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Eastern
Region



Fiscal Year 2014 Monitoring and Evaluation Report



**Wayne
National
Forest**

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2014 Monitoring and Evaluation Report

Wayne National Forest

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

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I. Introduction

Location and History

The Wayne National Forest (WNF) is located on 3 units within 12 counties of southeast Ohio and is the state's only national forest. The WNF's proclamation boundary encompasses approximately 875,000 acres, of which the Forest Service manages over 241,000 acres. The hills of southeast Ohio, the unglaciated region of the state, lie within the Ohio River Basin. Ecologically, this area is considered part of the Southern Unglaciated Allegheny Plateau, which reaches into western Pennsylvania, southeast Ohio, western West Virginia, and eastern Kentucky.

The WNF is situated in the core of the Appalachian foothills, 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 WNF as a remnant of the primeval forest. 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 WNF for a period of 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 WNF releases an annual monitoring and evaluation report.

The monitoring program must be efficient, practical, 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

Monitoring Strategy

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

II. Annual Monitoring and Evaluation

Developed by an interdisciplinary team, the 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 informs 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 change to the Plan is needed. Monitoring efforts are compiled and reported out annually using the federal fiscal year (FY). That is, a Monitoring and Evaluation Report covers the time period from October 1 to September 30 of the following year. This Report covers FY 2014, which was from October 1, 2013 – September 30, 2014. A comprehensive summary Monitoring and Evaluation Report is available for fiscal years FY 2006-2011, representing six years of implementing the 2006 Forest Plan.

2 – Watershed Health

Goal 2.1 – Maintain/restore water quality and soil productivity

Restore water quality and soil productivity to improve health of watersheds impacted by past land use practices and mining activities. Manage activities on the WNF to maintain or enhance water quality and soil productivity.

Objective 2.1a: Restore the dimension, pattern, and profile of streams where channel and floodplain morphology has been altered.	Monitoring Work Plan Question #1: How many miles of stream have been treated to restore dimension, pattern and profile?
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In FY 2014 work was conducted to enhance riparian wetlands and can be found in response to Monitoring Question # 5.

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

One acid mine drainage discharge treatment system was installed in FY 2014. The Ohio Department of Natural Resources (ODNR) Division of Mineral Resource Management installed a tipping bucket limestone doser in Monkey Hollow, a tributary of the Monday Creek (ARD). The purpose of this project is to reduce the acid and metal load coming out of Monkey Hollow. The ultimate goal is to improve the water quality in Monday Creek by creating and maintaining a pH of 6.7 in Monday Creek downstream from where the Monkey Hollow tributary enters. Water monitoring will be conducted in the future to ensure that improvement is occurring as expected.

One subsidence was filled in FY 2014. This feature did not have bat accessible openings and was not capturing a stream. The purpose of the closure was to protect human safety, since there is a user-made foot path very close by this subsidence.

These two projects did not result in any newly free-flowing miles of water where surface flow had been restricted.

Restoration efforts in the Monday Creek Watershed have created a net decrease in acidity. Based on long-term monitoring data from partners and the Non-Point Source database at <http://www.watersheddata.com>, pH and net acidity has improved for approximately 23-25 stream miles in the main stem of Monday Creek. Additionally, monitoring indicated an overall improvement in water quality in the main stem of the Monday Creek Watershed. In 1995 biological and physical monitoring showed that the stream was devoid of any aquatic species. The pH ranged from 2.0 – to – 3.5 for the entire 27 miles. In 2012, the Monday Creek Restoration Project (MCRP) completed a comprehensive monitoring plan for the entire 27 miles. The results showed that 24 species of fish now exist in waters that have a pH of 6.6, and the pH has been maintained at that level for the last 3-5 years. Although there are several reaches within the 27 mile main stem that are still acidic, the partnership has a 5-year Program of Work that will address those problem areas.

Approximately 50% of the Monday Creek stream is nearing attainment of warmwater habitat (WWH) as designated by the Ohio Environmental Protection Agency (OEPA). At

the inception of this long endeavor to bring life back into the main stem of Monday Creek, 10 long-term monitoring stations were permanently placed strategically along the stream. After 12 years or more of collecting this data, it was documented in a report titled “*WQ Analysis Report, January – June, 2012*”. This data can be reviewed at <http://www.watersheddata.com>. A hard-copy report is available upon request from the WNF headquarters.

3 – Aquatic and Riparian Resources

Goal 3.1 – Sustain favorable riparian and aquatic habitat conditions

Promote healthy riparian and aquatic ecosystems that sustain ecological processes and functions and a variety of plant and animal communities, including viable populations of native and desired non-native species.

<p>Objective 3.1a: Restore wetland habitat where wetland hydrology, soils, or vegetation have been modified by past land uses.</p>	<p>Monitoring Work Plan Question #5: How many acres of wetland habitat were restored or enhanced?</p>
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Wetlands –

Many wildlife species use wetlands for drinking, feeding, and breeding. Such areas are or would have been scattered across the Wayne National Forest. When the area was settled, floodplain wetlands were often tilled and drained of water so that they could be used as agricultural fields. The Forest Plan guides us to restore or enhance 150 acres of wetland habitat during the first decade of the planning cycle.

Approximately 186 acres of wetlands were restored or enhanced across WNF in FY 2014.

