



United States  
Department of  
Agriculture

Forest Service

Eastern  
Region



# Fiscal Year 2006 Monitoring and Evaluation Report



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# 2006 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  
Eastern Region  
Milwaukee, Wisconsin  
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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 238,000 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 a part of 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**

<b>Monitoring Methods</b>	<b>Monitoring Questions</b>	<b>Annual Monitoring Plan</b>	<b>Monitoring and Evaluation Report</b>
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 2006 is the first year of Monitoring for the 2006 Forest Plan and a more comprehensive evaluation of 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.

<p><b>Objective 2.1a:</b> Restore the dimension, pattern, and profile of streams where channel and floodplain morphology has been altered.</p>	<p><b>Monitoring Work Plan Question #1:</b> How many miles of stream have been treated to restore dimension, pattern and profile?</p>
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There were no activities related to the restoration of stream dimension, pattern and profile in FY (Fiscal Year) 2006.

<p><b>Objective 2.1b:</b> 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.</p>	<p><b>Monitoring Work Plan Question #2:</b> How many acid mine discharges have been treated?</p>
	<p><b>Monitoring Work Plan Question #3:</b> How many subsidence features have been treated?</p>
	<p><b>Monitoring Work Plan Question #4:</b> What geo chemistry parameters have changed by reducing and/or treating acid mine discharges?</p>

Monitoring for 2006 includes two limestone dosers and two limestone leach beds in the Monday Creek Watershed.

In FY04 and FY06 two limestone dosers (**Essex & Jobs**) were installed to treat and enhance water quality in the main stem of Monday Creek. The project sites are located in the Diverse Continuous Forest with Off-Highway Vehicles (DCFO), and Diverse Continuous Forest management reas respectively. The goal of the project was to neutralize acidity discharging from the Essex mine. The project goal, as indicated from initial post-construction sampling, has been met 100 percent.

Essex Doser construction was completed March 31, 2006. The funding sources for this project were ODNR-DMRM (Ohio Department of Natural Resources-Division of Mineral Resource Management) and OEPA (Ohio Environmental Protection Agency) for both the design and construction. As a result of the Essex Doser Project, pH and net acidity have improved downstream for approximately 6.0 miles.

Pre-construction data showed pH in the range of 4.5 – 5.1 at the project discharge and downstream. After installation of the Essex Doser Project, initial post-construction data (one sampling event) shows pH in the range of 6.7 – 7.4 at the discharge and downstream. The net acidity concentration decreased 100 percent at the project discharge, resulting in net alkaline conditions on the mainstem of Sycamore Hollow.

Pre- and post- construction water quality data was collected at the project discharge points as well as multiple long-term monitoring stations. The graphs below show changes in pH and acidity along the mainstem of the receiving stream, as well as upstream and down-stream of the project discharge. Further evaluation of this site will occur in 2007.

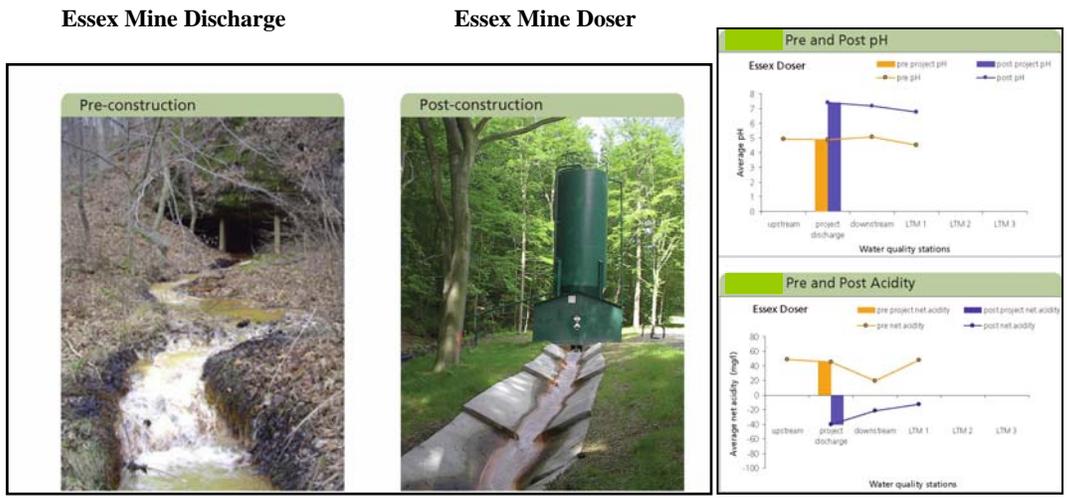


Figure 1 Essex Doser

In FY04 the Jobs limestone doser was installed in the headwaters of the Monday Creek watershed. The goal of the design was to decrease acid load from the headwaters of Monday Creek by 54 percent. The project goal was met 100 percent. Partners included ODNR-MRM (Mineral Resource Management), OSM (Office of Surface Mining), ODNR-DMRM and OEPA. Figure 1 indicates that approximately 692 lbs/day of acid

were prevented from entering into Monday Creek as a result of this AMD (acid mine drainage) reclamation project. In addition to the acid loading reduction measured at this site, there are approximately 245 lbs/day of alkaline addition to the headwaters of Monday Creek. Dissolved metal load reduction occurring at this site was approximately 97lbs/day. The Jobs Hollow Doser is located in the Diverse Continuous Forest Management Area.

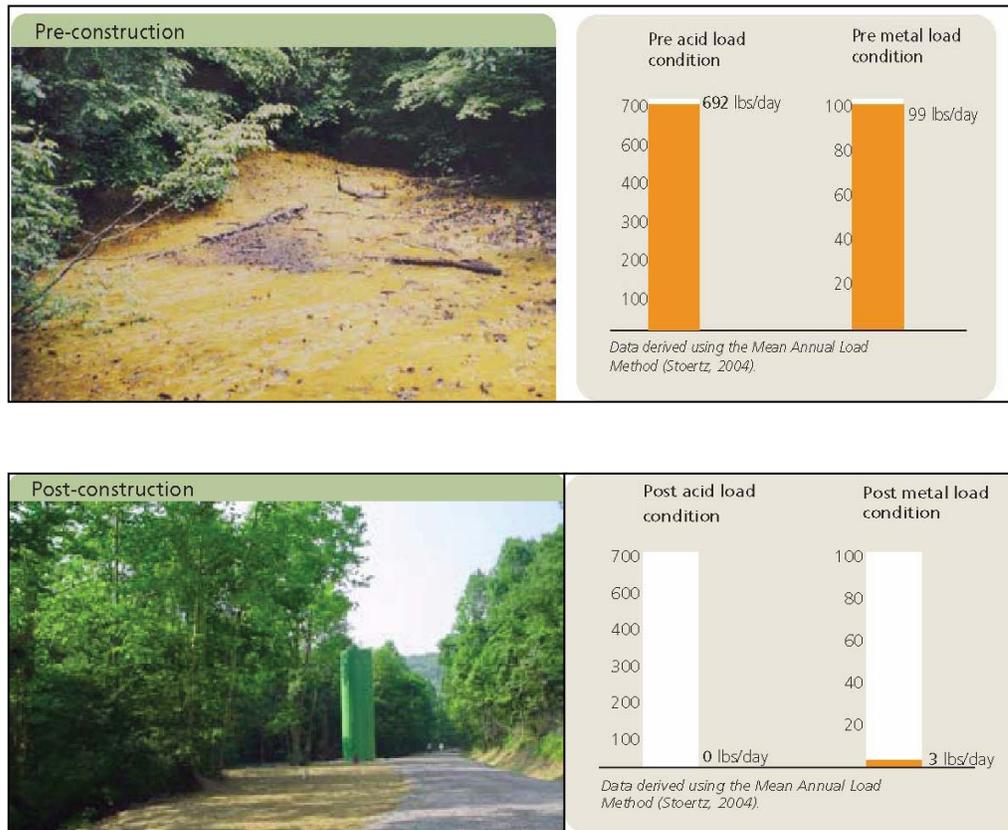


Figure 2 Jobs Hollow Doser

## Water Quality Report

Water quality data was collected at the project discharge as well as multiple stations pre- and post- construction. The graphs below show changes in pH (Figure 3) and acidity (Figure 2) along the mainstem of the receiving stream up-stream and down-stream. As a result of the Jobs Hollow Doser project, the pH and net acidity have improved downstream of the reclamation site for 10 miles. Pre-construction data showed pH in the range of 3.5 – 5.5 downstream of the project. However, after installation of the Jobs Hollow Doser, post-construction data collected in FY06 shows pH in the range of 6.5 – 8.5 downstream. The net acidity concentrations decreased also, with net alkaline conditions continuing for 10 miles downstream.

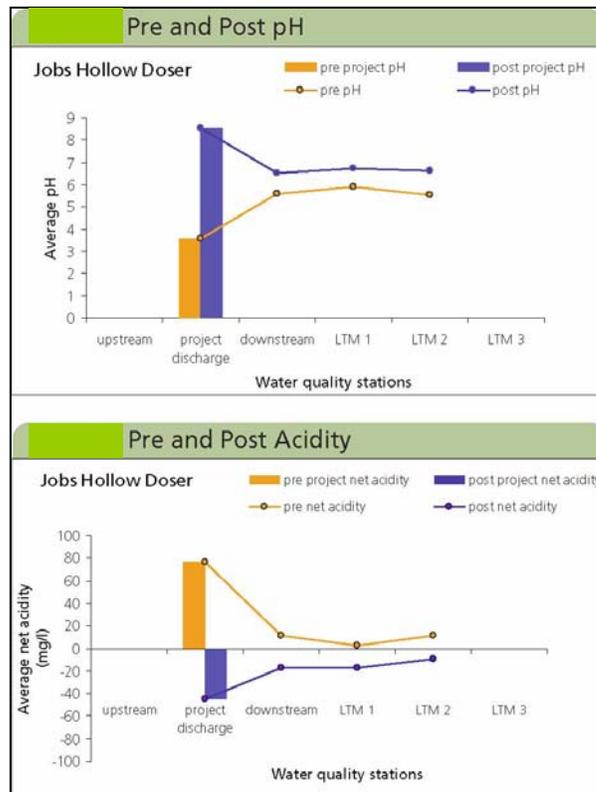


Figure 3 Jobs Doser Acidity

### Acid Load Reduction

Acid and metal load reduction occurring at this project are plotted and shown in Figure 4. Acidity, iron, aluminum and discharge were measured pre- and post-construction at the project discharge from 10/1/1997 to 5/1/2004 for pre-construction and from 6/1/2005 to 12/31/2006 for post-construction

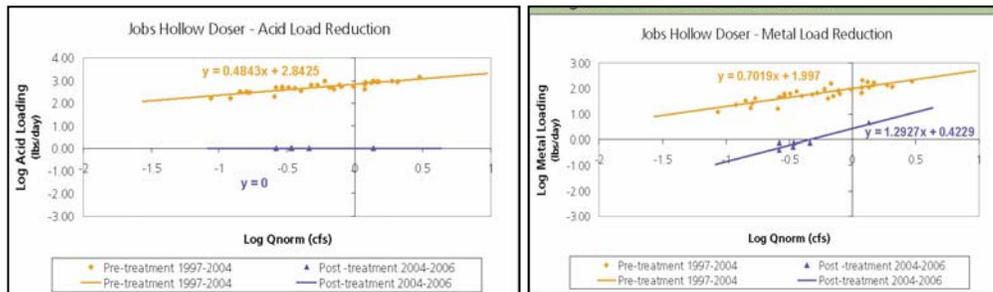
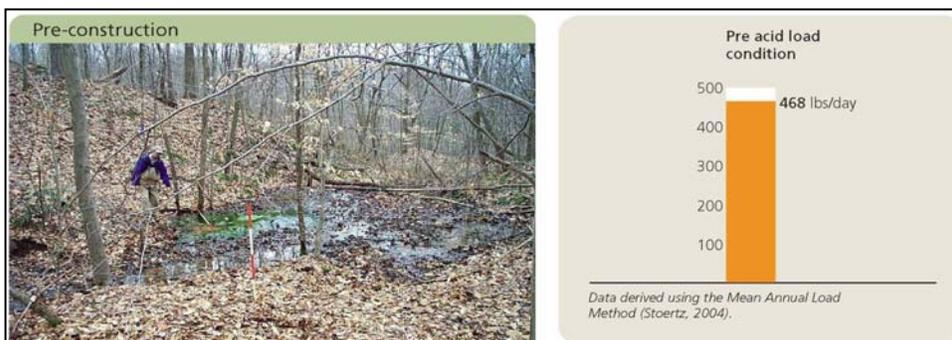


