

# Ohio Department of Natural Resources

## Division of Forestry

### Five Year Forest Management Plan

For

### Mohican-Memorial State Forest



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Note: This plan covers the time period for FY 2011 – FY 2015 and will be updated in FY 2016.

# OHIO DIVISION OF FORESTRY

## I. **STRATEGIC PLAN** *(Effective 2008)*

*Our Vision: Ohio's state forests will be the best managed forest lands in the country, and will be widely recognized as such.*

**To fulfill this vision, the Ohio Division of Forestry commits to meeting five objectives.**

**We will:**

- Manage forests to ensure the health and sustainability of forest systems
- Produce high-quality forest products that contribute to local communities
- Provide recreational opportunities that are compatible with sustainable forest management
- Provide unique forestry education sites and promote outreach and long-term research
- Maintain a highly trained and well equipped work force

**To fulfill these objectives, the Division of Forestry will develop and implement strategies and plans that allow us to accomplish the following goals by 2011:**

- Manage forests to ensure the health and sustainability of forest systems
  - *Implement a proven, verifiable approach to sustainable management*
  - *Manage for site-appropriate, native forest systems and species*
  - *Maintain long-term forest productivity through conservation of soil, water, and forest resources*
  - *Retain or promote stand- and landscape-level wildlife habitat*
  - *Assess the distribution and impact of non-native invasive species*
- Produce high-quality forest products that contribute to local communities
  - *Base State Forest harvest volumes on the goals and guidelines for each forest system, current stand and forest-wide inventories, and science-based silviculture*
  - *Develop marketing strategies to capture the maximum value of forest products*
- Provide recreational opportunities that are compatible with sustainable forest management
  - *Develop a comprehensive recreation plan for the state forest system*
  - *Build recognition for unique and varied recreation opportunities on state forests*
- Provide unique forestry education sites and promote outreach and long-term research
  - *Support forest research with an emphasis on sustainable forest management (silviculture, prescribed fire, native systems, etc.)*
  - *Develop opportunities to showcase forest management practices to the general public, private landowners, and forest industry*
- Maintain a highly trained and well equipped work force
  - *Develop a training, continuing education, and/or certification standard for all division staff*
  - *Inventory and evaluate equipment and facilities and develop maintenance and replacement schedules*
  - *Develop equipment and facilities budgets based on current and projected needs*
  - *Ensure all staff have appropriate health and safety training*

## II. FOREST HISTORY

*Land Acquisition:* Land acquisition for the forest began in 1928 and has continued with the accumulation of over forty-five hundred acres (exclusive of state park land).

*Past Land Management/Uses:* The land use history of the forest is typical of eastern Ohio. Original forests were cleared for agriculture, but eventually erosion ensued and fertility decreased. Farms were abandoned and subsequently reverted to brush and woodland. At the time of acquisition, planting of trees on bare and abandoned lands was a high priority activity. This resulted in the many plantations of white and red pine and mixtures of these and other pine species. Much of the tree planting was done by personnel of the Civilian Conservation Corps whose camp was located on the forest during the 1930s. Native hardwood of the oak-hickory and beech-maple types and associated species of gum, aspen, ash, cherry and walnut occur on unplanted areas. Native white pine and hemlock are also found.

## III. FOREST DESCRIPTION

### A. **General**

*Property Location Description:* Mohican-Memorial State Forest is located in southern Ashland County, Hanover Township, Sections 7-10, 15-22 and 27-29. Midway between Columbus and Cleveland it is easily reached from I-71 and State Routes 97 and 3. The natural attributes of the area combined with state and nearby commercial facilities have made this region one of the more popular year-round attractions of the state.

*Soils:* The forest is located in the soil region of West Mooreland Homewood Loudonville. Soil compositions in the forest vary greatly and range from clay to sandy. No one particular soil type is more prevalent than other soil types that are found in the area.

*Water Resources:* There are several perennial streams running through the forest but only two have names: Horse Tail Run and Pine Run. These streams all empty into the Clear Fork of the Mohican River which is a designated Ohio Scenic River. The river is fed by the Pleasant Hill Reservoir laying just north of the forest.

*Access Issues/Transportation:* There is good access to the forest by way of state, county, township and forest roadways. The forest itself also has good access by fire lanes, gas well access roads, and with most of the bridle trail system supporting vehicles. These lanes, accesses and trails are not open to the public for motor vehicle use and are used for maintenance activities by forest staff and utility employees. The forest has fifty-five natural gas storage wells with 13 miles of pipelines connecting these wells for movement of the gas. When Columbia Gas Transmission begins clearing these pipeline right-of-ways there is a concern that the openings will allow easy access for ATVs and 4-wheeled vehicles to illegally enter the forest from private properties. This will be monitored closely as the right-of-ways are opened.

