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Eastern Region

Fiscal Year 2010 Monitoring and Evaluation Report

2010 Monitoring and Evaluation Report
Wayne National Forest

Athens, Gallia, Hocking, Jackson, Lawrence, Monroe, Morgan, Noble, Perry, Scioto, Vinton and Washington Counties, Ohio

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I. Introduction

Location and History

The Wayne National Forest (WNF), located in 12 counties of southeast Ohio, is the state's only national forest. The Forest's proclamation boundary encompasses approximately 875,000 acres, of which the Forest Service manages over 243,000 acres. The hills of southeast Ohio, the unglaciated region of the state, lie within the Ohio River Basin. Ecologically, this area is considered part of the Southern Unglaciated Allegheny Plateau, which reaches into western Pennsylvania, southeast Ohio, western West Virginia, and eastern Kentucky.

The WNF is situated in the core of the hill country, the most heavily forested part of the state. Just 200 years ago, most Americans viewed this region of the Allegheny Plateau as part of a vast wilderness. It had been inhabited by various Native American cultures for thousands of years prior to the arrival of immigrant settlers in the 18th and 19th centuries. Ongoing research conclusively shows that Native Americans had extensive impacts on their environment, even if those effects are no longer obvious.

Many people still view the Wayne as a remnant of the forest primeval. But the impacts of industry and agriculture over the past 200 years have left indelible marks upon the land. Virtually all the forests that covered Ohio when non-native immigrants arrived were cut for timber and firewood and to make way for farms and settlements. Mining for iron ore, limestone, coal, and clay scarred hillsides and polluted many streams. As factories closed and farms failed in the 1930s, the Forest Service began to acquire and restore what were once dubbed "the lands that nobody wanted."

Purpose of the Forest Plan

The Monitoring Evaluation Report is an annual requirement associated with the 2006 Land and Resource Management Plan (Forest Plan), which guides all natural resource

management activities for the Wayne National Forest for the next 10 to 15 years. It describes desired resource conditions, resource management practices, levels of resource production and management, and the availability of suitable land for resource management.

The purpose of the Forest Plan is to provide management direction to ensure that ecosystems are capable of providing a sustainable flow of beneficial goods and services to the public. More specifically it establishes:

- How the Forest should look if the Forest Plan is successfully implemented (Goals and Desired Future Conditions)
- Measurable, planned results that contribute to reaching desired conditions (Objectives)
- Required action or resource status designed to meet desired future conditions and objectives (Standards)
- Preferable action used to reach desired future conditions and objectives (Guidelines)
- Management direction to be applied Forest-wide
- Management direction to be applied only to specific management areas
- Monitoring and evaluation requirements
- Designation of land as suitable or not suitable for timber production and other resource management activities

Land use determinations, standards, and guidelines constitute a statement of the Forest Plan's management direction; however, the actual outputs, services, and rates of implementation will depend on annual budgets.

Monitoring Program

Monitoring and evaluation to determine how well the Forest Plan is working is required by National Forest Management Act (NFMA) regulations. Monitoring and evaluation must be designed to answer the following basic questions:

• **Did we do what we said we were going to do?** This question answers how well Forest Plan direction is being implemented. Collected information is compared to objectives, standards, guidelines, and management area direction.

• **Did it work how we said it would?** This question answers whether objectives are achieving goals and how closely standards and guidelines are being applied.

• **Is our understanding and science correct?** This question answers whether the assumptions and predicted effects used to formulate goals and objectives are valid.

The aim of monitoring is adaptive management – the ability to respond to current conditions or make appropriate changes based on new information or technology.

Depending on the answers to the above questions, the Forest Plan may be amended or revised to adapt to new information or changed conditions.

Strategy

Monitoring and evaluation are separate activities. Data and information are collected by various means. Then they are analyzed and interpreted to evaluate the success of Forest Plan implementation. To provide the public with timely, accurate information regarding this process, the Forest releases an annual monitoring and evaluation report.

The monitoring program must be efficient, practical, and affordable, and not duplicate data collection already underway for other purposes. Monitoring tasks are scaled to the Forest Plan, the program, or the project to be monitored. Each of these entails different objectives and requirements. Monitoring is not performed on every single activity, nor does it need to meet the statistical rigor of formal research.

Budgetary constraints will affect the level of monitoring that can be done in a particular fiscal year. If budget levels limit the Forest's ability to perform all monitoring tasks, then those items specifically required by NFMA are given the highest priority.

The components of this monitoring strategy are:

- Monitoring methods
- Monitoring questions related to implementation, attainment and assumptions
- The annual monitoring plan of operations
- The annual monitoring evaluation report

Table 1.1 Monitoring Strategy

Monitoring Methods	Monitoring Questions	Annual Monitoring Plan	Monitoring and Evaluation Report
Monitoring methods categorize how precisely and reliably monitoring items are measured.	Monitoring questions are developed by an interdisciplinary team to address Forest Plan management goals, objectives, standards, guidelines, assumptions, and science.	The annual monitoring plan of operations identifies which items will be measured and how monitoring questions are to be answered.	The monitoring and evaluation report analyzes and summarizes the monitoring results.

II. Annual Monitoring and Evaluation

Developed by an interdisciplinary team, the annual monitoring and evaluation report summarizes the results of completed monitoring and evaluates the data. Evaluation determines whether observed changes are consistent with the Forest Plan's desired future conditions, goals, and objectives and if adjustments may be needed. The report also makes recommendations to the Forest Supervisor who will use these findings either to certify the Forest Plan as sufficient for management in the coming year or to decide that a Plan amendment is needed. It is important to note that 2010 is the fifth year of Monitoring for the 2006 Forest Plan and a more comprehensive summary evaluation report is planned for Fiscal Year 2011.

2 - Watershed Health

Goal 2.1 – Maintain/restore water quality and soil productivity

Restore water quality and soil productivity to improve health of watersheds impaired by past land use practices and mining activities. Manage activities on National Forest System land to maintain or enhance water quality and soil productivity.

Objective 2.1a: Restore the dimension, pattern, and profile of streams where channel and floodplain morphology has been altered.	**Monitoring Work Plan Question #1:** How many miles of stream have been treated to restore dimension, pattern and profile?

There were approximately 2 miles of stream morphology (dimension, pattern and profile) restored in Fiscal Year (FY) 2010. This was accomplished by opening 38 blocked drainages and allowing a stream to flow on the surface in the naturally occurring stream bed. In 2010, 14 subsidences that were capturing runoff to perennial, intermittent, and ephemeral streams were closed. Approximately 2,064 feet of rock lined linear channels were constructed, two discharging mine portals were closed and 4 large limestone dams were constructed on the Athens Unit of the Wayne National Forest. These restoration activities have a long-term positive effect on restoring stream morphology as subsidence are closed, blocked drainages are opened, portals are closed, and water flows back on the surface, re-establishing the geomorphology that once existed before disturbance occurred. Stream morphology will recover at a more rapid rate where a subsidence is closed, or a blocked drainage is opened and the water is turned back into the existing channel as opposed to streams that have been obliterated by mining activities. Most streams on the Forest are currently in the process of recovery, but it may take several years before the streams stabilize and begin to meander and adjust to their appropriate width to depth ratios based on their drainage area size. In some cases where a straight line rock channel is constructed to move water off the site, the morphology may never return to pre-mining conditions. Examples of straight lined channels constructed in FY2010 are shown in the following photos.

New Straitsville South during construction

New Straitsville South after construction

Brush Fork after construction

Objective 2.1b: Enhance water quality in the Monday Creek, Sunday Creek, Raccoon Creek, Symmes Creek, and Pine Creek watersheds by reducing acid mine discharges and decreasing sediment loads.	**Monitoring Work Plan Question #2:** How many acid mine discharges have been treated?
	Monitoring Work Plan Question #3: How many subsidence features have been treated?
	Monitoring Work Plan Question #4: What geochemistry parameters have changed by reducing and/or treating acid mine discharges?
	Monitoring Work Plan Question #4.1: How many miles of stream have free-flowing water where surface flow was restricted?

Five acid mine drainage sites in the Monday Creek Watershed were treated by constructing five steel slag leach beds, closing two open mine portals, building 4 large limestone dams, and constructing 2,064 linear feet of open limestone channels. The goal is to reduce acid loading to the main stem of Monday Creek. Additionally, a 3 acre lake was constructed at the Upstream Rock Run site where 33 out of the 38 blocked drainages were opened. This site incorporated an ecosystem approach to abandoned mine land restoration and will add a significant amount of fresh water flow into the main stem of Monday Creek. The site will be reclaimed with 25 acres with native shrubs and trees. Hocking College partnered with the Forest on this site and the construction of one steel slag bed. To date, visual monitoring at the Upstream Rock Run site indicates the various systems are functioning as designed.

The Wayne National Forest Watershed Group has significantly improved the water quality for the 78,000 acre Monday Creek Watershed by recently completing a mine reclamation project at Coe Hollow in Athens County, York Township.

The project closed several subsidences on the site and reduced the impact of Acid Mine Drainage (AMD) by constructing 4 large limestone dams. The dams are helping neutralize AMD by discharging the water into a wetland area. Coal mining in Coe Hollow, as well as elsewhere in the Monday Creek Watershed left scars and residual effects from mining activities that ceased prior to reclamation laws. The State of Ohio listed Coe Hollow as a priority watershed for reclamation in Monday Creek because it contributes roughly 10 percent of the acidity found in the entire Monday Creek watershed.

Coe Hollow includes 126 acres in the Monday Creek watershed which was once part of an abandoned mine complex. Wayne National Forest owns all but 6 acres of Coe Hollow. The pictures below show the limestone dams during and after construction. The

watershed restoration project is already seeing improvements in the quality of the water. The pH, once 3.0, is now at 6.0, a level that will sustain life for fish and other aquatic organisms.

Heavy equipment closes subsidence's to channel water out of the underground mine

Limestone dams were installed to raise the pH of acidic water

Completed work at Coe Hollow Restoration Project.

Implementation of restoration as mentioned above has resulted in approximately 2 miles of free flowing water that was once blocked in the Monday Creek Watershed. Restoration efforts in the Monday Creek watershed have created a net decrease in acidity. Based on long-term monitoring data from partners and the Non-Point Source database at *http://www.watersheddata.com*, pH and net acidity has improved for approximately 5 stream miles in Snow Fork, a major tributary to Monday Creek. Additionally, monitoring indicated an overall improvement in water quality in the main stem of the Monday Creek Watershed.

3 - Aquatic and Riparian Resources

Goal 3.1 – Sustain favorable riparian and aquatic habitat conditions

Stream Habitat

There are a variety of management activities that improve stream habitat, such as reforestation of streamside areas that have been farmed, restoration of wetlands, reduction of sedimentation, or improvement of road-stream crossings to ensure aquatic organism passage. The 2006 Forest Plan guides us to restore or improve 20 miles of stream during the first decade of Forest Plan implementation.

Objective 3.1b: Improve habitat along streams for aquatic and riparian-dependant species.	**Monitoring Work Plan Question #6:** How many miles of stream were treated to improve or restore habitat for aquatic and riparian-dependant species?
	Monitoring Work Plan Question #6.1: How many permanent long-term aquatic ecological unit monitoring sites were established?

Approximately 1.6 miles of stream were protected by removing 32 illegal trash dumps on the Ironton Ranger District. These illegal dumps occur where people can pull to the edge of a hill and push debris down into ravines. These dumps can contain tons of debris including discarded tires. The material in these dumps range from household trash to automobile parts, including items that contain hazardous materials. Rain causes the debris to move downstream into creeks over time. Once the trash is removed, the area is stabilized to prevent erosion and sedimentation. Dumps were removed in partnership with the Ashland Kentucky Federal Prison Camp and the Ohio Division of Natural Resources assisted with the disposal of tires.

The riparian area along 1 mile of Little Storms Creek (Ironton Ranger District) and 0.75 mile along Eels Run (Athens Unit) and Leith Run Recreational Area (Marietta Unit) was protected by controlling non-native invasive plant species, such as garlic mustard, Japanese knotweed, and Japanese stiltgrass. These non-natives spread into the riparian area on Forest Service lands from private lands located upstream. Non-native invasive plants crowd out native grasses, shrubs and trees in the riparian area. A healthy riparian area is essential to ensure healthy aquatic ecosystems. These efforts were accomplished through hard work by employees, volunteers and Ashland Kentucky Federal Prison Camp workers.

There were no long-term aquatic ecological monitoring sites established by the Forest Service in FY 2010.

Objective 3.1c: Reduce sedimentation and improve passage for aquatic and semi-aquatic organisms at Forest development roads and Forest Service recreation trail crossings.	**Monitoring Work Plan Question #6.2:** How many crossings were improved?

The aquatic organism passage (AOP) inventory that was initiated in 2006 was continued through 2010. Survey efforts were focused in streams on the Ironton Ranger District. A total of 80 culverts and 120 bridges were inventoried for the passability of aquatic organisms. Non-passable stream crossings disrupt aquatic organism movement and sediment transport, as well as impair aquatic habitats. The inventory provides information to the Ohio Department of Transportation (ODOT) and county engineers to improve or replace culverts in priority streams. Three barrier structures were replaced in 2010. One structure on Paddle Creek on the Ironton Ranger District , and two on the Athens District, one at Monday Creek on the Athens Unit and one on State Highway 26 on the Marietta Unit.

4 - Wildlife and Plants

Goal 4.1 – Sustain Favorable Terrestrial Habitat Conditions

Promote healthy terrestrial ecosystems that sustain a variety of plant and animal communities, including viable populations of native and desired non-native species.

Management Indicator Species (MIS)
Eight bird species were selected as management indicator species in the Forest Plan. These species guided the development of the Forest Plan, and possess credible monitoring protocols and can be effectively and efficiently monitored (see Forest Plan, Appendix C).

Two monitoring strategies are conducted annually to collect population trend information for these species. The Ohio Division of Wildlife conducts a ruffed grouse drumming survey in April where the number of males heard drumming are recorded along specific routes. The Forest Service conducts a breeding bird survey in May and June where all birds observed along specific driving and hiking routes are recorded.

Objective 4.1a: Provide adequate habitat to support viable populations of management indicator species.	**Monitoring Work Plan Question #7:** Are population trends and habitat trends of management indicators consistent with Forest Plan expectations?

Pine Warbler, Cerulean Warbler, Worm-eating Warbler, Pileated Woodpecker, Louisiana Waterthrush, Yellow-breasted Chat, Henslow's Sparrow

An annual breeding bird survey (BBS) has been conducted since 2003 on the Wayne

National Forest. All birds seen and heard at 242 specific points along 23 survey routes are recorded. These routes occur in different habitat types (forest, openland, wetland, grassland). All routes are sampled twice during the period of May 20 to June 20.

