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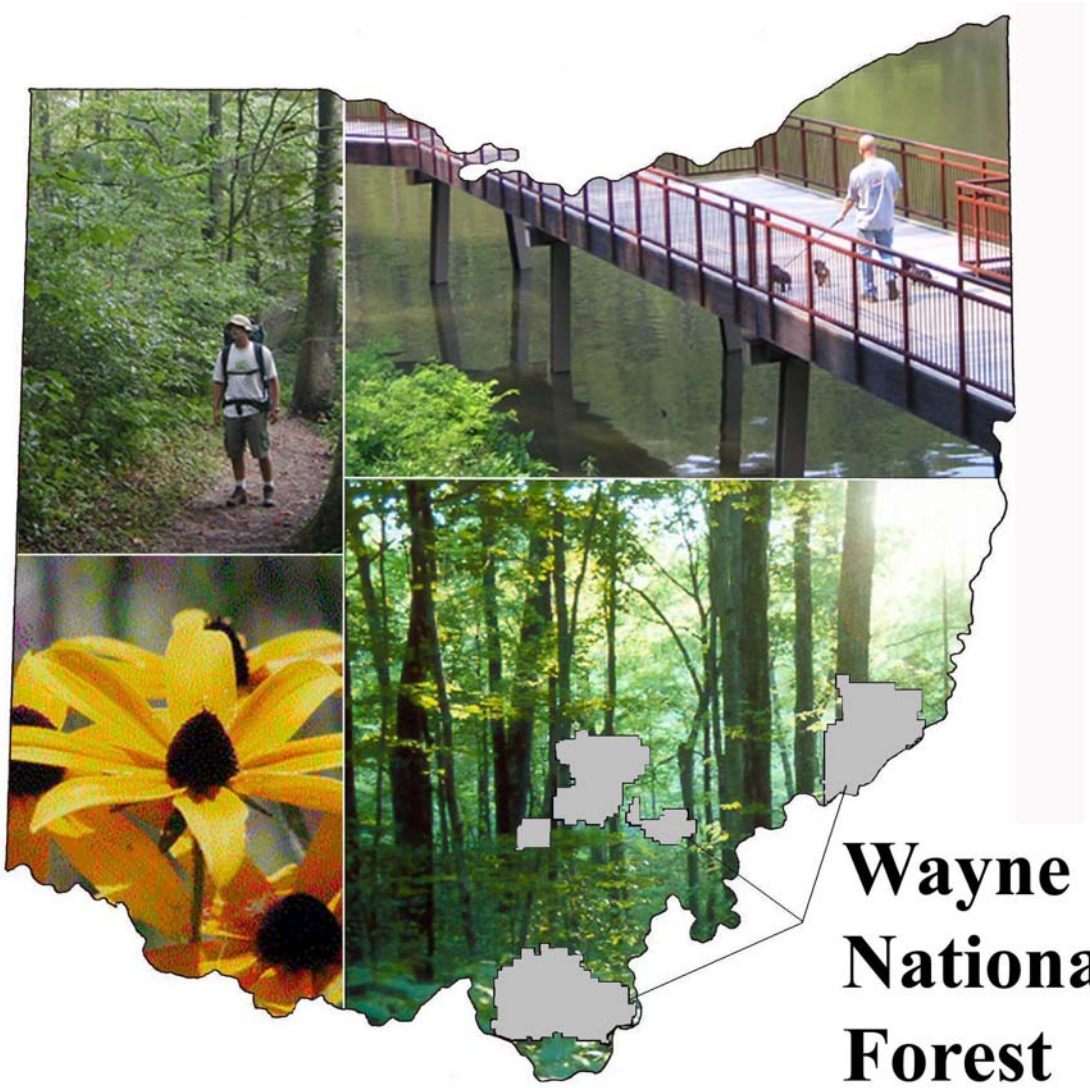
Eastern Region

Fiscal Year 2008 Monitoring and Evaluation Report



2008 Monitoring and Evaluation Report
Wayne National Forest

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

USDA Forest Service
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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 2008 is the third year of Monitoring for the 2006 Forest Plan and a more comprehensive evaluation of the need for change is published approximately every 5 years.

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 NFS 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 no miles of stream morphology (dimension, pattern, and profile) restored in 2008. However, 11 subsidences that were capturing runoff to intermittent and ephemeral streams were closed, and nearly 3000 feet of linear channels were constructed on the Forest. These restoration activities have a long-term positive effect on restoring stream morphology as subsidences are closed and water flows back on the surface, re-establishing the geomorphology that once existed before disturbance occurred. Most streams on the Forest are currently in this process of recovery, but it may take several years before the streams stabilize and begin to meander and adjust to their appropriate depth to width ratios based on their drainage area size.

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?

Ten acid mine discharges in the Raccoon Creek Watershed were treated by constructing six steel slag leach beds, 1,100 linear feet of open limestone channels, and two passive settling ponds with limestone berms. The goal is to reduce acid loading at the mouth of East Branch, a main tributary to Raccoon Creek, and will be evaluated for effectiveness monitoring in 2009. To date, visual monitoring indicates the systems are functioning as designed. The project was implemented by the Ohio Division of Natural Resources (ODNR) on Forest Service lands. The total cost was $911,287.00

The Wayne National Forest treated eleven subsidences in fiscal year FY 2008. These subsidence closures were in the Valley Junk sub-basin. Visual monitoring indicates the closures have stabilized and the water that once entered the mine complexes is on the surface.

From 1995 to 2007, six large stream captures were closed in the Monday Creek Watershed by the ODNR Division of Mineral Resource Management (DMRM) and the Forest Service. Monitoring indicated that runoff from 911 acres was entering deep mines and generating acid mine discharge. As a result of these closures, 333,935,000 gallons of water per year has been diverted from entering the mine complexes.

Implementation of subsidence closures and construction of various treatment systems throughout the Monday and Raccoon Creek watersheds has created a net decrease in acidity. Based on monitoring data from 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 Monday Creek Watershed.

During FY08, approximately one mile of stream was restored to free flowing water that was once restricted by earthen berms and/or stream captures.

3 - Aquatic and Riparian Resources

Goal 3.1 – Sustain favorable riparian and aquatic habitat conditions

Stream Habitat

There are a variety of management activities we can do to 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?

We protected and/or made efforts to improve 4 miles of stream in 2008.

We initiated the first step in protecting aquatic and riparian habitat in the Leith Run Embayment. This Ohio River backwater area is a nursery area for smallmouth bass and sauger, and provides refugia for aquatic species during high water events. Purple loosestrife, a non-native invasive plant species, has begun to spread throughout the embayment, which could result in the loss of important native aquatic and semi-aquatic plants.

Purple loosestrife (pinkish-purple flower) spreading in Leith Run Embayment.

Purple loosestrife beetles were captured from an ODNR Wildlife Area near Lake Erie. After capture and breeding, the larvae and young adult beetles were introduced to the Leith Run Embayment. These beetles eat the purple loosestrife, causing the plant to weaken and die. With supplemental beetle releases, we hope to halt the spread of this noxious weed.

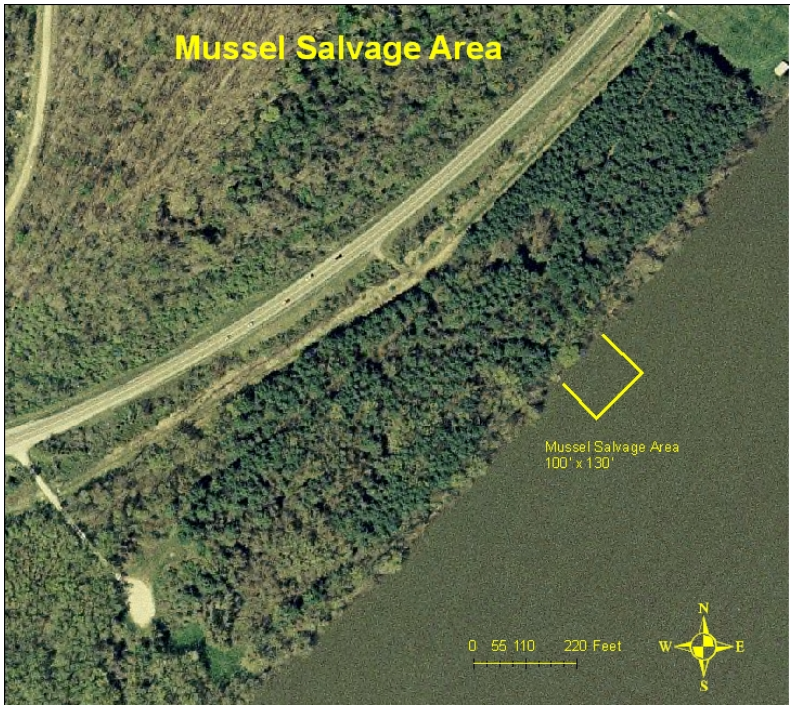
Female and male purple loosestrife beetles. Note the yellow and brown eggs laid on the purple loosestrife plant (near bottom of picture)

Over a mile of stream was protected by removing illegal dumps. 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. 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. Removal of the dumps was done in partnership with the U.S. Army Reserve 339th Engineering Company/463rd Engineer Battalion, Waste Management, Southeastern Ohio Joint Solid Waste Management, Sherlock Oil, ODNR Division of Wildlife, Washington County Sheriff's Office, Ohio EPA, Lawrence County Solid Waste and Ashland Federal Prison camp.