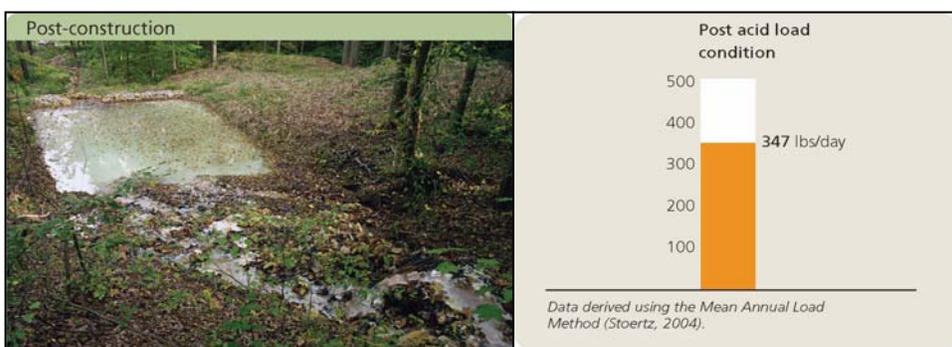
Figure 4 Jobs Doser Acid and Metal Load Reduction

**Big Four Hollow** encompasses 285 acres of a 410 acre sub-watershed draining to Monday Creek. Construction was completed September 17, 2001. The treatment approach for this site was to install two limestone leach beds and approximately 1,400 linear feet of limestone channel. The goal of the design was to reduce acidity

concentration, not metals. Based on FY06 sampling, the project goal was met by reducing 26 percent of the acidity concentration at station BF00400. Project funding sources for included the Forest Service, MCRP (Monday Creek Restoration Project), and ODNR-DMRM. The figures below show approximately 121 lbs/day of acid and 0 lbs/day of metals were prevented from entering into Monday Creek as a result of this AMD (Acid Mine Drainage) reclamation project. The project is located in the Diverse Continuous Forest with Off-Highway Vehicles (OHV's).



**Figure 5 Acid mine stream and strip-pit**



**Figure 6 Big Four Hollow Limestone Leach Bed**

*Source: All figures and associated statistics were generated from the Non-Point Source Monitoring Project Website hosted at Ohio University's Voinovich Center.*  
<http://www.watersheddata.com/>

### 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.

*See page # 21 for question (3.1a) #5 under the heading Waterholes and Wetlands*

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

*\* The Forest Plan Monitoring question above is not assigned a Work Plan question # because it was not included in the original Monitoring Work Plan for 2006.*

The Forest Service and Gallia County Engineer cooperated to improve one road-stream crossing on Camp Creek. A bridge was replaced with a concrete box culvert to improve aquatic organism passage. We estimated that this bridge replacement also improved upstream and downstream flow conditions and habitat for 0.25 miles.

We also entered into a partnership with The Ohio State University School's of Environment and Natural Resources and Department of Food, Agricultural and Biological Engineering to install long-term aquatic ecological unit monitoring sites. We permanently installed 11 sites across the different management areas in the Little Muskingum River and Symmes Creek watersheds. Each site was electrofished to assess the fish community, and then cross-section and longitudinal profiles were completed for the sites. A pebble count survey was conducted to assess current sediment characteristics. An Ohio State University post-doc student is summarizing and evaluating the field data. Because these sites have been permanently marked, we can go back to them in the future and repeat the surveys and determine what, if any changes have occurred to the physical or biological make-up of the streams.



Dr. Andy Ward, a professor with Ohio State University's Department of Food, Agricultural, and Biological Engineering, and Kari Kirschbaum, Ironton Ranger District wildlife biologist, measure and record elevations at a permanent channel cross-sections on Handley

## 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.

<p><b>Objective 4.1a:</b> Provide adequate habitat to support viable populations of management indicator species.</p>	<p><b>Monitoring Work Plan Question #7:</b> Are population trends and habitat trends of management indicators consistent with Forest Plan expectations?</p>
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#### **Pine Warbler, Cerulean Warbler, Worm-eating Warbler, Pileated Woodpecker, Louisiana Waterthrush, Yellow-breasted Chat, Henslow's Sparrow**

Trends in population levels of these MIS are shown for two spatial scales, regional and Forest-wide. At the regional level (Ohio Hills Physiographic Region), population trends have been monitored through the North American Breeding Bird Survey since 1966. Table 2.1 displays the 1966-2005 trends for our MIS. The pine warbler has the greatest

positive trend over this time period. The worm-eating warbler and pileated woodpecker have slight increasing population trends. The remaining species are in decline, with the Henslow's sparrow decreasing the most.

	<b>Trend Estimate</b>	<b>P Value</b>	<b>Number of Routes</b>	<b>Variance</b>	<b>Average Count</b>
Pine Warbler	6.71	0.16086	11	18.3349	0.11
Cerulean Warbler	-2.88	0.00001	58	0.3589	2.45
Worm-eating Warbler	1.96	0.31299	35	3.6529	0.58
Pileated Woodpecker	0.90	0.41733	64	1.2152	1.90
Louisiana Waterthrush	-0.89	0.55681	48	2.2383	0.91
Yellow-breasted Chat	-3.45	0.00000	66	0.3773	9.99
Henslow's Sparrow	-8.09	0.00066	16	3.3171	0.14

We have conducted an annual breeding bird survey since 2003 on the Wayne National Forest. We record all birds seen and heard at 242 specific points along 23 survey routes. These routes occur in different habitat types (forest, openland, wetland, grassland). All routes are to be sampled twice during May 20-June 20.

The average number of individuals of each MIS observed per survey is presented in Table 2.2. The average was calculated by taking the total number of individuals observed and dividing that by the number of points on routes where habitat for the species occurs. While there are 23 routes, each MIS is not expected to occur on each route. For example, the Henslow's sparrow is a grassland species. There are two grassland routes, with a total of 42 points (i.e., 21 points, each sampled twice). The total number of Henslow's sparrows observed is divided by 42 to get the average per survey.

With the exception of the pine warbler, population and habitat trends for the other MIS were 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 pine communities would likely decrease in abundance on the Wayne over time. With only four 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 four year period, which is why long-term monitoring is necessary.

	<b>Number of Routes</b>	<b>2003 Average Count</b>	<b>2004 Average Count*</b>	<b>2005 Average Count</b>	<b>2006 Average Count</b>
Pine Warbler	13	0.05	0.07	0.10	0.09
Cerulean Warbler	16	0.18	0.10	0.11	0.14
Worm-eating Warbler	17	0.13	0.03	0.05	0.09
Pileated Woodpecker	21	0.11	0.10	0.08	0.09
Louisiana Waterthrush	12	0.11	0.10	0.08	0.09
Yellow-breasted Chat	19	0.13	0.29	0.14	0.24
Henslow's Sparrow	2	0.44	0.23	0.19	0.75

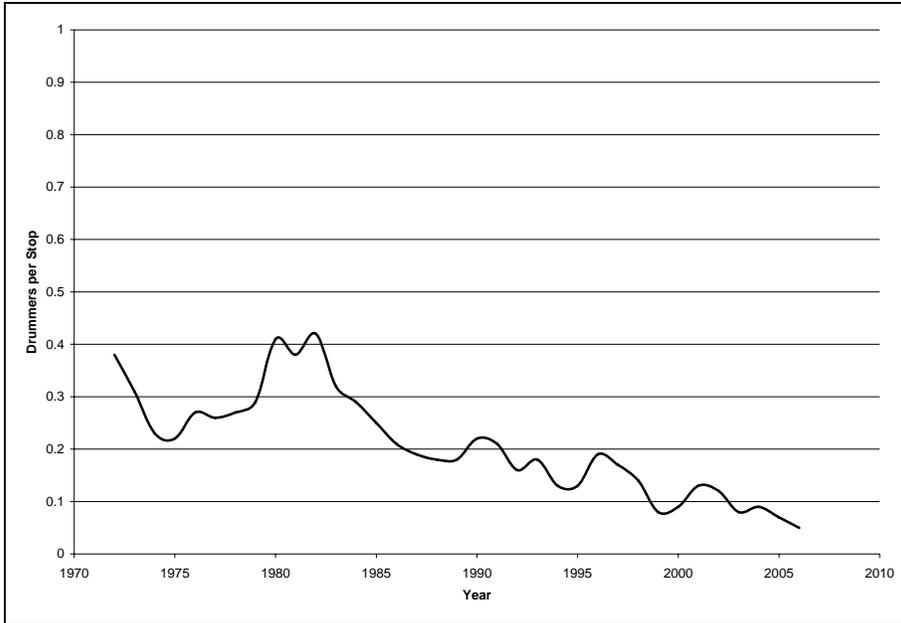
\*The BBS was conducted on Ironton survey routes only in 2004. The average reflects only the Ironton routes.

When the Wayne's breeding bird survey was begun in 2003, we used mid-1990's orthophotos to characterize the habitat at each sampling point. We now have access to 2005 orthophotos and will be working to update the habitat characterizations of each sampling point in the next fiscal year.

### **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 2006. Because of that, the continued decline in grouse population trends would be expected in counties where NFS lands occur. Statewide, the ruffed grouse population trend continues to decline (see Figure 7). Fourteen drumming count routes were surveyed within the Wayne National Forest in 2006 and results show that ruffed grouse population trends vary across the Forest (see Table 2.3). Population trend increases from 2005 correspond to locations in the Wayne where the highest grouse population had tended to occur (Monroe County), and where the 2003 ice storm created a brushy forest understory (Gallia County).



**Figure 7**  
**Statewide ruffed**  
**grouse**  
**population trend,**  
**1972-2006 (data**  
**courtesy of Ohio**  
**Division of**  
**Wildlife).**

**Table 2-3 Number of drumming male ruffed grouse heard per stop on Wayne National Forest survey routes, 2003-2006.**

County	Route	2003	2004	2005	2006
<b>Athens Unit</b>					
Athens	Big Bailey/Utah Ridge			0.00	0.00
Hocking	Green/Starr Townships	0.00	0.05	0.00	0.00
Perry	Monroe Township 1	0.15	0.00	0.15	0.10
Perry	Monroe Township 2	0.00	0.00	0.00	0.00
<b>Ironton Unit</b>					
Lawrence	Telegraph Ridge	0.20	0.25	0.05	0.00
Lawrence	Aid Township	0.05	0.25	0.05	0.05
Lawrence	Hanging Rock			0.00	0.00
Scioto	Vernon Township	0.05	0.40	0.40	0.05
Gallia	Greenfield Township	0.15	0.05	0.15	0.35
Gallia	Walnut Township	0.35	0.25	0.05	0.25
<b>Marietta Unit</b>					
Morgan	Union Township	0.15	0.15	0.10	0.00
Monroe	Graysville	0.30	0.45	0.00	0.20
Monroe	Antioch	0.45	0.60	0.15	0.20
Washington	Pine Ridge	0.20	0.20	0.15	0.05

**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

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).

<p><b>Objective 4.1b:</b> Promote restoration and maintenance of the oak-hickory ecosystem by improving conditions for oak regeneration in the HF and HFO management areas.</p>	<p><b>Monitoring Work Plan Question #8:</b> How many acres were treated to encourage oak regeneration?</p>
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A total of 562 acres of mixed-oak forest stands were thinned in 2006. These hardwood areas had been affected by the 2003 ice storm that hit the Ironton Ranger District. The trees we removed had been topped out or broken. These hardwood treatments were planned under the 1988 Forest Plan. There were also 266 acres of prescribed burning in the Utah Ridge area of the Athens District.