Total observations included 5,202 individual birds, comprising 99 species during the 2010 breeding bird survey. The ten most common species recorded across the Wayne were the Ovenbird, Eastern Towhee, Red-eyed Vireo, Wood Thrush, Indigo Bunting, American Crow, Hooded Warbler, Tufted Titmouse, Northern Cardinal and Acadian Flycatcher.

A summary of MIS observations is provided in Table 2-1. Data are shown as the average number of individuals observed per survey. In other words, the average was calculated by taking the total number of individuals observed and dividing that by the total number of points on the survey. Each MIS is not expected to occur at each point or on each route, but displaying the survey average enables us to show that some MIS are more common than others.

Table 2.1 Summary of Management Indicator Species observed during the Wayne National Forest Breeding Bird Survey Routes, 2003-2010 (shown as number observed/total number of points in survey).

MIS	2003	2004	2005	2006	2007	2008	2009	2010	Mean Number Observed/Year
Cerulean Warbler	0.17	0.10	0.11	0.14	0.18	0.11	0.13	0.09	62
Henslow's Sparrow	0.04	0.02	0.02	0.07	0.04	0.03	0.01	0.04	16
Louisiana Waterthrush	0.04	0.04	0.03	0.04	0.03	0.02	0.04	0.03	16*
Pileated Woodpecker	0.10	0.10	0.07	0.08	0.12	0.07	0.10	0.10	43
Pine Warbler	0.03	0.04	0.07	0.06	0.04	0.04	0.06	0.09	24
Worm-eating Warbler	0.10	0.03	0.04	0.08	0.10	0.08	0.09	0.10	38
Yellow-breasted Chat	0.12	0.29	0.11	0.19	0.21	0.21	0.21	0.24	88

***** *The mean number observed/year reported in 2009 was found to be a typo. The actual number should have been 16 and not 28.*

There are an additional 67 random bird sampling points established in FY 2009. These points require several years of data collection before any trends can be determined.

With the exception of the pine warbler, population and habitat trends for the other MIS are expected to remain stable or increase on the Wayne National Forest over the long-term (next 100 years). The pine warbler was expected to decline because an increase in oak regeneration called for in the Forest Plan would decrease pine regeneration in existing pine stands. All of the MIS species counts appear relatively stable over the last 8 years, with small fluctuations.

Ruffed Grouse

Habitat and population trends for ruffed grouse are expected to remain stable or increase slightly during the first decade of Forest Plan implementation. This trend estimate was based on the fact that 1,725 acres of early successional forest habitat could be created during this time period.

No early successional forest habitat was created on National Forest System (NFS) lands in 2010, however, 15 acres was created in 2009 and failed to be reported in last year's monitoring report. Because of this small amount, the continued decline in ruffed grouse population trends would be expected in counties where NFS lands occur. Data for 2010 ruffed grouse drumming routes on Wayne National Forest collected by Ohio Division of Wildlife biologists indicate the abundance of drumming males took a slight decrease from the previous year.

Grassland Habitat

The Grassland and Forest Mosaic management area is made up of reclaimed mine lands and forest habitat. The reclaimed areas have been planted in a grassy cover, which attracts species like the Henslow's sparrow, grasshopper sparrow, horned lark, blue grosbeak, and bobwhite quail that use these extensive grasslands. Some of the grasslands are also planted with trees, but because of poor soils, the trees are stunted and shrubby.

Objective 4.1b: Promote restoration and maintenance of the oak-hickory ecosystem by improving conditions for oak regeneration in the HF and HFO management areas.	**Monitoring Work Plan Question #8:** How many acres were treated to encourage oak regeneration?

There were 585 acres of mixed-oak stands improved through commercial thinning/selection harvest. The treatment objectives were to improve stand conditions to minimize adverse impacts from insects and disease (especially gypsy moth), and to improve conditions for developing future oak and hickory reproduction so these species will be present when the hardwood over-story is regenerated. Approximately 389 acres of mid-story competing species were thinned and 2864 acres were treated with prescribed burns.

All-aged Hardwood and Pine/Hardwood Forest Habitat

The North American Landbird Conservation Plan (NALCP) highlights the fact that many declining bird species associated with mature forests require dense understory conditions. The NALCP notes that a decline in disturbance-generated mature forest structure is a key conservation issue in the Eastern Avifaunal Biome. During the first decade of Forest Plan implementation, the Wayne National Forest may treat up to 14,556 acres of hardwood and mixed hardwood forest with uneven-aged timber harvest methods to create structural diversity. It takes several entries into a stand, over many decades, to reach an all-aged condition.

Objective 4.1c: Encourage the establishment of all-aged hardwood forest and hardwood-pine forest communities with structurally diverse canopy layers to maintain forest health and increase structural diversity.	**Monitoring Work Plan Question #9:** How many acres of hardwood or hardwood/pine forest communities were treated to encourage the establishment of all-aged conditions?

There were 585 acres of hardwood thinning/selection harvest completed to improve structural diversity and help with the establishment of all-aged forest conditions.

Early Successional Forest Habitat

Early successional forest is characterized by high stem densities of shrubs, seedlings and saplings. Repeated disturbances are required to maintain this habitat in the landscape. About 35% of all vertebrates native to the Wayne use early successional forest habitat during their life cycle. The high density of shrubs, seedlings and saplings provide dense cover and soft mast for these species. The Forest Plan guides us to create approximately 1,725 acres of early successional forest habitat during the first decade of Forest Plan implementation.

Objective 4.1d: Create early successional hardwood or hardwood-pine habitat, interspersed within mid- and late-successional forest habitat to provide breeding habitat for shrubland-dependent species, and to increase production of wildlife foods such as soft and hard mast.	**Monitoring Work Plan Question #10:** How many acres of early successional forest habitat were created?

No early successional habitat was created.

Pine and Mixed Pine Forest Habitat

Pine is a minor component of the overall forest landscape on the Wayne National Forest. Native pine species include shortleaf pine, pitch pine, and Virginia pine; these species are most often found mixed with hardwoods or occur as small stands. Beginning in the 1930s, white pines were planted to stabilize eroding soils on abandoned farmlands and strip mines. While these white pine plantations occur across the Wayne, only the eastern part of the Marietta Unit is on the edge of the native range of the white pine.

The Forest estimates that 200 acres of native pine may be regenerated during the first decade of Forest Plan implementation.

Objective 4.1e: Regenerate existing native pine and pine-hardwood mixed communities.	**Monitoring Work Plan Question #11:** How many acres of (native) pine or pine-hardwood communities were treated?

No native pine or pine hardwood communities were treated.

Objective 4.1f: Annually, improve or maintain 5-10 percent of the existing grassland and grassland/shrub habitat acreage in the GFM management area.	**Monitoring Work Plan Question #12:** How many acres of grassland habitat were improved or maintained?

Through an agreement with the Ruffed Grouse Society 250 acres of Autumn Olive was treated on the Athens Unit.

Herbaceous-Shrub Habitat

Forest openings are periodically mowed or burned to maintain a mosaic of grasses, forbs and shrubs. These areas provide food and shelter to many animals, but some of these openings also contain rare plants or plant communities that require open conditions. Forest Plan direction is to create approximately 500 acres of herbaceous-shrub habitat during the first decade of the planning cycle. It is also estimated that 5,000 acres of openings and other herbaceous habitats would be maintained.

Objective 4.1g: Establish and maintain permanent forest openings on a variety of sites, including ridge tops, mid-slope benches, and valley bottoms, preferably where access by machinery is possible.	**Monitoring Work Plan Question #13:** How many acres of herbaceous or herbaceous-shrub habitat were created?
	Monitoring Work Plan Question #14: How many acres of herbaceous or herbaceous-shrub habitat were maintained?

The Forest did not create any herbaceous or herbaceous-shrub habitat in 2010. There were 151 acres of openings maintained by mechanical means to reduce woody encroachment and to retain the herbaceous-shrubby composition. Much of this work was done in partnership with the ODNR Division of Wildlife and the Ashland Kentucky Federal Prison Camp.

Waterholes and Wetlands

Upland wildlife species use upland waterholes and wetlands for drinking, feeding and breeding. Such areas are scattered across the Wayne National Forest. The Forest Plan guides us to restore or enhance 150 acres of wetland habitat and create 15 acres of waterhole habitat during the first decade of the planning cycle.

Objective 3.1a: Restore wetland habitat where wetland hydrology, soils, or vegetation have been modified by past land uses.	**Monitoring Work Plan Question #5:** How many acres of wetland habitat was restored or enhanced?
Objective 4.1h: Construct waterholes and ephemeral wetlands to supplement limited water sources, enhance local biodiversity, and enhance aquatic insect production.	**Monitoring Work Plan Question #15:** How many waterholes or ephemeral wetlands were constructed or enhanced?

Five large artificial reef areas in Timbre Ridge Lake were improved by the dropping of bundled Christmas trees. Additionally, 23 trees were dropped along the shoreline in partnership with fishery biologists with the ODNR, Division of Wildlife. These woody structures will provide spawning and resting areas, and improved fishing for approximately the next 5 to 10 years. Thirty fishing pond dams were mowed for 15 acres of improvement of waterholes. This maintenance by mowing prevents woody plants from growing up and damaging the integrity of the dams.

The planting of over 500 saplings of six species of trees was performed around Whitaker wetland to encourage the development of a wooded wetland and new gates were installed at Superior and Sand Fork wetlands to deter illegal Off-Highway Vehicle (OHV) and 4-Wheel Drive traffic. Additional work, which included soil sampling on 68 acres and archeological surveys on 102.5 acres, was accomplished on five fields on the Ironton District for potential wetland development in the future.

Artificial Nesting Structures

There are several cavity-dependent species that reside on the Wayne National Forest during some part of the year. Some species, like woodpeckers, excavate cavities for nesting purposes. Other species, like the prothonotary warbler or wood duck, rely on naturally occurring cavities or those that have been excavated previously. There are no quantified objectives in the Forest Plan for the number of structures to install on the Wayne National Forest during this planning period. However, work often occurs with volunteer youth groups (e.g., scout groups) to install and maintain various types of wildlife boxes to increase the cavity habitat in certain areas. By doing so, kids are provided the opportunity to be outdoors and learn about wildlife resources.

Objective 4.1i: Install artificial nesting or roosting structures to supplement natural cavities or snags when they are short in supply or to enhance wildlife-viewing.	**Monitoring Work Plan Question #16:** How many artificial nesting structures were installed?

Two large bat "condos" were constructed on the Athens Ranger District in partnership with Hocking College. They were built as part of a stewardship contract from the U.S. Hwy 33-Nelsonville Bypass project. The condos were fabricated using an established design first used at Canoe Creek State Park in Pennsylsvania and has been used by the Ohio Division of Wildlife in areas around the state.

Each condo is expected to provide roosting capability for 7000 bats.

5 – Endangered, Threatened and Sensitive Species

Goal 5.1 – Recover Federally Listed Threatened and Endangered species

Indiana Bat (Endangered)

Forest Service biologists conducted fall swarming surveys to gain additional knowledge of the distribution of the Indiana bat on the Wayne National Forest and to continue long-term monitoring of bat activity at mine openings affected by watershed restoration projects. Nine mine openings on the Athens Unit were actively monitored (using mistnet surveys or presence/absence surveys using ultrasonic detectors) in September 2010; all were post-project evaluations. A total of 274 bats of 5 species were captured during the Athens fall surveys, including 159 little brown bats (*Myotis lucifugus*), 71 northern bats (*M. sepetentrionalis*), 41 tri-colored bats (*Perimyotis subflavus*, formerly Eastern pipistrelle), 1 Indiana bat (*M. sodalis*), and 2 evening bats (*Nycticeius humeralis*). The Indiana bat was a male captured at Brush Fork 1, which is the first documentation of this species at this site. There were 6 banded bats recaptured at the same sites where they were originally banded during fall swarming surveys, including 5 little brown bats from Snake Hollow 1 and 2, Monkey Hollow 1010c, and Goose Run 1, and 1 evening bat from Brush Fork 1. All were recaptures from 2009, except 1 little brown from SH-2 was from 2008.

An evening bat (*Nycticeius humeralis*, left), a rarity on the Wayne NF alongside a common species, the little brown bat (*Myotis lucifugus*, right). These bats were captured during a fall swarming survey at a mine reclamation project site that is monitored annually. The two species look very similar in size and coloring but behave somewhat differently. It is unusual to catch evening bats anytime on the Wayne NF, especially during fall surveys at mine openings, because they do not typically use mines or caves. Little brown bats, in contrast, hibernate each winter in abandoned mines on the Forest.

Goal 5.1.1 - Retain or develop Indiana bat roosting and foraging habitat; protect all known Indiana bat hibernacula.

Objective 5.1.1a: If additional Indiana bat hibernacula are discovered on NFS land, install bat-friendly gates to prevent unauthorized entry.	**Monitoring Work Plan Question #17:** How many acres of potentially suitable Indiana bat habitat were protected or improved?

	Monitoring Work Plan Question #18: How many bat-friendly gates were installed on known Indiana bat hibernacula?

There were 88 acres of 20-year old hardwood stands improved through crop tree release. Crop tree release will improve stand conditions by developing future oak and hickory reproduction by killing competing vegetation. An additional 84 acres of white pine stands were thinned. Thinning is an intermediate treatment made to reduce stand density to improve growth, enhance forest health, or to recover potential mortality. All of these treatments recruit habitat for Indiana bat.

The Forest Plan states 20-30 bat-friendly gates will be installed on open underground mine portals during the first decade of implementation. There have not been any new Indiana bat hibernacula identified; therefore no bat-friendly gates were installed on known Indiana bat hibernacula in FY 2010. Monitoring of mine openings gated in 2006 continues on the Athens Ranger District. Long-term monitoring of mine openings around which watershed reclamation projects were completed generally show upward trends in bat activity during fall swarming surveys. At sites where the mine opening was maintained open, such as by diverting surface water around or past the opening seem to generally improve bat habitat. Those sites that were gated (Elm Rock Road and Goose Run) had an initial drop in bat activity after gating. However, higher activity levels resumed after a couple of years, presumably as the bats became habituated to the novelty of the gates.

Hibernaculum Monitoring

Forest biologists and partners entered the Lawrence County Indiana bat hibernaculum on March 23rd, 2010 with approval from ODNR, Division of Wildlife and US Fish & Wildlife Service to obtain a sample of hibernating little brown bats (*Myotis lucifugus*) for a specific White-nose Syndrome (WNS) research project conducted by Marianne Moore at Boston University in conjunction with Thomas Kunz (BU) and Elisabeth Buckles at Cornell University. Moore needed 18 adult female little brown bats from a WNS-unaffected site to serve as controls in her non-lethal research to test immune function in hibernating bats. Since Moore has been to WNS-affected sites and used her equipment on WNS infected bats, it was decided that she could not visit the site and the bats could not be returned to the mine after the experiment. Thus, the bats were sacrificed to avoid any possibility of inadvertently infecting a site in Ohio. The sacrificed bats were used in their entirety to fulfill other research sample requests.