Through a grant from the North American Wetlands Conservation Act and partnerships with the Appalachian Ohio Weed Control Partnership (AOWCP) and Buckeye Hills Resource Conservation and Development program, we were able to improve 102 acres of wetlands at six areas across the Forest: Mud Pond, Greendale Wetland, Paines Crossing Wetland, Rutherford Wetland, and Tansky’s Marsh on the Athens Ranger District (ARD), and Sand Fork Wetland on the Ironton Ranger District (IRD). Volunteer student interns from Hocking College and Ohio University, a crew leader from AOWCP, Youth Conservation Corps, and employees worked on non-native invasive plant treatments, native plant seedlings, and nest structure installations.

A 29 acre wetland (McAllister) was constructed in an old agricultural field that had been tilled and drained in southern Scioto County, adjacent to Pine Creek (on the IRD). Heavy equipment was used to break the drainage tiles and create low-profile dams. The site was designed to incorporate multiple low-profile dams and slight variations in the field grade so that some areas of the wetland hold water year-round, while other areas are

periodically dry. Pre-existing wetland vegetation and dormant seedbank have and will continue to result in vegetative succession. Multiple species of wetland-associated birds, like sandpipers, snipes, teal, and wood ducks, have been documented since wetland hydrology has been restored. A beaver lodge is the newest structure on site, and it may further diversify the available habitat.

Wetland habitat was improved on the IRD at the Cadmus, Pine Creek, and Superior wetland sites, totaling to 55 acres, in order to provide habitat similar to that created at the McAllister Wetland. This was accomplished by lowering existing dams and creating features within areas that previously provided limited wetland diversity. The reconstruction work will eliminate legacy maintenance issues associated with how the dams were originally constructed.



Dam core-trenching and a finished wetland on the Ironton Ranger District, Wayne NF.

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

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

stream during the first decade of the planning cycle.

A total of 1.1 miles of riparian habitat were improved in FY 2014.

A riparian tree planting at Ring Mill contributed 0.1 miles on the Marietta Unit of the ARD. Red oaks were planted along an eroding bank of the Little Muskingum River. Willow cuttings were also planted within a small section of the bank. Establishing trees assists in stabilizing stream banks and preventing sedimentation of the waterway. Eventually the trees would be of a size to provide some shade over the water, lowering stream temperature, which, in turn can improve stream habitat for aquatic species.

Employees and volunteers pulled garlic mustard in the riparian area along Little Storms Creek (IRD) for 1 mile to eliminate undesirable non-native vegetation competition and reduce the likelihood of seed transport downstream. Non-native invasive plants crowd out native grasses, shrubs, and trees in the riparian area. A healthy riparian area is essential to ensure healthy aquatic ecosystems.

There were no long-term aquatic ecological monitoring sites established by the Forest Service in FY 2014. The existing sites have been permanently marked, so 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.

Objective 3.1c: Reduce sedimentation and improve passage for aquatic and semi-aquatic organisms at Forest development roads and Forest Service recreation trail crossings.	Monitoring Work Plan Question #6.2: How many crossings were improved?
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No crossings were improved in FY 2014.

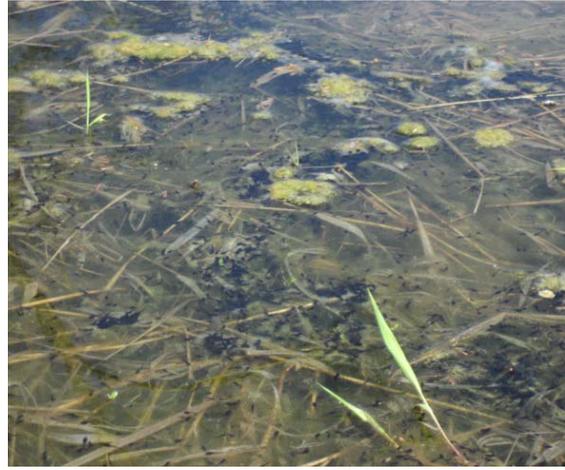
Objective 3.1d: Improve aquatic habitat in ponds and lakes.	Monitoring Work Plan Question #6.3: How many ponds or lakes were treated to improve aquatic habitat?
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A total of 14 acres of pond or lake habitat were improved in FY 2014.

Basking logs (felled trees) and coarse woody debris were added to the shallows in 2 acres of lake habitat at the Upstream Rock Run project on the ARD.

About 12 acres of Lake Vesuvius (IRD) aquatic habitat were improved through placing bundled Christmas trees in the shallower areas of the lake and through trash pickup. Coarse woody debris, such as Christmas trees, provides spawning habitat for fish. This project involved partnering with ODNR to use their Fisheries Program boats.

Additionally, WNF employees and partners paddled canoes around the lake to collect trash.



Hocking College volunteer interns improve lake habitat by adding coarse woody debris at the Upstream Rock Run project area on the Athens Ranger District (left). There were large numbers of frog tadpoles present in the lake (right).

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.

<p>Objective 4.1a: Provide adequate habitat to support viable populations of management indicator species.</p>	<p>Monitoring Work Plan Question #7: Are population trends and habitat trends of management indicators consistent with Forest Plan expectations?</p>
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Eight bird species were selected as management indicator species (MIS) in the Forest Plan (see Forest Plan, Appendix C): cerulean warbler, Henslow’s sparrow, Louisiana waterthrush, pileated woodpecker, pine warbler, worm-eating warbler, yellow-breasted chat, and ruffed grouse.

In developing and analyzing the Forest Plan, projections for MIS indicated a stable or increasing population and habitat trend on the WNF over the long-term (100 yrs). This projection was for all of the bird species selected as MIS, except the pine warbler.



Ruffed grouse, courtesy of ODNR

The prevalence of pine is expected to decline over time, as existing mature native pine stands die and non-native white pine plantations convert to other habitat types, leading to declining numbers of pine warblers.