*Potential Productivity:* Columbia Gas Transmission's right-of-way clearing operations will generate some forest products in the coming years. The logs generated from the operation will be separated into three classes: high grade logs, pine logs and low grade/firewood logs. The log piles will then be offered for sale to the public and are sold through sealed bid process. The forest also participates in the Division's firewood permit program. However this program is only used for the removal of trees that have been brought down as a result of damaging storms. The clean up is limited to roadways and recreational facilities.

*Overstory:* The overstory is primarily made up of oaks, hickory, maple (sugar) and beech. Close to the gorge area Eastern Hemlocks and sycamore add to the mix. Over six hundred acres of the forest consist of red and white pine plantations.

*Understory:* The understory is primarily made of ash, cherry and maple (red).

*Herbaceous Layer:* The most common species of plants on the forest floor are ferns, maple leaf viburnum and poison ivy.

*Habitat Components:* The forest has a good mixture of overstory and understory trees that provide both hard and soft mass for wildlife. Water is readily available for all species of wildlife in the forest. Dead trees that are not hazardous to recreational facilities are left standing to be used as den trees. Gas wellhead openings provide many wildlife openings with brushy vegetation growing around the perimeter of the openings. The pipeline right-of-ways also provide good corridors for bats to forage for insects. Because the forest has such good habitat for birds the Mohican area has been designated as an "Important Bird Area" by Audubon Ohio.

*Wildlife Populations:* Over four thousand acres of the forest is a designated public hunting area. The forest has a good population of white tailed deer and wild turkey. The forest also has a good population of small game animals. Migratory birds make the forest their summer home with a number of rare and endangered species making Mohican their nesting area.

*Invasive Concerns:* The forest is working with the U. S. Forest Service to monitor for the Hemlock Woolly Adelgid. As of the spring in 2009 this invasive has not been found on the forest. The forest is also cooperating with Ohio Department of Agriculture with their effort to monitor the spread of the Emerald Ash Borer. Bush Honeysuckle is spreading into some newly opened gas storage wellhead clearings. Multiflora Rose is growing throughout the forest. Garlic Mustard is growing along most of the roadways and working its way to the interior of the forest. The extent of these invasives in the forest have far out grown the ability of the forest staff to eradicate. These invasive plants can only be dealt with as funding becomes available for materials, equipment and personnel.

## **B. Landscape Level Information**

*Adjacent Forests:* The forest has a number of in-holdings that are privately owned. These in-holdings are mostly forested with some openings for agriculture use. The surrounding areas are a combination of forest areas and open areas for agriculture. In the northeast corner of the forest Mohican Adventures Campground property joins along the park and forest boundaries. There are a number of private residential dwellings in the interior of the forest and adjacent to the exterior forest boundary.

*Ecological/Socio-Economic:* Tourism is the number one industry in the Mohican area and the forest's large land base offers many recreational opportunities for outdoor enthusiasts. The variety of activities the forest offers brings a large number of visitors to the area annually. These visitors not only spend their time on the forest but spend their money at local businesses as well. These businesses depend on tourism dollars to keep their small communities economically sound.

### *Social and Economic Impact Evaluation and Monitoring*

The evaluation, incorporation, and monitoring of social and economic impacts of forest management is conducted by the Division in several ways. Data used in our evaluation of social and economic impacts comes from several sources including the Ohio Statewide Forest Resource Assessment and Strategy (FRAS) and a suite of particular programs and efforts specific to state forest management.

#### **A. FRAS**

The Food, Conservation, and Energy Act of 2008 (the 2008 Federal Farm Bill) requires each state to complete a *Statewide Forest Resource Assessment and Statewide Forest Resource Strategy* to continue to receive funds under the Cooperative Forestry Assistance Act. The Division completed a document titled "Ohio's Statewide Forest Resource Assessment and Strategy" (FRAS). The purpose of the FRAS document is to provide a basis upon which future strategic directions and actions can be evaluated and selected. It is to be used by the Division of Forestry as well as existing and potential partners to marshal limited resources towards addressing identified forest issues and threats. One of the criteria used in the FRAS, Criterion 6, is the Maintenance and Enhancement of Long-Term Multiple Socioeconomic Benefits to Meet the Needs of Societies. *The results of the FRAS and the associated strategies to deal with the identified threats is a significant source for state forest managers on our understanding and incorporation of social and economic impacts of state forest management.*

The 2010 Statewide Forest Resource Strategy for Ohio is a strategic planning document that will guide all state forestry activities by the Division of Forestry, including programs with funding from USDA Forest Service State and Private Forestry grants. The State Strategy is framed around the key issues identified in the FRAS, as well as the important benefits and services that Ohio forests provide. Stakeholder input was a critical component of the assessment process and, in particular, the identification of key threats and opportunities for Ohio's forests.

An 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. This has been identified as one of the major issues facing Ohio's forests. The Division has several programs, including state forest management, which are listed and committed to accomplishing this goal. Public outreach and educational efforts are identified in each state forest Annual Work Plan.