The mine entrance (outside) was visited seven times, approximately every other week from mid-December to mid-March 2010, looking for any signs of WNS infection. No evidence of WNS or abnormal bat behavior was detected during any of these visits, and none was detected during this visit at the end of March. Not all areas of the mine were visited, and bats were not counted exactly, since this was not the usual census year, and the purpose was to collect research samples. There were no bats roosting in the entrance area. However, in the Indiana Bat Room, there were multiple clusters of hibernating

Indiana (*M. sodalis*, MYSO) and little brown bats (MYLU) where they are normally found and in approximate numbers we have normally seen during the midwinter censuses. The conditions in the room were surface temperature 40.5°F, air temperature about 43°F and high humidity. Photographs were taken of the main clusters of Indiana bats and little brown bats, many of which were mixed-species clusters. Photo counts of the largest clusters were done (Table 1). From photo counts, Indiana bat numbers appear slightly lower than usual, while little brown bat numbers were higher in this area than usual.

Table 2.2 Indiana Bat Room Counts

Cluster sizes and individual counts of most bats hibernating in the "Indiana Bat Room" (Areas 2 and 3) in the Lawrence County, Ohio abandoned limestone mine on the Wayne National Forest on 23 March 2010. Note: the largest clusters are mixed-species clusters.

Cluster size	181	151	149	62	36	49	33	47	Totals
MYLU	77	103	141	55	36	47	33	47	539
MYSO	104	48	8	7		2			169
									708

In the 2009 census in Areas 2 and 3 (same as counted above), there were a total of 236 little brown bats and 251 Indiana bats counted. There was one banded Indiana bat present in the middle of a cluster. Clusters were tightly packed and the bats appeared to be in full hibernation, despite some warmer weather in previous weeks, in which daytime temperatures reached into the 60s while nighttime temperatures dipped into the 40s and 30s.

The crew decided to collect bats from areas of the mine other than the Indiana Bat Room, so as to reduce disturbance to the Indiana bats themselves. For the bats that were handled and determined not to be appropriate for the research, they were sexed, weighed, forearm measured, fitted with a numbered aluminum band, and released. No big brown bats (*Eptesicus fuscus*) were observed, and few if any, northern bats (*M. septentrionalis*) were present in the areas visited, we generally only observe 1 to 3 each of these species during the normal census period.

A total of 19 little brown bats were banded and released and 18 bats were taken for the WNS research. All bats appeared healthy with no visible signs of WNS. All bats responded normally (with vigor) to disturbance.

In conclusion, there were no signs of WNS at the Lawrence County, Ohio hibernaculum on the Wayne NF. Indiana, little brown and tri-colored bats still appeared to be in full hibernation in previously occupied spaces in the mine, although not all areas of the mines were visited, and exact counts were not made. All bats examined appeared healthy and vigorous and responded to disturbance as would be expected in a WNS free hibernaculum. Indiana bat numbers were slightly lower than in normal mid-winter (15 Jan to 15 Feb) censuses. It is possible some of the bats had already left hibernation by mid- to late-March, and/or we did not do thorough, systematic counts and missed

counting smaller groups of Indiana bats.

Datalogger Monitoring

Biologists entered the mine in July 2010 with an Ohio mine inspector to retrieve the data collected throughout the past year. Under normal circumstances we monitor 4 locations at the hibernaculum site. Unfortunately, 2 of the dataloggers failed, so only those where we collected data this year are included in Table 2.2.

Table 2.3 Comparison of Wood Mine air temperatures inside and outside, August 2009 - July 2010.

Annual	Entrance	Right Passage
Maximum Temperature (°F)	60.8	49.0
Minimum Temperature (°F)	24.2	33.3
Mean Temperature (°F)	45.3	44.2
Mid-winter (1 Dec – 31 Mar)	**Entrance**	**Right Passage**
Maximum Temperature (°F)	47.5	45.4
Minimum Temperature (°F)	24.2	33.3
Mean Temperature (°F)	36.6	39.5

The temperatures inside the mine are expected to remain more stable over the year than the outside ambient temperature, due to the insulating effect of the underground environment. Table 2.3 shows a comparison of mean temperatures at the different monitoring locations. The temperatures near the entrance of the mine are expected to fluctuate more widely due to the direct contact with the outside ambient weather conditions.

Table 2.4 Five year comparison of the Woody Mine mean air temperatures (°F) inside and outside on an annual basis and for the winter months only.

Annual	Outside Tree	Entrance	Right Passage	Indiana Bat Room	Max T	Min T
2005-2006	54	-	45.1	44.9	52.5*	31.7
2006-2007	57.2	46.6	47.6	44.9	52.5	28.5
2007-2008	54.2	45.2	46.9	44.2	51.9	28.9
2008-2009*	50.8	43.1	47.1	43.1*	51.8*	27.4
2009-2010	-	45.3	44.2	-	-	-
Winter (1 Dec – 31 Mar)						
2005-2006	38.5	-	40.7	40.0	43.9	31.7
2006-2007	41.3	38.5	43.1	39.9	47.5	28.5
2007-2008	38.2	37.4	42.4	39.0	44.9	30.4
2008-2009	37.7	35.1	41.9	37.4*	43.7*	27.4
2009-2010	-	36.6	39.5	-	-	-

*Note: several values reported for Indiana bat have been adjusted since they were reported in the 2009 Report. A recent examination of past data showed errors in data manipulation were made in the past, and this report corrects the values that have an asterix next to them.

The winter temperatures from December 1st through March 31st are most important for hibernating bats. Researchers have found that temperatures in most Indiana bat hibernacula range from about 37-43°F during these months (Andy King, USFWS, pers. comm.). A comparison of temperatures for 5 years shows relatively consistent

temperatures in the mine between years. The Indiana Bat Room is where the Indiana bats are consistently found during hibernation surveys, and the averaged mean winter temperature over 4 years is 38.9°F, which is within the range used by hibernating Indiana bats elsewhere. Wayne National Forest biologists believe Indiana bats use that room, because it is consistently cooler than other parts of the mine. Stable, cool (but not freezing) temperatures are important to Indiana bats, because these conditions allow the bats to maintain normal patterns of torpor and waking to survive the winter on a limited stored fat supply. However, the temperatures do drop below freezing during the coldest part of the winter in the Indiana bat room, which may stress hibernating bats. These fluctuations may be a limiting factor and explain why only a small population of Indiana bats (200-300) uses this mine each winter. The "Right Passage" is an area outside of the direct influence of the entrance that tends to be warmer than other areas in winter. Little brown bats (*Myotis lucifugus*) and Tri-colored bats (or "Pips," *Perimyotis subflavus*) often hibernate there, although little browns also roost side-by-side with Indiana bats in the Indiana bat room. The mine is consistently moist and humid throughout the year and often has standing water in some locations during the winter.

Hickory Tree Tally

Hickory trees are preferred Indiana bat roost trees. Therefore, removal is closely monitored and only approved when necessary to protect human safety or to avoid adverse impacts to steep slopes, erodible soils, floodplains or wetlands. A total of 3 hickory trees were removed from project areas in 2010. Since 2006, a total of 42 hickory trees have been removed from project areas.

Goal 5.1.2 - Protect bald eagle communal night roosts, daytime concentration sites, and occupied breeding territories.

Objective 5.2.1a: Conduct a minimum of three annual winter searches to locate any previously unknown communal night roosts of bald eagle concentrations.	**Monitoring Work Plan Question #19:** How many mid-winter bald eagle searches were conducted?
	Monitoring Work Plan Question #20: How many bald eagles were observed?

Wayne National Forest biologists conducted three bald eagle searches during the winter months at Burr Oak Reservoir, Lake Vesuvius and Timber Ridge Lake. No bald eagles were observed during any of the searches. Employees and members of the public, however, reported eagles in various places from December 14th through March 25th. These reports included sightings of six adult and four immature eagles on or near the Athens Unit and three adult bald eagles on or near the Marietta Unit.

No eagles were observed along any route during a breeding bird survey conducted along 23 routes in May and June 2010.

Goal 5.1.3 - Cooperate in efforts to reintroduce the American burying beetle.

Monitoring Work Plan Question #21: What cooperative efforts were accomplished to achieve the reintroduction of the American burying beetle?

The decision to reintroduce the American burying beetle (ABB) to the Wayne National Forest was made in 2008. 2010 was year 3 of the 5-year project. This effort is contributing to the recovery of the species in the State of Ohio. Due to the paucity of breeding individuals at rearing facilities this year, seventy-eight pairs of ABB's were placed at only one site on the Athens Ranger District. During monitoring efforts (conducted 10 days after placement of the beetles at the site) it was estimated that a mean of 14 larvae per brood ball were produced with 67% successful brooding. It was also estimated that at least 364 larvae were produced.

Partners included U.S. Fish & Wildlife Service, The Ohio State University, The Wilds, St. Louis Zoo, Cincinnati Zoo and a range of individual volunteers. American burying beetles used in 2010 were raised at the St. Louis Zoo.

The project plan is to continue introductions each year, for 2 more years.

On August 25-26, 2010, non-lethal pitfall trapping was conducted in an area between the 2010 and 2009 reintroduction sites. Thirty traps were placed along three transects and no ABB's were caught.

Goal 5.1.4 - Actively manage known populations of running buffalo clover to maintain appropriate habitat conditions.

Objective 5.1.4b: Conduct annual monitoring of known running buffalo clover populations and adjacent areas to identify potential risks or management needs.	**Monitoring Work Plan Question #22:** Were there any changes to known running buffalo clover populations and were any potential risks identified and mitigated?

The running buffalo clover (RBC) population was monitored on May 19th, 2010. Of the 250 stems counted, 24 were in flower. The population of rooted crowns increased by 27% from 2009, the number of flowering stems decreased by 375%, a trend of having a heavy flowering year followed by a year with lots of seedlings seems to be developing. Both Wayne National Forest and United States Fish and Wildlife Service (USFWS) staff performed the running buffalo clover monitoring.

Table 2.5 Running Buffalo Clover Summary Table 2005-2010

Patch A		
Year	Number of Rooted Crowns	Number of Flowering Crowns
2005	34	n/a
2006	69	17
2007	87	21
2008	162	10
2009	180	99
2010	250	24

Notes on items discussed in the field:

- most over-story shade is being provided by one large ash tree
- spice bush, black locust and red bud are providing mid-story shade
- some young basswood seedlings present at site
- tree seedlings planted in the fall of 2008 that were relocated: 3 buckeye, 2 poplar and 1 declining red oak
- heavy shading by shrubs present (mostly spicebush) however, we did observe some RBC growing under it. We will continue to monitor the RBC under the spicebush
- no new or increased off-highway vehicle (OHV) traffic noted at the time
- there is a newly discovered Ailanthus patch ~30 feet to the south of the RBC patch
- searched 50' on either side of the OHV barriers for new populations and along new trails created by OHVs to get around barriers (none found)
- noted a new RBC patch ~20 ft disjunct to the west from the main RBC patch

Management actions taken:
In 2010, vegetation was cleared around planted trees with weedeaters and 102 acres of non-native invasive species, including Japanese stiltgrass, garlic mustard, and tree of heaven, multiflora rose and bush honeysuckle were treated on the Forest and adjacent private lands with agreement from the local landowners. Three walnuts trees were

planted for shade and evaluation on the need for shrub control will be conducted in 2011. Monitoring of the survival of planted trees is ongoing as they are very important for future shade of the RBC site. A detailed map of the patch was created and digitized. It was also determined that there was no need to further suppress ATV traffic because current levels do not seem to be harming the patch.

6 - Vegetation

Goal 6.1 – Meet Habitat Needs

Provide forest vegetation characteristics, from understory layers to the tree canopy, that meet the habitat needs of desired native and non-native plant and animal species.

Objective 6.1a: Use all available silvicultural treatments, including pre-commercial and commercial thinning, regeneration harvesting, prescribed fire, shelterwood harvests, site preparation, and improvement cutting to promote the maintenance and restoration of the oak-hickory ecosystem.	**Monitoring Work Plan Question #23:** How many acres are being treated with varying management actions that will likely result in the maintenance and restoration of the oak-hickory ecosystem?

There were 585 acres of mixed-oak stands improved through commercial thinning/selection harvest. The treatment objectives were to improve stand conditions to minimize adverse impacts from insects and disease (especially gypsy moth), and to improve conditions for developing future oak and hickory reproduction so these species will be present when the hardwood over-story is regenerated. Mid-story thinning was accomplished on 389 acres of competing species and 2,864 acres were treated with prescribed burns.

In addition, see Question # 25 concerning prescribed fire activities; fire also can maintain and restore the oak-hickory ecosystem.

Objective 6.1b: Use commercial timber sales and stewardship contracts to accomplish wildlife habitat objectives.	**Monitoring Work Plan Question #24:** How many acres are being treated through commercial timber sale operations and/or stewardship contracts that will likely meet objectives of improving wildlife habitat?

Approximately 585 acres of forest were thinned through commercial timber sales. Included in the objectives of these sales were several short and long term effects that will benefit native wildlife, such as:

- Improve stand conditions to minimize adverse impacts from insects and disease, especially gypsy moth defoliation.
- Improve conditions for developing future oak and hickory reproduction.

Goal 6.2 – Improve Fire Regime Condition Class

Reintroduce fire into fire-adapted ecosystems to conserve biodiversity and promote ecosystem structure and function closer to the historic range of variability.

Objective 6.2a: Use prescribed fire to conserve fire-adapted plant and animal biodiversity and to maintain and restore mixed oak and native pine ecosystems.	**Monitoring Work Plan Question #25:** How many acres are being treated with prescribed fire that will likely conserve fire-adapted plant and animal biodiversity, and to maintain and restore mixed oak and native pine?

There were 1,541 acres treated by prescribed burning.

Goal 6.3 – Special Forest Products

Provide opportunities for the collection and use of special forest products. Manage removal of special forest products and monitor this use to sustain viable populations and future yields. Increase public awareness of special forest product harvesting impacts on populations and their ecosystems.

Monitoring Work Plan Question #26: How many permits are issued and what are the reported harvests in each year?

In FY 2010: 128 firewood and 69 root permits were sold on the Forest. A breakdown of the sales per unit follows:

Table 2.6 Forest Product Permits

	Athens	Marietta	Ironton
Firewood Permits	71	26	31
Root Permits	31	16	22
Cultivation/Grazing permits	6	7	10

The Athens Ranger District sold permits at their two offices (Nelsonville and Reno). Ironton Ranger District sold permits at their office in Pedro. Wood and plant/root permits were $20 per permit.

