Soil & Water Resources

Overview:

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 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. The maintenance of productive soils is also important to sustaining the forest products industry. In rural forests, the use of voluntary Best Management Practices (BMPs) for preventing erosion during timber harvests has been shown to effectively control non-point source pollution. The health and productivity of Ohio forests and the benefits they provide depend on the continued use of these and other soil and water conservation practices.

Objectives:

- Reduce soil & water quality impacts from poor land management practices and urbanization
- Maintain high quality public water supplies

Forest Issue 4: Conservation of Biological Diversity

Overview:

The conservation of biological diversity is a critical component of the sustainable management of forests. Diverse forests 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 that support a high number of species. Woodlands play a key role in conserving Ohio's biological diversity, as they serve as critical habitat for many plants and animals both in heavily forested parts of the state (e.g., southeast Ohio) and in more open agricultural or urban areas. Forest management for biodiversity often focuses on providing a mixture of ages and sizes of trees (e.g., some young forests and some old forests) and supporting movement of wildlife between different woodlands or habitats. Management may also focus on promoting or maintaining plant species that have the greatest value to the greatest number of wildlife species. For example, nut-producing trees, like oaks and hickories, 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 (Figure 2) but the distribution of ages is unbalanced with over 88% of forests classified between 20 and 100 years old. The observed decline in young forests is a threat to biodiversity, as is the lack of old forests (less than 0.4% of forests in Ohio are over 140 years old). The composition of tree species is also shifting with a relative decline in oak and hickory and an increase in tree species like maple and yellow poplar, which generally have a lower wildlife value. Other key threats to biodiversity in Ohio's forests include the loss of forest habitat due to development or land conversion (addressed in Forest Issue 6), habitat modification and fragmentation, and exotic invasive species. Many of the objectives listed under this Forest Issue are specific to some of the key threats to biodiversity in Ohio's forests.

Objectives:

- Promote regeneration of oak-hickory forests
- Protect Ohio's unique or rare forest plant species and biological communities
- Maintain habitat for a diversity of forest-associated wildlife

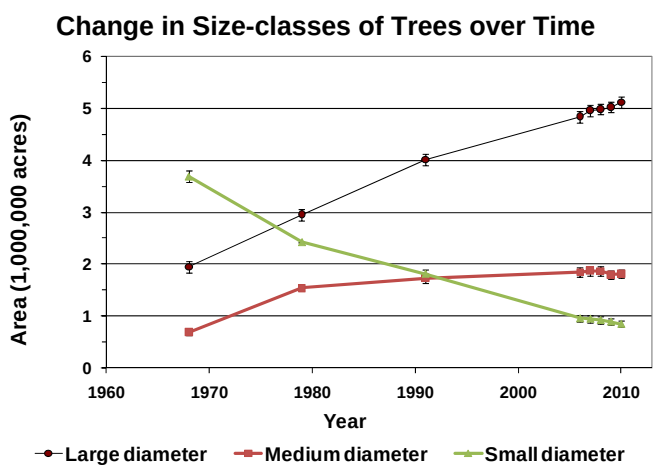


Figure 2—Source: USDA Forest Service, FIA

Forest Issue 5: Health & Vitality of Ohio's Forests

Overview:

Forests are regularly exposed to various threats that impact their health and vitality. Some of the primary forest health threats include insects and diseases; natural events like wildfires, drought, and ice storms; non-native invasive plants; and air pollution. Climate change also presents several potential threats to forest health including impacts from changing weather patterns and growing seasons, and the potential expansion of invasive species from the southern U.S. into Ohio. Currently, the major, established insect threats to Ohio's forests are non-native species: the emerald ash borer (EAB), gypsy moth, Asian longhorned beetle, and hemlock woolly adelgid. Several other insects or diseases could become significant threats if they spread, including beech bark disease and bacterial leaf scorch, or if new diseases enter Ohio, like sudden oak death or thousand canker disease. Monitoring for these existing and potential insect and disease threats is ongoing, and a swift response is necessary when new threats are found. While some forest health impacts are difficult to prevent, opportunities exist to mitigate the impact of other threats, like wildfires. Ohio has an active wildfire prevention and management program that includes suppression and prescribed burning activities. Another major forest health threat in Ohio is non-native invasive plants, which significantly impact Ohio's forests. The invasive plants that are causing the biggest problems are tree-of-heaven, bush honeysuckle, multi-flora rose, and garlic mustard, but other problem species exist. Managing the various health threats to Ohio forests requires a combination of monitoring and control programs, and in some cases, threat or risk reduction. Strong partnerships and collaboration are essential to successfully addressing this issue.