Observational data is evaluated over time for the eight birds selected as management indicators in order to make inferences on the population trends. Three survey efforts are conducted to monitor birds. The ODNR Division of Wildlife, National Wild Turkey Federation, and WNF partner to conduct ruffed grouse drumming surveys in April where the number of males heard drumming are recorded along specific routes. Breeding bird surveys (BBS) are conducted on the WNF in May and June where all birds observed along intentionally-selected driving and hiking transects are recorded. Random points established for the IRD are sampled every few years in two general areas: Historic Forest with Off-Highway Vehicles and Forest Shrubland Mosaic management areas.

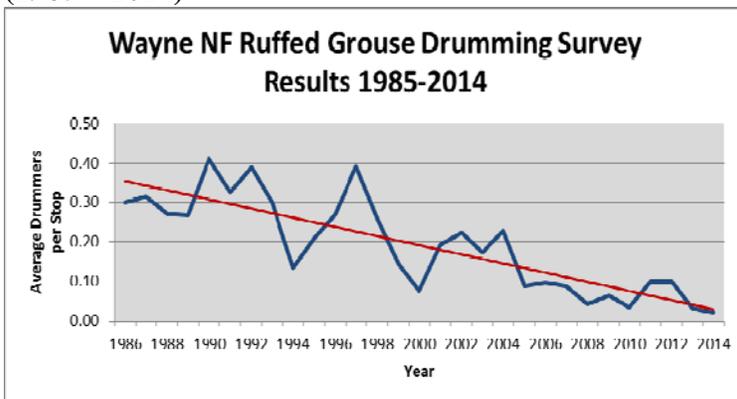
Ruffed Grouse Drumming Surveys –

Because the Forest Plan includes the creation of 1,725 acres of young, dense forest (i.e. early successional forest), the ruffed grouse was projected to increase or remain stable over time. However, very little of this goal has been met thus far, and as such, grouse populations continue to decline across the region.

No early successional forest habitat was created on the WNF in FY 2014.

Data for FY 2014 ruffed grouse drumming routes on WNF indicates the abundance of drumming males decreased from the previous year and all previous years. Thirteen Ohio routes are located in or around the WNF. Data has been collected as far back as 1961 for 3 routes, since 1971 for 1 route, since 1985 for 2 routes, and since the early 2000s for the other 7 routes. An average number of drummers per stop was calculated, shown here since 1985 (Figure 1).

Figure 1: Ruffed grouse population trends on established drumming survey routes (1985 – 2014)



Breeding Bird Surveys –

The BBS took place annually from 2003 to 2013 on the WNF. Now that there is a good sample of data, surveys will only take place every third year in the future (FY 2016 is the next scheduled sample). All birds seen and heard at 241 points along 24 routes (mainly along roads and trails) are recorded. These routes are in a variety of habitats: interior forest, open forest, openland (i.e. herbaceous and shrubby plants), wetland, and grassland. They are sampled twice from May 20 to June 20.



Yellow-breasted chat, courtesy of allaboutbirds.com

One route known as the Cambria Tract BBS route was surveyed in FY 2014, since it is newer (established 2011) and there isn't a good sample of data yet. It is located on reclaimed surface mine lands in IRD and was created to monitor the Henslow's sparrow. Occurrences of the yellow-breasted chat and other grassland birds not included on our MIS list are also captured during the survey.

Since the only BBS completed for FY 2014 was on the Cambria Tract, the other BBS routes and MIS counts/trends related to those routes are not discussed here. The information contained in the last Monitoring and Evaluation Report remains the most up to date information available for population data for the other MIS and the overall suite of birds using the WNF.



Henslow's sparrow, courtesy of BowersPhoto.com

Henslow's sparrow -

Henslow's sparrows are locally common in suitable habitat on the WNF. Suitable habitat consists of reclaimed surface mine grassland areas of sufficient size (at least 30 acres), which are limited across the WNF. Two grassland routes were originally set up specifically to help monitor this species: Peabody-Meada Rd (Athens Unit of the ARD) and Brady Run (IRD). Cambria Tract is also now available to monitor this species. Since Henslow's sparrows are only expected to occur in the grasslands, trend data using Forest-wide counts in mostly unsuitable habitat can be confusing or misleading. Therefore, only data from the grassland routes is used to assess the Henslow's sparrow. For the FY 2014 report, only the Cambria Tract is discussed (since that is the only route that was surveyed this year). Some treatments have occurred in the grasslands that may improve Henslow's sparrow habitat. For that information, please review Monitoring Question # 12.

The Cambria Tract BBS route was visited once in 2011 and twice in 2012, 2013, and 2014. Henslow's sparrows (and other grassland and shrub species, including the yellow-breasted chat) are relatively common throughout the area. In FY 2014 there were a total

of 32 species detected with 264 individual birds observed. The top five species detected (in descending order) were field sparrow, indigo bunting, common yellow-throat, dickcissel, and yellow-breasted chat. There were 12 Henslow’s sparrows detected at 5 of 10 points in two visits, which is similar to the previous year and somewhat less than the 20 observed in 2012 at 7 of 10 points. It will take several years of visits to accumulate sufficient data to present meaningful trend maps for this site.

The Cambria Tract includes more extensive open grassland areas than either of the other grassland sites that have BBS routes. The entire tract was ripped into deep furrows to prepare for mechanical planting of trees. However, only about 500 acres were planted in a hybrid pine by the prior owner, Mead/Westvaco Paper Company. The remaining 490 acres are in open grassland cover.