Root permits allow up to 5 wet lbs. of roots to be collected of which up to 1 lb. can be ginseng. A total of 69 permits were sold, so maximum collection for the permits would therefore equate to a maximum of 345 green lbs. of roots collected, of which up to 69 green lbs. could be ginseng (approximately 25 dry lbs. ginseng). The amount of permits sold was down by 22 permits from last year. As of December 31, 2010, a total of 13

permits had been returned with data on how much each permittee had collected. The total for these 13 permits were: 722 roots, for an average of 55.5 roots per permittee (plant permits do not require the permittee to differentiate between what species of roots are collected).

New rules for root collection permits for 2010 included:

- Instead of 1 lb. green weight of ginseng, permit allows collection of 95 plants of ginseng (equal to 1 lb green weight – for LEO enforcement) per root permit.
- Harvesters must keep whole plants intact until they have been taken off of Forest Service land (allows LEO to enforce 5 yr old, three prong rule).

Emphasis points when selling root permits:

- All seeds from ginseng plants are to be planted 1 inch deep on site where the plant is dug. Do not harvest ginseng plants with green seeds; you must wait until the seeds are ripe (red) to harvest.
- Collection of ginseng is only allowed from September 1 – December 31 (State law).
- Root permits are for collection on Forest Service lands only, it is the responsibility of permittee to ensure they are on FS lands. Use maps included with permit. Permittees can also buy topographic maps of different areas on the Forest.
- Root permits are for the unit they are purchased on only. There is only 1 permit/person/year.
- Permittee must record all plant collections on front of permit, in INK, at time of harvest. The permit MUST be returned within 45 days after the permit expires to purchase a permit in following year.

In an effort to understand the impacts of harvesting on wild ginseng, one additional permanent monitoring plot was installed on the Ironton District in 2010. These plots include collection of the amount and presence of Goldenseal. The new plot was measured when installed in the early summer and then later in the fall to capture impacts of deer browsing. Likewise, the 11 plots previously installed in 2007-2009 were re-measured in the fall. Additional plots and continued re-measurement of old plots are planned for the future to better understand how harvesting impacts ginseng in different Management Areas on the Forest. The plots will be monitored each year, however, approximately 10 years of data is required to analyze population trends.

Wood permits allow up to 2 cords of firewood to be taken. Thus, the maximum amount of firewood taken off the Wayne National Forest in FY 2010 was 256 cords. The amount of permits sold was the same as last year.

Cultivation and grazing is allowed by special use permits. The Athens unit currently has 6 cultivation permits and closed out 2 permits, the Marietta unit has 7 cultivation permits and closed out one 1 and the Ironton District has 10 cultivation permits.

7 - Forest Health

Goal 7.1 – Protect Vegetation and Wildlife from Insects, Diseases and Wildfire

Limit the effects of insects, diseases and wildfire on forest vegetation and wildlife to within the range of disturbances that occurred in forest ecosystems prior to the arrival of non-native insects and diseases. Manage non-native invasive species (NNIS) populations using prevention, suppression and restoration techniques to protect and restore natural communities on the Forest.

Objective-7.1a – Maintain an inventory of NNIS insects and diseases affecting or potentially affecting NFS resources.	**Monitoring Work Plan Question #27:** How many acres of the Forest are inventoried for NNIS insects and diseases and when was it inventoried?

In June 2010, personnel from the Ohio Department of Agriculture and the ODNR Department of Forestry, in cooperation with the Forest Service Forest Health Protection office in Morgantown, WV completed their annual aerial detection survey of the entire Wayne National Forest. Through aerial observation and follow-up ground sampling, active locations of several NNIS insects and diseases were identified: 243 acres of locust leaf miner, 57 acres of emerald ash borer, 570 acres Dutch elm disease, 940 acres oak decline, and 619 acres of unidentified other defoliation.

The Wayne National Forest and Ohio Department of Agriculture cooperated to monitor for the presence of the emerald ash borer (EAB) on the Wayne National Forest. Traps were deployed across the Forest and southeast Ohio in areas where EAB was not yet known to exist. The traps were installed in spring and monitored during summer and fall months. EAB has now been positively identified in three counties within the Forest proclamation boundary: Scioto, Lawrence and Perry.

Objective-7.1b – Cooperate with the ODNR and the State and Private Forestry Division of the Forest Service to suppress insect populations to: • Retard advance of the gypsy moth • Eradicate NNIS species that are present but not yet well established, such as the emerald ash borer • Prevent the spread of non-native species currently lacking natural controls • Protect populations of, or habitat for, endangered, threatened, or sensitive species • Protect rare communities likely to be severely impacted by insect outbreak • Prevent extensive tree mortality or defoliation in	**Monitoring Work Plan Question #28:** How many NNIS sites were treated and how did the populations respond to treatment?

developed recreation areas and other areas where maintaining visual quality is a major objective • Prevent spread onto land or into high value areas of the Forest (e.g., rare communities, developed recreation areas) • Prevent the introduction and spread of Sudden Oak Death Syndrome	

Gypsy moth was treated on 97 acres of the Ironton District by aerial application of a mating pheromone that inhibits reproduction. The purpose of the treatment was to slow the spread of this invasive insect. Results of the treatment will be monitored by Forest Health Protection (FHP) in 2011.

Objective 7.1c - Protect the Forest from wildfire by: • Treating hazardous fuels that present a high risk of wildfire. • Treating hazardous fuels to move the Forest closer to desired fire regime condition class and desired future condition. • Maintaining areas that are at the desired fire regime condition class	**Monitoring Work Plan Question #29:** How many acres of hazardous fuels were treated?

There were a total of 1,529 acres of hazardous fuels treated in FY 2010. This included 1,529 acres of prescribed fire.

Goal 7.2 - Control Non-Native Invasive Plants

Manage NNIS populations using prevention, suppression and restoration techniques to protect and restore natural communities. Emphasize prevention of spread, early detection and rapid response to new infestations. Improve effectiveness of NNIS prevention practices through public and interagency NNIS awareness and education.

Objective 7.2a - Maintain and update an inventory of NNIS plant populations on NFS land. Include information on adjacent lands as gathered in cooperation with neighboring landowners.	**Monitoring Work Plan Question #30:** How many acres of the Forest are inventoried for NNIS plants and when were these inventoried?

Inventories have occurred on the Wayne National Forest since 2002. In FY 2010, 1,245 acres were mapped, of which 152 were accomplished by the Iron Furnace Cooperative

Weed Management Area on non-federal lands adjoining the Wayne National Forest.

Due to a numbering error on the 2010 monitoring work plan there is not a question #31.

Objective 7.2b Treat and reduce populations of NNIS with high potential for spread. Implement control treatments of infestation that threaten priority resources. Prioritize treatment areas based on risk of spread, threat to resources, likelihood of successful control/containment, and partnerships.	**Monitoring Work Plan Question #32:** How many NNIS sites were treated and how did the NNIS populations respond to treatment?

Over forty different sites were treated manually, mechanically or chemically for invasive species in 2010. The primary species controlled were: autumn olive, Japanese stiltgrass, garlic mustard, Japanese knotweed, tree of heaven, princess tree and kudzu. Some results of these treatments are listed below.

Garlic mustard populations decreased from previous years at Paines Crossing Special Area (SA) and Wildcat Hollow SA. The decreases seen are likely the result of yearly control efforts decreasing seedbanks of garlic mustard in these areas overtime.

Little Storms Creek Special Area garlic mustard control has been implemented since 1998 along the floodplain. Population levels are low compared to 2005 observations (usually just a few small and scattered patches) and dramatically lower than what were reported by District staff who started this project in 1998. Spraying and pulling on the uplands and private lands (started in 2006) continues to be effective at reducing those populations but will need to continue until the seed bank is exhausted.

American Recovery and Reinvestment Act (ARRA) funds allowed for over 1,000 acres of NNIS treatment on the Wayne National Forest in FY 2010. Projects funded by ARRA included the Bailey firelines and autumn olive control on the Athens District. ARRA funded Japanese stiltgrass and tree-of-heaven control in multiple areas on the Ironton District.

Treatment of Japanese stiltgrass along the Bailey prescribed burn firelines has been on-going for three years. A combination of mechanical and herbicide (glyphosate and sethoxydim) have reduced populations by 80-85%. Treatments in 2010 were done with an ARRA contract that used herbicide (glyphosate) to treat both the firelines and roadsides in the project area. Treatments of the area will continue in the future to try and eradicate this species from the area.

Autumn olive was controlled on the Athens District using mechanical methods to grind the stumps in mine reclaim areas. Approximately 250 acres were treated in 2010. There is evidence of resprouting of areas treated in 2008/2009, so the resprouts will be treated chemically in the future. However, the use of mechanical control initially is beneficial for access, increasing initial openland habitat for Henslow's sparrow a Regional Forester Sensitive Species (RFSS) and significantly decreasing the amount of herbicides that will

be used for control in these areas.

Social Involvement Through Education and Service (SITES) volunteers pull and bag garlic mustard at Leith Run Campground

Goal 7.3 – Control Non-Native Invasive Species Aquatics

Control NNIS Aquatic populations using prevention, suppression and restoration techniques to protect and restore natural communities in National Forest waters. Emphasize prevention of spread and eradication of small populations/areas of infestation. Improve effectiveness of NNIS prevention practices through public and inter-agency NNIS awareness and education.

A partnership with 3 National Forests (Wayne, Hoosier and Shawnee), 4 Cooperative Weed Management Areas (Iron Furnace CWMA, SE Ohio NNIS Interest Group, Southern Indiana CWMA, River to River CWMA), 3 State Departments of Natural Resources (OH, IN, IL), the Nature Conservancy and Notre Dame University was created to map invasives along the Ohio River and some of its tributaries in 2010. The partnership was named the Central Hardwoods Invasive Plant Network (CHIP-N, Fig. 1). Aquatic systems in the Ohio River Valley were mapped, and infestation levels of aquatic and riparian non-native invasive plants inventoried. Two aquatic invasive mollusks (zebra mussel and Chinese mystery snail) were also surveyed. The survey teams surveyed all aquatic species at inland lakes, along the Ohio River, and along major tributaries to the Ohio River. They focused on boat ramps using a cost effective and intensive method developed by The Nature Conservancy. The method uses a snorkeler and kayak companion to accomplish aquatic inventories of boat ramps within 30 minutes, resulting in 6-8 site surveys a day. Students also surveyed for terrestrial and wetland invasive plants around each boat ramp and parking area. Overall, 329 ramps were surveyed and 513 infestations were documented for 15 different species (Table 1). The

data are compiled and uploaded to the EDDMapS website (http://www.rtrcwma.org/chip-n/), to promote public awareness of invasive species in the Lower Ohio River Valley (Fig. 2, hydrilla results).

CHIP-N CWMA and Forest Service partners

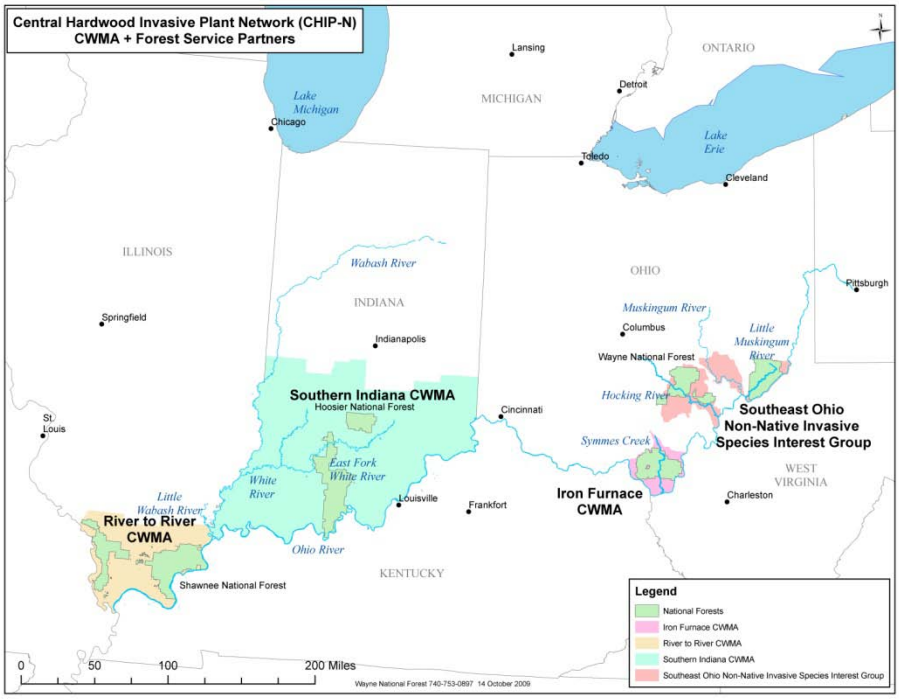
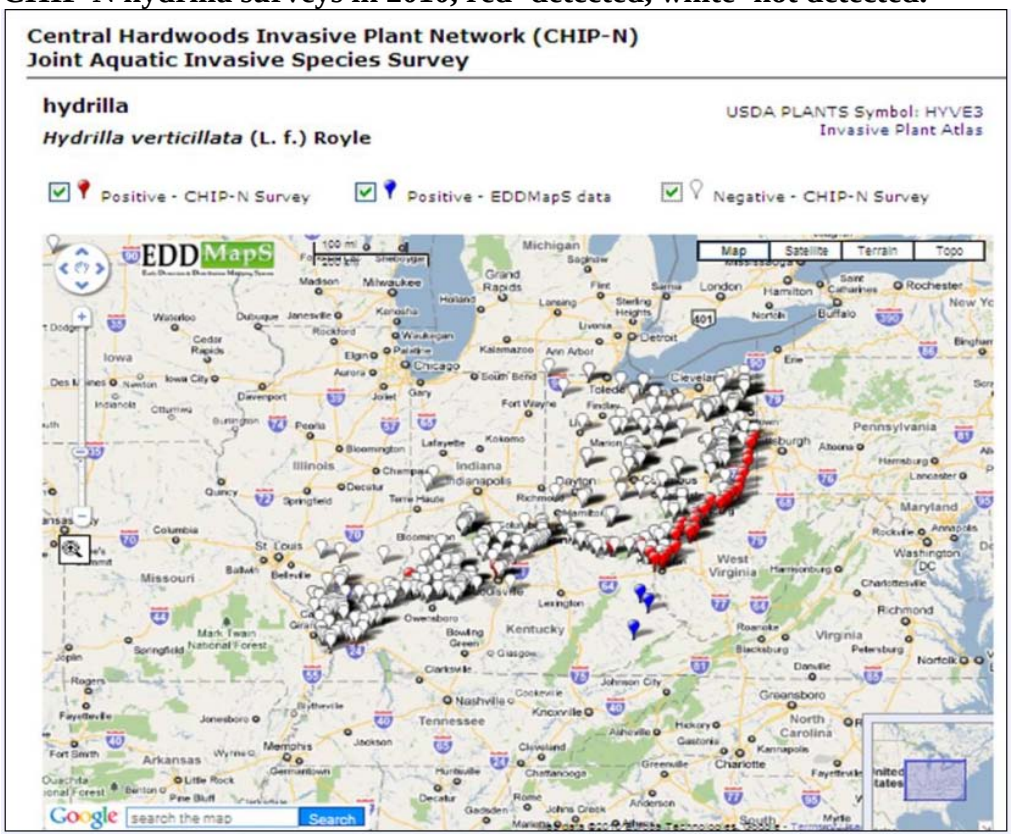


Table 2.7 Summary of CHIP-N survey findings (2010)

Invasive species	# of Infestations mapped
garlic mustard	18
hydrilla	34
purple loosestrife	20
Japanese Stiltgrass	4
parrotfeather	1
Eurasian watermilfoil	99
brittleleaf naiad	109
common reed	21
mile-a-minute weed	4
Chinese yam	10
flowering rush	1
reed canarygrass	51
curlyleaf pondweed	49
zebra mussel	35
Chinese mystery snail	26

CHIP-N hydrilla surveys in 2010, red=detected, white=not detected.