Large dump removed from a ravine entering the Little Muskingum River

The riparian area along a mile of Little Storms Creek was protected from non-native invasive plants by controlling garlic mustard, Japanese knotweed, and Japanese stiltgrass. These non-natives spread into the riparian area on NFS lands from private lands located upstream. Not only were these plants targeted on NFS lands, but work was done on private land to try to eliminate the source. 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.

The Frontier Boat Launch mussel relocation project final results were received in 2008. In July and September 2007, divers from the U. S. Fish and Wildlife Service collected freshwater mussels from a 100 foot x 130 foot area of the Ohio River where the new Frontier Boat Launch is slated to be constructed. All mussels collected were bagged and brought to shore, species identified, and relocated to refuge mussel habitat at the head of Grape Island just downstream of the project area. A total of 375 individuals, comprising 16 species, were relocated.



A list of species relocated to Grape Island is provided: Fat mucket, *Lampsilis siliquoidea*; Fragile papershell, *Leptodea fragilis*; Giant floater, *Pyganodon grandis*; Liliput, *Toxolasma parvus*; Mapleleaf, *Quadrula quadrula*; Paper pondshell, *Utterbackia imbecillis*; Pimpleback, *Quadrula pustulosa*; Pink heelsplitter, *Potamilus alatus*; Pink papershell, *Potamilus ohiensis*; Pistolgrip, *Tritigonia verrucosa*; Plain pocketbook, *Lampsilis cardium*; Three-horn wartyback, *Obliquaria reflexa*; Three-ridge, *Amblema plicata*; Wabash pigtoe, *Fusconaia flava*; Washboard, *Megalonaias nervosa*; White heelsplitter, *Lasmigona complanata.*

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 inventory that was initiated in 2007 was continued in 2008. Our survey efforts were focused in streams that drain into the Ohio River because it is these streams that either contain sensitive aquatic species or host species for freshwater mussels. A total of 381 road-stream crossings were inventoried. The intention of the inventory is to work with the Ohio Department of Transportation and county engineers to improve or replace culverts in priority streams.

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, 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
Trends in MIS numbers are shown only for Wayne National Forest breeding bird survey routes. Regional data (Ohio Hills Physiographic Region) was not available for the 2008 North American Breeding Bird Survey.

An annual breeding bird survey 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 to be sampled twice during May 20-June 20. We also installed additional point count sites in conjunction with Firemon monitoring plots.

Total observations included 5,290 individual birds, comprising 104 species, during the 2008 breeding bird survey. The most common species recorded across the Wayne were the red-eyed vireo, ovenbird, eastern towhee, wood thrush, indigo bunting, hooded warbler, red-winged blackbird, northern cardinal, and tufted titmouse. Bird surveyors recorded four species never recorded on any of our previous breeding bird surveys: Wilson's warbler, black-throated blue warbler, blue-headed vireo, and the hermit thrush. These species were likely migrants passing through, although the Wilson's warbler was observed during both the early and late survey periods.

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, 2003-2008 (shown as number observed/total number of points in survey).

MIS	2003	2004	2005	2006	2007	2008	Mean Number Observed/Year
Cerulean Warbler	0.17	0.10	0.11	0.14	0.18	0.11	65
Henslow's Sparrow	0.04	0.02	0.02	0.07	0.04	0.03	18
Louisiana Waterthrush	0.04	0.04	0.03	0.04	0.03	0.02	15
Pileated Woodpecker	0.10	0.10	0.07	0.08	0.12	0.07	42
Pine Warbler	0.03	0.04	0.07	0.06	0.04	0.04	21
Worm-eating Warbler	0.10	0.03	0.04	0.08	0.10	0.08	35
Yellow-breasted Chat	0.12	0.29	0.11	0.19	0.21	0.21	81

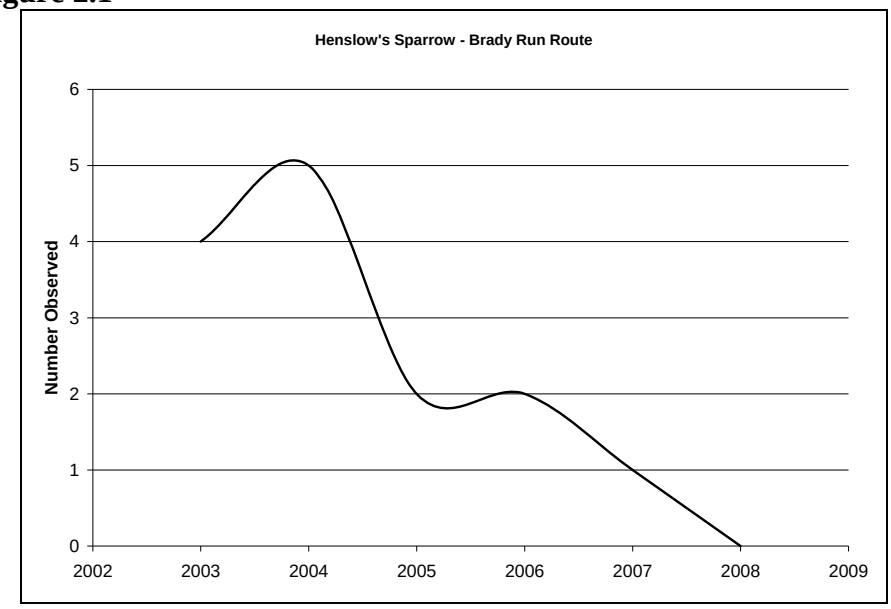
With the exception of the pine warbler, population and habitat trends for the other MIS are expected to remain stable or increase on the Wayne National Forest over the long-term (next 100 years). The pine warbler was expected to decline because an increase in oak regeneration called for in the Forest Plan would decrease pine regeneration in existing pine stands. With only six years of data, it is difficult to draw any conclusions of MIS population trends on the Wayne National Forest. Each species experienced fluctuations in abundance during this six year period, which is why long-term monitoring is necessary.

Data from the breeding bird survey can be used to indicate habitat change that may be occurring along a specific route or area of the Wayne National Forest. For example, during this 5-year survey the number of Henslow's sparrows has declined along the Brady Run route (Figure 2.1). Visual observations of the area show that more woody growth is occurring in the grassland areas, which research shows is unsuitable for this Regional Forester sensitive species.

To address this habitat change, the Forest Service is actively working with partners to reduce woody encroachment and to promote quality grassland habitat. A pilot challenge cost-share agreement was signed with The Ruffed Grouse Society in 2008 which is designed to eliminate autumn olive, a non-native, invasive woody shrub that is spreading on grassland areas. Work also continues with the Ohio Division of Wildlife to convert 25 acres of non-native fescue fields on the Brady Run Grassland to native warm season grasses. The native seed used in the plantings was collected by the Forest Service and its volunteers from other areas on the Wayne National Forest. The success of these habitat manipulations will be monitored through the breeding bird survey, or through

supplemental bird monitoring points.

Figure 2.1



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 2008. Because of that, the continued decline in grouse population trends would be expected in counties where NFS lands occur. Data for 2008 ruffed grouse drumming routes were not available at the time this report was written, however verbal communication with Ohio Division of Wildlife biologists indicated that abundance of drumming males was stable to decreasing on Wayne National Forest routes in 2008.