#### B. State Forest Efforts - evaluation and monitoring of Social and Economic Impacts

A suite of particular programs and efforts specific to state forest management contribute to our evaluation and monitoring of social and economic impacts. These activities happen at a local or regional level.

- *Civic Activities* – Division staff are members of and associated with various clubs, organizations and civic groups. This is an important way, especially for local forest managers, to stay in touch with their community.
- *Indigenous Peoples Consultation and Cooperation* - The Division works closely with the Hopewell NPS and the OSU-Newark Earthwork Center on training for staff on the significance and protection of cultural resources. Further, the Division extends an offer of cooperation to tribal contacts who may have an interest on providing input into our management.
- *Forest Industries Program* – This program works cooperatively with government agencies and industrial associations to enhance Ohio's domestic and international wood products marketing opportunities.
- *State Forest Timber Sale Revenue Distribution to Local Governments* - Through the "Trees to Textbooks" program, administered by the Ohio Department of Natural Resources (ODNR) Division of Forestry, a percentage of the revenues generated from state forest management activities go to the county, township, and school district in which the activity took place. Over \$21 million has been distributed since 1983 to some of the most economically disadvantaged counties in Ohio.
- *State Fire Assistance* – The Division has multiple programs to educate local communities on wildfire risks and to provide necessary training, equipment, and suppression assistance to rural volunteer fire departments.
- *Recreation Program* - The recreation program administers all of the recreation facilities, grants, and special uses of our state forests. The division collaborates with a number of

not-for-profit recreation organizations on special projects that are compatible with the division's mission. All state forests are open to public recreation.

- *Public Participation and Consultation* – The Division has several means by which citizens' may have a voice to our management of the forests. There is an appointed Forest Advisory Council, annual open houses, public meetings, an open records law, and a friendly open door policy.
- *Other working groups and partnerships* – The Division is involved in a host of working groups, committees, and partnerships that focus on a variety of issues from forest health, Emerald Ash Borer, Logger Training, and many others.

C. Plan for Evaluation and Monitoring over the next 5 years.

The FRAS is a document that is updated every 5 years with new information. The FRAS serves as one type of monitoring since it incorporates social as well as economic data sets in the results. The Division's plan for the incorporation of the FRAS data into our management is as follows:

1. *Training* – The FRAS is an assessment of present and future forest conditions and trends on all ownerships in the state and a strategy document to deal with identified threats. All relevant state forest staff will receive training on the assessment and associated strategies and these strategies will be incorporated into our annual work plans for each forest.
2. *Commitment to Participation in the Strategies* – The FRAS identifies 6 key issues with associated objectives and strategies to mitigate those issues. For each issue, agencies and programs are identified as being key factors towards mitigation. State Forests will commit to playing a key role in the Division's efforts to mitigate the threats and capitalize in the opportunities identified through FRAS. These efforts, identified in the FRAS strategies include:
  - a. Implementation of the Division's strategic communications plan
  - b. Public awareness campaigns reaching citizens living in the wildland-urban interface and the small family forest owners.
  - c. Maintaining a supply of quality forest products and forest services from State Forest indefinitely into the future.
  - d. Provide diverse recreational opportunities.
  - e. Enhance Ohio's diverse markets for forest products and services.
  - f. Improve the quality of urban life through proper urban forest resource management.
3. *Commitment to Participation in the monitoring and update of the FRAS* – State Forest will play a key role in the update and monitoring of the items of the FRAS assessment.

For local or regional Division and State Forest efforts, the Division will attempt to gather data for evaluation and continue monitoring efforts. Specifically, the following activities will be planned for the next five years.

1. Timely reporting for programs or efforts listed above relating to social and economic impacts.
2. Voluntary user registration will be maintained and enhanced. Data from voluntary registration will be summarized for determining trends in use. These trends will be incorporated into the activities identified in the annual work plan.
3. Catalogue public comments are received at public meetings and open houses
4. Catalogue disputes and records requests.
5. Commit to participate in civic activities at each unit location.
6. Commit to the partnership efforts important to state forests and report as needed.
7. Continue to strengthen outreach and education programs.
8. Broaden the scope of our consultation efforts.

All of these monitoring efforts are reviewed at least once per year by the Integration Committee for the Division. The Integration Committee determines the responses and/or actions that need

to be taken to address the results of the monitoring. Recommended actions or adjustments to policies or procedures will be considered for inclusion into our policy documents. The results of monitoring will be incorporated in our strategic plan, 5-year management plans, and annual work plans.

*Climate:* The forest is in the earth's Northern Temperature Zone and is far enough north to enjoy all four seasons. According to the USDA the forest is in the plant hardiness zone 5a. This zone has an average annual minimum temperature of 15 to 20 degrees below zero.

*Geology:* During the ice age two glacier plateaus, the Muskingum-Pittsburg Plateau and Illinoian Glaciated Plateau worked together to form the topography of what is now the Mohican area. These glaciers formed the Mohican Gorge and reversed the westerly flow of the Clearfork of the Mohican River.