Monitoring Work Plan Question #33: How many NNIS awareness and education events were given?

The response below includes all NNIS (plants, insects, aquatic organisms, and disease).

Overall a dozen NNIS presentations, displays and outreach activities were conducted to educate the public, partner agencies and Forest Service employees on the Wayne National Forest. Some of the presentations included control efforts by participating groups (high school students, college students, volunteers). Organizations that received presentations about the treatment of invasives and the Wayne National Forest control efforts included: Athens County Master Gardeners, the Ohio Aquatic Nuisance Species group, Hocking College Wildlife Ecology students, Ohio State University green industry students and local landowners.

Displays with informational materials were present at all Wayne National Forest offices during the year, and at the following events: Nelsonville Final Friday event, Autumn Olive control workshop (The Wilds), the Ruffed Grouse Society members banquet (Lancaster, OH) and River Refuge Festival (Marietta, OH), posters were also created for the Iron Furnace CWMA and SE Ohio NNIS Interest Group. These posters were displayed at the Ohio Invasive Plant Council's Research Conference (Columbus, OH), the Midwest Invasive Plant Networks CWMA workshop (Cleveland, OH) and the Minnesota-Wisconsin Invasive Species Conference (St. Paul, MN).

Forest display on Invasive plants and Native Pollinators at Nelsonville Final Friday event.

Goal 7.4 – Promote Disease-Resistant Species

Re-establish populations of native vegetation (e.g., American chestnut, American elm), as disease resistant varieties become available.

Monitoring Work Plan Question #34 How many acres of native vegetation (e.g., American Chestnut, American Elm), have become re-established?

American Chestnut trees provided by United States Forest Service Northern Research Station, were planted on 3 acres in 2010. These trees included both hybrid and 100% American Chestnuts. Hybrid chestnuts are crosses of varying proportions between American and Chinese varieties. Current thought is that a 15/16 (94% American) cross will be resistant to chestnut blight. None of the trees planted were 15/16. The plantation has not been inspected for survival, so it should not be considered re-established at this time.

8 - Fire Management

Goal 8.1 Integrated Fire Prevention

Safely implement the fire and fuels program of the Wayne National Forest. Promote State and Federal interagency cooperation in wildland fire and fuels management.

Objective 8.1b – Safely extinguish wildland fires using ground and/or air resources.	**Monitoring Work Plan Question #35:** Number of wildfires suppressed with no reportable accidents/injuries or damage to private property? Number of acres of private property burned from fires with ignition on Forest Service land?

In 2010, there were 70 fires (491 acres) that were suppressed with no reportable accidents/injuries. No private property structures, improvements or infrastructure was damaged from ignitions that occurred on the Wayne National Forest. No acres of private property were burned from fires starting on Forest Service land.

Objective 8.1c – Reduce hazardous fuels within communities at risk in cooperation with local, State, and Federal agencies.	**Monitoring Work Plan Question #36:** Number of acres in WUI treated for hazardous fuels reduction? Number of prescribed burns conducted in cooperation with local, State or other Federal agencies?

Approximately 95 % of the Wayne National Forest lands are within the Wildland Urban Interface, and hazardous fuels were reduced on a total of 1,541 acres. Hazardous fuels treatment activities improve/alter/modify or mitigate the fuel towards a historical Fire Regime Condition Class. These activities include, but are not limited to, primary direct fuels removal through mechanical means, maintenance of wildlife openings; non-native invasive species control activity, recreational trail clearing, and oak-hickory restoration activity. Other private party activities that mitigate or reduce hazardous fuels are utility line rights-of-way maintenance.

Those acres that were mechanically treated in 2010 reducing or modifying hazardous fuels totaled 3879 acres.

- 1,071 acres in Developed Recreation (DR) Management Area
- 905 acres in Diverse Continuous Forest (DCF) Management Area
- 602 acres in Forest and Shrubland Mosaic (FSM) Management Area
- 153 acres in Special Area (SA) Management Area
- 775 acres in Historic Forest (HF) Management Area
- 110 acres in Grassland and Forest Mosaic (GFM) Management Area
- 256 acres in Historic Forest with OHV (HFO) Management Area
- 7 acres in River Corridor (RC) Management Area

Objective 8.1e – Provide training to local volunteer fire departments in wildland fire suppression.	**Monitoring Work Plan Question #37:** How many local volunteer fire departments were trained in wildland fire suppression?

Wayne National Forest aided in the training of 2 local fire departments, Madison Jefferson and Greenfield.

10 - Minerals

Background

Statutory and regulatory direction divides Federal mineral resources into three categories: locatable, leasable, and saleable. Of these three categories, only leasable and saleable minerals occur on the WNF. The WNF is currently comprised of 241,116 acres of federally owned surface (this includes acreage outside the proclamation boundary) of which about 41 % (98,858 acres) are underlain by minerals fully owned by the Federal government. Reserved and/or outstanding mineral rights wholly or partially encumber the remaining 142,258 acres.

In FY 2010, there were no mineral material sales, no mineral material free use permits issued and no in-service use of mineral materials from the Forest for road maintenance or other uses. This echoes the saleable minerals activity on the Forest for approximately the last decade. The Forest did acquire 35,000 cubic yards of aggregate that was purchased on the open market for use on the Forest for roads, trails, recreation sites and watershed projects. No gravel pits were developed on the forest in FY 2010.

Typical Pump Jack-Oil and Gas Operations-Wayne NF

Oil and gas is the most active leasable program on the WNF. There are currently 1,283 wells on the Forest about 35% of which are on Federal minerals. There are no Federal coal leases on the Forest, and there has been no demand for Federal coal resources for at least 15 years. There were no coal exploration activities in FY 2010. The "Reasonably Foreseeable Development Scenario for Oil and Gas", produced by the Bureau of Land Management (BLM), forecasted the total number of new wells likely to occur on WNF surface over the next 10 years, regardless of mineral ownership (Federal, reserved or outstanding), to be 234 (or about 23 per year). Though oil and gas activity has drastically increased nationwide as the result of increased oil and gas prices, this increase in activity was not reflected on the Forest in FY 2010. This was attributable to a local market conditions and possibly a lack of available drilling rigs in this area.

Numerous statutes, regulations, and Executive Orders guide Forest Service policy for the exploration and development of mineral resources on National Forest System (NFS) land, so that mineral resources can be made available while continuing to sustain the land's productivity for other uses and its capacity to support biodiversity goals. To ensure this, yearly inspections are carried out on active leases. In FY 2010, 315 inspections were carried out on the Forest.

Partners – Mineral Operations

The Forest Service works with State and Federal agencies to manage private and public mineral resources underlying the Wayne National Forest. The Ohio Division of Mineral Resource Management (DMRM) provides inspection, permitting and enforcement actions in concert with the Forest Service on National Forest land regarding private minerals and federally owned mineral estates. The Eastern States Office of the Bureau of Land Management (BLM) of the coordinates with the Surface Managing Agency, the Forest Service, on National Forest lands when federally owned minerals are being leased. A BLM Eastern States Office Petroleum Engineer position is located on the Marietta Unit. A one day meeting was held on June 2, 2010 and hosted by the minerals staff of the Wayne NF. The meeting was attended by mineral staff from the Wayne National Forest, ODNR DMRM and the Eastern States Office of the BLM. There were 20 in attendance and the topics pertained to oil and gas inspection and enforcement of State and Federal laws, well plugging, information sharing between agencies, and recent changes in State laws that pertain to oil and gas administration.

Goal 10.1 – Provide mineral commodities

Provide a supply of mineral commodities for current and future generations, while protecting the long-term health and biological diversity of ecosystems. Facilitate the orderly exploration, development and production of mineral and energy resources on land open to these activities.

Objective 10.1a – Coordinate with the Bureau of Land Management to offer leases of federally owned minerals.	**Monitoring Work Plan Question #38:** Are expressions of interest and lease offers processed in a timely manner?

In FY 2009, a lease package was submitted to the Regional Office for review and submission to the Bureau of Land Management (BLM) for a spring 2010 lease sale. The lease sale was held in March 2010 and all offered leases totaled 9,506.66 acres sold at the auction. The total collected was $180,923.50. Expressions of Interest (EOI's) for oil and gas leasing continue to come to the Wayne NF from BLM and are processed for possible lease sales. Certain land will not be available due to the mineral rights found to be outstanding in third parties when the title is validated. Approximately 2,673 acres of land in Athens County and Gallia County are being reviewed for consent to lease in the spring of 2011. BLM intends to have lease sales quarterly.

Objective 10.1b – Process plans of operation/applications for permit to drill on Federal leases in a timely manner.	**Monitoring Work Plan Question #39:** How many plans of operation/applications for permit to drill on Federal leases were processed in a timely manner?

Three Federal plans of operations/applications for permit to drill were received in FY 2010 and processed within the timeframes allowed by regulation. A Categorical Exclusion section 390 was applicable for this project. The wells were on the Marietta Unit in Washington and Monroe County.

Goal 10.2 – Respect owners' rights and protect surface resources

Mineral operations occur on Wayne National Forest with respect to privately held mineral rights and administer the rights of the surface owner, the USA. The Forest Service shall negotiate operating terms and conditions and mitigation measures to protect Forest resources while meeting the requirements of domestic energy production and the mission of minerals management on NFS lands.

Objective 10.2a – Process plans of operation (and applications for major modifications) for privately owned minerals (reserved and outstanding rights) within 60 days.	**Monitoring Work Plan Question #40:** How many applications were processed within 60 days?

There were no non-Federal applications received on the Wayne National Forest for the development of private mineral operations in FY 2010.

Typical Tank Battery-Oil and Gas Operations-Wayne NF

Objective 10.2b – Restore lands disturbed by minerals exploration and production when the minerals activity is completed.	**Monitoring Work Plan Question #41:** How many mineral activities were adequately restored upon completion?

Restoration of mineral activities as they relate to oil and gas occurs in stages. Partial restoration includes reclaiming that part of the drill pad not needed once production starts, and reclaiming 24-foot wide pre-drill access roads down to 16-foot wide post-drilling roads. Final restoration happens after a dry hole or a depleted producing well, is plugged and abandoned.

On the Marietta Unit, 4 wells were permanently restored. Three abandoned wells were plugged on the Athens Unit in a partnership with the ODNR. One well was capped on the Ironton District, after an incident occurred causing a gas leak. This is a Federal well and is being reviewed for possible plugging or leasing. A decision will be made in FY 2011.

Objective 10.2c – Plug wells when production ceases.	**Monitoring Work Plan Question #42:** How many wells were plugged according to State regulations when production ceased?

A total of 7 wells were plugged in accordance with Ohio regulations in FY 2010: 4 on the Marietta Unit, 3 on the Athens Unit, and 0 on the Ironton Unit.

Beck Energy Corp- Bartmess #1 Well-Marietta Unit- Federal Well Plugging Ops –Began 12/08 Completed 06/09.

The ODNR, DMRM Coal Bond Forfeiture program restored two sites on the Ironton Ranger District in FY 2010 totaling approximately 15 acres in Hamilton and Washington Townships in Lawrence County.

Bond Forfeiture Reclamation Project near Blackfork, Ohio, Ironton District summer 2010.

11 - Recreation

Forest Goal 11.2 Provide Safe, Quality Trails

Construct and maintain trails and associated facilities to provide a safe quality experience within the capabilities of the land and appropriate to the management area.

Objective 11.2b – By the end of this planning period, relocate/re-construct five miles of the North Country Trail where the trail is currently located on roads.	**Monitoring Work Plan Question #43:** How many miles of NCT have been relocated/ reconstructed off existing roads?

In 2010, the Youth Conservation Corp (YCC) trail crew maintained 10 miles of the North Country Trail (NCT) and contributed approximately 1,600 hours of work. No NCT trails were relocated off roads in 2010. The Forest is currently working with the regional coordinator from the North Country Trail Association (NCTA) and local volunteers to identify re-route projects for 2011.

Objective 11.2c – Maintain and administer the Forest's trail system to provide safe/enjoyable trail riding opportunities and reduce resource impacts?	**Monitoring Work Plan Question #44:** How many miles of motorized trails have been maintained to standard (annual routine and deferred maintenance)?

Maintaining a mile of trail to standard means meeting the following three national critical standards:

1. Effects from trail use do not conflict with environmental laws;
2. Hazards do not exist on or along the trail;

3. When signed as accessible, trails meet current agency policy and accessibility guidelines.

The Forest Plan limits motorized trail recreation to the following management areas: Diverse Continuous Forest w/OHV (DCFO), Forest and Shrubland Mosaic w/OHV (FSMO), and Historic Forest w/OHV (HFO). All motorized trail maintenance or reconstruction work is restricted to these Management Areas.

Motorized trails on the Forest are only open to All-Terrain Vehicles (ATVs) 50" wide or less, off-highway motorcycles and dual-sport motorcycles.

A total of 239.8 miles of trails were maintained to standard on the Forest in FY 2010. Of this total, 66 miles were Off-Highway Vehicles (OHV) trails, which is approximately 55% miles of the total motorized trails currently on the Wayne National Forest.

What was unique about 2010 was that the Forest received approximately $1.3 million from the ARRA for trail maintenance. Much of the funds were spent on heavy maintenance needed on the OHV and horse trails. The remaining funds were used to brush the non-motorized trails and complete other routine trail maintenance work. As a result, funds from the ARRA, along with trail grants, appropriations and user fees helped to noticeably lower the Forest's trail deferred maintenance backlog.