In 2008, the WNF partnered with The Ruffed Grouse Society to begin to eliminate autumn olive and worked with the Ohio Division of Wildlife to convert 25 acres of non-native fescue fields to native warm season grasses in 3 areas. Timing for seeding was inopportune (i.e., drought) and resulted in limited germination, and the conversion was considered unsuccessful. In fall 2012, 22 acres were mowed or sprayed for conversion. In 2013, 20.8 ac were re-sprayed and seeded with native plants. No additional work was completed there in 2014.

Table 1: Data from Cambria Tract BBS route for Henslow’s sparrow (2011-2013)

Year	# Detected	# of Survey Points	Survey Average
2011	15	10	1.50
2012	20	20	1.00
2013	12	20	0.60
2014	12	20	0.60

Random Points -

Sixty-seven random bird sampling points were established in the IRD in FY 2009 and FY 2010. These points were randomly selected within areas that have approved projects (Pine Creek) or proposed projects (Buckeye). All points are sampled one time during the period of May 20 to June 20, in which all birds seen and heard are recorded in distinct time bands and distance bands. Data was collected in 2009, 2010, 2012, 2013, and 2014. These points require several years of data collection before any trends can be determined, so no assessment is included in this report.

<p>Objective 4.1b: Promote restoration and maintenance of the oak-hickory ecosystem by improving conditions for oak regeneration in the HF and HFO management areas.</p>	<p>Monitoring Work Plan Question #8: How many acres were treated to encourage oak regeneration? (within HF and HFO)</p>
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Approximately 4,307 acres were treated to encourage oak regeneration in the Historic Forest and Historic Forest with Off-Highway Vehicles management areas in FY 2014.

A variety of treatments can be used to encourage oak regeneration, including timber harvests, timber stand improvement treatments (manual or herbicide control of competing species and prescribed fire), and NNIS treatments. Many of them should occur together or in a specific order to maximize the potential for successful oak regeneration.

Hardwood timber harvests took place on 418 acres in 3 sale areas on the IRD. The Delaney, Lyra, and Vista sales were harvested using single-tree and group selection methods (termed “intensive thinning”) to encourage oak regeneration. The Olive Pine Sale thinned 17 acres of a non-native white pine plantation with the objective of eventual conversion to native oak-hickory forest.



Pine Creek Unit, after manual treatments and prescribed burn

Follow-up manual treatments (termed “site preparation”) were implemented on 57 acres that had previous timber harvests: Crab Claw and Clarkson Hollow. These follow-up treatments promote existing oak-hickory regeneration. Manual mid-story treatments were conducted on 531 acres previously burned (Pine Creek Burn Units D, H, I, and K),

also to promote oak-hickory regeneration. An additional 34 acres were treated with crop tree release to promote oak in young stands. These non-harvest treatments encourage oak regeneration by removing or suppressing competing saplings and seedlings.

Prescribed burns were completed on approximately 3,250 acres, within the Baileys area of the ARD and the Buckhorn area of the IRD. Low intensity fire further reduces competing vegetation and leaf litter for oak regeneration establishment and maintenance.

NNIS treatments were completed on the WNF in a variety of areas.

<p>Objective 4.1c: Encourage the establishment of all-aged hardwood forest and hardwood-pine forest communities with structurally diverse canopy layers to maintain forest health and increase structural diversity.</p>	<p>Monitoring Work Plan Question #9: How many acres of hardwood or hardwood/pine forest communities were treated to encourage the establishment of all-aged conditions?</p>
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Approximately 4,743 acres were treated to encourage all-aged conditions. About 436 of these acres occurred in the Diverse Continuous Forest management area and 4,307 acres occurred in the Historic Forest or Historic Forest with Off-Highway Vehicles management areas.

Single-tree and group selection harvests were conducted within the Gore Greendale Diverse Continuous Forest Project area (Bessie Sale) in FY 2014 to create a new age class and improve stand conditions on 243 acres. The non-native, invasive *Ailanthus* tree was treated on 193 acres of previously harvested forest in this project area. These activities took place in the Diverse Continuous Forest management area.

The treatments described in response to Question # 8 (4,307 acres) above also put those areas on a trajectory towards all-aged forest conditions. The Historic Forest and Historic Forest with Off-Highway Vehicles management areas are intended to be oak-hickory forests that are dominated by all-aged conditions.

<p>Objective 4.1d: Create early successional hardwood or hardwood-pine habitat, interspersed within mid- and late-successional forest habitat to provide breeding habitat for shrubland-dependent species, and to increase production of wildlife foods such as soft and hard mast.</p>	<p>Monitoring Work Plan Question #10: How many acres of early successional forest habitat were created?</p>
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No early successional forest was created in FY 2014.

<p>Objective 4.1e: Regenerate existing native pine and pine-hardwood mixed communities.</p>	<p>Monitoring Work Plan Question #11: How many acres of (native) pine or pine-hardwood communities were treated?</p>
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No native pine or native pine – hardwood forest was treated in order to regenerate that forest type in FY 2014.

<p>Objective 4.1f: Annually, improve or maintain 5-10 percent of the existing grassland and grassland/shrub habitat acreage in the GFM management area.</p>	<p>Monitoring Work Plan Question #12: How many acres of grassland habitat were improved or maintained?</p>
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The Grassland and Forest Mosaic (GFM) management area is made up of reclaimed surface mine lands and forest habitat. The larger reclaimed areas that were planted in a grassy cover attract species like the Henslow’s sparrow, grasshopper sparrow, blue grosbeak, and bobwhite quail. Some of the grasslands have been planted with trees, but because of poor soils, the trees are stunted and shrubby.