Objectives:

- Monitor and manage for existing and future forest health threats
- Reduce the impact of exotic invasive species
- Apply appropriate wildland fire management
- Manage forests for the impacts associated with climate change

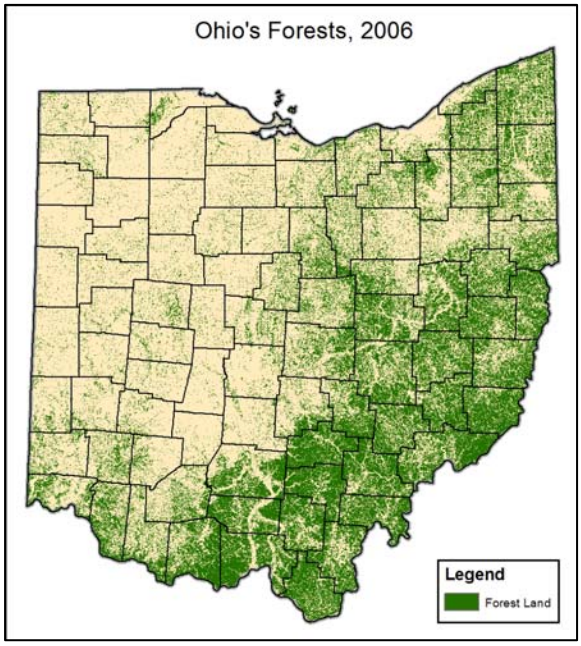
Adult Asian Longhorned Beetle

Adult Emerald Ash Borer

Forest Issue 6: Forest Fragmentation and Land Use Conversion

Overview:

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 occur when urban areas expand into rural forest land, when land is cleared for economic development, or when roads are improved or expanded. Most of these forms of fragmentation tend to be permanent. Urbanization and fragmentation often reduce the capacity of forests to provide the ecological, economic, and social benefits described under Forest Issue 2. For example, the management of forests for traditional uses like timber products and hunting becomes increasingly difficult as areas of forests become urbanized and more fragmented. Fragmentation also increases exposure to various forest health threats, like invasive plants and insects, and can negatively impact biological diversity. Efforts to address the significant threats of forest fragmentation and urbanization will require collaboration among various partners, including urban foresters, service foresters, extension personnel, and others, like local/regional land use planners.



Objectives:

- Slow the trend of increasing forest fragmentation in previously rural forest land
- Mitigate the impact of forest fragmentation and urban development in forested landscapes

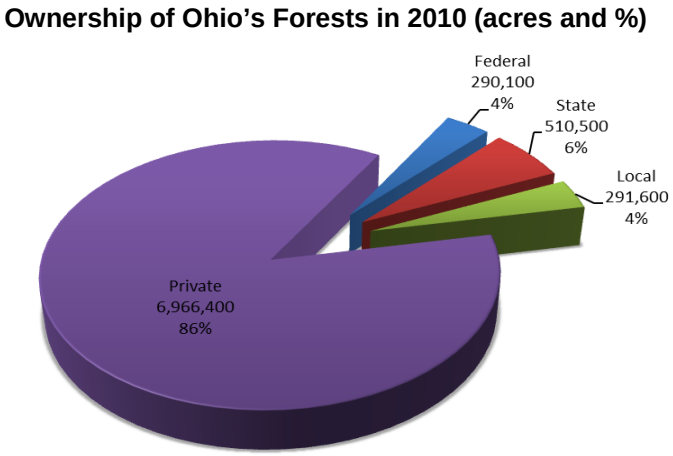


Figure 3—Source: USDA Forest Service, FIA