Athens District

In 2010, the Athens District maintained 45 miles (see Table 2.7) of OHV trails to standard. Much of this work was heavy maintenance accomplished by contractors.

Table 2.8: Athens District Motorized Trail Maintenance

Trail Name (Motorized)	Type of Maintenance	Miles Maintained
Dorr Run Loop	Routine Maintenance	9 miles
Paramount Trail	Routine Maintenance	1 mile
Main Corridor Trail	Routine Maintenance	17 miles
New Straitsville Loop Trail	Routine Maintenance	3 miles
Snake Hollow Trail	Routine Maintenance	3 miles
Begley Connector Trail	Routine Maintenance	0.5 mile
Camp Ohio/Williams Camp Connector	Routine Maintenance	1.5 miles
Monday Creek Trail	Routine Maintenance	10 miles
	Total	**45.0 miles**

Damage on the Dorr Run ATV Trail (Before photo)

Damage repaired on the Dorr Run ATV Trail (After photo)

Ironton District

Approximately 21 miles of the Ironton District's OHV Trail system received annual routine maintenance (see Table 2.8) in 2010. Similar to the Athens District, heavy trail tread work completed using a combination of ARRA funds, trail grants, appropriations, and user fees. As the designated trails were being maintained, illegal trails along the way were blocked and signed to discourage their use.

Table 2.9: Ironton District Motorized Trail Maintenance

Trail Name (Motorized)	Type of Maintenance	Miles Maintained
Pine Creek OHV Trail System	Routine Maintenance	9 miles
Hanging Rock OHV Trail System	Routine Maintenance	12 miles
	Total	**21.0 miles**

Objective 11.2d – Where maintenance methods prove ineffective and monitoring confirms unsafe conditions or unacceptable resource damage, close and rehabilitate and/or re-locate/reconstruct sections of ATV/OHV trails.	**Monitoring Work Plan Question #45:** How many miles of motorized trails have been closed and rehabilitated and/or relocated/reconstructed due to unsafe conditions or unacceptable resource damage sections from OHV use?

The Ironton District is working to replace three trail bridges on the Hanging Rock ATV Trail system that were washed out in the 2008-09 storms. This will help to provide a safe crossing for OHV riders, reduce stream sedimentation and accommodate heavier and wider trail equipment required for trail maintenance.

No sections of motorized trails were closed in 2010 due to unsafe conditions or adverse impacts to natural resources.

Site requiring bridge construction on the Hanging Rock ATV Trail

Hanging Rock ATV Trail Bridge Abutment (Under construction)

Hanging Rock ATV Trail Bridge Abutment (Construction almost complete)

Objective 11.2e –Reduce and strive to eliminate illegal ATV/OHV use by: • Prohibiting cross-country travel or riding on undesignated user-created trails. • Prohibit riding on trails designated for other uses. • Riding on designated trails during closed seasons	**Monitoring Work Plan Question #46:** Have sections of illegal trails on the Forest been closed and rehabilitated? If so, how many miles and where?

• Closing at least 20 miles of illegal OHV trail within the next decade to: a) Protect federally listed species b) Protect Regional Forester's sensitive species c) Improve watershed health	

In FY 2010, the Forest closed off access to approximately 73 miles of illegal ATV trails. These projects helped reduce erosion from illegal OHV use into Monday Creek and other watersheds and improved the hiking experience on 8 miles of the North Country National Scenic Trail.

Closure techniques included using large boulders or brush and limbs to block and "camouflage" illegal trail entrances, mulching and seeding to stabilize soils, and signing.

In the last five-years (2006-2010), the Forest closed off access to approximately 130.6 miles of illegal trails, which surpassed the Forest Plan's goal of closing 20 miles within the next decade. Though we have met the Forest Plan goal, the Wayne will continue to work at reducing illegal motorized use and make it a high priority issue on the Forest.

As a result of monitoring that was completed on some of the closure projects on the Forest, we were able to form the following general conclusions about the effectiveness of the closures that were completed.

1. Rock barriers are far more effective at preventing illegal riding than placing brush/limbs, dropping trees, or signing alone.
2. Brush/limbs and smaller dropped trees can be easily driven over, removed or cut out by riders.
3. A small earth mound (3 feet or lower) is not an effective barrier. An effective earth mound is one that is 4 to 5 feet high with a 50% or greater slope or a double mound (one right in front of another).
4. Installing signs alone does little or nothing to discourage riders from using the illegal trails. It must be used in combination with either a large earth mound(s) or a large rock barrier for it to be an effective closure.

Athens District

The Athens District closed approximately 32 miles of illegal OHV trails in 2010. On December 14, 2010, the following closure sites were evaluated to determine the effectiveness of the various types of barriers used.

Area	Longitude	Latitude
• Minker's Run –	N 39˚25'59"	W 082˚13'22"
• Sanner Road –	N 39˚25'39"	W 082˚18'17"
• Dawley Rd Cemetery –	N 39˚32'16"	W 082˚15'24"

- Dawley Rd Trail Bridge – N 39˚32’11” W 082˚16’33”
- Camp Ohio – N 39˚33’01” W 082˚17’08”
- Salem Hollow Rd/NCT – N 39˚35’39” W 082˚13’03”

Below are results and photos of the various closure sites that were evaluated.

Dawley road Cemetery illegal trail closure. Barrier constructed July 2009, no signs of breach.

Camp Ohio area illegal trail fenced in 2009. Illegal use continues left of fence barrier.

Minker’s Run road rock barrier. No sign of breach around gate.

North Country Trail and Salem-Hollow road barrier. No sign of illegal use.

Par Hill road Cemetery, brush barrier and sign placed in July, 2009.

Par Hill road Cemetery revisited 2010. Brush Barrier and sign removed, illegal use continues.

Ironton District

The Ironton District closed approximately 41 miles of illegal OHV trails in 2010. All of the closures were blocked by dropping small trees, dragging in brush, or installing signing. Some of the illegal trail closures were off of the existing OHV trail system, while other closures occurred in heavily impacted areas away from the designated OHV trail system. Some of the illegal trails closures were placed in the following areas:

Area	Longitude	Latitude
• Binion Area –	N 38˚43'20"	W 082˚40'31"
• County Road 25 –	N 38˚37'05"	W 082˚42'03"
• Lewis Lake –	N 38˚46'20"	W 082˚45'33"
• Lyra Trailhead –	N 38˚44'24"	W 082˚43'84"
• Lawrence Lake –	N 38˚38'70"	W 082˚40'40"
• County Rd 41 S. –	N 38˚40'90"	W 082˚40'81"

Photos could not be obtained at the time of this report. However, these sites may be visited in 2011 to evaluate the effectiveness of their constructed barriers.

Objective 11.2f - Maintain the Forest's non-motorized trail system to provide safe/enjoyable trail hiking, horseback riding and biking opportunities with minimal resource impacts.	**Monitoring Work Plan Question #47:** How many miles of non-motorized trails have been maintained/reconstructed to standard?

Non-motorized trails include all hiking and horse trails. Though mountain bikes are allowed on all motorized trails and many non-motorized trails, there are no exclusive-use mountain bike trails on the Forest.

A total of 173.8 miles of non-motorized trails were maintained to standard in 2010. This constitutes 75% of the 234 total miles of non-motorized trails currently on the Wayne National Forest. At this pace, the Forest should be able to maintain all of its non-motorized trails within a two-year rotation period.

Approximately 27 miles of trail were maintained on the Marietta Unit by the River Valley Mountain Bike Association (RVMBA) volunteers. The group cleared encroaching vegetation, replaced signs, and maintained the trail tread. The group contributed approximately 1270 volunteer hours in 2010. RVMBA supplies most of their own tools and supplies. The Forest supplied the trail signs, markers and posts. Savings to the government was over $22,000.

The district also hardened over 2.5 miles of the Lake Vesuvius Horse Trail where erosion was breaking down the trail surface and causing sediment to flow into Lake Vesuvius. Additionally, many of the horse trails were reconstructed using ARRA funds to not only improve trail condition, but to enhance them to be used as permanent fireline breaks, as in the case with the Bluegrass Horse Trail (see photos below).

Before

After

Blue Grass Horse Trail – ARRA Project, Ironton District

Table 2.10: Athens District Non-Motorized Trail Maintenance

Trail Name and Trail Type (Non-motorized)	Type of Maintenance	Miles Maintained
Stone Church Horse Trail - Athens	Routine Maintenance	20 miles
Wildcat Hollow Hiking Trail - Athens	Routine Maintenance	15 miles
Leith Run Hiking Trail - Marietta	Routine Maintenance	1 miles
NCT North of Hwy. 260 - Marietta	Routine Maintenance	11 miles
Kinderhook Horse Trail - Marietta	Routine Maintenance	20.5 miles
Ohio View Connector Trail - Marietta	Routine Maintenance	3.5 miles
Covered Bridge Hiking Trail - Marietta	Routine Maintenance	8 miles
Lamping Hiking Trail - Marietta	Routine Maintenance	5 miles
Ohio View Trail - Marietta	Routine Maintenance	7 miles
Archers Fork Loop/NCT- Marietta	Routine Maintenance	9.5 miles
Scenic River Hiking Trail - Marietta	Routine Maintenance	7.4 miles
	Total	**107.9 miles**

During

After

RVMBA mountain bike crew maintaining Ohio View Trail, Marietta Unit

Table 2.11: Ironton District Non-Motorized Trail Maintenance

Trail Name and Trail Type (Non-motorized)	Type of Maintenance	Miles Maintained
Vesuvius Horse Trail	Routine Maintenance	43 miles
Vesuvius Backpack Hiking Trail	Routine Maintenance	7 miles
Vesuvius Lakeshore Hiking Trail	Routine Maintenance	15 miles
Rock House Hiking Trail	Routine Maintenance	0.9 miles
	Total	**65.9 miles**

Objective 11.2g – Construct new trails during the next 10-15 years within the ranges and densities shown in Table 2-5. *(Forest Plan pg. 2-46)*	**Monitoring Work Plan Question #48:** How many miles of new motorized and non-motorized trails have been constructed?

Athens District

No new trails were constructed on the Athens District in 2010. We anticipate completion of five new miles of OHV trails in the Camp Ohio area in 2011.

Ironton District

Thirteen miles of the new Kosmos OHV Trail was constructed in summer of 2010. Coupled with the previous 46 miles of designated OHV trails on the district, the district now has a total of 59 miles. This also increased the Forest total from 121 miles to 134 miles. We anticipate additional miles to be constructed in 2011 from the Kosmos area.

Trails Unlimited and Wayne National Forest Staff review new Kosmos Trail on Ironton District.

Newly constructed Kosmos ATV Trail

12 - Scenery Management

Goal 12.1 – Maintain scenic resources

Maintain or enhance the quality of scenic resources to provide desired landscape character.

Monitoring Work Plan Question #49: Is the Forest being managed in accordance with the assigned Scenic Integrity Objectives (SIOs) and scenery guidelines found in the Forest Plan?

Three timber sales were monitored in 2010 for compliance of Scenery Management System (SMS) guidelines, one on the Athens Unit (Kacklemacher – Unit 3) and two on the Marietta Unit (Lamping Homestead – Units 4 and 6). All of these timber sales were either hardwood or white pine thinnings.

Kacklemacher Hardwood Thinning – Unit 3 (Completed October 2010)

This hardwood thinning is within Unit 3 of Compartment 76 on the Athens Ranger District. It is within an area assigned a "low" scenic integrity objective (SIO).

Upon review of the project environmental assessment (EA), it was found that an analysis of the effects on scenery resources from the proposed action and its alternatives was completed. However, not all appropriate scenery mitigation measures were included. With that said, the appropriate mitigation measures were applied and observed in the field.

The landing and cutting unit could not be easily seen from County Road 19 because they were at a slightly higher elevation than the road and was partially blocked by an earthen mound. The landing was well seeded in October 2010 as evident of the new grass sprouting up. A large 4 to 5 feet slash pile was left on the north side of the landing (see below photo). The hardwood thinning appeared to have met its prescribed basal area target 60 to sq.ft. The residual trees helped it blend well with the existing forested landscape. Some small (2 to 3 feet high) slash piles, 1 to 1-1/2 feet high stumps and residual flagging were evident in the cutting unit. It met the criteria for a "low" SIO.

Kacklemacher Unit 3 Thinning – Landing Two months after harvest completion December, 2010

Kacklemacher Unit 3 Thinning – Forest interior months after harvest completion, December, 2010

Lamping Homestead White Pine Thinning – Unit 4 (Completed October 2009)

This white pine thinning is within Unit 4 of Compartment 243 on the Marietta Unit of the Athens Ranger District. It is within an area assigned a "moderate" scenic integrity objective (SIO). The cutting unit cannot be seen from Lamping Homestead Recreation Area.

Upon reviewing the project EA document, sparse analysis of the effects on scenery resources from the proposed action or its alternatives were discovered. Limited discussion of the effects on aesthetics was found under the Recreation section.

The cutting unit was located on a ridge top and side slope but could not be easily seen from any main travelway or population center. No landing areas were observed. There were a number of dead or dying white pines left after the thinning. Little to no slash piles were seen. Stump heights were low (approx. 1' high). A number of trees had blue marking paint that was not removed. Otherwise, the cutting unit appears to blend in well with the surrounding forest and landscape. It met the criteria for a "moderate" SIO.

Lamping Homestead White Pine Thinning – Unit 4
Two months after harvest completion (12/10/10)

Lamping Homestead White Pine Thinning – Unit 6 (Completed October 2009)

This white pine thinning is within Unit 6 of Compartment 243 on the Marietta Unit of the Athens Ranger District. It is within an area assigned a "high" scenic integrity objective (SIO) due to its proximity to Lamping Homestead Recreation Area.

Upon reviewing the project EA document, sparse analysis of the effects on scenery resources from the proposed action or its alternatives were discovered. Limited discussion of the effects

on aesthetics was found under the Recreation section.

The thinning does not detract from the scenic quality of the Lamping Homestead Recreation Area. There was no visible evidence of a landing or residual slash piles or logging debris. No exposed soils were evident on skid trails. Stump heights were low (approx. 1' high). The project met the area's "high" SIO.

Parking area view

Interior forest view

Lamping Homestead Unit 6 Pine Thinning
1 year 2months after harvest.
Photos taken December 2010.

Gore-Greendale Timber Sale – Pine Clearcut (Completed April 2008)

This Gore-Greendale pine clearcut (Unit 3) was completed April 29, 2008. A follow-up evaluation was conducted on the unit on December 15, 2010. Over two and half years after the harvest, the area has the appearance of a natural wildlife opening as shown in the bottom right photo. Native grasses are fully established covering any evidence of cut stumps, landings and skid trails.