### 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, we 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.

<p><b>Objective 4.1c:</b> 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.</p>	<p><b>Monitoring Work Plan Question #9:</b> How many acres of hardwood or hardwood/pine forest communities were treated to encourage the establishment of all-aged conditions?</p>
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We issued the decision on the Gore-Greendale Diverse Continuous Forest Project, under the 2006 Forest Plan. We have not implemented this project as of yet, however single-tree and group selection harvests would be implemented on 898 acres. These harvest methods are used to begin the transition from an even-aged stand to an all-aged stand.

### 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.

<p><b>Objective 4.1d:</b> 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.</p>	<p><b>Monitoring Work Plan Question #10:</b> How many acres of early successional forest habitat were created?</p>
--	--

No early successional forest habitat was created during 2006.

### 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 stripmines. 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.

We estimated that 200 acres of native pine would be regenerated during the first decade of Forest Plan implementation.

<p><b>Objective 4.1e:</b> Regenerate existing native pine and pine-hardwood mixed communities.</p>	<p><b>Monitoring Work Plan Question #11:</b> How many acres of pine or pine-hardwood communities were treated?</p>
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No native pine communities were treated in 2006.

### Grassland Habitat

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

<p><b>Objective 4.1f:</b> Annually, improve or maintain 5-10 percent of the existing grassland and grassland/shrub habitat acreage in the GFM management area.</p>	<p><b>Monitoring Work Plan Question #12:</b> How many acres of grassland habitat were improved or maintained?</p>
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We did not improve or maintain any grassland/shrub habitat in 2006. We did conduct field reviews of these areas in support of our openland management review (see following section).

### 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 also estimated that 5,000 acres of openings and other herbaceous habitats would be maintained.

<b>Objective 4.1g:</b> 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.	<b>Monitoring Work Plan Question #13:</b> How many acres of herbaceous or herbaceous-shrub habitat were created?
	<b>Monitoring Work Plan Question #14:</b> How many acres of herbaceous or herbaceous-shrub habitat were maintained?

We did not create any herbaceous or herbaceous-shrub habitat in 2006. We did mow 343 acres of openings to reduce woody encroachment and to maintain the herbaceous-shrubby composition. Much of this work was done in partnership with the Ohio Division of Wildlife.

An openland management review was initiated in 2006. We are evaluating our current forest openings program, and are looking at existing open-land 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.

### 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.

<b>Objective 3.1a:</b> Restore wetland habitat where wetland hydrology, soils, or vegetation have been modified by past land uses.	<b>Monitoring Work Plan Question #5:</b> How many acres of wetland habitat was restored or enhanced?
<b>Objective 4.1h:</b> Construct waterholes and ephemeral wetlands to supplement limited water	<b>Monitoring Work Plan Question #15:</b> How many waterholes or

sources, enhance local biodiversity, and enhance aquatic insect production.	ephemeral wetlands were constructed or enhanced?
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In 2006, we did not restore or enhance any wetland habitat, but did perform tests to assess soil characteristics and presence of drainage tiles at a potential wetland restoration site in Gallia County, on the Ironton Ranger District. We found that the site has good potential for restoration work because (1) it contains soils that are comprised of well drained, deep, silty-clays; (2) burrowing crayfish were present, but their holes did not contain water; (3) buried drainage tiles are a common feature throughout the tract; and (4) silty clays are not underlain by permeable soils. Further analysis and invitations for public input on this potential project will occur in 2007 or 2008.

In 2006, we created three small waterholes (0.1 acre in total) in association with the Wharton Abandoned Mine Land project. The intent of the Wharton project was to eliminate flooding of neighboring houses by redirecting acid mine water seeps into a channel away from the house. We were able to construct these small waterholes alongside the old mining haul road that was used for the project. Frogs and insects were observed using the waterholes soon after completion of the project.

We also completed a project to evaluate whether GIS could be used to identify wetland restoration opportunities on the Wayne. An Ohio University student, Doug Gibson, took this project on for his Master’s project. He performed various GIS analyses using the Wayne’s soils layer and digital elevation models. Six potential site restoration categories were used, ranging from high wetland restoration potential to low restoration potential. Gibson conducted field reviews and found that GIS was very accurate in determining the potential site restoration category. This tool may now be used during project planning, and shared with other landowners and agencies involved in wetland restoration.

**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 we should 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 are also able to introduce young people to our wildlife resources.

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

In 2006, we performed maintenance on 22 wildlife boxes on the Athens Ranger District,

with assistance from Hocking College Fish and Wildlife Management students. Old nesting material was removed and general repairs were made to boxes.

We did not install any new structures in 2006. However, we began construction of some rocket boxes, an artificial bat roosting structure. The Hocking College Fish and Wildlife Conservation Club worked on the actual construction of the boxes. More work is needed before installation on the Wayne National Forest.



Lindsey Van Gundy inspects a wood duck box on the Wayne National Forest

## 5 - Threatened, Endangered, and Sensitive Species

### Goal 5.1 – Recover Federally Listed Threatened and Endangered species

#### Indiana Bat (Endangered)

According to U. S. Fish and Wildlife Service records, the Indiana bat has now been confirmed in 24 Ohio counties. Most of these are summer records; verified winter hibernacula occur in Preble and Lawrence counties.

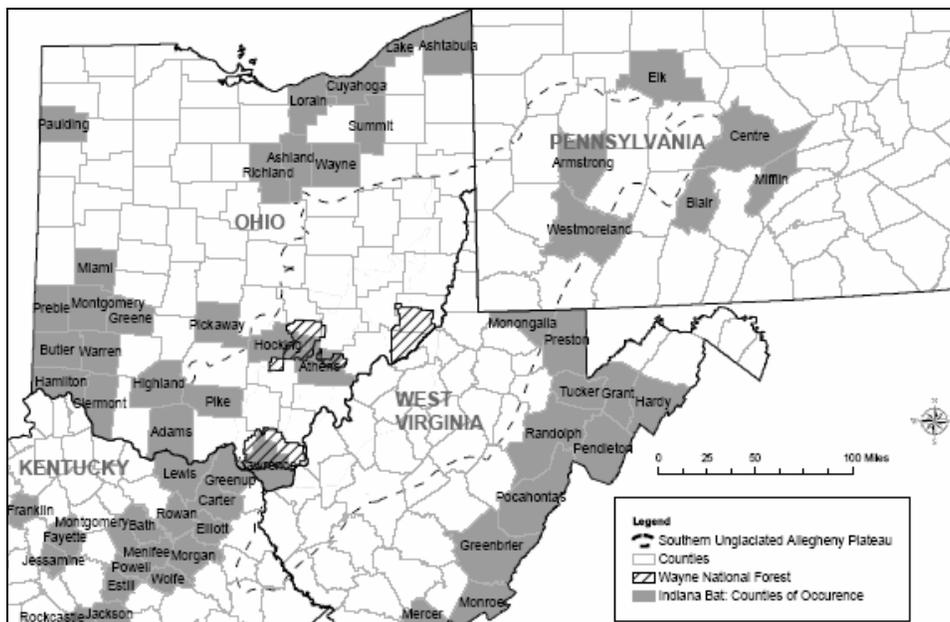


Figure 8 Indiana Bat Occurrences

During 2006, Forest Service biologists conducted summer mistnet surveys and fall swarming surveys to gain additional knowledge of the distribution of the Indiana bat in the Wayne National Forest.

Summer mist net surveys were conducted at four sites on the Ironton Ranger District in the Pine Creek area during the week of 17 July 2006. We caught a total of 27 bats in four nights of netting at two upland road rut pools, one upland pond, and one bottomland pond. Four species of bats were captured: northern bat (*Myotis septentrionalis*), red bat (*Lasiurus borealis*), pipistrelle (*Pipistrellus subfavus*), and big brown bat (*Eptesicus fuscus*). No Indiana bats were captured at these four sites, but that does not necessarily mean they are absent from the area during the summer months.

A total of 48 open, underground mine portals were evaluated for potential Indiana bat fall swarming and/or winter hibernation habitat. 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. Fourteen of these mine openings were surveyed between September 6<sup>th</sup>, and September 27<sup>th</sup>, 2006. Three portals were surveyed with a bat detector to determine presence or absence of bats. Eleven sites were surveyed with a harp trap, mist net, or both. A total of 674 bats were captured during these surveys, including two male Indiana bats. These Indiana bats were found at two different portals, each of which is in the vicinity of the Woody Mine – the known Priority 3 Indiana bat hibernaculum on the Wayne National Forest.



Biologists begin setting up the equipment for summer and fall bat surveys prior to sunset to ensure safety of all those involved. The mines openings are located in steep topography and sometimes near highwalls (cliff-like features). This photo shows a harp trap set up at a gated mine entrance. The remainder of the entrance is blocked so bats must fly in or out of the mine through the harp trap.

We conducted two Indiana bat training sessions for Wayne National Forest employees in 2006, in accordance with our Conservation Plan (Forest Plan, Appendix D). One session

was directed at timber markers, the other was directed at employees charged with hazard tree management in our recreation sites. Both sessions included a classroom presentation about the Indiana bat – its life history and habitat requirements. A field session was included in each training session so that employees could get hands-on experience identifying trees with currently suitable roosting habitat and trees that could serve as future roost trees.



Angela Zimmerman, an endangered species biologist with the U. S. Fish and Wildlife Service, points to a tree with currently suitable Indiana bat roosting characteristics during the field portion of our timber marker training session.

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

<p><b>Objective 5.1.1a:</b> If additional Indiana bat hibernacula are discovered on NFS land, install bat-friendly gates to prevent unauthorized entry.</p>	<p><b>Monitoring Work Plan Question #17:</b> How many acres of potentially suitable Indiana bat habitat were protected or improved?</p>
	<p><b>Monitoring Work Plan Question #18:</b> How many bat-friendly gates were installed on known Indiana bat hibernacula?</p>

We improved 562 acres of mixed-oak forest in 2006, which may have improved some potentially suitable Indiana bat summer habitat. These hardwood areas had been affected by the 2003 ice storm. Many trees had broken limbs and damaged crowns. Such trees are potential insect and disease breeding grounds. We thinned these forest stands by taking out some trees that had less than 25% live canopy, which created a slightly more open stand that could benefit foraging bats. Before marking these stands, U. S. Fish and Wildlife Service biologists joined us in the field to help identify “leave trees”, which were trees that possessed currently suitable Indiana bat roosting habitat and trees that could recruit into future roost habitat. We also thinned 316 acres of white pine plantations. Thinning is one way to enable hardwoods to seed in and to help move the stand toward a hardwood condition. These hardwood and pine harvest projects were planned under the 1988 Forest Plan.

Planning for the Gore-Greendale Diverse Continuous Forest Project was completed in 2006. This project intends to increase the structural diversity in mature stands by moving them towards a more uneven-age forest having a well-defined second and third age class. It is also designed to increase the vigor of the currently overcrowded forest, and reduce the potential for severe wildfires. A total of 898 acres of hardwoods would be treated with selection harvest methods, 350 acres of mid-story vegetation would be treated with herbicides to promote oak regeneration, and 292 acres of pine stands would be thinned or converted to hardwoods. In addition, the project calls for two upland waterholes to be constructed. Such structures provide drinking water for the Indiana bat, and serve as insect production areas.

The silvicultural treatments designed into this project are expected to benefit the Indiana bat. Foraging and roosting habitat would be improved with the removal of some of the canopy cover. Foraging habitat declines as canopy cover approaches 100%, but is assumed to be optimal when canopy cover is between 50-70% (Rommé et al., 1995). Hardwood stands treated in this project with selection harvest methods will retain an average of at least 60 percent canopy cover. Opening the canopy can also increase the degree of exposure of any suitable maternity roost trees to solar radiation. Maternity colonies use multiple alternative roosts which are located in the open or in the interior of forest stands (USFWS 1999). The important factor associated with roost trees is their ability to protect individuals from the elements, and to provide thermal regulation of their environment. According to the USFWS (1999), exposure to sunlight is important during development of fetal and juvenile young.



The Indiana bat (left) and the little brown bat (right) can be hard to distinguish from one another, unless they are captured simultaneously. This photo was taken during our 2006 fall swarming surveys. It shows how the fur color of the two species differs slightly.