Oak Regeneration

The oak forest supports numerous plant and animal species. Acorns are a primary food source for many mammals and birds. The structural character of oaks offers feeding opportunities for bark gleaners, and roosting habitat for bats. The oak forest dominates the landscape of the Wayne, but increases in the abundance of shade tolerant species (e.g. red maple) and the invasion of non-native invasive species have raised concern about oak regeneration. Improving conditions for oak regeneration requires active use of management tools, such as timber harvesting, prescribed fire and herbicide application.

The Forest Plan allows us to perform the following activities during the first decade of Forest Plan implementation to regenerate oaks: even-aged timber harvest (1,725 acres);

thinning (1,460 acres); crop tree release (2,113 acres); prescribed fire (46,215 acres) and herbicide application (10,994 acres).

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?

760 acres of mixed-oak forest in 2008, were improved through commercial timber sales. The objectives of these thinnings 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. Grape vines were controlled on 133 acres of young hardwood stands. Reducing grape vines strengthens trees and increases their crown health. No acreage was prescribed burned in fiscal year 2008.

Grassland Habitat

The Grassland and Forest Mosaic (GFM) Management Area (MA) 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. Some of the grasslands have been planted with shrubs and trees, but because of poor soils, the trees tend to be stunted.

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 866 acres of hardwood forest thinning completed to improve structural diversity and helps with the establishment of all-aged forest conditions. It is important to note that these acres were harvested in the Historical Forest (HF) Management area which is very different from all aged-conditions for Diverse Continuous Forest (DCF) Management Area where 0 acres were harvested.

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?

A 12 acre plantation of white pine was harvested in order to allow the native hardwoods to regenerate the site. This area will likely regenerate to a wide variety of tree species including maples and oaks, and as these trees become established and grow, early successional habitat will develop.

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 communities were treated in FY 2008.

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?

Biologists identified priority reclaimed strip mine areas that are known to support small populations of bobwhite quail and Henslow's sparrows. Three large fields, totaling 22 acres, were selected for conversion from non-native species such as fescue and Chinese lespedeza to a mix of native warm season grasses and forbs. The Forest worked with the federal prison camp crew and volunteers to collect local genotype seeds of native grasses and forbs. Quail Forever provided funding for herbicide to prepare the areas for planting. The Ohio Division of Wildlife provided equipment and technicians to brush hog and spray the planting areas, as well as plant the native grass seeds with no-till seed drills.

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. The Forest Plan guides us 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 2008. There were 187 acres of openings mowed to reduce woody encroachment and to maintain the herbaceous-shrubby composition. Much of this work was done in partnership with the ODNR Division of Wildlife.

A project is underway to evaluate our current forest openings program, and we are looking at existing openland on the Wayne that could be managed to provide quality herbaceous-shrub habitat. These areas include utility rights-of-way, old fields on new acquisitions, and reclaimed mine lands covered in grass. The goal of this review is to identify opportunities to move towards the Forest Plan's desired future condition. Planning for this openland program is to continue in 2009.

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?

In 2008, a wetland habitat was restored in Gallia County, Ohio in partnership with Ducks Unlimited, the National Wild Turkey Federation, and the Ohio Department of Natural Resources. The Whitaker Wetland Restoration Project restored a 25-acre field to a complex of emergent and ephemeral wetlands that mimic the natural oxbows and shallow, scour-pool wetlands that historically occurred on the tract, using an innovative design that addresses many of the maintenance costs and issues associated with traditional wetland restorations. This project restores rare and highly valuable wetland habitat in a state that has lost more than 90% of its wetlands since European settlement.

Many typical wetland restorations, including previous restorations on the Wayne National Forest, have been implemented by constructing high, steep-sided levees that surround a field, creating one large pool. These levees look unnatural, and are very costly to maintain because they are vulnerable to failure due to tree roots, muskrat damage, beaver management issues (e.g. plugged inlet/outlet pipes) and water control structure leaks. The deep pools created by this style of levee often support introduced fish, which significantly degrade the quality of habitat for ducks and herpetiles. The Whitaker Wetland Restoration implements a new design that addresses many of the above issues that are associated with older wetland restorations. The Whitaker Wetland Complex was designed as a series of natural looking pools similar to what likely occurred on the landscape prior to drainage efforts by early settlers. These shallow, natural-appearing wetland pools will eventually provide a variety of wetland communities including open water, emergent wetland, mud flats, shrub-scrub and wooded wetland. The low levees (generally no higher than 2.5 feet) with very shallow side slopes (20:1) visually blend into the surrounding ground, giving the field the appearance of having always been there. The shallow side slopes can support trees without risk of levee failure, and will not require annual maintenance by mowing. These low levees and shallow slopes will also deter tunneling muskrats, further reducing maintenance needs. The bottom of one of the wetland pool areas was shaped during construction to include tip-up mounds that are planted with trees to facilitate development of a wooded wetland, further mimicking the conditions that likely occurred on the site prior to clearing and drainage by early settlers.

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, we often work 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, we provide

kids the opportunity to be outdoors 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?

A total of 23 prothonotary warbler nest boxes were cleaned out and repaired in partnership with the Hocking College Fish and Wildlife Club.

5 – Endangered, Threatened and Sensitive Species

Goal 5.1 – Recover Federally Listed Threatened and Endangered species

Indiana Bat (Endangered)

Summer mistnet surveys for bats were conducted from June 17th to 25th on the Ironton Ranger District by a team of Forest Service biologists from the Shawnee and Mark Twain National Forests. The primary objective of these surveys was to search for evidence of Indiana bat summer maternity activity. Emphasis was placed on the headwaters of the larger lakes on the district, as well as other high quality stream locations. No Indiana bats were captured; however, 149 bats of 7 species were mistnetted at 17 sites.

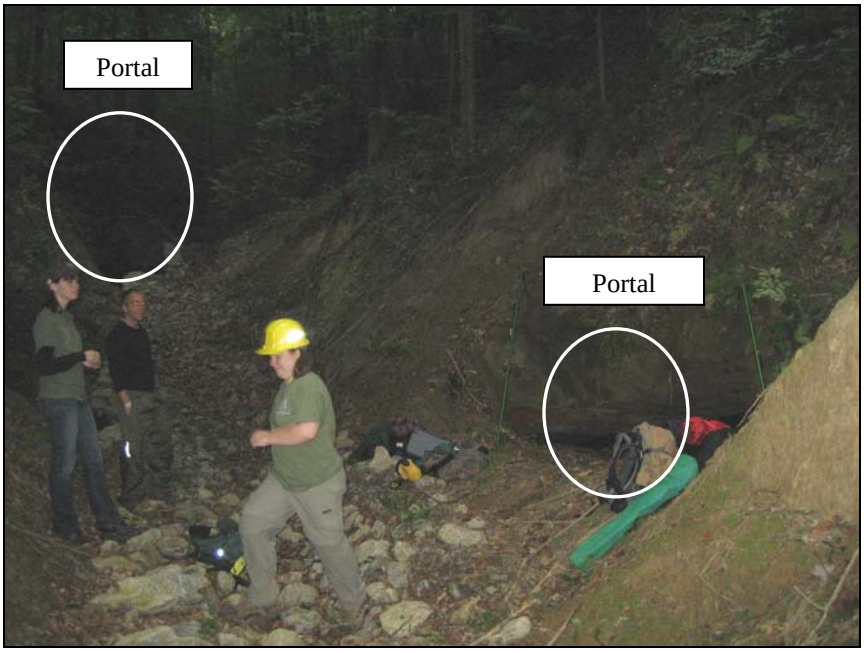
During 2008, Forest Service biologists conducted fall swarming surveys to gain additional knowledge of the distribution of the Indiana bat on the Wayne National Forest and to monitor bat activity at mine openings affected by watershed restoration projects.

Interns for Monday Creek Restoration Project and Sunday Creek Watershed Group attended a training conducted by Forest Service Biologists to learn how to evaluate mine portals for potential bat use. After narrowing down the list of potential openings to investigate in the field using GIS, the interns evaluated 16 open mine features in the field for potential Indiana bat fall swarming and/or winter hibernation habitat on the Athens Ranger District. Potentially suitable mines have openings at least one foot in diameter, passages should continue for 100 feet or more and open into the mine workings, and there should be some amount of air flow in or out of the entrance. All 16 openings had some level of potential suitability that will be investigated further in the future.