Gore-Greendale Timber Sale Pine Clearing – Unit 3
6 months after project completion

Gore-Greendale Timber Sale Pine Clearing – Unit 3
2 years and 7 months after project completion

13 – Heritage

Goal 13.1 – Identify, Manage Heritage Resources

Provide current and future generations the opportunity to experience and appreciate the Forest's diversity of human history and the relationship between people and the land.

Objective 13.1c – Reduce the backlog of heritage sites that require formal evaluation for eligibility to the National Register of Historic Places.	**Monitoring Work Plan Question #50:** How many heritage sites have been evaluated for National Register eligibility?

Two heritage sites were evaluated for the National Register in FY 2010, and both were determined eligible for listing. In addition, four new sites were inventoried and 31 others were monitored for protection on the Forest.

Objective 13.1d – Develop management plans for the long-term preservation of heritage resources that are either listed on or eligible for the National Register of Historic Places.	**Monitoring Work Plan Question #51:** How many management plans have been developed for heritage sites that are either eligible for or listed on the National Register of Historic Places?

No management plans were developed for any of the 26 priority heritage assets on the Wayne National Forest in FY 2010. However, fourteen of them were managed to standard this year.

14 - Land Ownership

Goal 14.1 – Consolidate Ownership

Adjust land ownership within the Forest proclamation boundary to enhance public benefits and improve management effectiveness. The FY 2010 size of the Forest is 241,116 acres.

Mill Creek Falls-Dye Tract Land Purchas –Marietta Unit

Land Adjustment and Special Uses

In FY 2010, the Forest received and spent Land and Water Conservation Funds (L&WCF) ($58,400), Critical In-holding Funds and other Administrative Funds (Land Adjustment-($5,725) to acquire 65 acres of land. Two purchases occurred on the Forest on the Athens District. The Special Uses program occurs on all three units of the Forest.

Objective 14.1a – Purchase, exchange, accept donations or convey lands and minerals rights on a willing seller, willing buyer basis.	**Monitoring Work Plan Question #52:** Does the Forest's land base progress toward consolidation that meets objectives by exchange, purchase or donation?

The Forest's land base is progressing toward consolidation by land purchase and exchange. In 2010 the Forest acquired 65 acres that improved consolidation. These acquisitions meet the objectives of land purchases, exchanges or donations. Of the 65 acres acquired, 59 acres are within the Grassland and Forest Mosaic (GFM) management area and 6 acres is within the Future Old Forest (FOF) management area. There were no land exchanges initiated or completed on the Forest in FY 2010. No land donations were received during FY 2010.

A-0902 Tract-Closed FY2010- Athens Unit open land meadow/wetland near Shawnee, OH

Objective 14.1b –Acquire rights of ways or property to improve access to NFS land.	**Monitoring Work Plan Question #53:** How many miles of right-of-way, or parcels of land have been acquired to facilitate access to NF tracts?

The Forest acquired two parcels of property that improved access to existing National Forest lands in FY 2010. Tract A-0902 on the Athens Unit provided consolidation and improved access to existing USA lands. Tract A-0903 was a strip of land that joined two large blocks of USA land. The North Country trail may be moved to this strip of land providing improved recreational use of the National Scenic Trail. Two temporary rights of way were acquired for administrative use. These are three year term licenses to access public land on the Athens Unit.

Objective 14.1c – Foster good neighbor relations with local communities.	**Monitoring Work Plan Question #54:** How many Special Use permits were authorized and re-authorized to allow local community developments on NFS lands?
	Monitoring Work Plan Question #55: How many acres of prime farmland or acres of land with high potential for community development have been purchased?

The Forest issued 26 special use permits in FY 2010. These permits contribute to community development since private individuals or companies hold permits to occupy public land or provide access to private property. The community benefits by the use of public lands for occupancy since alternatives are not available on private land. The Forest issued numerous temporary Recreation Event Permits in FY 2010, which are accountable by the Recreation Staff.

The Forest did not acquire property that contained prime farmland or land with high potential for community development in FY 2010.

Partners – Land Adjustment- Acquisitions and Exchanges

The Wayne National Forest works with local Land Trusts such as Ohio offices of national conservation groups, the Nature Conservancy (TNC), Forest Conservancy Limited (FCL) and the Trust for Public Land (TPL) to acquire land for the United States. TNC assisted in the purchase of more than 4,000 acres on the Ironton Ranger District from 2006 to 2008. The acquisition of the Cambria Tract was a significant and successful purchase that consolidated public ownership and now provides habitat for many wildlife species and the protection of historic sites such as the Pioneer Iron Furnace. In 2010, the local land trust, Forest Conservancy Limited (FCL), of New Plymouth, Ohio assisted in the option of two parcels of land that will be acquired in FY 2011.

Goal 14.2 Maintain Boundary Lines

Forest Surveyor with his Total Station Surveying Equipment

Objective 14.2a – Survey and post landlines not currently marked. Maintain lines previously marked on a 10-year cycle.	**Monitoring Work Plan Question #56:** Is the Forest making progress towards the eventual marking and maintaining of the entire perimeter of NFS lands against private property?

The Forest completed 13 miles of boundary maintenance. The Forest continues to make progress in marking Forest property boundaries. High visibility and recognition of boundary marking along road frontage is making public land more available to the public.

Red blazes entering National Forest

Objective 14.2b – Survey and post landlines not currently marked. Maintain lines previously marked on a 10-year cycle.	**Monitoring Work Plan Question #57:** Is the Forest making progress towards resolving trespasses as they occur and are discovered?

Private use encroachment across property line onto National Forest lands- Resolved by Survey

The Forest resolved 2 trespasses discovered in FY 2010. The Forest continues to investigate and resolve trespass and encroachments on the Forest as they are discovered. If a trespass or encroachment is discovered, the Lands Staff will provide coordination with the Line Officer to adhere to Forest Service Manual and Handbook directions.

The Forest entered into a Stewardship Contract involving the 33 by-pass and Hocking College in Athens. The contribution of 3 miles of boundary maintenance was performed by Hocking College students in coordination with the Forest Surveyor. A total of 8 miles was agreed to be completed by the college and the remaining 5 miles is expected to be completed in FY 2011.

Contracting for boundary maintenance and cadastral survey commenced in the summer of 2010. Implementation of project work will begin in the fall and winter of FY 2011.

15 - Special Uses

Goal 15.1 Special Use Authorizations

Allow special uses that enhance or maintain appropriate public access and use.

Authorize special uses that:

- Serve the public
- Promote public health and safety
- Protect the environment
- Cannot be reasonably accommodated on private land

Monitoring Work Plan Question #58: Is the Forest considering and processing reasonable requests for special use authorizations on NFS lands?

Helca Water Co. installation of buried water line along public road-during project

Hecla Water Co. buried water line under permit and current condition-after project

The Forest considers all special use requests. If the request meets the standards set forth in the directives of the Forest Service and are deemed an acceptable use, the application is processed per the customer service standards. A permit is issued for special use authorizations on NFS lands once all aspects of the process are complete and processing and land use fees are collected. The Forest processed and issued 26 permits in FY 2010 being 5 new permits, 3 transfers and 18 renewal permits. The Forest inspected 115 permits and found them to be to standard. The Forest continues to implement the Cost Recovery Program for Special Uses.

16 - Range

Goal 16.1 – Range Management

Permit livestock grazing to:

- Facilitate land acquisition by permitting current use by livestock
- Contribute to wildlife habitat objectives
- Help control non-native species

Monitoring Work Plan Question #59: How many parcels of land were acquired in the current year that were being grazed by livestock within approximately one year prior to acquisition by the Forest Service? If there are any parcels, how many? And are they still being grazing, or being offered for grazing?

No parcels of land acquired in FY 2010 were being grazed by livestock or had been grazed within one year prior.

Monitoring Work Plan Question #60: How many acres were grazed and contributed to wildlife habitat objectives; and how many acres were grazed to control non-native species?

There were 140 acres permitted for grazing. Of these, 0 acres were grazed contributed to wildlife habitat objectives and 0 were grazed for non-native invasive species control. The Forest Service mowed 50 acres of the grazing pastures to remove multiflora rose, an invasive plant that cattle do not consume.

17 - Facilities and Transportation System

Goal 17.1 Buildings and Structures

Provide safe, efficient facilities and related structures that meet the needs of Forest visitors.

Objective 17.1a – Conduct detailed inspections of facilities every five years more often if needed.	**Monitoring Work Plan Question #61:** How many administrative and recreation facilities meet current safety, mission, niche, and use requirements?
Objective 17.1b – Decommission facilities that are no longer needed.	

In FY 2010, Eight (8) buildings were decommissioned in the Oak Hill campground area including six (6) vault toilets one shower building and one flush toilet. Some of these buildings were constructed by the Civilian Conservation Corp (CCC) and as such needed

clearance with the State Historic Preservation Office (SHPO). Four buildings were constructed in place of the eight removed. They included two combine bathroom/shower buildings and two modern vault toilets. In addition, one open pole building was constructed at the Nelsonville Warehouse for bulk storage. Normal updates and repairs consistent with standard procedures were undertaken at our offices consistent with normal operations.

In FY 2010, three facilities were inspected for general maintenance needs under condition surveys, far less than the 20% that was expected. Normal maintenance as needed was completed when problems were noted by staff or the public at all facilites. Condition surveys will be conducted and in 2011 to make up for the short fall in 2009 and 2010. It is expected that 60% of buildings will be inspected in FY 2011 to make up for the previous two years. At that time we will update our real property and deferred maintenance database. In 2010 the Forest was busy with construction projects and administration of ARRA projects. Condition surveys were considered a lower priority. The Forest informed our Regional Office that monitoring would not take place for this item in FY 2010 and that we expected to make up all inspections offset in 2011.

Goal 17.2 – Safety and Effectiveness of Dams

Maintain dams as safe and effective water storage facilities.

Objective 17.2a – Maintain dams to standard.	**Monitoring Work Plan Question #62:** How many Forest dams meet current State and Federal regulations with respect to storage capacity, storm routing, spillway capacity, and general dam safety?
Objective 17.2b – Inspect high hazard dams annually.	
Objective 17.2b – Decommission or appropriately dispose of dams no longer needed.	

In FY 2010 Heavy maintenance and repairs were awarded under contract for five dams on the Forest – Timbre Ridge, Utah Pond, Brady Dam #2 and Brady Dam #3 as well as Lamping Homestead. Work was well underway or completed on all but Lamping Homestead at the end of FY 2010 and is expected to be complete by the end of calendar year 2010 on all but Lamping Homestead dam and Timbre Ridge. All dams will be brought to state standard except for Brady Dam #2, it was permanently breached and converted to a wetland to prevent future maintenance needs. It has served its intended design need as a settling pond for upstream mining activities. The sites above the dam are well vegetated and sediment is no longer an issue.

The Forest currently has two dams classified by the Ohio Department of Natural Resource, Division of Surface Water, Dam Safety Office as high hazard dams. They are Vesuvius and Timbre Ridge dams located on the Ironton Ranger District. Both were inspected in 2010 by both the Forest engineering staff and the Regional Dams Engineer. One deficiency noted at Timbre Ridge dam in previous inspections, inoperable stem on the emergency dam drain valve, this deficiency is currently being repaired under contract.

The repair should be completed by early 2011; funds were utilized from the ARRA program. The valve will be replaced and the inlet structure in the dam will be repaired. During repairs it was found that the concrete structure was heavily damaged by what we believe was sulfate attack on the concrete. Minor earth work was completed in the emergency spill way and the debris guard on the normal overflow structure was replaced to enhance safety. The face of the dam was also cleared of large woody vegetation and maintained to standard.

Currently there is no secondary all-weather route to Timbre Ridge for emergency equipment and repair in the case of partial dam failure as noted in the FY 2010 and previous monitoring reports. Funds were requested under the ARRA program for the construction of this road in 2009, no funds were received. The Forest will continue to request funds to correct the situation.

Two dams on the Athens District, Utah Ridge and Lamping were inspected and needed repair for partially inoperable outflow devices. Both dams received inspections and the engineering staff completed design packages and a stewardship sale was sold to complete the needed work. Only the temporary breaching of Utah pond was completed at the end of FY 2010. It is expected that the work at Lamping Homestead will be completed in 2011.

Utah Pond, the dam was drained to allow the soil to dewater so that a new contract can be awarded in 2011 that is expected to replace the flow structure. Once that is complete the dam can be refilled. This contract is intended to be advertised in early spring 2011 with work taking place as weather allows.

Smith Hollow dam on the Ironton District was planned for ARRA funding, but was not received. The damaged control structure is not considered likely to cause unrecoverable environmental damage, is also unlikely to be a safety concern to public in the event of a breach. If funding is available, the repairs will be planned and executed at that time.

Table 2.12 Dam Inspections

Dams	2008 Inspections	
	Number Receiving Inspections by District	Noted Deficiencies
Athens District – 7	2	1
Ironton District – 10	5	1

Goal 17.3 – Transportation System

In cooperation with local, State and Federal government agencies, provide a safe, efficient transportation system for moving people, equipment, and forest products.

Objective 17.3a – Reduce sedimentation and improve passage for aquatic and semi-aquatic organisms at Forest development road and forest service recreation trail crossings.	**Monitoring Work Plan Question #63:** How many stream crossing were inventoried and/or corrected for sedimentation production?

In FY 2010, road-stream crossings were inventoried within several watersheds on the Ironton Ranger District. Those noted as possible impediments to aquatic organism passage were identified and a record made of their location as well as a picture and measurements taken to help future monitoring and prioritization of replacements. Data is stored in a Geographic Information System (GIS) database at this office. The information will be used to request funding for aquatic passage replacement according to the degree of impedance and the quality of the fishery the culvert serves. No crossings under Forest jurisdiction were noted as likely to cause excessive sediment. All identified as likely to impede aquatic passage will be monitored in the future to determine if they need repair/replacement, or are producing undue stream sediment load.

ARRA funds were received by the Forest and two structures were replaced in 2010. A third structure under Washington County jurisdiction was funded for Environmental review and design on Archers Fork. Archers fork is a tributary to the Little Muskingum River, the Forest's highest priority watershed and one of the most bio-diverse watersheds in the eastern US. The Forest continues to work with Ohio Department of Transportation (ODOT), County Engineers and some Township governments to improve the entire road/stream crossing system under public domain.

Both, Paddle Creek crossing on Little Storms Creek on the Ironton Ranger District and the Monday Creek low water ford on FR 835 in the Athens Ranger District were monitored and identified as fish impediments. The low water ford was replaced by a bridge and the paddle creek crossing was upgraded to a box culvert, page 60 provides more details of these projects.