We estimated that we would install 20-30 bat-friendly gates on open underground mine portals during implementation of the Forest Plan in the first decade. We have not identified any new Indiana bat hibernacula, therefore no bat-friendly gates were installed on known Indiana bat hibernacula in FY 2006. However, bat-friendly gates were installed on three open underground mine portals, the one at Elm Rock Road and two at Goose Run portals. Although Indiana bats have not been documented at these sites, other species of bats use these underground mines. The bat gates will not only protect curious Forest visitors from entering potentially dangerous mines, they will protect the bats from human disturbance.

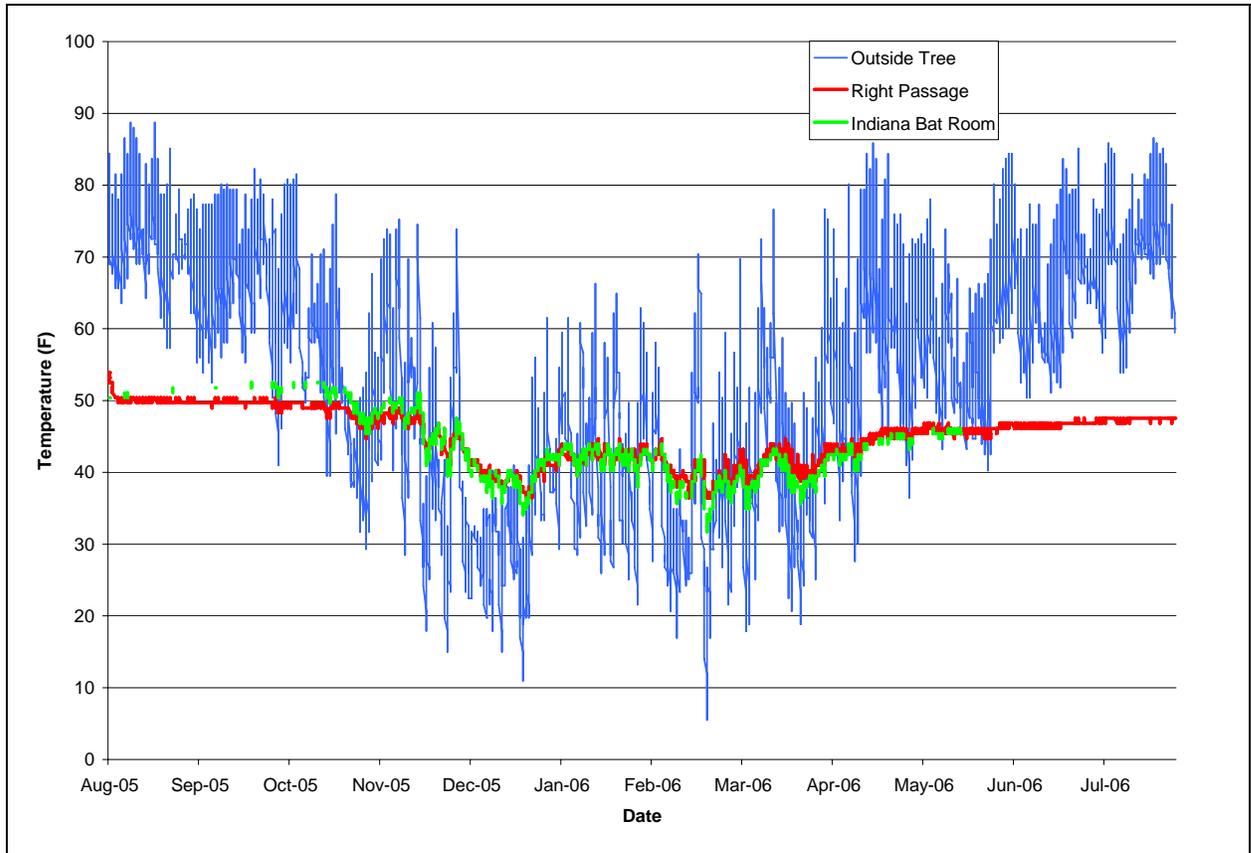
We continued to assess the microclimate of the Woody Mine, the Priority 3 Indianan bat hibernaculum on the Ironton Ranger District. Our biologists entered the mine in July 2006 with an Ohio mine inspector to retrieve the data collected by HOBO<sup>®</sup> dataloggers installed in summer 2005. Due to high mine humidity, the datalogger humidity sensors malfunctioned after only a couple days, but three of the four dataloggers in the mine continued recording temperature. The graph and table below show how the temperature in two mine chambers where Indiana bats hibernate (Indiana Bat Room and Right Passage) compare to temperatures outside the mine (Outside Tree).

The temperature inside the mine remains fairly stable over the year, with some minor fluctuations in the winter. Temperature in the two chambers of the mine are very similar; the minor differences could relate to location in the mine and the subsequent air flow, or perhaps slight variations in the accuracy of the dataloggers.

The temperatures from December 1<sup>st</sup>, through March 31<sup>st</sup>, are most important because it is during this time the bats are hibernating. Researchers have found that temperatures in most Indiana hibernacula range from about 37°-43° during these months (Andy King, USFWS, pers. comm.). Temperatures in the Woody Mine are a cooler than this range, the Indiana Bat Room dropped to 31.7°F when the minimum outside temperatures were at 5.5°F.

Biologists removed the HOBO<sup>®</sup> dataloggers and installed LogTag<sup>®</sup> temperature and relative humidity dataloggers while in the mine, and will be entering the mine in January/February 2007 to conduct a winter census of hibernating Indiana bats, and will also go back in the mine in July 2007 to retrieve data from the LogTag<sup>®</sup> dataloggers.

<b>Table 2-4 Comparison of air temperatures inside and outside the Woody Mine, August 2005 - July 2006.</b>			
	<b>Outside Tree</b>	<b>Right Passage</b>	<b>Indiana Bat Room</b>
Annual Maximum Temperature (F)	88.7	53.9	52.5
Annual Minimum Temperature (F)	5.5	36.4	31.7
Annual Mean Temperature (F)	53.9	45.1	44.9
	<b>Outside Tree</b>	<b>Right Passage</b>	<b>Indiana Bat Room</b>
Mid-winter Maximum Temperature (F)	76.6	44.7	43.9
Mid-winter Minimum Temperature (F)	5.5	36.4	31.7
Mid-winter Mean Temperature (F)	38.5	40.7	40.0



**Figure 9 Comparison of air temperature recorded by three HOBO® dataloggers, August 2005 – July 2006.**

Each year we are to report on (a) the cumulative incidental take that has occurred to date, (b) the cumulative acreage of specific management activities implemented to date, and (c) the tally of hickory trees removed during implementation of management activities to avoid adverse effects to other resources important to the Indiana bat (see Forest Plan, pages D-10 through D-12). The following is a summary for these monitoring items for the period March 13 - September 30, 2006, the period in which we were operating under the 2006 Forest Plan.

**Table 2-5 Cumulative Total of Incidental Take**

<b>Incidental Take Activity</b>	<b>Anticipated Level of Activity (during first decade of Forest Plan)</b>	<b>Cumulative Amount Currently Planned</b>	<b>Cumulative Amount Implemented</b>
Permanent Road Construction and Reconstruction (acres)	392	2.58	0
Temporary Road Construction (acres)	146	6.63	0
Skid Trails and Landings (acres)	740	113.8	0
Utility Corridors (acres)	50	0	0
Firelines (miles)	74	49.8	0

**Cumulative Management Activities Implemented under the 2006 Forest Plan**

<b>Activity (acres, unless noted otherwise)</b>	<b>Anticipated Level of Activity (during first decade of Forest Plan)</b>	<b>Cumulative Amount Currently Planned</b>	<b>Cumulative Amount Implemented</b>
Even-aged Hardwood Timber Harvest	1,725	108	
Even-aged Pine Timber Harvest	200		
Uneven-aged Timber Harvest	14,556	898	
Thinning	1,460	183	
Crop Tree Release	2,113	264	
Grapevine Control	2,683	169	
Site Prep for Native Pine	200		
Reforestation (planting)	500	12	
Prescribed Fire – Oak Regeneration	46,215	656	
Prescribed Fire – NNIS	200		
Prescribed Fire – Herbaceous Habitat	1,500	5.5	
Prescribed Fire – Hazardous Fuels	21,904		
Herbicide Application – Oak Regeneration	10,994	350	
Herbicide Application – NNIS	600	170	
Development of Permanent Forest Openings	500		
Maintenance of Permanent Forest Openings and other Herbaceous Habitats (mechanical)	5,000		
Control of NNIS – Mechanical	1,000	100	
Control of NNIS – Biological	100		
Wetland Restoration & Enhancement	150		
Waterhole Construction	15	0.2	
Fishing Pond/Lake Construction	15		
Restoration & Improvement of Aquatic/Riparian Habitat (Lentic)	150	1.08	
Restoration & Improvement of Aquatic/Riparian Habitat (Lotic)	20 miles	4.51	
Installation of Bat-friendly Gates	30 gates		
OHV Trail Construction	150	0.8	
Hiking Trail Construction	18		
Horse Trail Construction	61		
Mountain Bike Trail Construction	36		
Recreation Facility Construction (including parking lots)	60		
Temporary Road Construction	146	10.17	
Permanent Road Construction	74	1.54	
Permanent Road Reconstruction	318	1.2	
Road Decommissioning	29		
Skid Trails and Landings	740	113.97	0.17
Surface Coal Mine Activities	1,250		
Reclamation of Depleted or Orphan Wells	70		

Activity (acres, unless noted otherwise)	Anticipated Level of Activity (during first decade of Forest Plan)	Cumulative Amount Currently Planned	Cumulative Amount Implemented
Oil and Gas Well Development (Federal leases only)	42		
Utility Corridor Development & Maintenance	50	2.67	0.67
Agricultural Crop Production & Grazing	50		
Treatment of Acid Mine Drainage	270	21.86	
Surface Mine Reclamation	20		
Closure of Open Mine Portal/subsidence	232	39	
Stabilization of Disturbed Areas	100		
Reduction of Hazardous Fuels (mechanical)	10,181		
Land Acquisition	Up to 40,000		714.13
Land Exchange	400		4.36

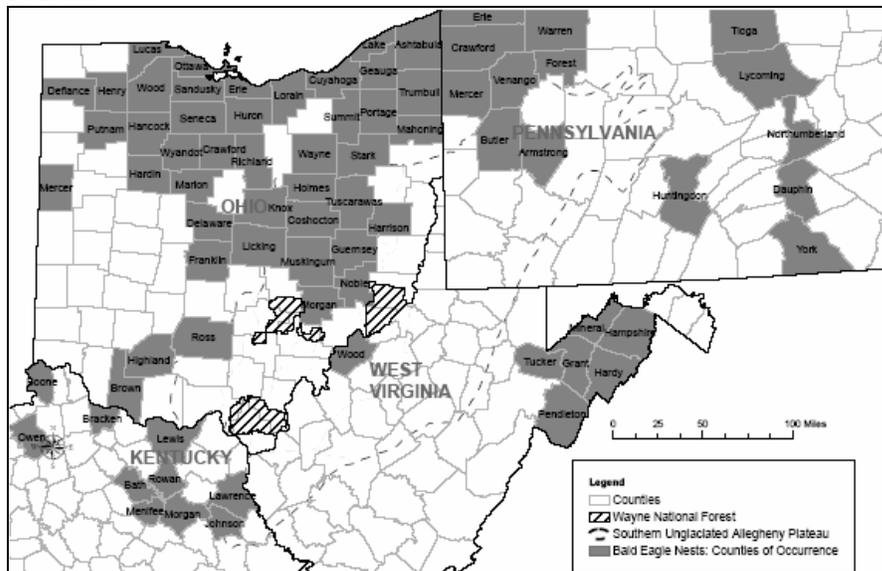
### Hickory Tree Tally

A total of 11 hickory trees were removed during project implementation in 2006.

### Bald Eagle (Threatened)

In 2006, Ohio Division of Wildlife biologists counted 150 bald eagle nests, with 110 of these successful in producing young eagles. Reports from wildlife biologists and volunteer observers indicated that 205 eaglets fledged from nests in 41 Ohio counties. In 2005, a total of 125 nests were located, with 85 of those nests producing 136 eaglets. Thirty new nests were identified in 18 counties in 2006.