Nine mine openings were surveyed for bats in September 2008. Of these, three were new sites, while six were openings monitored for post-project bat activity. Two portals were surveyed with a bat detector to determine approximate level of bat activity. Seven sites were surveyed with a mist net. A total of 284 bats of 4 species were captured during these surveys. Two Indiana bats, one male and one female, were captured at the same opening at a site monitored since 2006 for post-project bat activity.

One Indiana bat roost tree training session was conducted in 2008. The session was directed at employees who were coordinating a hazardous fuels removal contract along Forest trails. The sessions included a classroom presentation about the Indiana bat's life history and habitat requirements, and a field session was included for hands-on

experience identifying trees with currently suitable roosting habitat and trees that could serve as future roost trees. United States Fish and Wildlife Service (USFWS) staff was not available for the training; however, they helped develop an appropriate curriculum.



Although no Indiana bats were captured at the original portal (top left), it was determined during pre-project bat surveys that this mine opening was being used by bats and was a valuable fall swarming resource. Thus, watershed reclamation plans were altered to route stream water past the hole instead of back-filling it. During construction work, a second mine portal was uncovered nearby (bottom right), and the decision was made to leave it open as well. This second hole has become a busy swarming site, and 2 Indiana bats were captured here in 2008.

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?

A total of 760 acres of mixed-oak forest were thinned in 2008, which may have improved some potentially suitable Indiana bat summer habitat. The 760 acres were thinned through commercial timber sales. The objectives of these thinnings 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. The thinning of these stands created slightly more open stands that could benefit foraging bats. Grape vines were also controlled on 133 acres of young hardwood stands. Reducing grape vines strengthens trees and increases crown health. No acreage was prescribe burned in

fiscal year 2008. Acreage burned in late fall will be reported in the 2009 report. When these burns are accomplished, they contribute to the ability to regenerate oaks and hickories by reducing the less fire resistant species and preparing better seedbeds. Oaks and hickories are important habitat components to Indiana bat summer.

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 2008. Monitoring of mine openings gated in 2006 continues on the Athens Ranger District. Bat activity appears to increase steadily at one site each year beyond pre-gated levels, while the other site consistently indicates slightly lower activity than before the gate was installed.

The microclimate assessment of the Woody Mine continued in 2008, the Priority 3 Indiana bat hibernaculum on the Ironton Ranger District. Biologists entered the mine in July 2008 with an Ohio mine inspector to retrieve the data collected by dataloggers installed in summer 2005.

Table 2.2 Comparison of air temperatures inside and outside the Woody Mine, August 2007 - July 2008.

Annual	Outside Tree	Entrance	Right Passage	Indiana Bat Room
Maximum Temperature (F)	96.8	62.1	52.5	51.9
Minimum Temperature (F)	1.2	17.6	34.5	28.9
Mean Temperature (F)	54.2	45.2	46.9	44.2
Mid-winter (1 Jan – 31 Mar)	**Outside Tree**	**Entrance**	**Right Passage**	**Indiana Bat Room**
Maximum Temperature (F)	68.4	53.2	47.2	44.9
Minimum Temperature (F)	7.8	21.0	34.8	30.4
Mean Temperature (F)	38.2	37.4	42.4	39.0

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. The temperature near the entrance of the mine is expected to fluctuate more widely due to the direct contact with the outside ambient weather conditions. The "Right Passage" is an area outside of the direct influence of the entrance where some bats often hibernate. The "Indiana Bat Room" is where the endangered bats are consistently found during hibernation surveys.

Table 2.3 Three year comparison of air temperatures (°F) inside and outside the Woody Mine.

Annual	Outside Tree	Entrance	Right Passage	Indiana Bat Room	Max T	Min T
2005-2006	54	-	45.1	44.9	67.7	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
Mid-winter (1 Jan – 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

The mid-winter temperatures from December 1st through March 31st are most important for hibernating bats. Researchers have found that temperatures in most Indiana hibernacula range from about 37-43°F during these months (Andy King, USFWS, pers. comm.). A comparison of temperatures for 3 years shows relatively consistent temperatures in the mine, and the mean mid-winter temperature in the Indiana bat room appears to hover at 39-40°F, perfectly in the range for this species. Wayne National Forest biologists believe Indiana bats use the "Indiana Bat 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 did drop below freezing during the coldest part of the winter, 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. It is possible that measures could be taken to further stabilize winter temperatures in this area of the mine and, thus, improve microclimatic conditions for Indiana bat hibernation and encourage more of these endangered bats to overwinter here.

To this end, the Forest Service invited a well-respected Indiana bat expert, Dr. Virgil Brack, to visit the hibernaculum in 2008 to help evaluate air flow patterns in the mine in relation to where the Indiana bats hibernate. Suggestions for potential actions to improve microclimate conditions were discussed. Additional guidance and advice from more bat professionals are being sought in the coming year to develop alternatives for a proposed hibernaculum improvement project.

Hickory Tree Tally

A total of 26 hickory trees were removed from project areas in 2008. All of these hickories were removed from the Buckhorn Restoration Project. Since 2006, a total of 37 hickory trees have been removed from project areas.

American Burying Beetle (Endangered)

Reintroduction efforts occurred at the Waterloo Wildlife Research Station (Athens County) and on the Wayne National Forest (Perry County). Researchers at The Wilds (Muskingum County) are working to refine husbandry techniques in order to build a captive breeding colony. A captive American burying beetle breeding colony is maintained at The Ohio State University for purposes of reintroductions in Ohio.

Bald Eagle

The bald eagle was delisted by the U. S. Fish and Wildlife Service and is now considered a Regional Forester sensitive species. Due to this change, and subsequent administrative correction to the Forest Plan, it is listed under Goal 5.2.1, Objective 5.2.1a rather than Goal 5.12. There are currently no active or inactive bald eagle nests within the Wayne National Forest.

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 in January 2008. No bald eagles were observed during any of the searches. However, two bald eagles were observed by a member of the public at Strouds Run (near Athens, Ohio) on January 13, 2008, and two additional bald eagles were observed by a member of the public on January 31, 2008 at Lake Logan (near Logan, Ohio).

No eagles were observed along any route during a breeding bird survey conducted along 23 routes in May and June 2008.

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?

A decision to reintroduce the American burying beetle to the Wayne National Forest was made in 2008. On June 25, 2008, 225 pairs of American burying beetles were reintroduced into a remote section of the Future Old Forest with Minerals Management Area on the Athens District. Partners in this effort were the U. S. Fish and Wildlife Service, St. Louis Zoo, Ohio Division of Wildlife, The Ohio State University, and The Wilds. The project plan is to continue introductions each year, for 4 more years.

The beetle release process involved digging holes, or plugs, at specially selected sites, placing a quail carcass and a pair of tagged beetles in each cavity. The plug sites will be monitored for signs of breeding activity by checking for larvae and, later, new adult beetles.

Running Buffalo Clover (Endangered)

The Wayne National Forest is the only site in Ohio where this species is protected by Federal ownership.

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?

Running buffalo clover appears to be responding well to invasive species control efforts conducted on the Wayne National Forest over the last few years. The biggest threat to this species at this site is an exotic annual grass called Asiatic stiltgrass. Over the last two years, Forest Service staff has mowed the stiltgrass to keep it from out-competing the running buffalo clover.

Earlier this year, Forest Service botanists and U.S. Fish and Wildlife Service biologists monitored the population size of the running buffalo clover. They counted 162 stems, 10 of which were in flower. The number of plants found at the site increased 86 percent from 2007 to 2008.

Several other measures were taken this year to improve the habitat for the clover. Because running buffalo clover likes partial shade, areas along the trail were cleared of thick understory spicebush brush.

Another potential threat to this species is too much disturbance created by ATVs. Running buffalo clover can tolerate a moderate amount of foot or ATV traffic but too much would cause damage to the plants. In 2007, a diversion was created to cut down illegal ATV traffic. However, it appears the diversion piles have not significantly reduced illegal ATV use.

A new ATV trail was created to the side of the clover patch and it loops back through and around the patch. As of now, the new trail does not appear to be a threat. In fact, as long as the ATV traffic is kept low, additional habitat for the clover may be created. Even though these plants are thriving under the current disturbance conditions, they will continue to be closely monitored.