In FY 2014, 104 acres of grassland habitat were improved in the Peabody/Meada Rd grassland. Autumn olive was cut and the stumps were treated with herbicide. Work has been underway in the past few years to improve this grassland on the ARD for Henslow’s sparrow, a Regional Forester Sensitive Species and MIS.

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

Forest openings are periodically mowed or burned to maintain a mosaic of grasses, forbs, and shrubs. These areas provide food and shelter to many animals, but some of these openings also contain rare plants or plant communities that require open conditions. Forest Plan direction is to create approximately 500 acres of herbaceous-shrub habitat during the first decade of implementation. An assessment of existing non-forested, openlands was completed in 2010. Through this assessment process, all existing openings were mapped on the WNF and grouped by type. The four groups are early successional, reclaimed grasslands, artificial (such as power line right-of-way), and oak barrens. From the assessment, existing openland habitat on the WNF totals approximately 6,650 acres.

Two acres of herbaceous-shrub habitat were created within the Bessie Sale area of the Gore Greendale Diverse Continuous Forest Project (ARD).

There were 326 acres of openings maintained across the WNF by mechanical means to reduce woody encroachment and to retain the herbaceous-shrubby composition. This work was completed with the assistance of the National Wild Turkey Federation.

Objective 4.1h: Construct waterholes and ephemeral wetlands to supplement limited water sources, enhance local biodiversity, and enhance aquatic insect production.

Monitoring Work Plan Question #15: How many waterholes or ephemeral wetlands were constructed or enhanced?

Many wildlife species use upland waterholes and wetlands for drinking, feeding, and breeding. Such areas are scattered across the WNF. 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.

A total of 0.7 ac of vernal pools (i.e. ephemeral wetlands) were created on the ARD. Five (0.5 ac total) were created in the Bessie Sale area of the Gore-Greendale Diverse Continuous Forest project, and 3 small (less than 0.1 ac each) vernal pools were enlarged to increase capacity in the Upstream Rock Run project area, and coarse woody debris was added for structure.



Hocking College volunteer interns create vernal pools at the Upstream Rock Run project area on the Athens Ranger District.

Objective 4.1i: Install artificial nesting or roosting structures to supplement natural cavities or snags when they are short in supply or to enhance wildlife-viewing.

Monitoring Work Plan Question #16: How many artificial nesting structures were installed?

A total of 35 nest structures of various types were installed across the WNF in FY 2014. Seventeen mallard nesting structures were installed in 7 wetlands: 10 on the Athens Unit of the ARD and 7 on the IRD.



Employees, partners, and volunteer interns from Hocking College constructed and installed mallard nesting structures (right – Mud Pond, Athens Unit of the ARD).

Six eastern screech owl boxes were erected in trees near 3 wetland areas on the Athens Unit of the ARD. Twelve wood duck boxes were placed in wetlands on the IRD. The nesting structures were built and installed by WNF staff, partners, and Hocking College student interns and were used as federal match for grants from the North American Wetland Conservation Act. The grants were used to construct wetlands on the IRD.

5 – Endangered, Threatened and Sensitive Species

Goal 5.1 – Recover Federally Listed Threatened and Endangered species

Indiana Bat (Endangered)

Indiana bats were listed as a federally endangered species in 1967. This species is present on the WNF year round. Inventory and monitoring efforts have been conducted on the WNF since 1997, when Indiana bats were first found here. Many different monitoring efforts for Indiana bats take place annually or as needed.



Indiana bat, courtesy of USDA Forest Service

Certain management areas in the Forest Plan were developed, in part, to provide habitat conditions beneficial for Indiana bats. This includes the Diverse Continuous Forest, Diverse Continuous Forest with Off-Highway Vehicles, Historic Forest, and Historic Forest with Off-Highway Vehicles. This is explained in the Conservation Plan for Federally Listed Species (Appendix D to the Forest Plan). In order to comply with the Conservation Plan the WNF is responsible for a number of activities to conserve and protect Indiana bats and their habitat. These activities include sharing information with the US Fish & Wildlife Service (USFWS); collecting and analyzing data with partners; providing training about biology and habitat requirements to key

employees, following specific standards and guidelines for all projects; and monitoring the cumulative acreage of specific activities implemented on the WNF.

There are only 2 monitoring questions that are a part of our Forest Plan Monitoring Program (Chapter 4 of the Forest Plan); however, as mentioned, there is additional data collected about Indiana bats in order for the WNF to be compliance with the Conservation Plan. The additional information related to the Conservation Plan follows the responses to Monitoring Questions 17 and 18 so that the public can be aware of the Forest’s efforts.

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

<p>Objective 5.1.1a: If additional Indiana bat hibernacula are discovered on NFS land, install bat-friendly gates to prevent unauthorized entry.</p>	<p>Monitoring Work Plan Question #17: How many acres of potentially suitable Indiana bat habitat were protected or improved?</p>
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In FY 2014, a total of 4,726 acres of potentially suitable Indiana bat habitat were improved through timber harvest, timber stand improvement (manual or herbicide control of competing saplings and prescribed fire), and other wildlife-specific projects. These activities moved forests towards an all-aged condition and occurred in the Historic Forest, Historic Forest with Off-Highway Vehicles, and Diverse Continuous Forest management areas.

In addition, 13,900 acres were protected through treatments to prevent gypsy moth defoliation.