There are currently no active or inactive bald eagle nests within the Wayne National Forest.



**Figure 10** The distribution and abundance of breeding bald eagles in Ohio, 2006. The number of nests and eaglets increased from 2005. These data are courtesy of the U. S. Fish and Wildlife Service. For more information on Ohio's bald eagles, please see [www.state.dnr.oh.us/wildlife/resources/Eagle/default.htm](http://www.state.dnr.oh.us/wildlife/resources/Eagle/default.htm).

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

<b>Objective 5.1.2a:</b> Conduct a minimum of three annual winter searches to locate any previously unknown communal night roosts of bald eagle concentrations.	<b>Monitoring Work Plan Question #19:</b> How many mid-winter bald eagle searches were conducted?
	<b>Monitoring Work Plan Question #20:</b> How many bald eagles were observed?

The Ohio Division of Wildlife reported that a record number of eagles were observed statewide during the official two-week mid-winter bald eagle survey in January 2006 – a total of 329 adults and 225 immature eagles were counted. They were observed in 63 of Ohio’s 88 counties.

Wayne National Forest biologists conducted seven bald eagle searches between November 2005 and February 2006. One adult bald eagle was observed foraging below the Burr Oak Reservoir dam on January 8, 2006. No other bald eagles were observed during any of our other searches.

We also conducted a breeding bird survey along 23 routes in May and June, 2006. No eagles were observed along any route during this month-long survey.

#### American Burying Beetle (Endangered)

Reintroduction efforts are currently underway at the Waterloo Wildlife Research Station (Athens 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.

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

<b>Monitoring Work Plan Question #21:</b> What cooperative efforts were accomplished to achieve the reintroduction of the American burying beetle?
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Two potential reintroduction sites have been identified on the Athens Ranger District. Pitfall trapping was conducted on the two sites to assess the pre-existing carrion (or silphid) beetle population. Two species of carrion beetle were captured in the traps, *Necrophila orbicollis* and *N. tomentosus*. The traps were capped and left in place with the plan to continue another round of trapping next spring.

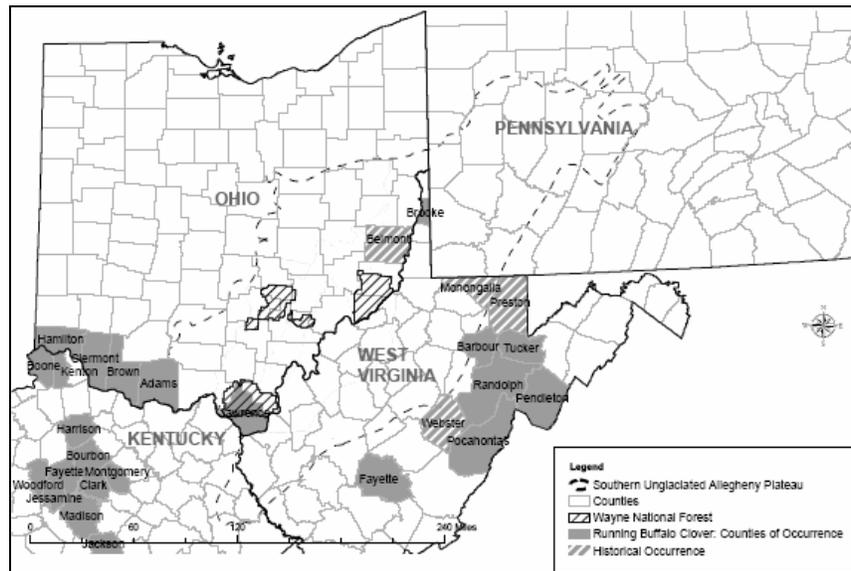
We intend to conduct an environmental analysis in 2007 for the reintroduction of the American burying beetle on the Wayne National Forest.



A pitfall trap, like the one above, was used to sample the carrion beetle population at two potential reintroduction sites on the Wayne National Forest. The carrion beetles are attracted to the bait, typically a chunk of putrid chicken. While they are capable of flying, it is difficult for them to take flight once they enter the pitfall trap.

### Running Buffalo Clover (Endangered)

Figure 11 Running buffalo clover is currently known in five southern Ohio counties.



Forest Service biologists inventoried a total of 4,671 acres on the Wayne National Forest in 2006 for running buffalo clover. No additional populations were discovered.

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

<p><b>Objective 5.1.4b:</b> Conduct annual monitoring of known running buffalo clover populations and adjacent areas to identify potential risks or management needs.</p>	<p><b>Monitoring Work Plan Question #22:</b> Were there any changes to known running buffalo clover populations and were any potential risks identified and mitigated?</p>
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Biologists from the Forest Service and U. S. Fish and Wildlife Service monitored the one known running buffalo clover population on the Wayne National Forest during May, 2006. We counted 69 stems, 17 of which were in flower. Thirty-four rotted plants were counted after discovery of the population, however the survey was conducted late in the summer and many plants may not have been noted due to cover by other vegetation.

The major potential threats to this species at this occupied site include too much sunlight, the non-native and invasive Asiatic stiltgrass, and illegal off-road vehicle traffic.

The Asiatic stiltgrass was mowed in August 2006. It was mowed at a height higher than the running buffalo clover grows to avoid direct impacts to individual plants. The stiltgrass is an annual, and mowing it late in the growing season can eliminate seed production.

With assistance from the U. S. Fish and Wildlife Service, we identified two management actions that could promote conservation of this population of running buffalo clover. We intend to plan and implement these measures in 2007.

1. Shading trees that were stressed and are not healthy, due the Binion wildfire and 2003 ice storm, were identified. These trees are currently providing the right amount of shade for the running buffalo clover population. However, it was noted that more sunlight will reach the understory as these tree die. Competing vegetation could be cleared around some nearby tree saplings that could serve as potential shade trees in the future.
2. To protect the running buffalo clover from illegal off-road vehicle traffic, we could fell individual trees across the illegal trail path so that the off-road vehicles will either backtrack or will go around the running buffalo clover population. The Ironton Ranger District wildlife biologist would need to be involved in the felling of the trees to ensure no impacts occur to potential Indiana bat roost trees.



Biologists map and count individual running buffalo clover plants. This population was discovered on the Wayne National Forest in 2005. Our May 2006 monitoring effort suggests that the population increased in size. The filtered light conditions are the key to its survival.

## 6 - Vegetation

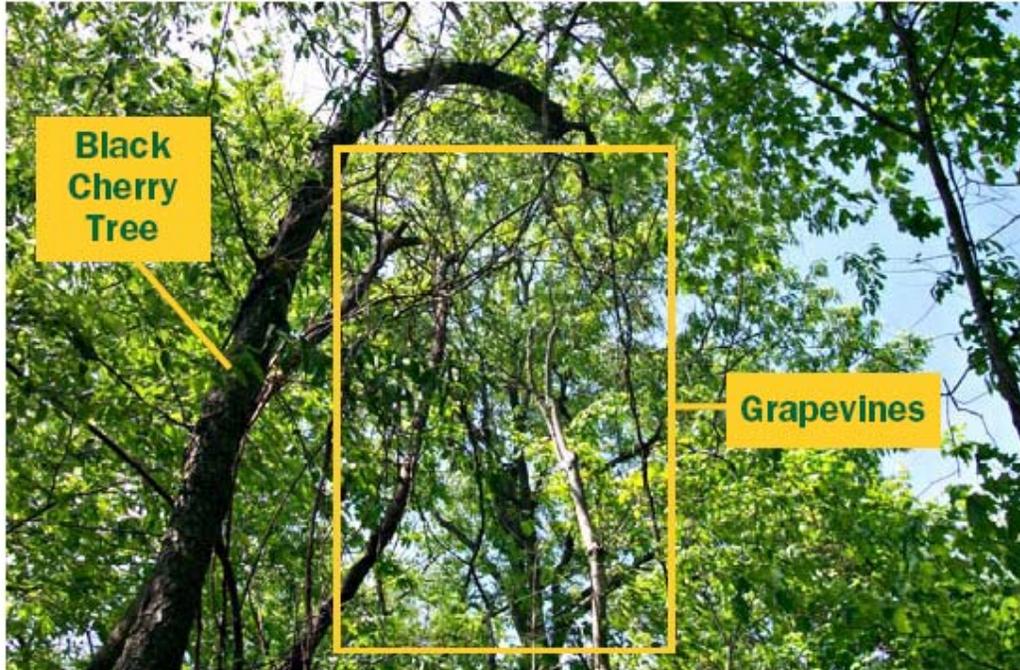
### Goal 6.1 – Meet Habitat Needs

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 FY 2006, grape vines were controlled on 143 acres of young hardwoods 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 tree crowns. However, no grapevines were cut so that some were still present for diversity and wildlife habitat.



*Grapevines pulling over a black cherry tree by the top and smothering that tree's leaf-producing area.*

The result is that the oaks, hickories, and other released trees will now have more light available to the crowns, and the crowns will be less likely to break under the weight of heavy snow or ice or because of high winds. Thus the oaks and hickories will be more likely to continue to compete and become major components of the future stand.

<p><b>Objective 6.1b:</b> Use commercial timber sales and stewardship contracts to accomplish wildlife habitat objectives.</p>	<p><b>Monitoring Work Plan Question #24:</b> How many acres are being treated through commercial timber sale operations and/or stewardship contracts that will likely meet objectives of improving wildlife habitat?</p>
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Both the Dugan Ridge (64 acres) and Burr Oak (10 acres) White Pine thinnings were completed in FY 2006. In addition to other benefits, these thinnings will increase light to the ground to allow hardwood seedlings to become established and increase the growth of herbaceous vegetation. This improves understory plant diversity and the associated wildlife habitat.



Example of area before thinning – note lack of herbaceous species on forest floor due to lack of sunlight, and the weakened & dying trees due to overcrowding.



Immediately after thinning – note the amount of light reaching the ground, which will encourage more herbaceous growth, and each residual pine will be healthier and more able to survive drought, insects, or disease.

### 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.

<p><b>Objective 6.2a:</b> Use prescribed fire to conserve fire-adapted plant and animal biodiversity and to maintain and restore mixed oak and native pine ecosystems.</p>	<p><b>Monitoring Work Plan Question #25:</b> 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?</p>
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Approximately 266 acres were burned in FY 2006 on the Athens District. In addition to fuel reduction benefits, these burns also were designed to have a secondary benefit of promoting oak-hickory regeneration and improving remnant prairie and grassland habitat.

### Goal 6.3 – Special Forest Products

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

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

In FY 2006, 64 firewood, 64 root and 4 hay permits were sold on the Forest. A breakdown of the sales per unit follows:

**Table 2-6 Permits**

	Athens	Marietta	Ironton
<b>Wood Permits</b>	32	15	17
<b>Root Permits</b>	26	12	26
<b>Hay Permits</b>	---	---	4

Reported harvests for root permits were voluntary during FY 2006, therefore very few were received. The number of reports are too few to project the overall amount of roots harvested off the Wayne National Forest. Changes to the reporting portion of the root permits for FY2007 are designed to alleviate this issue. Permits for 2007 require that permittees return the form with amount of roots harvested by the end of January in order to purchase permits in the following year. Permits allowed up to 5 dry lbs. of roots, of which up to 1 lb. could be ginseng. Maximum collection for the permits would therefore equate to a maximum of 320 dry lbs. of roots collected, of which up to 64 dry lbs. could be ginseng.

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 2006 was 128 cords.