A third threat occurred when a severe ice storm in 2003 followed by a wildfire in 2005 severely stressed most of the trees that were providing the partial shade to the clover patch. These trees will eventually die and this will cause too much light to reach the understory or too much shade might be created by a thick brushy midstory.

This potential problem was mitigated this fall by planting twelve nursery-stock trees around the area of the clover patch. The Forest Service and Federal Prison camp crew members planted three individuals each of white oak, tulip poplar, black walnut and yellow buckeye. Each of these trees have been found growing over running buffalo clover throughout its range and were grown from seeds collected in southeastern Ohio.

Future plans for managing this site include treating Asiatic stiltgrass and clearing more brush along the trail if needed. Ironton District staff will be treating invasive species such as tree of heaven and garlic mustard which are growing near the running buffalo clover.

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?

In FY2008, grape vines were controlled on 133 acres of young hardwood stands. These areas had high numbers of grape vines in the crowns of the overstory trees. After ensuring that pigeon grapes would not be removed, most of the balance of vines were cut at ground level; these vines will likely re-sprout but because they will be in the shade the sprouts will not be able to grow back into the crowns. During grape vine thinning not all of the grapevines are cut. Some remain present to promote diversity and wildlife habitat.

On the Ironton District, non-native species such as tree of heaven, stilt grass, and multiflora rose were controlled on 431 acres. One of the benefits of this work is that the native vegetation will be able to fill their natural niches instead of the non-natives crowding the natives out of growing space. Most of the lands treated are currently dominated by oak and hickory, but the likelihood of maintaining this forest type in the future is lessened if the non-native species become established because they will crowd-out oak and hickory seedlings that could be the future overstory.

Oak and hickory seedlings now exposed to more sun light after a commercial timber thinning on the Lambert Hollow Timber Sale (Buckhorn Project)

On the Ironton District approximately 760 acres of hardwood stands were thinned through commercial timber sales. One of the objectives of this work was to improve the growing conditions for oak and hickory seedlings by opening the crowns some to provide more light to the forest floor.

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?

In FY08, approximately 760 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 diseases, especially gypsy moth defoliation.
- Improve conditions for developing future oak and hickory reproduction so that adequate oak and hickory advance regeneration will be present when the hardwood over-story is regenerated.

A 12 acre plantation of white pine was harvested in order to allow the native hardwoods to regenerate on the site. This area will likely regenerate to a wide variety of tree species including maples and oaks, and as these trees become established and grow early successional habitat will develop.

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 no acres treated by prescribed burning in 2008.

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 Fiscal Year 2008: 66 firewood, 122 root and 14 hay permits were sold on the Forest. A breakdown of the sales per unit follows:

Table 2.4 Forest Product Permits

	Athens	Marietta	Ironton
Firewood Permits	41	16	9
Root Permits	38	44	40
Hay Permits	--	6	8

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. At total of 122 permits were sold, so maximum collection for the permits would therefore equate to a maximum of 610 wet lbs. of roots collected, of which up to 122 wet lbs. could be ginseng (approximately 40 dry lbs. ginseng). The amount of permits sold was up by 46 permits from last year.

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 2008 was 138 cords. The amount of permits sold was 14 less than last year.

Hay permits on the two districts were existing permits that were once again collected. There were no new hay permits issued in 2008, however there are two more permits on the Ironton District as compared to last year – this was due to an error in reporting in 2007.

In an effort to understand the impacts of harvesting on wild ginseng, there were 4 additional permanent monitoring plots installed on Athens, Ironton and Marietta in 2008. The new plots were measured when installed in the early summer and then later in the fall to capture impacts of deer browsing. Likewise, the 6 plots previously installed in 2007 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.

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?

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	**Monitoring Work Plan Question #28:** How many NNIS sites were treated and how did the populations respond to treatment?

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 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.	

Monitoring for any Symptoms of Insect or Disease Activity

In the summer of 2008, in cooperation with the Wayne National Forest staff, the Forest Health Protection (State and Private, Forest Service) staff made aerial surveys of the entire Wayne National Forest to monitor for significant defoliation or disease outbreaks. Numerous areas of scattered, moderate defoliation (30 – 50 percent) and mortality were mapped but little reduction in tree vitality or wide-spread defoliation is expected. Scattered tree mortality and branch die-back was found on the Ironton District in the 2003 ice-storm damaged area.

Hemlock Wooly Adelgid

The Wayne National Forest staff and the Forest Health Protection (State and Private, Forest Service) staff conducted a hemlock woolly adelgid detection survey of 7 eastern hemlock stands on the Marietta Unit. These surveys were conducted during the summer and no adelgids were detected in the stands.

Emerald Ash Borer

The Wayne National Forest and Ohio Department of Agriculture cooperated to monitor for the presence of the emerald ash borer on the Wayne National Forest. Traps were deployed across the Forest and southeast Ohio in areas where the emerald ash borer was not yet known to exist. The traps were installed in spring and recovered in the autumn for inspection. As of November 1, 2008 emerald ash borers have not been found within the Wayne National Forest.

Gypsy Moth

As a part of the Slow the Spread of Gypsy Moth program, surveys are conducted to identify populations of Gypsy Moth ahead of the general infestation areas. No national forest land had apparent populations of Gypsy Moth within the Slow the Spread area; therefore there was no need to treat on the Wayne National Forest. Some areas near the Forest were treated in 2008.

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 6,171 acres of hazardous fuels treated in FY 2008.

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 been occurring on the Wayne National Forest since 2002. In FY 2008, 450 acres were inventoried and mapped.

Due to a numbering error on the 2008 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?

Twenty-eight different sites were treated manually, mechanically, biologically or chemically. The primary species controlled were: autumn olive, Japanese stiltgrass,

garlic mustard, Japanese knotweed, tree-of-heaven, purple loosestrife and kudzu.

Garlic mustard populations increased from last year at Paines Crossing Special Area (SA), Wildcat Hollow SA and Binion. This is partly believed to depend on the biennial nature of the plant that seems to fluxuate on a two-year cycle. The populations at Little Storms Creek SA showed a decrease from previous years.

Autumn olive was controlled on the Athens District using mechanical methods to grind the stumps in mine reclaim areas. Effectiveness will not be evident until spring of 2009 when re-sprouting can be measured.

Kudzu controlled by goats in FY 2005 returned in the same density in FY 2006 from established root systems. These areas were controlled in FY 2006 mechanically, but again re-sprouted in similar densities as before. FY 2007 and FY 2008 involved herbicide treatment and, FY 2008 monitoring found that the herbicide control was approximately 80% effective.

Japanese stiltgrass was controlled using both mechanical (weed-eaters) and chemical means. It was found that early mechanical treatments (July/August) were not as effective as later treatments (August/September). This is believed to be because either: (1) early treatment occurs before much of the root reserves are used, and therefore allows resprouting, or (2) removal of the plants are early enough to allow new plants to germinate from the seedbank. All chemical treatments occurred later in the year – they were 80-90% effective in killing the plants before they went to seed, however, the seedbanks from previous years will still require re-treatments in these areas.

Tree-of-heaven was treated with basal spraying (triclopyr) and injection (imazypyr) and hack ‘n’ squirt. Results will not be evident until monitoring in 2009, however, initial treatments during June/July by the hack ‘n’ squirt method were not as effective as fall treatments.

Tree of Heaven stem injection using hatchet and spray bottle for hack ‘n’ squirt.

Goal 7.3 – Control Non-Native Invasive Species Aquatics

Control NNIS Aquatics populations using prevention, suppression and restoration techniques to protect and restore natural communities in NFS 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.

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 and Forest Service employees on the Wayne National Forest. Six of the presentations included control efforts by participating groups (elementary and college students and wildflower hikes) in the programs that counted toward target NNIS control acres. Organizations that received presentations about the treatment of invasives and the Wayne NF control efforts included: Master Gardener and local gardening groups, local landowners, Hocking College Wildlife Ecology students and Ohio University freshman students.