*Cultural, Historical, & Archeological:* Numerous native American tribes and villages were located in the area. John Chapman, also known as Johnny Appleseed, lived in the area and is said to have carved his name in the sandstone at Lyons Falls. The Civilian Conservation Corps established a camp at the forest for a little over a year. During their stay they built roads, established fire breaks, built bridges, established trail systems, built picnic shelters, erected two fire towers and planted over two million trees.

#### **IV. MANAGEMENT OBJECTIVES**

*Zone Descriptions:* (See Mohican-Memorial State Forest Zone Guidelines, Appendix A) The forest has only 3 zones A, B, and C. The zones were established in Mohican's "Five-Year Management Plan" in conjunction with Mohican-Memorial Ad Hoc Advisory Council. Zone A (approx. 2,109 acres) is to be allowed to mature to "old growth" with no further disturbance from harvesting. Zone B (approx. 1,674 acres) can be harvested in such a manner that allows for continuous cover to be maintained and designed to foster and accelerate "old growth" characteristics. Zone C (approx. 742 acres) is to provide education about forest ecosystems and their management for woodlot owners, students, and the general public.

**Mohican-Memorial State Forest**

<b>Zone</b>	<b>Acres</b>
A	2,109
B	1,674
C	742
Total Zoned	4,525

*High Conservation Value Forest (HCVF):* Zones A and B are considered as HCVF due to their desired future condition as old growth forests. A minimum of 20% of the area zoned as HCVF on Mohican State Forest will be monitored annually to ensure HCVF attributes are maintained.

*Strategic Plan Relationships:* Objective 4: Provide unique forestry education sites and promote outreach and long-term research. In zone C the forest has established the Discovery Forest. This is an educational forest for woodlot owners, students, and the general public to learn about forest management practices. Within the Discovery Forest there is a 1.8 acre American Chestnut planting. The planting has both 100% pure American Chestnuts and Hybrid American Chestnut trees. The forest is working with U. S. Forest Service on a planting of elm trees that are hoped to be resistant to Dutch Elm disease.

*Forest Services:* In developing this 5-year forest management plan, the Division recognizes the important public benefits and services that our State Forests provide. These services include but are not limited to soil and water resources, municipal watersheds, aquatic life, wildlife, carbon storage, and recreation and tourism. These services

are considered in our management of state forest and the development of our management plans. It is the intent of the Division to maintain and/or enhance these services through proper forest management.

#### Soil Quality

The Ohio Statewide Forest Resource Assessment and Strategies, 2010 (FRAS) include criteria and strategies dealing with soil quality for Ohio's forests. The FRAS report includes data from FIA and other soil data that show that the Soil Quality Index (SQI) for Ohio's forest soils is superior to that of neighboring states. The higher SQI is attributed to greater cation exchange capacity and a more desirable calcium-aluminum ratio. Low calcium-aluminum ratios are indicators of acid deposition. The average amount of soil carbon in the top 20 cm of mineral soil is 22 tons per acre and similar to neighboring states indicating the importance of protecting the top 20 cm of mineral soil. Certain forest management practices can increase carbon sequestration. The FRAS assessment cites that although Ohio's forests are maturing, the amount of carbon stored per unit area has changed little over the past 6 years. Over the next 5 years the Division will take the following actions to maintain or enhance soil quality on state forests:

- Continue to require and promote the use of Best Management Practices for logging practices to control erosion.
- Develop guidelines for acceptable working conditions for logging during times wet weather to prevent sedimentation and minimize rutting.
- Develop guidelines for the retention of biomass in the forest including live tree and snag retention.
- Promote carbon sequestration tree plantings on state forests.
- Conduct training for all relevant state forest staff on BMP's and biomass retention.
- Commit to the strategies outlined in the FRAS strategies document.

#### Water Quality

The Ohio Statewide Forest Resource Assessment and Strategies, 2010 (FRAS) include criteria and strategies dealing with water quality in Ohio's forests. This assessment cites that the amount of forest within a watershed is a very important factor on infiltration rates and timing of surface runoff that reaches a stream. The Ohio EPA data shows that despite this fact the water quality of the most heavily forested watersheds in Ohio varies. These data show that the principle cause of impairment of Ohio's forested watersheds is related to landscape modifications from agriculture and urban development. Specifically, the pollutants that enter streams in these impaired watersheds are from 1) human or livestock sewage, and agriculture chemicals, and 2) sediment from agriculture or urban development. Acid mine drainage is also cited as a factor. The Ohio EPA has also designated many Superior High Quality Waters and Outstanding State Waters based on a number of factors including aquatic life. Several of these streams are located on Ohio's State Forests. Over the next 5 years the Division will take the following actions to maintain or enhance water quality on state forests:

- Continue to require and promote the use of Best Management Practices for logging practices to control erosion.
- Develop and analyze our pesticide use policy on state forests with the intent of limiting pesticide use to only directed applications mostly for invasive species control.
- Continue to implement a "Streamside Management Zone" (SMZ) policy on all harvests.
- Review our current state forest zones and Ohio EPA high quality water locations for possible gaps with the intent to maintain and protect the current high quality status of those streams.
- Conduct training for all relevant state forest staff on BMP's, SMZ's, and EPA water quality data.
- Commit to the strategies outlined in the FRAS strategies document.