## 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.

<p><b>Objective-7.1a</b> – Maintain an inventory of NNIS insects and diseases affecting or potentially affecting NFS resources.</p>	<p><b>Monitoring Work Plan Question #27:</b> How many acres of the Forest are inventoried for NNIS insects and diseases and when was it inventoried?</p>
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<p><b>Objective-7.1b</b> – Cooperate with the ODNR and the State and Private Forestry Division of the Forest Service to suppress insect populations to:</p> <ul style="list-style-type: none"> <li>• Retard advance of the gypsy moth</li> <li>• Eradicate NNIS species that are present but not yet well established, such as the emerald ash borer</li> <li>• Prevent the spread of non-native species currently lacking natural controls</li> <li>• Protect populations of, or habitat for, endangered, threatened, or sensitive species</li> <li>• Protect rare communities likely to be severely impacted by insect outbreak</li> <li>• Prevent extensive tree mortality or defoliation in developed recreation areas and other areas where maintaining visual quality is a major objective</li> <li>• Prevent spread onto land or into high value areas of the Forest (e.g., rare communities, developed recreation areas)</li> <li>• Prevent the introduction and spread of Sudden Oak Death Syndrome.</li> </ul>	<p><b>Monitoring Work Plan Question #28:</b> How many NNIS sites were treated and how did the populations respond to treatment?</p>
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## Monitoring for any Symptoms of Insect or Disease Activity

In the summer of 2006, 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. The following acreages were documented.

**Table 2-7 Defoliation**

District or Unit	Native Defoliators* (acres)	Mortality conifer resources (acres)	# of Field-Checked Areas
<b>Marietta</b>	<b>570</b>	<b>352</b>	<b>25</b>
<b>Athens</b>	<b>698</b>	<b>569</b>	<b>19</b>
<b>Ironton</b>	<b>117</b>	<b>86</b>	<b>23</b>

\*Native defoliators include oak skeletonizers, locust leafminer, looper complex, and common oak moth

Ground-truthing surveys of 67 areas (33 percent) revealed that a number of different defoliators were active on a variety of hardwoods (chestnut oak, white oak, maples, sycamore, and black locust). The most commonly reported agents were oak skeletonizers and the locust leafminer, which appeared to be particularly heavy again this year. Because the majority (91 percent) of the defoliation mapped was low (equal to or less than 50 percent), no reduction in tree vitality or widespread refoliation is expected.

Conifer mortality was mapped on both Ranger Districts and the Marietta unit. This mortality appeared to be confined to white pine plantations. Individual scattered tree mortality and continuous pockets of mortality were observed.

Scattered tree mortality and branch dieback were reported throughout the Ironton Ranger District in the ice storm-damaged areas. This mortality trend is expected to continue in these areas as trees damaged by the ice storm succumb to increased competition and attack by insects.

## Emerald Ash Borer

In the spring of 2006, the Wayne National Forest and the Ohio Department of Agriculture agreed to cooperate to monitor for the presence of the **Emerald Ash Borer** on the Wayne National Forest. Approximately 325 “trap trees” were created within the Wayne National Forest; these will be monitored over the next 2 years to attract any beetles that may be in the area, and thus serve as an early warning. Estimates vary of how far an adult borer will fly to find a host; if ½ mile is used as an estimate, then these 325 trees would monitor up to 175,000 acres.

In the summer of 2006, the Wayne National Forest staff and the Forest Health Protection (State and Private, Forest Service) staff set-up monitoring locations on the Forest, primarily near locations where forest visitors are most likely to bring infested firewood onto the Forest. In September of this year, Forest Health Protection (FHP) staff conducted an emerald ash borer (EAB) detection survey of 19 sites throughout the forest.

Though trap trees (destructive sampling) are now generally used for EAB surveys, we used visual inspections in this survey. No emerald ash borer was detected.

### White Pine Adelgid

The Wayne National Forest and Forest Health Protection staff made field visits to white pine plantations to monitor for pine tree health concerns. The personnel discovered that there were large populations of insects such as adelgid that could make significant impacts to the health of these stands because the trees are over-stocked, and thus individual trees are weak.

### Gypsy Moth

The Wayne National Forest cooperates with Ohio Department of Agriculture and the Forest Health Protection (State and Private, Forest Service) staff to monitor for Gypsy Moth populations. The aerial surveys discussed previously would alert the Forest staff to possible new outbreaks of a Gypsy Moth population. Also, indicator-traps were placed over the Wayne National Forest and adjoining private land; these traps have pheromones inside them that will attract gypsy moths if they are present nearby.

The knowledge gained from the aerial surveys and the results of the traps was used to determine where “Slow the Spread” activities were needed. Although treatment areas are near the Forest boundary in Gallia and Jackson Counties, no locations on the national forest were identified for treatment.

<p><b>Objective 7.1c - Protect the Forest from wildfire by:</b></p> <ul style="list-style-type: none"> <li>• Treating hazardous fuels that present a high risk of wild fire.</li> <li>• Treating hazardous fuels to move the forest closer to desired fire regime condition class and desired future condition.</li> <li>• Maintaining areas that are at the desired fire regime condition class</li> </ul>	<p><b>Monitoring Work Plan Question #29:</b> How many acres of Hazardous fuels were treated?</p>
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There were a total of 2,137 acres of hazardous fuels treated in FY 2006.

## Goal 7.2 - Control NNIS Plants

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

<p><b>Objective 7.2a</b> - Maintain and update an inventory of NNIS plant population on NFS land. Include information on adjacent lands as gathered in cooperation with neighboring landowners.</p>	<p><b>Monitoring Work Plan Question #30:</b> How many acres of the Forest are inventoried for NNIS plants and when were these inventoried?</p>
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Inventories have been occurring on the Wayne National Forest since 2002. Over 500 acres of new inventory information was put into the Natural Resource Information System (NRIS) database in FY 2006.

*Due to a numbering error on the 2006 monitoring work plan there is not a question #31.*

<p><b>Objective 7.2b</b> Treat and reduce populations of NNIPS 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.</p>	<p><b>Monitoring Work Plan Question #32:</b> How many NNIS sites were treated and how did the NNIS populations respond to treatment?</p>
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Fifteen different sites were treated manually, focusing control primarily on 4 species, autumn olive, Japanese stilgrass, garlic mustard and kudzu on over 204 acres on the Forest.

Garlic mustard populations seemed to increase at Paines Crossing Special Area (SA) and Wildcat Hollow SA while remaining similar in density at Little Storms Creek SA. This is dependent on the biennial nature of the plant that seems to fluctuate on a two-year cycle. Also, the FY 2005 was a drought year that could have decreased the amount of garlic mustard germinating from seedbanks, while in contrast FY 2006 was a very wet year that could have increased germination in some areas.

Autumn olive controlled on the Ironton district resulted in a decrease in large plants, however root sprouts are expected from the areas that will require re-treatment in the future.

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 are again expected to resprout in similar densities in 2007.

The Forest accomplished these projects with the cooperation of frequent individual volunteers and partner organizations including the Buckeye Forest Council, Rural Action, Alexander Middle School, Hocking College, Rural Action VISTA (Volunteers in Service to America), and Summit Prison Crew.

### Goal 7.3 – Control NNIS 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 21 NNIS presentations were given to public and Forest Service employees on the Wayne National Forest. Five of these presentations included control efforts by participating groups (elementary and college students, wildflower hike participants) in the programs that counted toward target NNIS control acres. Organizations that received presentations included a Rotary Club, Master Gardener groups, the Kentucky Native Plant Society, local landowners, the Hocking College Wildlife club and VISTA volunteers.

### 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 did not re-establish any species such as American chestnut in FY 2006. The Forest has started discussions with the American Chestnut Foundation to identify appropriate locations for future plantings to re-introduce the species.

## 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.

<p><b>Objective 8.1b</b> – Safely extinguish wildland fires using ground and/or air resources.</p>	<p><b>Monitoring Work Plan Question #35:</b> 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?</p>
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In 2006, there were a total of 101 fires that were suppressed with no reportable accidents/injuries. A total of 60 acres of private property burned from ignitions that occurred on the Wayne National Forest. These occurred on two fires Brady 1 burned 10 private acres, Brady 2 burned 50 private acres both fires occurred on the Ironton District.

<p><b>Objective 8.1c</b> – Reduce hazardous fuels within communities at risk in cooperation with local, State, and Federal agencies.</p>	<p><b>Monitoring Work Plan Question #36:</b> Number of acres in WUI treated for hazardous fuels reduction? Number of prescribed burns conducted in cooperation with local, state or other federal agencies?</p>
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All of our lands are within Wildland Urban Interface, which totaled 2137 acres for hazardous fuels reduction.

Mechanical treatment totaled 1,850 acres. This includes salvage timber sales, trail clearing and mowing.

Timber Sales 1140 Total acres

- 237 acres were implemented in Historic Forest with OHV (HFO)
- 228 acres were implemented in HF Historic Forest (HF)
- 675 acres were implemented in FSM Forest and Shrubland Mosaic (FSM)

Mowing and Trail clearing 710 Total Acres

- 21.3 acres in Developed Recreation (DR) Management Area
- 85.5 acres in Diverse Continuous Forest (DCF) Management Area
- 108 acres in Diverse Continuous Forest with OHV (DCFO) Management Area
- 150.4 acres in Forest and Shrubland Mosaic(FSM) Management Area
- 115.8 acres in Future Old Forest (FOF) Management Area
- 6.5 acres in Grassland and Forest Mosaic (GFM) Management Area
- 78.7 acres in Historic Forest (HF) Management Area
- 85.5 acres in Historic Forest with OHV (HFO) Management Area

- 8.3 acres in River Corridor (RC) Management Area
- 4.1 acres in Special Area (SA) Youngs Branch Management Area
- 13.1 acres in Special Area (SA) Minnow Hollow Management Area
- 30.8 acres in Special Area (SA) Bluegrass Ridge Management Area
- 2.0 acres in Special Area (SA) Morgan Sisters Management Area

There were a total of 3 prescribed burns totaling 287 acres. These 287 acres were burned in the Historic Forest Management Area.

<b>Objective 8.1e</b> – Provide training to local volunteer fire departments in wildland fire suppression.	<b>Monitoring Work Plan Question #37:</b> How many local volunteer fire departments were trained in wildland fire suppression?
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There were nine local volunteer fire departments trained by the Wayne National Forest in 2006. The following departments had firefighters trained in Basic Wildland Firefighting:

- Albany Area Volunteer Fire Department
- Coolville Volunteer Fire Department
- Jacksonville Fire & Rescue Inc.
- The Plains Fire Department
- Ward Township Volunteer Fire Department
- Madison-Jefferson Township Volunteer Fire Department
- Gallia Township Volunteer Fire Department
- Aid Township Volunteer Fire Department
- Lawrence Township Volunteer Fire Department

The Plains Fire Department also participated in Initial Attack Commander training.

### Summary

The main focus of the fire program is to give the highest priority to the safety of our employees, cooperators and the public by involving them in trainings and meetings to ensure they are capable and willing if needed to safely extinguish wildland fires.

The Wayne National Forest fire program provides wildland fire suppression training to several local volunteer fire departments. The fire program does not target a specific VFD to involve in training. Most of the VFD's are represented by a member that is hired with the Wayne NF as an AD (Administratively Determined) employee.

## 10 - Minerals

### Goal 10.1 – Provide Minerals

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.

#### 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 239,497 acres of federally owned surface (this includes acreage outside the proclamation boundary) of which about 40 percent (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 FY06, there were no mineral material sales, no mineral material free use permits issued, and no in-service use of mineral materials for road maintenance, etc. This echoes the saleable minerals activity on the WNF for the last decade or so.

Oil and gas is the most active leasable program on the WNF. There are currently about 1,250 wells on the forest, only 35% of which are on Federal minerals. There are no Federal coal leases on the WNF, and there has been no demand for Federal coal resources for at least 15 years. The last time private coal rights have been exercised on the WNF was in 1998 under valid existing reserved rights. 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 WNF in FY06. This was attributable to a lack of available drilling rigs in this area and trained personnel to operate the rigs.

### 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.

<p><b>Objective 10.1a</b> – Coordinate with the Bureau of Land Management to offer leases of federally owned minerals.</p>	<p><b>Monitoring Work Plan Question #38:</b> Are expressions of interest and lease offers processed in a timely manner?</p>
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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 FY06, 481 such inspections were carried out on the WNF.

<b>Objective 10.1b</b> – Process plans of operation/applications for permit to drill on Federal leases in a timely manner.	<b>Monitoring Work Plan Question #39:</b> How many plans of operation/applications for permit to drill on Federal leases were processed in a timely manner?
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No Federal plans of operations/applications for permit to drill were received or processed in FY06.