Displays with informational materials were present at al Wayne National Forest offices during the year, and at the following events: Rural Action's conference, Paul Bunyan show (Cambridge, OH), Iron Furnace Festival (Ironton, OH), Rock 'n' Roll ATV rally (Pedro, OH), Farm Science Review (Ohio State University) and "Good Plants Gone Bad" workshop (Marietta, OH), that the Wayne National Forest organized in conjunction with the Ohio Invasive Plants Council and Friends of the Lower Muskingum. News articles about non-native control efforts occurred in the local paper for the Ironton Ranger District. Likewise, write-ups about the Wayne NF's NNIS treatments were published in two newsletters: Ruffed Grouse Society National magazine and Government Solutions magazine.

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?

The Forest planted 800 American chestnut trees in FY 2008 on approximately 2 acres. These trees were planted on two sites of reclaimed mine lands, one each on both the Ironton and Athens District. The trees were supplied by the USFS Northeast Area Research Station. Planting the trees on reclaimed mine lands is one strategy to re-establish American Chestnuts because the conditions seem to be conducive to survival and growth.

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 2008, there were a total of 42 fires that were suppressed with no reportable accidents/injuries. No private property burned from ignitions that occurred on the Wayne National Forest.

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?

All of the WNF lands are within the Wildland Urban Interface, and hazardous fuels were reduced on a total of 6,171 acres. Hazardous fuels treatment includes a suite of integrated activities which 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 which mitigate or reduce hazardous fuels are power line right-of-way and petroleum transmission line maintenance.

Those acres that were mechanically treated in 2008 primarily to reduce hazardous fuels totaled 3,500.

- 277 acres in Developed Recreation (DR) Management Area
- 822 acres in Diverse Continuous Forest (DCF) Management Area
- 253 acres in Diverse Continuous Forest with OHV (DCFO) Management Area
- 751 acres in Forest and Shrubland Mosaic (FSM) Management Area
- 128 acres in Future Old Forest (FOF) Management Area
- 153 acres in Future Old Forest with Mineral Activity (FOFM) Management Area
- 169 acres in Historic Forest (HF) Management Area
- 49 acres in Grassland and Forest Mosaic (GFM) Management Area
- 410 acres in Historic Forest with OHV (HFO) Management Area
- 375 acres in River Corridor (RC) Management Area

- 109 acres in Special Area (SA) Management Areas
- 4 acres in Timbre Ridge Lake (TRL) Management Area

There were no prescribed burns in FY 2008.

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?

- Aid Township Volunteer Fire Department
- Elizabeth Township Volunteer Fire Department
- Madison Jefferson Township Volunteer Fire Department
- Greenfield Township Volunteer Fire Department
- Lawrence Township Volunteer Fire Department
- The Plains Volunteer Fire Department
- Coolville Volunteer Fire Department
- Albany Volunteer Fire Department
- Nelsonville Fire Department
- Ward Township Volunteer Fire Department
- Starr Township Volunteer Fire Department

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 243,328 acres of federally owned surface (this includes acreage outside the proclamation boundary) of which about 40 % (96,246 acres) are underlain by minerals fully owned by the Federal government. Reserved and/or outstanding mineral rights wholly or partially encumber the remaining 143,251 acres.

In FY 2008, there were no mineral material sales, no mineral material free use permits issued and no in-service use of mineral materials from the WNF for road maintenance, etc. This echoes the saleable minerals activity on the WNF for the last decade or so. On the other hand, the WNF bought on the open market 3,000 cubic yards of aggregate which was used on the on the Forest for roads, recreation sites and watershed projects.

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 2008. 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 2008. This was attributable to a lack of available drilling rigs in this area and trained personnel to operate the rigs.

Numerous statutes, regulations, and Executive Orders guide Forest Service policy for the exploration and development of mineral resources on National Forest Service (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 2008, 385 inspections were carried out on the Forest.

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?

Numerous expressions of interest and a few lease offers (totaling about 12,000 acres) have been backlogged since 2003 awaiting the finalization of the Forest Plan EIS. Title work to eliminate this backlog was started in the second quarter of FY 2006, and was about 60% done by the end of FY 2006. In FY 2007, a lot of that title work had to be redone or amended. By the end of FY 2007, all of the title work had been accomplished, and about 90% of the Geographic Information System (GIS) mapping was finished. In FY 2008 the remaining backlog was eliminated, and consent was given to the BLM to offer the available parcels for lease.

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?

No Federal plans of operations/applications for permit to drill were received or processed in FY 2008.

Goal 10.2 – Respect owners' rights and protect surface resources

While respecting privately held mineral rights, negotiate operating terms and conditions and mitigation measures to protect other Forest resources.

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 four non-Federal applications on the Marietta Unit, one non-Federal application on the Athens Unit and no applications on the Ironton Unit in FY 2008. All permits were processed within 60 days.

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, 3 wells were partially restored and restoration on another well was started. Two wells were permanently restored. On the Athens Unit, the partial restoration of 1 well is in progress. Two wells were permanently restored, and 1 final restoration of another well was started. On the Ironton Unit, no wells were either partially or permanently restored in FY 2008.

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 5 wells were plugged according to State regulations in FY 2008: 2 on the Marietta Unit, 3 on the Athens Unit, and 0 on the Ironton Unit.

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 2008, with the help of partners and volunteers, 0.25 mile of North Country Trail (NCT) was relocated from a rough trail through a wetland to a location that included a footbridge.

Though no trails were relocated off roads in 2008, the Forest is working with the regional coordinator from the North Country Trail Association (NCTA) and local volunteers to identify re-route projects for 2009.

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 three of the following management areas: Diverse Continuous Forest with Off Highway Vehicles (DCFO), Forest and Shrubland Mosaic with Off Highway Vehicles (FSMO), and Historic Forest with Off Highway Vehicles (HFO). All motorized trail maintenance or reconstruction work is restricted to these management areas.

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

A total of 265.30 miles of trails were maintained to standard on the Forest in FY-08. Of this total, 120.05 miles were OHV trails. This constitutes 97% of the 124 miles of motorized trails currently on the Wayne. At this pace, the Forest should be able to maintain all of its motorized trails on an annual or two-year rotation period.

Athens District

In FY 08, the Athens District maintained or improved 77 miles of OHV trails to standard.

Miles of trails meeting standard were calculated by adding the 3 miles of new construction and 74 miles maintained to standard (see Table 2.7). Both manual (trail crew) and machine (contracts) maintenance work were tracked and submitted by the Athens District to obtain the total miles maintained to standard. Approximately 4 miles of maintenance on the Long Ridge Trail system were completed in partnership with the Hocking College equipment operation class.

Table 2.5 Athens District Motorized Trail Maintenance

Trail Name (Motorized)	Type of Maintenance	Miles Maintained
Dorr Run/Inner Dorr OHV Trails	Routine Maintenance	15 miles
Snake Hollow/Main Corridor OHV Trails	Routine Maintenance	10 miles
Snake Hollow/Dorr Run/Long Ridge/ Main Corridor OHV Trail	Routine Maintenance	27 miles
Main Corridor/Snake Hollow/ New Straitsville/ Connectors OHV Trails	Routine Maintenance	17.8 miles
Long Ridge OHV Trail	Heavy Mte. / Reconstr.	4.3 miles
Athens Maintenance Total		**74.1 miles**

Ironton District

All of the Pine Creek OHV Trail system and the Hanging Rock OHV Trail system received annual routine maintenance (see Table 2.8). Both trail systems were maintained to standard by clearing dead-fall from the trails following storms. Waterbars were cleaned out and berms and ruts were re-shaped. Four miles of Hanging Rock trail were brushed to remove overhanging honeysuckle shrubs from the trail.

Table 2.6 Ironton District Motorized Trail Maintenance

Trail Name (Motorized)	Type of Maintenance	Miles Maintained
Pine Creek OHV Trail System	Routine Maintenance	20 miles
Hanging Rock OHV Trail System	Routine Maintenance	26 miles
Total		**46 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?

No motorized trails on the Forest were closed due to unsafe conditions or adverse impacts to natural resources. Unsafe areas on the trails were repaired as soon as they were identified.

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 • 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	**Monitoring Work Plan Question #46:** Have sections of illegal trails on the Forest been closed and rehabilitated? If so, how many miles and where?

FY 2006, 2007, and 2008 closure figures bring the three-year Forest total to 26.5 miles, which surpassed the Forest Plan's goal of closing 20 miles of illegal trails 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.