There were 1,040 acres of mixed-oak stands improved through various treatments in the Pine Creek Project area in the Historic Forest with Off-Highway Vehicles management area on the IRD:

- Timber harvests aimed at encouraging oak regeneration, consisting of single-tree and group selection harvests (“intensive thinning”), were implemented in Delaney units 1 & 2, Lyra units 1-6, and Vista units 1-3 for 418 acres of improved bat habitat.
- Follow-up manual treatments (termed “site preparation”) were implemented on 57 acres that had previous timber harvests: Crab Claw and Clarkson Hollow. These follow-up treatments promote existing oak-hickory regeneration.
- Manual mid-story treatments were conducted on 531 acres previously burned (Pine Creek Burn Units D, H, I, and K), also to promote oak-hickory regeneration. These treatments target competing hardwood saplings that are 2-6 inches diameter at breast height.
- An additional 34 acres were treated for crop tree release to promote oak stocking in young stands.

The treatment objectives for the Pine Creek project were to improve stand conditions to minimize adverse impacts from insects and disease, and to improve conditions for developing future oak and hickory reproduction so these species will be present when the hardwood overstory is regenerated. Providing future oak-hickory forest ensures long-term habitat suitability for Indiana bats. The intensive thinning also improves short-term habitat conditions by opening up the forest stand, allowing more light penetration, reducing structural clutter, and increasing individual tree growth.

About 3,250 acres of prescribed fire were reported from the Buckhorn project area (~2,250 ac in Units E, F, H I, and J) and the Bailies area (~1,000 ac in Upper Bailey Units A-D). Low-intensity prescribed fire is used in these project areas to improve oak-hickory forest habitat, which, in turn, improves Indiana bat habitat. All of these units are within the Historic Forest management area, where objectives are geared towards providing roosting and foraging habitat to Indiana bats through an all-aged forest consisting of large, widely spaced trees, largely made up of oak and hickory species.

There were also 436 acres of all-aged forest improved in 2014. Single-tree and group selection harvest (uneven-aged techniques) were used to create new age classes of various hardwood species and to improve stand condition on 243 acres in the Gore-Greendale project located in the Diverse Continuous Forest management area (Bessie units 1-4). Additionally 193 acres of a competitive non-native invasive tree species (*Ailanthus altissima*, or tree-of-heaven) were treated in the understory post-harvest to help ensure native tree regeneration will occur.

Finally, approximately 13,900 acres of Indiana bat habitat on NFS lands were protected on the Athens Unit of the ARD through gypsy moth treatments in 2014. Gypsy moth, a non-native invasive insect, can be devastating to oak forests and the species that depend on them over time through repeated defoliations and possible tree death. Treatments are designed to reduce the impacts of gypsy moths locally by effectively eliminating caterpillars in areas of higher densities and/or preventing reproduction of adult moths, thereby drastically reducing future numbers of the pest. On a landscape scale, the purpose is to slow the advance of the moth by treating populations on the leading edge of the known species range. Currently, the leading edge of the gypsy moth range in Ohio is squarely over the Athens Unit of the ARD. Treatments to control gypsy moth not only help protect Indiana bat habitat, but also the obligate habitat of native moths consumed by Indiana bats for food.

<p>Objective 5.1.1a: If additional Indiana bat hibernacula are discovered on NFS land, install bat-friendly gates to prevent unauthorized entry.</p>	<p>Monitoring Work Plan Question #18: How many bat-friendly gates were installed on known Indiana bat hibernacula?</p>
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There have not been any new Indiana bat hibernacula identified; therefore no bat-friendly gates were installed on known Indiana bat hibernacula in FY 2014. The only known Indiana bat hibernaculum was gated (2 side-by-side openings) in 2001.

One bat-friendly gate was installed at a mine opening in the Bessie Sale Area Closures project that is within the Gore-Greendale project area on the ARD. Prior to White-Nose Syndrome (WNS), this abandoned mine opening was one of the busiest known bat fall swarming sites on the Forest.

As noted in the introduction to the Indiana bat section, additional monitoring and evaluation is conducted. This information is summarized below.

Fall Swarming Surveys/Monitoring –

WNF biologists and volunteers conducted fall swarming surveys at abandoned coal mine openings across the Athens Unit of the ARD. Since coal mine sites are generally considered too dangerous to enter, fall swarming surveys are used to gauge the importance of various openings to “cave bats”; these sites may or may not also be used for winter hibernation. Due to WNS there are concerns of handling bats that may have been migrating and swarming at various mines and caves. Capturing a bat in a net and then handling it may add stress when that bat is already stressed from WNS, and handling bats over an evening may lead to further spread of the fungus causing WNS. Therefore, in 2011 the survey protocol was changed from netting and handling bats to detector and observation-only. This level of effort is sufficient to tell how much bat use a mine opening is getting, but it cannot determine individual species use. Fall swarming surveys involved observing bat activity at mine openings, such as exit flights from the mine at sunset, re-entries later in the evening, and swarming behavior throughout the survey period, which is from approximately a half hour before sunset until midnight. Bat detectors, occasional use of lights, and night vision scopes aided in these observations. Prior to 2011, the bat species documented using abandoned mine openings for fall swarming on the WNF included (in order of past prevalence) little brown bats, tri-colored bats, northern bats, and Indiana bats. Occasionally, a few individual evening and red bats were captured.

Seven nights of fall swarming surveys at 9 abandoned coal mine openings on the Athens Unit were completed in 2014. One site was pre-project monitoring with a couple of years of monitoring (for installation of a potential bat-friendly gate), while the other 8 sites were post-project monitoring and part of long-term bat monitoring on the district. Bat activity at 2 sites seemed consistent with previous years and was low. However, bat activity levels were down substantially at the remaining openings visited.