### 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.

<b>Objective 10.2a</b> – Process plans of operation (and applications for major modifications) for privately owned minerals (reserved and outstanding rights) within 60 days.	<b>Monitoring Work Plan Question #40:</b> How many applications were processed within 60 days?
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There was one non-Federal application on the Marietta Unit in FY06, and it was processed within 60 days. There were no non-Federal applications on the Athens Unit or Ironton Unit in FY06.

<b>Objective 10.2b</b> – Restore lands disturbed by minerals exploration and production when the minerals activity is completed.	<b>Monitoring Work Plan Question #41:</b> How many mineral activities were adequately restored upon completion?
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Restoration of mineral activities as they relate to oil and gas happens 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, 5 wells were partially restored (4 of which are awaiting re-vegetation results), and 1 well was permanently restored successfully. On the Athens Unit, 7 wells were permanently restored successfully. There were no mineral activities to restore on the Ironton Unit in FY06.

<b>Objective 10.2c</b> – Plug wells when production ceases.	<b>Monitoring Work Plan Question #42:</b> How many wells were plugged according to State regulations when production ceased?
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All wells were plugged according to State regulations in FY06: 1 on the Marietta Unit, 7 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.

<b>Objective 11.2b</b> – 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.	<b>Monitoring Work Plan Question #43:</b> How many miles of NCT have been relocated/ reconstructed off existing roads?
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Of the 65 total North Country Trail (NCT) miles on the Wayne, 24 miles are located on the Athens Unit and 41 miles on the Marietta Unit. The NCT traverses six different management areas (MAs) across the Athens Ranger District, which includes: Developed Recreation (DR), Diverse Continuous Forest (DCF), Forest and Shrubland Mosaic (FSM), Future Old Forests (FOF), Future Old Forest w/ Mineral Activity (FOFM), and River Corridor (RC). Within the FOF and FOFM Management Areas, relocating the NCT off roads would help move these MAs closer to their desired future condition (DFC) by offering visitors a greater opportunity to experience solitude and closeness to nature.

Approximately 10 miles or 16% of the 65 total NCT miles on the Wayne are currently collocated on existing State, County, Township, and Forest roads.

#### Trail managers on natural bridge along NCT



FY 2006 was a transition year with respect to applying the new Revised Forest Plan monitoring standards/questions. This is the first year the Forest tracked the relocation of the NCT off roads. The Forest did not relocate any section of the NCT off existing roads in FY 2006.

<p><b>Objective 11.2c</b> – Maintain and administer the Forest’s trail system to provide safe/enjoyable trail riding opportunities and reduce resource impacts?</p>	<p><b>Monitoring Work Plan Question #44:</b> How many miles of motorized trails have been maintained to standard (annual routine and deferred maintenance)?</p>
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The 2006 Forest Plan limits motorized trail recreation to three of the following management areas: Diverse Continuous Forest w/OHV (DCFO), Forest and Shrubland Mosaic w/OHV (FSMO), and Historic Forest w/OHV (HFO). All motorized trail maintenance or reconstruction work is restricted to these MAs.

In FY-06, the Forest maintained 75 miles of trails to standard. 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

Miles of trails meeting standard were calculated by adding the “miles improved to standard” (heavy machine maintenance/reconstruction) and “miles maintained to standard” (routine maintenance). Both manual (trail crew) and machine (contracts) maintenance work were tracked and submitted by each district to obtain the total miles maintained to standard.

**Before**

**After**



**Trail rutting and braiding on Hanging Rock OHV Trail**

This total constitutes 53% of the 121 total miles of trails currently on the Wayne. At this pace, the Forest should be able to maintain all of its motorized trail miles on a two-year rotation period. The Forest Plan does not provide a Desired Future Condition attainment target for trail maintenance.

**Before**

**After**



**Wolcott trail bridge approach**

**Table 2-8 Motorized trail maintenance**

Trail Name (Motorized)	Type of Maintenance	Miles Maintained
Monday Creek OHV Trail System	Heavy maintenance	38 miles
Hanging Rock OHV Trail System	Heavy maintenance	1 mile
Pine Creek OHV Trail System	Routine maintenance	9 miles
Hanging Rock OHV Trail System	Routine Maintenance	16 miles
<b>Total</b>		<b>64 miles</b>

<p><b>Objective 11.2d</b> – 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/OHM trails.</p>	<p><b>Monitoring Work Plan Question #45:</b> 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?</p>
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The Forest reconstructed 39 miles of OHV trails in FY 06. A majority of the trail miles

reconstructed were on the Monday Creek Trail System located on the Athens Ranger District. Much of the work was contracted out and involved repairing deep ruts, mud holes, and slips, and rebuilding drainage structures and stream crossings. Federal trail appropriations were leveraged with Recreational Trail Program (RTP) grants and user fees from the Recreation Enhancement Act (REA).

No motorized trails on the Forest were closed due to unsafe conditions or adverse impacts to natural resources.

<p><b>Objective 11.2e</b> –Reduce and strive to eliminate illegal ATV/OHM use by:</p> <ul style="list-style-type: none"> <li>• Prohibiting cross-country travel or riding on undesignated user-created trails.</li> <li>• Prohibit riding on trails designated for other uses.</li> <li>• Riding on designated trails during closed seasons</li> <li>• Closing at least 20 miles illegal OHV trail within the next decade to:             <ol style="list-style-type: none"> <li>a) Protect federally listed species</li> <li>b) Protect Regional Forester’s sensitive species</li> <li>c) Improve watershed health</li> </ol> </li> </ul>	<p><b>Monitoring Work Plan Question #46:</b> Have sections of illegal trails on the Forest been closed and rehabilitated? If so, how many miles and where?</p>
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The Ironton District closed a total of 3 miles of illegal ATV trails by blocking five entry points along the Hanging Rock Trail System. The Hanging Rock Trail is a 26-mile designated motorized trail system located within the Diverse Continuous Forest w/ OHV (DCFO) management area.

These illegal trails were blocked using available natural structures such as large boulders, downed trees and brush and were signed with the universal “No ATV” symbol. These closures were completed in April 2006. Since that time, these areas were revisited July and August 2006 to monitor closure effectiveness. Monitoring results found no signs of “new” use on the closed trails and riders were not riding around the blockades.

The Athens District constructed a total of fifteen natural blockades along the Monday Creek Trail System. The Monday Creek Trail System is a 75-mile designated motorized trail system located within the DCFO and Historic Forest w/ OHV (HFO) management areas. The illegal trails were blocked at only one end (FS land) where they intersect with the designated trail system. Entry points for these illegal trails could not be blocked because originate from adjacent private lands, therefore closure mileages were not counted from these closures.

These illegal trails were blocked using natural materials such as large boulders and then seeded and mulched. These closures were completed in July and August 2006 and were revisited periodically thereafter by Trail Technicians to monitor closure effectiveness.

Monitoring results found no signs of little or no “new” use on the blocked trails and riders were not riding around the blockades.



**Timber Trail near Dorr Run Loop – blocking of illegal trail**

This year’s closure helped the Forest achieve (15%) of the 20-mile total. At the current pace, the Forest should be able to meet or exceed the desired future condition (DFC) miles by the end of this planning period.

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

Miles of trails meeting standard were calculated by adding the “miles improved to standard” (heavy machine maintenance/reconstruction) and “miles maintained to standard” (annual routine maintenance). Both manual (with trail crews) and machine

(contracts) maintenance work were tracked and submitted by each district recreation manager, which contributed toward the total miles maintained to standard.

In FY-06, the Forest maintained 60 miles of non-motorized trails to standard. This constitutes 26% of the 231 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 trail miles on a four-year rotation period. The Forest Plan does not provide a DFC attainment target for trail maintenance.

**Table 2-9 Trail Maintenance**

<b>Trail Name and Trail Type (Non-motorized)</b>	<b>Type of Maintenance</b>	<b>Miles Maintained</b>
NCT - Marietta	Routine Maintenance	6 miles
Kinderhook Horse Trail	Routine Maintenance	6 miles
Scenic River Hiking Trail	Routine Maintenance	6 miles
Lakeview Hiking Trail	Routine Maintenance	1 miles
Wildcat Hollow Hiking Trail	Routine Maintenance	5 miles
Vesuvius Horse Trail	Heavy Maintenance	2 miles
Vesuvius Backpack Hiking Trail	Routine Maintenance	16 miles (also constructed 1 bridge)
Vesuvius Lakeshore Hiking Trail	Routine Maintenance	8 miles
Symmes Creek Hiking Trail	Routine Maintenance	10 miles
<b>Total</b>		<b>60 Miles</b>

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

In FY-06, 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). Approximately ½ mile of fully accessible hiking trail was constructed. The Wild Turkey Federation was a key partner in this trail project. They contributed \$10,000 toward trail and parking area construction.

This new Archery trail moved the Forest ½-mile closer toward meeting its 5 to 30-mile projection for new hiking trail within this planning period.

No other new motorized or non-motorized trails were constructed in FY 2006.



*Archery Trail under construction*

## 12 - Scenery Management

### Goal 12.1 – Maintain scenic resources

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



*Lake Vesuvius and boardwalk*

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

This years report reflects a transition between the 1988 Forest Plan to the new 2006 Revised Forest Plan. The 1988 Plan did not include scenery as a key monitoring item. A sampling of larger Forest projects is provided to show Scenery Management Goals are implemented on the Wayne National Forest. One project was selected from each district.

#### **Athens District**

- Gore-Greendale Diverse Continuous Forest project

#### **Ironton District**

- Pine Creek Historic Forest Restoration project



*Wayne N.F. fall foliage*

A visual analysis was completed for the Gore-Greendale Diverse Continuous Forest Project and one is being completed for the Pine Creek projects. These analyses also include scenery guideline recommendations. As of the date of this report, neither of these projects has been implemented. Hence, no on-the-ground monitoring has begun. Both projects will be monitored in 2007 to determine if scenery recommendations were properly applied on-the-ground and if so, were the scenery guidelines effective.

## 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.

<p><b>Objective 13.1c</b> – Reduce the backlog of heritage sites that require formal evaluation for eligibility to the National Register of Historic Places.</p>	<p><b>Monitoring Work Plan Question #50:</b> How many heritage sites have been evaluated for National Register eligibility in FY2006?</p>
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Only one heritage site was evaluated for National Register eligibility in 2006. This was the Hook Property, a historic structure that was transferred out of Forest Service ownership under the Small Tracts Act (36 CFR 200). The property is located in Shawnee, Ohio and was determined to be ineligible.

<p><b>Objective 13.1d</b> – 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.</p>	<p><b>Monitoring Work Plan Question #51:</b> How many management plans have been developed for heritage sites that are either eligible for or listed on the National Register of Historic Places in FY2006?</p>
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No management plans were developed for any of the 22 priority heritage assets on the Wayne National Forest in FY2006.

## 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 FY06, the Forest received \$591,030 of Land and Water Conservation Funds (L&WCF) to acquire land. There is no guarantee L&WCF monies will be provided to the Forest on an annual basis.

**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 land exchange. In 2006 the Forest acquired 711 acres that improved consolidation. The Forest acquired two nonfederal parcels through the Small Tracts Act and a Land for Land Exchange that added land for consolidation. These acquisitions meet the objectives of land purchases, exchanges or donations. Of the 711 acres acquired, 671 acres are in the DCF management area (86 acres) and the GFM management area (585 acres) and 40 acres were in the FSM management area. The Jackson Township land for land exchange acquired 3.6 acres (SA mgt area) of property in exchange for 2.6 acres (RC mgt area) of public land. This is a net gain of 1 acre of land that provides consolidation on the Marietta Unit in the SA management area. No donations were received on the Forest during FY 2006.

<b>Objective 14.1b</b> –Acquire rights of ways or property to improve access to NFS land.	<b>Monitoring Work Plan Question #53:</b> How many miles of right-of-way, or parcels of land have been acquired to facilitate access to NF tracts?
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The Forest acquired 5 parcels of land that improved access to existing National Forest lands in FY 2006. The TNC Cambria Purchase (3 parcels), The Richard Mott (1 parcel) and Delores Dye (1 parcel) purchases provided additional land for consolidation and improved access to existing NFS lands from the public road frontage or right of ways made available by the purchases.