Athens District

The Athens District closed a total of 15.5 miles of illegal OHV trails. The illegal trails closed included 3 miles off of the Long Ridge Trail, a mile off of the Dorr Run Trail, 6 miles off of the Kinderhook Horse Trail, 5 miles off of Irish Run Road, and 0.5 mile near private property. These illegal trails were blocked with boulders, earthen mounds, and dead and down vegetation. These closures were completed throughout 2008 and were revisited periodically thereafter by trail technicians to monitor closure effectiveness. Monitoring results found some blockages reopened by riders. The following are photos of of the illegal trail closure work.

Athens Unit illegal trail closures

Ironton District

Heavy stone blocks were placed across the old concrete road adjacent to the Superior Portland Cement Plant to block 4-wheel drive and OHV access to the one-mile paved road. This road is closed to prevent access to sensitive habitat.

Road adjacent to the Superior Portland Cement Plant blocked with boulders

The Ironton District re-signed for closure 3 sections of illegal trail to assist in law enforcement efforts. Two trails (approximately one mile total) adjacent to State Route 650 in the vicinity of Hanging Rock ATV Trail were signed to reinforce barriers installed two years earlier. Aggressive efforts by law enforcement yielded numerous violations for illegal ATV use on national forest lands.

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. There are no exclusive-use mountain bike trails on the Forest. Mountain bikers are allowed to use some hiking and horse trails and all OHV trails.

A total of 265.3 miles of trails were maintained to standard on the Forest in FY 2008. Of this total, 145.25 miles were non-motorized trails. This constitutes 62% of the 233 total miles of non-motorized trails currently on the Wayne. At this pace, the Forest should be able to maintain all of its non-motorized trails within a two-year rotation period.

In FY 2008, the Athens District maintained (routine and heavy maintenance) 77.25 miles non-motorized trails to standard (see Table 3). The River Valley Mountain Bike Association maintained approximately 20 miles of trails on the Marietta Unit.

Table 2.7 Athens District Non-Motorized Trail Maintenance

Trail Name and Trail Type (Non-motorized)	Type of Maintenance	Miles Maintained
Ohio View Trail - Marietta	Heavy Mte. / Reconstr.	1 mile
Archers Fork Loop - Marietta	Heavy Mte. / Reconstr.	1.5 miles
North Country Trail - Rock Run	Heavy Mte. / Reconstr.	0.25 mile
Covered Bridge Hiking Trail - Marietta	Routine Maintenance	6.5 miles
Lamping Hiking Trail - Marietta	Routine Maintenance	3 miles
Ohio View Trail - Marietta	Routine Maintenance	7 miles
Stone Church Trail - Athens	Routine Maintenance	24 miles
Archers Fork Loop - Marietta	Routine Maintenance	3 miles
North Country Trail - Marietta	Routine Maintenance	4.5 miles
Wildcat Hollow Hiking Trail - Athens	Routine Maintenance	14 miles
Scenic River Hiking Trail - Marietta	Routine Maintenance	2.5 miles
Scenic River/Archer's Fork Conn. Trail	Routine Maintenance	1.5 miles
Kinderhook Horse Trail - Marietta	Routine Maintenance	8.5 miles
	Total	**77.25 miles**

Table 2.8 Ironton District Non-Motorized Trail Maintenance

Trail Name and Trail Type (Non-motorized)	Type of Maintenance	Miles Maintained
Vesuvius Horse Trail	Routine Maintenance	40 miles
Vesuvius Backpack Hiking Trail	Routine Maintenance	16 miles
Vesuvius Lakeshore Hiking Trail	Routine Maintenance	12 miles
	Total	**68 miles**

A 5" rainfall in early June of 2008 moved the Storms Creek Hiking Trail Bridge off its supports (see photos below). A Forest Service crew was able to reconstruct and strengthen the bridge to better than its original condition.

Storms Creek Hiking Trail Bridge (Before)

Storms Creek Hiking Trail Bridge (After)

The Ironton District improved four miles of the Vesuvius Horse Trail in two locations by hardening wet areas and trail segments rutted out by streams.

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?

Monitoring Question 11.2d is associated with Forest Goal 11.2 of providing safe quality trails for visitors and to Forest Plan Objective 11.2g of constructing new trails during the next 10 to 15 years within the ranges and densities as shown in Table 2-5 of the Revised Forest Plan.

The new 0.6-mile Ora E. Anderson/Rutherford Hiking and Nature Trail was completed and opened in FY 2008. This trail is the first wildlife viewing trail accessible to persons of all abilities on the Athens Unit. Athens District also constructed 3 miles of the planned 5 miles of motorized trail loops around Camp Ohio.

Ora E. Anderson Trail under construction


Ora E. Anderson Trail under review after project completion

Ironton District

No new OHV trails were constructed on the Ironton District in FY 2008.

In FY 2006, the Ironton District began construction on the new Archery Trail located across from the Lake Vesuvius Boat Launch area within the Developed Recreation Management Area (DR). The ½-mile hiking trail was completed in Fall 2008 (see photos below). The National Wild Turkey Federation was a key partner in this trail project, contributing $34,000 toward trail and parking area construction.

One of many archery trail paths and targets

One of two hiking bridges on the archery 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?

In FY 2008 five timber sales were monitored for compliance of Scenery Management System (SMS) guidelines. Four of these timber sales were hardwood thinnings that were within the Buckhorn area on the Ironton District. The fifth timber sale was a 12-acre pine clearcut in the Gore-Greendale area on the Athens District. They include:

- North Buckhorn Timber Sale (Completed June 2008)
- South Buckhorn Timber Sale (Completed November 2007)
- Lambert Hollow Timber Sale (Completed June 2008)
- Caulley Creek Timber Sale (Currently active)
- Gore-Greendale Timber Sale (Completed June 2008)

Though some of the log landings showed minor evidence of residual debris from the timber sale (i.e. flagging, boundary paint, piles of logging slash over 3 feet tall, etc.), overall, the post logging operations and site rehabilitation were left in a satisfactory condition and were aesthetically pleasing. Residual debris should not be visibly apparent within one to two years.

None of the above timber sales fall within designated Concern Level 1 or 2 areas or "High" scenic integrity objective (SIO) area. Most of the project areas fell within the "Low" or "Moderate" SIO. Overall, all completed projects implemented the Forest Plan's scenery guidelines and have met, or are projected to meet, their assigned SIOs within one to two years.

The following monitoring photos are a representative sample of the photos taken for each timber sale project. The remaining photos are recorded electronically in the monitoring files.

North Buckhorn Timber Sale Landing (3 months after project completion)

Lambert Hollow Timber Sale Landing (5 months after project completion)

Caulley Creek Timber Sale Landing (Currently active – 10/29/08)

South Buckhorn Timber Sale Landing (1 year after project completion)

Gore-Greendale Timber Sale Pine clearing (6 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?

No heritage sites were evaluated for the National Register in FY 2008. However, 24 new sites were inventoried on Forest land.

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 24 priority heritage assets on the Wayne National Forest in FY2008. However, 14 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.

Land Adjustment and Special Uses

In FY 2008, the Forest received $1,900,000 of Land and Water Conservation Funds (L&WCF) to acquire 2,179 acres of land.

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 2008 the Forest acquired 2,179 acres that improved consolidation. These acquisitions meet the objectives of land purchases, exchanges or donations. Of the 2,179 acres acquired, 840 acres are within the Historic Forest (HF) management area, 920 acres is within the Grassland Forest Management (GFM) management area and 419 acres are within the Forest Shrubland Mosaic (FSM) management area. One land exchange was completed on the Marietta Unit using the authorities of the Sisk Act. The Forest Service conveyed 2.19 acres of Forest Servie land to the Washington County Board of Commissioners for $25,000. The subject property was a parcel of land that had been under a special use permit to the County since 1976. The funds obtained from this exchange will be used to acquire other land on the Forest. No donations were received

during FY 2008.

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 15 parcels of property that improved access to existing National Forest lands in FY 2008. The TNC Cambria Purchase Phase IV purchase provided additional land for consolidation and improved access to existing NFS lands from the public road frontage or right-of-way made available by the purchases.

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 19 new special use permits. These permits all contribute to community development since private individuals or companies have permits to their property for utilities, access or land uses. The community benefits by the use of public lands for occupancy since alternatives are not available on private land.

The Forest did not acquire property that contained prime farmland or land with high potential for community development in FY 2008.