Table 2.13 Road-Stream crossings inventoried for probable sediment production and aquatic passage

	Sedimentation Production	Aquatic Passage
Athens District -	No structures under Forest Jurisdiction were found to be significant sediment producers in 2009. Several structures under State or Local Government jurisdiction were noted as potential sediment sources and will be monitored in subsequent years.	0
Ironton District –	no issues of concern noted	70+ (estimated)

Objective 17.3b – Decommission temporary and system roads when they are no longer needed for administration of the Forest or its resources.	**Monitoring Work Plan Question #64:** How many miles of roads were evaluated to determine maintenance, storage or decommission needs?

In FY 2010 numerous system roads were monitored by Forest personnel as they traveled the road system working on other ongoing management activities.

Several segments of roads under special use related to either oil and gas activities or other activities were decommissioned by the cooperators in FY 2009. A total of 2 miles of roads was reported from the Forest in 2010 as removed or decommissioned, none were system roads.

Objective 17.4c – Maintain all roads in a condition that protects the government's investment. If funds do not allow for regular preventive maintenance, close roads or restrict traffic to protect resources or investment. **Objective 17.4d** – Maintain at maintenance level 3, or higher, roads intended for passenger vehicles. **Objective 17.4e** – Maintain at maintenance level 2 roads intended for high clearance vehicles. **Objective 17.4f** – Maintain at Maintenance Level 1 roads that are closed to public travel.	**Monitoring Work Plan Question #65:** How many miles of road are maintained to the level of service required, and how often is needed maintenance performed and are the roads environmentally stable?

At the beginning of FY 2010 there were 359.5 miles of road in the INFRA database, this number is refined throughout the year as updates to the data are made. The number of segments of roads did not increase in 2010. Most all roads were visited by persons replacing and inventorying signage during the year. This lead to numerous edits to the INFRA database for both features on the roads as well as edits to correct existing data.

Three existing road segments not currently on the Forest System were identified as needed and will likely be added in 2011. Three roads classified as maintenance level 1 (closed to the public) on the Athens District were reviewed in the field and found to be erroneous or the road structure was so overgrown with vegetation it was considered naturally decommissioned. These three segments are likely to be removed in 2011 after review by the line officer. Many minor edits to the Forest Infrastructure (INFRA) database were completed in 2010, and most of the regulatory signs on the Athens District were replaced in 2010. This was a result of the ARRA funds received to implement

travel management signage. On the Ironton District management chose not to replace all the regulatory signs; they chose only to replace the most important signage as other projects were of higher importance. Over the next few years they will replace the remainder of the signs to meet Travel Management Objectives. All the signage requested for the Ironton District from field inventories was purchased and is in storage on the Forest for the District.

All road markers (road number corresponding to INFRA system roads data) were placed on all system roads on the Athens District to meet travel management requirements. The Ironton District chose not to place route markers on many of the Level 1 (closed to public motorized travel) roads as the District Ranger feels this would encourage illegal use if it were signed as a road. Some of the Level 1 roads are overgrown by brush and small trees and are not easy to recognize as roads at this time.

Preliminary discussions were held early in 2010 on adding the public roads that serve as collectors and arterials to the Forest Road system. These roads can be shown in INFRA as System Roads but not under Forest Service jurisdiction. The database will show them as the collector and arterials leading to our Forest System roads. This was requested by the Law Enforcement Officers (LEO) on the both districts. The LEO's cannot accomplish enforcement on non-system roads. These additions to the official system are an avenue that can allow enforcement on those public roads. The management decision was to table this discussion until a later time, so no additional public roads were added to the system in 2010. Two lists of requested roads are on file from the LEO's for discussions at a later date.

In 2010 significant funding was made available for road maintenance as part of the ARRA. This funding was used to reduce deferred maintenance and decrease future maintenance needed by overlaying or paving the heaviest traveled roads on the Forest. The most notable where the following:

1. Four campsites on the little Muskingum River were surfaced with asphalt to improve user comfort and decrease maintenance and sedimentation to the watershed.
2. The Ora Anderson parking area just off State Route 278 was paved to prevent sedimentation of the wetland and improve customer access.
3. Company road on the Athens Unit (Parts of FR 1985 and 1980) ATV trailhead system were paved as well as parking area #2 and #3. This will reduce long-term maintenance need and improve the traveling public's comfort.
4. Lake Vesuvius parking areas and administrative warehouse roads were overlaid to decrease deferred maintenance needs and extend the paved surface life of the assets.
5. Hanging Rock ATV access road was chip sealed to extend the life of the asphalt surface.
6. Parking lots and access roads to the Ironton and Athens administrative offices were paved to extend the asphalt surface life at both facilities.

In addition four road segments on the Ironton RD received heavy maintenance with ARRA funding utilizing an existing Indefinite Delivery and Indefinite Quantity (IDIQ) contract.

Before Paving on FR 1985

Paved section of FR 1985

Due to data clean-up and adjustments in 2010, the final road mileage in INFRA shows 350.6 miles of system roads at the end of the FY 2010.

The table below represents the roads by objective maintenance level. It also depicts the number of miles that meet the objective maintenance level. If a road was not evaluated it cannot be assumed to meet or not meet objective maintenance level. Due to this data gap, and estimate of total roads not meeting objective maintenance level cannot be determined at this time. The values are based on professional judgment of the Forest Engineer.

Table 2.14 Road Maintenance

	Total System Miles at Operational Maintenance Level (End of FY)	Roads Receiving Maintenance *** Approx. (Miles)	Estimated Roads meeting Objective Maintenance Level (Miles)
Maintenance Level 1 and 2	299	36.5	110**
Maintenance Level 3	27	21.7	15**
Maintenance Level 4	9.9	8.2	6**
Maintenance Level 5	14.7	9.7	8**
Total Miles	**350.6**	**76.1**	**139**
% Estimate of Road segments at Objective ML			**39.7%****

*** Estimated from data review and personal observation of engineering staff.

** Professional estimate as the Forest does not currently perform calculation or inventory to ascertain if a road segment quantifiably meets Objective Maintenance Level.

Monitoring of environmental stability was performed on those roads where staff made site visits and problems were noted. Work was scheduled on these roads as funding allows by the district engineering technicians.

Use of closed roads by the public with motorized vehicles continues to damage the road system beyond what funding allows for annual repair. Currently the open roads that receive the most use are receiving the majority of the funding available. System roads that are no longer needed for long term administrative use or pose a hazard to the public/environment will be evaluated for removal on a case-by-case basis as problems are discovered.

Maintenance is performed in most cases once a year or less on level 3 and 4 and 5 roads as funds allow, and as needed as problems are found or after assessment on level 1 and 2 roads.

In addition two structures were replaced in 2010 that restricted fish passage on Forest roads. Structures included the Paddle Creek culvert near the Paddle Creek horse trail head and the ford near the Monday Creek ATV trailhead.

This vented ford over Monday Creek was installed in the 1980's. At that time Monday Creek was listed as "Unrecoverable" by the Ohio EPA and was considered dead. Since that time numerous projects by the Forest Service and our partners in the headwaters have allowed sport fish to return to portions of the creek for the first time in over 100 years. This ford was not constructed with any allowance for fish passage. With the return of sport fish the ford needed to be removed and replaced.

ARRA funds were received and the ford was demolished and a new bridge was constructed with full passage for aquatic life. Below are the photos of the old ford and the replacement bridge just after completion.

Vented Ford – Fish Passage Barrier 1980's

Replaced Bridge – Barrier Removed 2010

The Paddle Creek culvert was a large plastic culvert replaced by a large box culvert with the invert (the bottom of the culvert) embedded below the stream bed. The box culvert increased the flow area over the previous round plastic culvert allowing the stream to respond as if there no structure. The new culvert allows passage for aquatic species under the road.

Objective 17.4g – Remove hazard trees along Forest development roads from Sept. 15 through April 15.	**Monitoring Work Plan Question #66:** Are known hazard trees removed during the appropriate time of year?

In FY 2010, No (0) hazard trees with Indiana bat roost tree characteristics were removed during the period from April 15th to September 15th of 2010. All hazard trees were removed before April 15th or after September 15th by Forest Service personnel or contractors along Forest roads.

18 - Public Health and Safety

Goal 18.1 – Law Enforcement

Highly trained, equipped and visible law enforcement officers and Forest personnel contribute to safe and enjoyable experiences for visitors. Effective law enforcement protects public and employee safety, and public property.

Objective 18.1a - Prevent violations of law through: • Education • Information and regulatory signing • Improved facilities • Effective citing and prosecution of violations • Public notice of prosecutions and penalties • Presence of uniformed Forest Service personnel • Working with cooperating agency law enforcement officials at times and locations of heavy public use.	**Monitoring Work Plan Question #67:** How many prevention activities were performed?

Hundreds of routine daily prevention activities were performed in FY 2010 including: ATV patrols on designated and illegal trails, boat patrols, hunting, fishing, recreation areas, camping areas, horse and hiking trail patrols.

Objective 18.1b - Focus law enforcement efforts on Forest priorities to reduce incidence of: • Illegal OHV use • Arson Fires • Trespass and timber theft • Trash dumping	**Monitoring Work Plan Question #68:** How many incidences of illegal OHV use, arson fires, trespass and timber theft, and trash dumping were reported?

Incidences by category are as follows: OHV 415, Fire 41, Timber 23, Sanitation (Trash Dumping) 136.

Objective 18.1c – Establish cooperative law enforcement agreements with State and local agencies. Review and adjust cooperative law enforcement (CLE) agreements every five years. Annually review and adjust operating plans developed under these agreements.	**Monitoring Work Plan Question #69:** How many agencies does the Forest have agreements with?

Wayne National Forest has Cooperative Law Enforcement Agreements (CLE's) with six counties: Athens, Gallia, Hocking, Lawrence, Monroe and Scioto.

Objective 18.1d – Report violations of laws and regulations.	**Monitoring Work Plan Question #70:** How many violations were reported?

There were 1,052 violations in FY 2010.

- Warnings: 285
- Incidents: 400
- Violation Notices: 367

Goal 18.2 – Public Health and Pollution Control

Prevent contamination of National Forest soil, water and air resources. Manage and mitigate known contaminated sites to protect public health and Forest resources.

Objective 18.2a – Ensure that water supplies and wastewater facilities meet relevant state and federal laws.	**Monitoring Work Plan Question #71:** Were the appropriate water quality tests performed?

Drinking Water
In FY 2010, the Forest operated three collateral transient water systems at four campground areas, Vesuvius Recreation Area (two campgrounds and several day use areas), Leith Run and Burr Oak Campground. These are collateral systems that are

served by public water suppliers. Our system is distribution only, no treatment or mass storage takes place at our facilities.

Testing on contaminates such as coliform bacteria and total chlorine residual is maintained by each District. The Ironton District has forwarded documentation in the past to the Forest Supervisor's office; the Athens Ranger District has not forwarded this data. The previous Assistant District Ranger for recreation in Athens had made agreements with the public water providers (Burr Oak Regional Water District and Newport Water District) to sample our recreation sites. Their sampling plan reportedly samples water at each of the campgrounds supplied by the respective water districts. These samples are open records to the public and cover sampling or our distribution system. There will be follow up with the Athens District in 2011 as to the sample regime and data storage and collection, because the Assistant District Ranger that set up the sampling is no longer on staff.

In FY 2010 the distribution system at Oak Hill campground was completely replaced by contract as the previous lines were unserviceable. Oak Hill campground was completely reconstructed including all new facilities, utilities and site amenities. Water distribution was replaced with frost free services at each Recreational Vehicle (RV) camp site and all buildings were replaced with modern units.

Leith Run campground waterline replacement was also contracted in FY 2010. The waterlines installed in 1992 have been problematic and caused significant disruptions in service for the public when lines break or leak during the busy summer camping season. This caused a concern for public safety as contaminates could enter the system at the break site and contaminate the lines. Leith Run is scheduled to reopen in late May 2011, with all new water line distribution and building plumbing systems. The new system takes advantage of current technology and materials and should have virtually no service disruptions and minimal inflow contamination risk due to leaks.

Wastewater

The wastewater system at Oak Hill campground was completely replaced in 2010. Two Civilian Conservation Corps(CCC) era (Circa 1938) leach fields were replaced with modern sand mounds to prevent effluent leakage to the surface or ground water.

The wastewater treatment system for the Lake Vesuvius work center, Ohio University Nature Center and the Flush Toilet building, were also replaced in 2010. Three individual systems were replaced with one central system. Previously the wastewater was moved and treated by two large leach fields and numerous pumps and lift stations. These were all eliminated and a new central evapotranspiration bed was installed. The new system is fed entirely by gravity sewer lines, no pumps. The new system is not expected to emit any treated liquid effluent to the soil. Instead the treated effluent will be used by plants on the mound structure and released to the air as part of the plants life process. Forest staff believes this is the first system of its kind in southeast Ohio; much of the design was from research from Japan and Europe. In the event transpiration does not eliminate all the effluent there is a connected sand filter. Future monitoring will be

conducted to evaluate the effectiveness of the evapotranspariation system.

Wicking tube installation for evapotranspariation bed at Vesuvius Work Center

Permitting

The Forest no longer has any NPDES permits, however a historic permit for the Ironton District Rangers District office continues to receive violation notices from OEPA for testing that was not preformed and/or not reported to OEPA. Twice during the year the Forest contacted both OEPA's district office in Logan and state office in Columbus to verify the permit was closed and we were not violating its terms. Contacts included once by e-mail and one time by phone to verify the notices are erroneous. A file of correspondence with EPA is kept by the Forest Engineer. The Forest was assured that the permit will eventually be removed from the automated violation mailing system that reports failure to provide test results. Our Forest engineer was told that it is closed and to disregard any future notices. The closure will eventually be recognized by their automated system, and sometimes it takes several years to complete the process internally at OEPA.

The official letter signed by the Forest Supervisor in 2008 was resent to both offices at EPA in 2009. We will continue to respond to notices of non-compliance periodically until they are discontinued.

Continued monitoring of the recalculating effluent disposal mound at the Nelsonville office is scheduled of 2011. Some initial information from 2010 monitoring indicates the mound may be nearing the end of its life cycle. No sign of effluent leaving the mound on the surface or short-circuiting is visible to date. It seems that the pressure required to pump to the mound is increasing as a compression joint on the mound side of the pumps is periodically being forced off the discharge pipe. No effluent has been released and there is little danger of any future release. In 2011 a review of the mound will take place

to determine the cause and remedy the issue.

Standards and Guidelines Compliance

Did any project require guideline modification or a Forest Plan amendment to modify a standard?

No standards or guidelines in the 2006 Forest Plan were modified in the 2009 fiscal year.

III. Acknowledgment of Contributors

The Wayne National Forest would like to thank all our partners for their contributions to this report. Special thanks to the Ohio Department of Natural Resources for several contributions and Ohio University Voinovich School of Leadership and Public Affairs for their Non-Point Source monitoring website.

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