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

The Forest issued 25 new special use permits and re-authorized 35 permits that reached expiration. 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 2006.

## Goal 14.2 Maintain Boundary Lines



<b>Objective 14.2a</b> – Survey and post landlines not currently marked. Maintain lines previously marked on a 10-year cycle.	<b>Monitoring Work Plan Question #56:</b> Is the Forest making progress towards the eventual marking and maintaining of the entire perimeter of NFS lands against private property?
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The Forest completed 12 miles of boundary maintenance meeting the Regional FY 2006 Target. The Forest is making progress in marking National Forest property boundaries.

<b>Objective 14.2b</b> – Survey and post landlines not currently marked. Maintain lines previously marked on a 10-year cycle.	<b>Monitoring Work Plan Question #57:</b> Is the Forest making progress towards resolving trespasses as they occur and are discovered?
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The Forest resolved 4 trespasses as they were discovered in FY 2006. 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 25 new permits and renewed 35 permits 2006.

## 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 that were acquired in this current 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 were grazed for wildlife habitat objectives and 30 were grazed for NNIS control. These 30 acres fall within the FSM Management Area.

## 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.

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

In FY 2006 the Forest proposed alternate use or decommissioning of 5 facilities which no longer meet current safety criteria, mission, niche and our use/public demand. Since that time two of the facilities are designated as alternate use facilities, and two are considered potential alternate use facilities, with the fifth being considered for decommission. A decision on a strategic facility plan is expected in FY 2007. A total of 99 structures/facilities are currently listed for the Wayne National Forest. They are on a five year rotation to receive detailed inspections. On an average we are completing 20% of inspections in any given year.

### Goal 17.2 – Safety and Effectiveness of Dams

Maintain dams as safe and effective water storage facilities.

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

In FY 2006, seven of eight Forest dams inventoried met current Federal regulations. The Forest currently has two high hazard dams as classified by the Ohio Department of Natural Resource, Division of Surface Water, Dam Safety Office. They are Vesuvius and Timbre Ridge dams located on the Ironton Ranger District. Both were inspected in 2006 by Forest Service Personnel. One deficiency was noted at Timbre Ridge that did not meet Forest Service manual requirements.

Currently there is no all-weather route to the dam for emergency equipment 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. The Forest has 17 dams in our inventory that receive regular and required inspections under our handbook direction. In 2006, 8 were visited by the engineering department for safety reviews, with 4 receiving full formal engineering inspections. All high hazard dams were inspected. All 17 dams will be inspected in a 5 year cycle, or sooner if indications of deficiencies are noted.

**Table 2-10. Dam Inspections**

Dams	2006 Inspections	
	Number Receiving Inspections by District	Noted Deficiencies
Athens District - 7	2	0
Ironton District - 10	6	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.

<b>Objective 17.3a</b> – Reduce sedimentation and improve passage for aquatic and semi-aquatic organisms at Forest development road and forest service recreation trail crossings.	<b>Monitoring Work Plan Question #63:</b> How many stream crossing were inventoried and/or corrected for sedimentation production?
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In FY 2006, 99 road-stream crossings were inventoried within three 5<sup>th</sup> level watersheds. Of these, 82 were of no concern and 17 were noted as possible impediments to aquatic organism passage. None were noted as likely to cause excessive sediment. The remaining 17 identified as likely to impede aquatic passage will be monitored in the future to determine if they need correcting or are producing undue sediment load into the streams. In a separate project four other stream crossings were fully evaluated to determine if they were crossing impediments.

Three crossings were identified by the Gallia County engineer as being structurally deficient and needing replacement for the safety of the public. The Forest worked with Federal Highway Administration (FHA), and the Ohio Department of Transportation (ODOT) to secure \$100K in Forest highway funds for the county to replace the structures on Gallia County. Road 68. The structures will be replaced and aquatic passage will be maintained or improved at all three sites. This was not the case in past projects the county had completed on the road, where passage was all but eliminated due to poor placement of structures in 2004.

**Table 2-11 Road-Stream crossings inventoried for probable sediment production and aquatic passage**

	Sedimentation Production	Aquatic Passage
Athens District - 0 monitored	N/A	N/A
Ironton District – 99 monitored	4 monitored – no issues 95 to be monitored in the future	4 received formal monitoring – no issues 17 noted as possible impediments 82 found to have no impediments

Continued monitoring will take place in high priority watersheds. Continued work with county and state DOT's is expected. ODOT is very receptive and was the only state DOT to send a representative to Forest Service's Aquatic Passage Training held in Missouri in 2006. This has allowed the DOT to start planning aquatic passage on their projects as well, making a paradigm change in the largest road agency we partner with.

No structures were modified for sediment control in 2006 as a result of this monitoring. Future modifications may take place with information gained from this monitoring.

<p><b>Objective 17.3b</b> – Decommission temporary and system roads when they are no longer needed for administration of the Forest or its resources.</p>	<p><b>Monitoring Work Plan Question #64:</b> How many miles of roads were evaluated to determine maintenance, storage, or decommission needs?</p>
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In FY 2006 at least 41 system roads or segments of system roads were monitored/evaluated for management activities during the year. Of these 41 roads, none were identified as excess or no longer needed for management activities in the future and identified for removal from the system. These 41 roads comprised 21 miles of Forest Service System Roads. An undetermined number of special use roads and non-system or unauthorized roads were monitored. Some of these non-system roads were identified as needing decommissioning. Those roads that were created or used for the purpose of watershed restoration, vegetation manipulation and special use roads were decommissioned at the time the activities were complete. An estimated 6 miles of temporary, unauthorized and special use roads were decommissioned in 2006.

**Table 2-12 Estimated road decommissioning**

<b><u>District</u></b> <b><u>(number of roads/segments evaluated)</u></b>	<b><u>Evaluated Length</u></b> <b><u>(rounded to nearest whole mile)</u></b>	<b><u>Decommissioned</u></b> <b><u>Non-system estimated - (miles)</u></b>
Athens District - 24	9	4 (non-system)
Ironton District – 17	12	2 (non-system)

This process will continue to take place for both system and non-system roads when management activities take place in a given area.

<p><b>Objective 17.4c</b> – 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.</p> <p><b>Objective 17.4d</b> – Maintain at maintenance level 3, or higher, roads intended for passenger vehicles.</p> <p><b>Objective 17.4e</b> – Maintain at maintenance level 2 roads intended for high clearance vehicles.</p> <p><b>Objective 17.4f</b> – Maintain at Maintenance Level 1 roads that are closed to public travel.</p>	<p><b>Monitoring Work Plan Question #65:</b> 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?</p>
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In FY 2006, 37.7 miles of the 377.5 miles of system roads in the INFRA (infra structure) data base received some level of maintenance. The table below represents the roads by objective maintenance level. It also depicts the number of miles that meet the objective maintenance level and those that either do not, or have not been reviewed in 2006.

**Table 2-13 Road Maintenance**

	Total System Miles	Roads Receiving Maintenance	Roads at Objective Maintenance Level (Miles)	Roads not at Objective Maintenance Level that did not receive Maintenance in 2006
	(End of FY)	Approx. (Miles)		
Maintenance Level 1	277.74	12.00	138.50	139.24
Maintenance Level 2	35.16	5.00	14.00	21.16
Maintenance Level 3	15.92	11.20	6.00	9.92
Maintenance Level 4	25.60	5.00	5.00	20.60
Maintenance Level 5	23.03	4.50	8.50	14.53
<b>Total Miles</b>	<b>377.45</b>	<b>37.70</b>	<b>172.00</b>	<b>205.45</b>
<b>% of Road Receiving Maintenance</b>			<b>10%</b>	
<b>% of Road that did not get maint. In 2006 and do not meet Obj. Maint. Level or did not get review in 2006.</b>				<b>54%</b>

Monitoring of environmental stability was performed on those roads where staff was available and problems were noted. Work was 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 repair annually. 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 and 4 and 5 roads as funds allow, and as needed by assessment on level 1 and 2 roads.

<p><b>Objective 17.4g</b> – Remove hazard trees along Forest development roads from Sept. 15 through April 15.</p>	<p><b>Monitoring Work Plan Question #66:</b> Are known hazard trees removed during the appropriate time of year?</p>
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In FY 2006, No (0) hazard trees with Indiana bat roost tree characteristics were removed during the period from April 15<sup>th</sup> to September 15<sup>th</sup> of 2006.

All hazard trees were removed before April 15<sup>th</sup> or after September 15<sup>th</sup> by Forest Service personnel or our contractors along our roads.

## 18 - Public Health and Safety

### Goal 18.1 – Law Enforcement

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

<p><b>Objective 18.1a</b> - Prevent violations of law through:</p> <ul style="list-style-type: none"> <li>• Education</li> <li>• Information and regulatory signing</li> <li>• Improved facilities</li> <li>• Effective citing and prosecution of violations</li> <li>• Public notice of prosecutions and penalties</li> <li>• Presence of uniformed Forest</li> </ul>	<p><b>Monitoring Work Plan Question #67:</b> How many prevention activities were performed?</p>
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<p>Service personnel</p> <ul style="list-style-type: none"> <li>• Working with cooperating agency law enforcement officials at times and locations of heavy public use.</li> </ul>	
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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.

<p><b>Objective 18.1b</b> - Focus law enforcement efforts on Forest priorities to reduce incidence of:</p> <ul style="list-style-type: none"> <li>• Illegal OHV use</li> <li>• Arson Fires</li> <li>• Trespass and timber theft</li> <li>• Trash dumping</li> </ul>	<p><b>Monitoring Work Plan Question #68:</b> How many incidences of illegal OHV use, arson fires, trespass and timber theft, and trash dumping were reported?</p>
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Totals are:

- Illegal OHV use: 123
- Arson Fires: 21
- Trespass and timber theft: 16
- Trash dumping: 69

<p><b>Objective 18.1c</b> – 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.</p>	<p><b>Monitoring Work Plan Question #69:</b> How many agencies does the Forest have agreements with?</p>
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Wayne National Forest has CLE’s (Cooperative Law Enforcement Agreement) with seven counties.

- Athens

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

<b>Objective 18.1d</b> – Report violations of laws and regulations.	<b>Monitoring Work Plan Question #70:</b> How many violations were reported?
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There were 601 violations in FY 2006.

- Warnings: 173
- Incidents: 364
- Mandatory Appearances: 2
- Collateral Fines: 62

### 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.

<b>Objective 18.2a</b> – Ensure that water supplies and wastewater facilities meet relevant state and federal laws.	<b>Monitoring Work Plan Question #71:</b> Were the appropriate water quality tests performed?
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In FY 2006, the Forest operated three collateral transient water systems at three campground areas, Vesuvius Recreation Area, 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. Each of our water suppliers has added our systems to their sample collection program. They have been testing the water for biological contaminants as part of their mandatory testing program with the State.

If contaminants are found above the State limits, they will inform us of boil orders so that we can post on our facilities until such time as the contamination has been eradicated.

#### **Waste Water (National Pollutant Discharge Elimination System (NPDES) Permits):**

The Forest currently has one NPDES Permit (OPN00028) with the State of Ohio. It is associated with the wastewater at the Ironton District Office. The system is a recalcitrating sand filter with UV polishing.

Visual and olfactory testing is performed weekly and reported monthly. Detailed chemical analysis of the effluent, as per EPA requirements, is performed four times each year. Test was performed on schedule and information reported to EPA as required electronically.

The EPA has been notified when effluent was out of specification of the NPDES permit and has been cooperating with the Forest to trouble shoot problems when and if they arise.

## Standards and Guidelines Compliance

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

The revised Wayne National Forest Land and Resource Management Plan (2006 Forest Plan) was approved in December 2005. The final 2006 Forest Plan was made public on 2/10/06, and became effective 3/13/06.

No standards or guidelines in the 2006 Forest Plan were modified after the Plan was released.

## III. Acknowledgment of Contributors

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

There employees and volunteers of the Wayne National who contribute information to our monitoring efforts are to numerous to list. The primary author of the report is Aaron WNF Resource Information Manager, Aaron Burk. The following Staff directly contributed the many words, photos, tables, charts and expertise for this effort:

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