Hibernaculum Monitoring -

Census/ WNS Surveillance -

A biennial census for Indiana bats was conducted on January 28th, 2014 at an abandoned limestone mine (“Woody”) located in the IRD of the WNF, Lawrence County, Ohio. Few bats were recorded, and no Indiana bats were documented during this survey (Table 2). Overall this represents a 99.3% decline in bat numbers compared to average pre-WNS biennial counts in the same mid-winter period in 2007-2011, and a 100% decline in Indiana bats.

Table 2: Midwinter (15 Jan to 15 Feb) bat census results (individuals counted) since 2003 for Lawrence County mine ("Woody")

Count By Year	<i>Myotis lucifugus</i> Little brown	<i>Myotis sodalis</i> Indiana	<i>Perimyotis subflavus</i> Tri-colored	<i>Eptesicus fuscus</i> Big brown	<i>Myotis septentrionalis</i> Northern	Flying/Unidentified	TOTAL BATS
2003	299	208	38	5	0	13	563
2005	704	333	40	6	3	3	1089
2007 ¹	1344	224	99	6	11	0	1684
2009 ²	593	254	129	3	2	0	981
2011 ³	916	276	134	3	1	4	1334
2012	1753	277	214	11	24	72 ⁴	2351
2013	213	16	132	5	14	0	380
2014	4	0	4	1	0	0	9

¹Census areas were expanded from previous years; bats in more areas were counted, especially Little Brown Bats, from this year forward.
²First year individual bats were tallied in Areas 5A / 5B, which boosted Tri-colored Bat counts.
³White-nose syndrome was identified at the site in March 2011.
⁴“Unidentified” in 2012 were mainly Little Brown Bats and Tri-colored Bats observed from a distance, such that species confirmation could not be made for certain.

The abnormally high counts of total bats in 2012 are likely due to effects of WNS, which included a general shift in roosting location for many species, potentially resulting from the tendency of affected bats to move towards the mine entrance, where they can be better seen. The drastic decline observed in 2014 is a direct result of WNS.

Acoustic Monitoring -

One acoustic driving route was set up on each unit of the WNF in 2009 to inventory all bat species and their relative abundance along pre-determined transect routes during the

summer maternity season. A second route was added to each unit in 2010 for a total of six 30-mile transects Forest-wide. These survey efforts are intended to establish a baseline dataset for assessment of 2 recent sources of mortality to bats: WNS and wind energy development. Since WNS arrived to the WNF in 2011, declines in susceptible bat populations have occurred. Similarly, tree bat (primarily red, hoary, and silver-haired bats) populations are experiencing relatively intense mortality at some wind-power sites. The population size of these species and their ability to sustain an increased rate of mortality are unknown at this time. A multi-regional effort to collect this data will help answer related questions. The current collection of data will be compared to data collected in the future to help determine if population declines are occurring.

Six routes were run a total of 20 times on the WNF during the summer maternity season and 15 times during the later summer/fall migration season for a total of 35 runs in 2014. Bat echolocation calls from as many as 9 species were recorded each night. Bats on the WNF include: Indiana bat, little brown bat, northern long-eared bat, tri-colored bat, big brown bat, red bat, hoary bat, silver-haired bat (migrant), and evening bat (occasional visitor). At this time, data analysis is preliminary. Software that can reliably distinguish local species is still under development.

A preliminary data analysis was conducted by partner, Jennifer Norris at the ODNR Division of Wildlife. She noted a state-wide decline of 47% in bat detection rate from 2011 to 2014 (i.e., the number of calls collected for a specified period and distance – minute per mile; Figure 2).

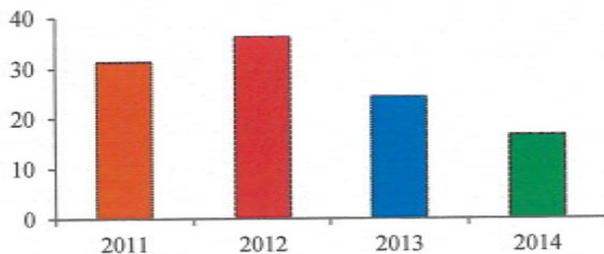


Figure 2. Acoustic bat detections per survey rates (i.e. the number of calls collected for a specified period and distance – minute per mile) declined by 47% over four years of data collected for all routes in Ohio (2011-2014).

Additionally, data analysis for the early-summer surveys from the WNF demonstrated variable but overall declines in bat detections in 2014 compared to previous years (Table 3).

Table 3: Decline in number of bat calls detected (2011 to 2014) on bat acoustic driving routes on the WNF. The route name follows the calculated decline.

Athens Unit	Marietta Unit	Ironton Unit
-2% Hocking (1)	-80% Monroe	-57% Gallia
-46% Hocking (2)	-39% Washington	-52% Lawrence

Summer Project Monitoring -

Summer mistnet surveys for bats were conducted in July and August on the WNF. Environmental Solutions & Innovations, Inc was contracted to conduct surveys at 16 sites for one night each on the Athens Unit of the ARD. Third Rock Consultants (TRC) was contracted to conduct surveys at 25 sites for one night each on the IRD and 24 sites for one night each on the Marietta Unit of the ARD. Net sites were chosen to match up closely with past mistnet sites, except on the Marietta Unit where some new sites were located and sampled to broaden the previous sampling coverage. This survey approach was used to facilitate a comparison of pre- and post-WNS survey results. A total of 65 sites and 132 net nights were sampled across the Forest in 2014.