#### Public Recreation and Tourism

Forests are an important aspect of outdoor recreation in Ohio. All State Forests managed by the Division of Forestry are open to public recreation and the Division maintains a Recreation program to administer those recreational uses of the forest. The ODNR 2008 Statewide Comprehensive Outdoor Recreation Plan (SCORP) shows that there are 3,638 forest-based recreational sites in Ohio. It further shows that Ohio ranks low nationally for per capita outdoor recreation acreage. The SCORP shows that forest-based recreational sites are the most popular; including camping, niche recreation, and trail-based recreation.

The Division maintains a large network of trails for horse riding, hiking, biking, and ATV riding. Over the next 5 years the Division will take the following actions to maintain or enhance public recreation on state forests:

- Maintain our backcountry recreation resources for all state forests.
- Build recognition for unique and varied recreation opportunities on state forests.
- Develop trail standards for maintenance and seek funding for activities.
- Build partnerships with recreational user groups.

## **V. LAND MANAGEMENT GOALS**

*Inventory Goals:* We will continue to cruise the forest to collect data on the forest's growth, health and vigor.

*Harvest Restrictions:* Limited to Zones "B" and "C"

*Harvest Amounts:* To Be Determined

*Sustained Yield and Forest Growth:* In 2009, the Division of Forestry procured the services of LandMark Systems to provide a comprehensive inventory of the 8 largest state forests (Brush Creek, Hocking, Pike, Richland Furnace, Scioto Trail, Shawnee, Tar Hollow, and Zaleski). The purpose of this project was to provide decision support for forest management activities, to update our current inventory database, and provide forest inventory information for the public. This project produced an inventory of approximately 156,000 acres or 84% of the entire acreage of state forest land. The remaining 16% of state forest land was not part of this project.

The acreage of state forest land that was not inventoried totals roughly 30,000 acres. These acres are located on 12 separate, relatively small state forests. While the Division of Forestry desires an inventory on these smaller state forests, a lack of resources to perform such an inventory was not possible at the current time. The Division does forest inventory work in the form of compartment prescription cruising on these state forests. This approach has been useful for our management of the forest, however, it does not provide for the data needed to maintain an inventory database or to calculate growth using a growth and yield model.

Despite the limitations of our data on the 30,000 acres of smaller state forests, the Division feels that it is reasonable to use US Forest Service Forest Inventory and Analysis (FIA) data to make estimates of the inventory and growth of the timber volume on those forests. These data were estimated for 12 different state forests and are summarized in the table below.

For each state forest, the inventory and the net growth rates were estimated based on data from FIA and applied to the entire state forest. This estimate is noted in the table below as the "Total" growth rate. However, each state forest has a system of management zones that define the management options for those areas. Several zones provide for limited or restricted management. Therefore, the estimate of growth & yield is also provided for only zones 3B and 3C where forest management is active. This calculation is noted in the table below as the "Constrained" growth rate.

Also provided in the table is the average harvest volume over the last 10 years. The purpose of these estimates is to provide evidence that the harvest and removal of forest products from state forests are sustainable and well within the estimated growth of the forest

All estimated using FIA data. Average Harvest calculated from actual harvests.

Mohican State Forest (FIA Data)

Total Inventory (board feet)	Productive Acres	Total Growth Bd Ft / Yr	Zone 3B and Zone 3C Acres Only	"Constrained" Growth Bd F / Yr	Average Harvest - Last 10 Years	Harvest as % of Growth
5,071,319	4,525	1,010,896	0	0	9,430	0%

\*Columbia Gas ROW and Discovery Forest interpretive site are the only activities where volume of timber was produced in the last decade.

*Special Concerns:* The forest will monitor the tree clearing activities by Columbia Gas Transmission. By agreement, in 2010 Columbia may start clearing pipeline right-of-ways. These right-of-way clearings are expected to last for several years. The forest staff will be on site during these operations to ensure agreement compliance. These openings will be monitored for the encroachment of invasive species.

*Threatened/Endangered Species:* The identification, conservation and enhancement of rare, threatened, and endangered species is of the utmost importance to the Division of Forestry. The Division has a legal obligation to comply with laws of this country and state and a moral obligation to use the tools at our disposal for the conservation of these species. The Division of Forestry employs several mechanisms to aid in the identification, conservation, and enhancement of rare, threatened, and endangered species on State Forest land that are discussed below.