Goal 14.2 Maintain Boundary Lines

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 12 miles of boundary maintenance. The Forest continues to make progress in marking National Forest property boundaries.

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?

The Forest resolved 3 trespasses discovered in FY 2008. The Forest continues to investigate and resolve trespass and encroachments on the Forest as they are discovered.

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?

The Forest considers special use requests and if deemed an acceptable use, processes the application and issues a permit for special use authorizations on NFS lands. The Forest processed and issued 19 new permits. The Forest continues to implement the Cost Recovery Program for Special Uses in 2008.

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 were acquired in FY08 year are under a grazing permit.

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 for 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 2008 no buildings were decommissioned and one was constructed at the

Nelsonville Warehouse site. The unheated warehouse building will store a variety of equipment for the Athens District. The new building is a four bay, 1500 square foot unheated structure with minimal services. Construction of a 100' communications tower was completed and the tower is now in service at the WNF Headquarters Office.

In FY 2008, 19 facilities were inspected for general maintenance and we updated our real property and deferred maintenance database according to the findings.

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 17.2c – Decommission or appropriately dispose of dams no longer needed.	

In FY 2008, two of the three Forest dams that were inventoried met current Federal regulations. 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 2008. One deficiency was noted at Timbre Ridge dam.

Currently there is no secondary all-weather route to the dam for emergency equipment and repair in the case of partial dam failure. The only all-weather road would likely be inundated by water in the event of a Probable Maximum Flood (PMF) and the secondary road is not currently passable by highway vehicles. The road could be forced into service by the use of a portable bridge the Forest now has in inventory. Construction equipment could access the site from the secondary road now in place, but some vehicles likely would be delayed until access was improved.

Two dams that are permitted to third parties and are located partially on National Forest Ownership were reviewed by Forest personnel in 2008. While the Forest Service has no regulatory requirement for inspection of the dams with respect to life safety or compliance with State Law, the dams are reviewed for general condition and adherence to their permit requirements. Both received maintenance in the last 18 months and both were found to be in generally good condition.

Table 2.9 Dam Inspections

Dams	2008 Inspections	
	Number Receiving Inspections by District	Noted Deficiencies
Athens District - 7	1	0
Ironton District - 10	2	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 crossings were inventoried and/or corrected for sedimentation production?

In FY 2008, an estimated 56 road-stream crossings were inventoried within several 5th level watersheds. Those noted as possible impediments to aquatic organism passage were identified and a record made of their location. Data is stored in a GIS database and is used to request funding for aquatic passage replacement according to the degree of impedance and the quality of the fishery the culvert serves. None 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.

A structurally deficient bridge on Township Road 245 in Aid Township, Lawrence County was replaced under Forest Highway Funding in 2008. A total of $50,000.00 was transferred to the County from Eastern Federal Lands Highway Division in cooperation with the Wayne National Forest and Ohio Department of Transportation under the Forest Highway program. These funds allowed the County to replace the obsolete and structurally deficient bridge that accesses the Paddle Creek Trailhead and large sections of the Ironton Ranger District holdings.

Culvert Replacement - Township Road 245 Aid Township, Lawrence County Ohio.

The Rinard Mills bridge on Monroe County Road 138 was replaced in FY 2008. Funds in the amount of $383,000.00 were issued from the Ohio Forest Highway program. Funds were allocated in partnership with the US Forest Service, Wayne National Forest, Eastern Federal Lands Highways Division and the Ohio Department of Transportation to Monroe County. The bridge was placed in service in August of 2008.


New Rinard Mills Bridge - Monroe County Road 138

Table 2.10 Road-Stream crossings inventoried for probable sediment production and aquatic passage

	Sedimentation Production	Aquatic Passage
Athens District - 10 monitored (estimated)	no issues of concern noted	no issues of concern noted
Ironton District – 60 monitored (estimated)	no issues of concern noted	Two structures replaced under Forest Highway Program to promote Aquatic Passage and three funded on State Highway 26.

Funds in the amount of $545,000 were transferred from the Wayne National Forest to the Ohio Department of Transportation to replace the structure at Wolfpen Run, buy right-of-way and fund engineering services at two other high priority crossings on State Route 26. When complete, these projects will allow up to 12 miles of streams in the Little Muskingum watershed to be resettled by all the historic species of aquatic organisms present that previously could not negotiate the man-made structures in the streams. The projects are located in Washington and Monroe counties.

No structures were modified for sediment control in 2008 as a result of monitoring.

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 2008, at least 32 system roads or segments of system roads were monitored and evaluated for management or maintenance activities during the year. Of these 32 roads, none were identified as excess or no longer needed for management activities in the future and identified for removal from the system. These 32 roads comprised 44.3 miles of Forest Service system roads. A number of special use roads and non-system or unauthorized roads were monitored in FY 2008. An estimated 0.3 miles of temporary, unauthorized and special use roads were decommissioned in 2008. Additional miles of non-system road were identified as needing decommissioning in the future. This process will continue to take place for both system and non-system roads when management activities take place in a given area.

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?

In FY 2007, there were 363.3 miles of system roads in the INFRA database at the end of September 2007. Due to data clean-up and adjustments we now show 359.6 miles of roads as of the end of September 2008. These changes are due to additions and deletions of roads and correction of mileage in the database to reflect actual length of road segments on the ground. Initially some roads were entered from historic information and in some cases that must be corrected to reflect the actual length on the ground. 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 can not be assumed to meet or not meet objective maintenance level. Due to this data gap, an estimate of total roads not meeting objective maintenance level can not be determined at this time.

Table 2.11 Road Maintenance

	Total System Miles at Operational Maintenance Level (End of FY)	Roads Receiving Maintenance *** Approx. (Miles)	Roads at Objective Maintenance Level that were inventoried in FY 2007*** (Miles)
Maintenance Level 1 and 2	309.9	9.5	110.0
Maintenance Level 3	27.3	11.0	6
Maintenance Level 4	9.8	10.8	5
Maintenance Level 5	12.6	1.6	7.5
Total Miles	**359.6**	**44.3**	**128.5**
% of Road at Objective ML as inventoried in FY 2007			**35.7%**

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

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

Continued use of closed roads by the public 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 with the planning process on a case-by-case basis as problems are discovered.

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

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 2008, no hazard trees with Indiana bat roost tree characteristics were removed during the period from April 15th to September 15th of 2008. All hazard trees were removed before April 15th or after September 15th.

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?

The three primary types of preventative actions taken include, but are not limited to, the following:

- Working with various federal, state, and local agencies in a cooperative effort to maximize law enforcement presence
- Patrolling Wayne National Forest roads and trails to ensure compliance with established laws
- Using Forest Protection Officers (FPO's) to patrol high-use areas in order to educate visitors and enforce policy

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?

Totals are:

OHV: 327
Fire: 36
Timber: 18
Dumping: 146

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 Agreement (CLE's) with seven counties.

- Athens
- Gallia
- Hocking
- Lawrence
- Monroe
- Perry
- Scioto

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

There were 813 violations in FY 2008.

- Warnings: 148
- Incidents: 471
- Mandatory Appearances: 15
- Collateral Fines: 179

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?

In FY 2008, 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. Our water suppliers were asked to test the water for biological contaminant as part of their mandatory testing program with the State of Ohio. The Ironton District has compiled test data on the collateral systems and had no positive tests for coliform bacteria. Athens Ranger District can not locate the tests results from the water suppliers at either of their water distribution systems in Leith Run and Burr Oak campground. Starting operation season 2009, the Forest will contract with a testing company to perform the required tests and store them at the Supervisors Office to prevent data loss and ensure testing is taking place.

If contaminants are found above the State limits, they will inform us and the appropriate actions can be taken until such time as the contamination has been eradicated.

Waste Water (National Pollutant Discharge Elimination System (NPDES) Permits

In FY 2008, the Forest requested that the Ohio Environmental Protection Agency (OEPA) close out the one remaining NPDES Permit (OPN00028) with the State of Ohio. It was associated with the wastewater elimination system at the Ironton District Office. The system was a recalculating sand filter with ultra-violet (UV) polishing and surface discharge to the surface. In August of 2008 the effluent was rerouted to a leach bed system at the office site. This eliminated the surface discharge and allowed the Forest to request elimination of the NPDES permit with OEPA.

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 2008 fiscal year.

III. Acknowledgment of Contributors

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