Pre-Activity Assessment

Prior to any site-disturbing activities, the Division conducts an assessment using the most up-to-date relevant data sources available. These data sources include the Ohio Biodiversity Database, formally known as the Natural Heritage Database, administered by the Ohio DNR – Division of Wildlife, Biodiversity Program. This data is used to plot the actual suspected or known locations of rare, threatened, and endangered species. The Division seeks to review all compartments, harvests, and prescribed fires using this data. Over the next five years, the Division is expected to review dozens of compartments using this data. Further, the results of our reviews can be used by the Biodiversity Program to update the data set.

These reviews are used to map locations of species or sites and used as a planning tool for the layout of activities. The Division of Wildlife staff offer recommendations on the life history of the species found as well as mitigation efforts to be considered.

Review by Relevant Specialists

Prior to any site-disturbing activities, all reviews that note a positive “hit” of a possible sensitive species is offered to a relevant specialist for a ground survey. A botanist or a biologist is asked to review the site on-the-ground for their recommendation or concerns. Mitigation and recommendations are communicated in the pre-activity assessment documents.

Commitment and Partnerships

Ohio has several Conservation Plans that the Division of Forestry references in our management of the state forests. These plans are put together by various partnerships that the Division is active in one form or another. The relevant conservation plans are listed below

- The Conservation Plan for the Karner Blue Butterfly
- The Conservation Plan for the American Burying Beetle
- The Strategic Plan for the Management of Ohio’s Black Bear Population
- The Conservation Plan for the Timber Rattlesnake
- The ODNR Indiana Bat Management Strategy

These plans outline specific objectives, goals and strategies for the recovery, management, and habitat requirements for these species. The Division is committed to complying with the recommendations of these plans. Further, over the next five years the Division will:

- Ensure all relevant state forest personnel are trained and have an understanding of these plans and strategies.
- Maintain an active role as a partner in the composition and review of these plans.
- Commit to restoration efforts on state forests as budgets allows.
- Commit to the review of our activities by various partners of these plans.
- Promote and enhance our educational efforts for the protection of rare, threatened, and endangered species through landowner education, brochures, trade shows, and public website.
- Achieve and maintain forest certification

#### Consultation with Other Experts and Interested Citizen's

The Division actively solicits the input of various experts from academia, NGO's and other partners. Their input on the identification and conservation of the sensitive species is valuable to our work. The Division promotes our Pathway's to Participation program whereby citizen's can have a voice, through and open house process and various public meetings, on items that we should consider in our management. For the next five years, the Division will:

- Commit to continued solicitation of comments and input from local experts
- Commit to enhancing and refining our Pathway's to Participation program
- Commit to annual open houses
- Commit to public meetings for new efforts

*Biodiversity Conservation Goals:* The conservation of biological diversity is a critical component of the sustainable management of state forests. The management of Mohican State Forest is consistent with the biodiversity goals and strategies outlined in the statewide Forest Resources Assessment and Strategies 2010 (FRAS). The goals outlined below, developed as part of the FRAS 2010 project, are specific to some of the key threats to biological diversity in Ohio's state forests. These biodiversity goals and strategies were developed from consultation with a host of partners and finalized with the input of stakeholders and the public at-large. The biodiversity goals are the results of the analysis of the key threats in Ohio as determined by the FIA project, Wildland-Urban Interface data, the Division of Wildlife, The Nature Conservancy, NatureServe, Landfire, 2007 State of Birds Report, the Ohio Bird Conservation Initiative, and the Appalachian Mountains Joint Venture to name a few.

1. Promote regeneration of oak-hickory forests
  - a. Enhance oak regeneration in appropriate forest types.
2. Protect Ohio's unique or rare forest plant species and biological communities
  - a. Protect high conservation value forests.
  - b. Provide information and resources to private landowners to conserve rare species or communities.
3. Maintain habitat for a diversity of forest-associated wildlife
  - a. Manage for a diversity of forest wildlife by maintaining a sustainable distribution of successional stages.
  - b. Increase the area of early-successional forest habitat (age class < 20 years old) and forests over 100 years old (e.g., old forests) on state forests.
  - c. Ensure that critical habitat requirements for rare forest wildlife species are being met.

*Desired Future Conditions(s)* :As per ODNR's adoption of the Ad Hoc Advisory Council's recommendations, the forest will be managed to encourage a large core of mature, "old growth" forest.

## VI. FIRE MANAGEMENT

*History:* The Mohican Fire Protection Area includes four thousand five hundred twenty-five acres of the Mohican-Memorial State Forest, Coshocton County, and parts of Ashland, Holmes, Knox and Richland

Counties. In a typical year the area does not get many fire starts. Usually less than forty reports are received per year. Because of the population density of the area, fires that do escape control are quickly discovered and reported to the local fire departments. With a good number of fire departments in the area, response times are quick thus keeping the fire size small. Typically, fire size is less than 2 acres and is mostly grass and/or brushy areas. The forest has not had escape fire for a good number of years. In general the Mohican Fire Protection Area does not have a major wildland fire problem. Even so, our goal is to be prepared to support and assist cooperating fire departments within the protection area with: prevention activities, wildland fire suppression, and wildland fire training.

*Fire Suppression Objectives:* The Mohican staff is equipped and well trained to respond to a fire start on the forest. We will also support the seventeen fire departments with cooperative agreements with their suppression efforts when requested. Our suppression equipment includes: hand tools (rakes, plaskis, shovels, etc.), three 4-wheeled-drive pickup trucks, three all-terrain vehicles, and a John Deere 350 bulldozer with transport.

*Prescribed Fire:* No prescribed fires are planned for the forest. The Mohican staff is available to assist other forest units conducting their prescribed fires if needed.

*Fire Prevention:* We offer our cooperating fire departments fire prevention materials, the use of the Smokey Bear costume, and help with their fire prevention events for the public. We also conduct fire prevention by the investigation of reported escape fires. Landowners having an escaped fire may or may not be cited into court, but all receive fire prevention materials and a burning laws pamphlet. The Mohican Fire Tower has a fire danger index sign and two signs on the history of the Mohican fire tower, history of the Division of Forestry's fire suppression efforts, and the Firewise program with ways to protect your home from wildland fire.

*Other Fire Program Issues: (FEPP, FFP, Training, etc.)* Only three of our seventeen cooperating fire departments are taking advantage of the Federal Excess Property Program. West Lafayette VFD has a Ford pickup truck; Walhonding Valley VFD has a 2 1/2 ton, 6 x 6 equipped with a 1200 gallon water tank and generator; Western Holmes County VFD has a 5,000 gallon Mack tank truck. The Forest Officer is to attend one fire department or fire association meeting in each of our 5 counties annually. As we visit with the fire departments and fire associations, we continue to promote the program. The message to the fire department is: "this program can help fill the need for equipment that departments might not otherwise get." As we visit with fire departments and fire associations, we also promote the Fire Fighter Property (FFP) grant. Basic wildland fire suppression is offered to fire departments annually and is taught by the Forest Manager and/or the Forest Officer. The Forest Officer will contact each of the seventeen cooperating fire departments to update their fire department information sheet. The Mohican staff has their personal protective clothing and equipment inspected annually. Fire shelter deployment training is conducted annually as well. The Mohican staff is allowed to attend fire training sessions as workloads and budgets allow. Interested staff are allowed to make one Inter Agency Fire Crew deployment.

## **VII. RECREATION**

*History:* Most forms of back-country or back to basic recreation have been offered at the forest. Hiking, hunting, and horseback riding are among the most popular activities at the forest. The mountain bike trail is proving to be very popular with use growing each year. The Park and Pack campsites are a unique way for the young and old alike to get an introduction into backpacking. Other users come to climb the fire tower, bird watch, and picnic in the forest.

*Strategic Goals/Opportunities:* Objective 3. Provide recreational opportunities that are compatible with sustainable forest management. The forest has been able to continue to offer a wide array of recreational opportunities to the public with the help of several volunteer groups.

*Maintenance:* With the exception of foot bridge replacements, only routine maintenance to the trail systems and other facilities is expected. Foot bridge replacements on the Hog Hollow Trail are expected to

take a number of years to complete due to the number of bridges, funds, and availability of a labor force. The goal is to complete one or two bridges per year until the remaining twelve have been replaced. Board walks are planned at several areas to get hikers over wet areas of the trail.

## **VIII. PUBLIC AWARENESS**

*Strategic Goals:* The Discovery Forest is a facility where landowners, students, and the general public can come to learn about and actually see various forest management practices. The facility is open year-round, 6:00 AM - 11:00 PM, and is available to schools and agencies for field days, field trips, and other educational events. The forest will hold an open house annually to allow the public to review and comment on the forest's Annual Work Plan.

## **IX. LAW ENFORCEMENT**

*History:* State forests currently have ten fully commissioned law enforcement officers plus four commissioned managers. The purpose of retaining commissioned officers is to enforce the Forest Rules that are depicted within the Ohio Revised Code. One very important aspect of the Law Enforcement program is that of resource protection. Forest Officers protect property boundaries from encroachment, recreation resources from undesignated use, guard against timber theft, and watch for signs of watershed degradation. Specific law enforcement policies and procedures are delineated within the Division of Forestry's Law Enforcement Manual.

### *Strategic Goals:*

1. Protect and assist forest visitors through routine patrol and incident investigation.
2. Issue warnings or citations as warranted for Ohio Revised Code and Forest Rules violations.
3. Investigate assigned wildfire reports and issue warnings or citations for Ohio Revised Code Chapter 1503.18 violations.
4. Assist in special projects with other forests.

### *Other Enforcement Issues:*

1. Request special projects when needed to address specific issues/problems to maintain a safe and enjoyable experience for the forest visitors.
2. Work cooperatively with Mohican State Park on special projects affecting both agencies.
3. Assist other forests with special projects as workloads and the budget allows.

## **X. FACILITY MAINTENANCE AND INFRASTRUCTURE**

### *Building/Infrastructure Maintenance:*

Perform general maintenance, routine cleaning and repair to the fourteen buildings and structures located on the forest. The buildings are reviewed annually for maintenance needs and repairs (new roof, painting, etc.) A safety assessment is also conducted annually. The two public water systems operated by the forest are maintained to Ohio EPA's Drinking Water Standards. The day to day operations of the systems is done by Mohican State Park water treatment employees. The park employees check the systems daily and ensure water samples are taken and tested as required by the Ohio EPA regulations.

Current building inventory.

1. Forest Office
2. Office Well House
3. Service Center
4. Long Garage
5. Saw Shop
6. Memorial Shrine
7. Shrine Latrine
8. Shrine Well House
9. Bridle Latrine #1
10. Bridle Latrine #2
11. Mountain Bike Latrine
12. Fire Tower

*Roadway Maintenance:*

The roadways at the forest are maintained by Mohican State Park by mutual agreement. The park is responsible for all aspects of ODNR road maintenance needs (paving, culverts, ditch cleaning, etc.). The forest will mow/trim approximately five miles of ODNR roads three times annually as outlined in the agreement.

The forest will inspect and maintain all of the forest parking areas with the exception of the New Bridle Day Use Area. This area will be maintained by the three volunteer horse groups.

Lumber for a vehicle bridge replacement has been received from Zaleski State Forest. The bridge is used to gain access to the forest by the forest crew. It is also used as a crossing for the Blue Trail. The bridge is located on the north side of Township Road 3234 where the Blue Trail crosses the township road.

*Boundary Maintenance:*

Approximately 25% of forest boundary will be repainted each year with yellow and/or red paint.

At the same time of repainting, signage and boundary markers will also be checked and replaced as necessary.

**XI. BUDGET/STAFFING**

*Maintenance:*

Operational Budget (personnel, maintenance): SFY 2011

Budget DNR150025 Mohican Region

- 500 Payroll-Fund GRF \$249,978
- 510 Personal Services- Fund 5090 25% per quarter \$250
- 520 Supplies & Maint- Fund 5090 25% per quarter \$85,000
- 530 Equipment
- 550 Subsidies \$0
- 570 Capital
- 590 Settlements & Bonds - Refunds
- 591 Debt Service

Total \$335,228

*Personnel:*

Tim Humphrey Forest Manager  
Matthew Rogers Forest Officer 2  
Mark Thompson Forest Technician (submitted for retirement at the end of July, 2011)  
Scott Cawood Equipment Operator 2

Personnel will have mandatory training sessions in: Law Enforcement, Fire Suppression, Forest Management, Human Resources, General Safety Practices, CPR, and First Aid. The personnel may be given an opportunity to voluntarily participate in other training sessions in the areas previously listed. Participation in these voluntary training sessions will be dependent on cost, workloads, and value of the training to the Division's missions and goals.

*Equipment:*

The forest will continue to protect the service life of our vehicles and equipment through the preventive maintenance program that includes: proper operating procedures, timely routine servicing and making quick repairs to broken or worn parts.

Vehicles:

- 2011 Dodge Nitro
- 2003 Ford Expedition (scheduled for replacement)
- 2009 Dodge Pickup Truck
- 2001 Dodge Dakota (scheduled for replacement)
- 2010 Ford Pickup Truck
- 2000 International Dump Truck

Equipment:

- John Deere 350 Bulldozer
- Ford 6640 Tractor
- New Holland TS-90 Tractor
- Ford 5030 Tractor
- 20,000 lb GRVW Lowboy Trailer
- Polaris ATV (6 wheel drive)
- Polaris ATV (4 wheel drive)
- Honda ATV (4 wheel drive)
- Stinner Riding Mower

## **XII. MONITORING AND ENVIRONMENTAL ASSESSMENTS**

The forest is on a 20-year cruise cycle. The cruise data collected is used to monitor the health and vigor of the forest. In the Discovery Forest, fixed plots are located in each of the management units. Data is collected from these plot centers on a ten year cycle. The next time data is scheduled to be collected is in 2010. Invasive plants and insects are monitored on an ongoing basis with new discoveries reported by forest staff, volunteers and forest users. Recreational assessments for all trail systems are done annually. Recreational facilities are also checked annually. Hazard tree assessments are done on an ongoing basis as the forest staff and volunteers work in the forest. By local agreement between ODNR and Columbia Gas Transmission, a representative from both agencies should be present anytime trees are being cleared. The formal agreement also calls for notification, to the forest manager, 2 weeks prior to any major operations taking place in the forest. An agreement with The Energy Cooperative (electric company) also

requires prior notice be given to the forest manager for routine work being done on the powerline right-of-ways.

**XIII. EXHIBITS**

Appendix A  
Appendix C