Overall declines in captures of WNS-affected bats and bat capture rates were observed. The sample size for the 2014 effort is a lot smaller than pre-WNS (1997-2008) survey efforts, so this must be taken into account with any comparisons made between the two periods. No Indiana bats were captured during 2014 surveys; however, this was not unusual, due to the amount of effort generally required to catch one on the WNF in summer. Relative abundances shifted between species, resulting in higher relative captures of big brown, red, and hoary bats in 2014. This year, red bats were the most commonly captured species across the WNF. Prior to WNS, northern long-eared bats were considered the most commonly captured species across the region, making up 31% of all captures. At an overall abundance of 18% in 2014, they were absent from the Athens Unit of the ARD and captured on IRD at a rate far below normal. However, they still made up a significant proportion of the bats captured on the Marietta Unit of the ARD, although at a lower rate than in 2004.

Table 4: Relative abundance comparison by species, pre-WNS (1997-2008) & post-WNS (2014), during summer bat surveys on the WNF

Species	pre-WNS	post-WNS
Little brown bat	14.5%	11.5%
Northern bat	31.2%	18.0%
Indiana bat	0.6%	0.0%
Tri-colored bat	9.6%	6.0%
Big brown bat	21.6%	28.1%
Red bat	21.1%	35.0%
Hoary bat	0.6%	1.4%
Silver-haired bat	0.2%	0.0%

Figure 3. Average bat capture rate (all species) for each WNF Unit, pre-WNS (1997-2008, during select years when surveys were conducted) and post-WNS (2014).

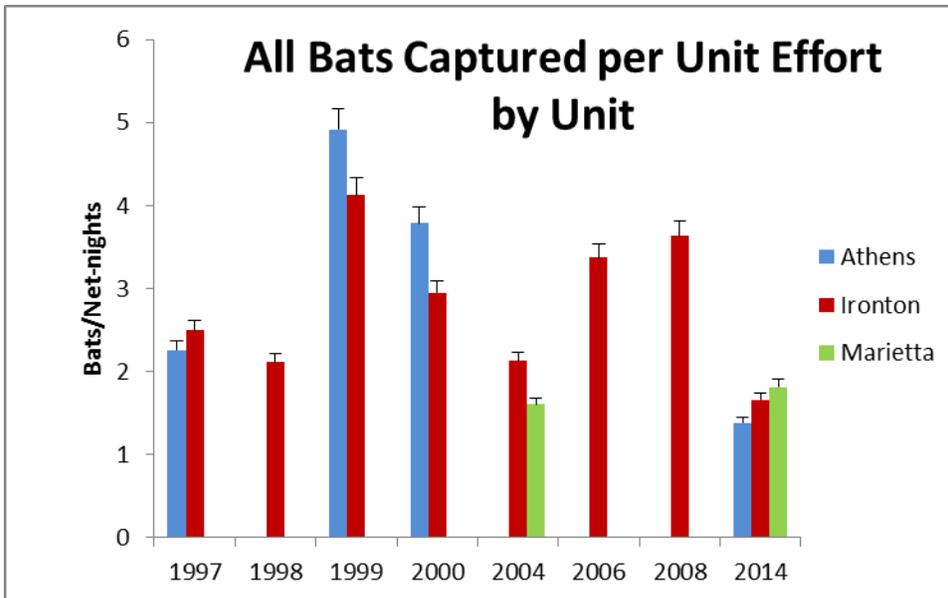


Table 5: Comparison of average bat capture rates during summer mistnet surveys for pre-WNS (1997-2008) and post-WNS (2014) periods.

WNF Unit	Pre-WNS (bats/net-night)	Post-WNS (bats/net-night)	Percent decline
Athens	3.7	1.4	-62%
Ironton	3.0	1.7	-44%
Marietta	1.6	1.8	13%
Forest-wide	3.0	1.6	-46%

Education and Awareness Training -

Indiana bat training sessions designed to teach key WNF employees about Indiana bat biology and habitat requirements have been presented periodically in accordance with our Conservation Plan (Forest Plan, Appendix D). Field-going employees, such as fire fighters, timber markers, special use, engineering, and recreation technicians, etc., are taught about Indiana bats, so that they can help biologists manage and conserve bats and their habitats in the course of their regular work. No training sessions were held in FY 2014.

Hickory Tree Tally -

Shagbark and shellbark hickory trees are preferred Indiana bat roost trees. Therefore, removal is monitored. A total of 4 shagbark and shellbark hickory trees were removed in FY 2014, including 3 in the Vista timber sale (Pine Creek project) on the IRD to protect human safety, steep slopes, and erodible soils. The other one was removed to protect erodible soils in the Bessie timber sale (Gore-Greendale project) on the Athens Unit of the ARD.

Goal 5.1.3 - Cooperate in efforts to reintroduce the American burying beetle (federally endangered).

Monitoring Work Plan Question #19: What cooperative efforts were accomplished to achieve the reintroduction of the American burying beetle?

The American Burying Beetle (ABB) was listed as a federally endangered species on July 13, 1989. The ABB was once a component of Ohio's ecosystem. Carrion-feeding beetles, such as the ABB, are an important group of scavengers that help to recycle decaying materials back into the ecosystem. No wild populations of the ABB are currently known to exist in the state. The last known capture of ABB in the wild in Ohio was in 1974 in the neighboring Hocking Hills area of southeast Ohio.



American Burying Beetle

One of the goals in the ODNR Division of Wildlife ABB Conservation Plan is to establish a self-sustaining viable population of the ABB within Ohio. The WNF was identified as a potential release site for assisting the ODNR in attaining their population goals. Surveys of soil types and vegetation indicated that the WNF contained land with the right combination of conditions for a high probability of a successful reintroduction.

Thus, the WNF agreed to work cooperatively on this effort through direction in the 2006 Forest Plan by participating in a 5-year reintroduction project starting in 2008. The WNF, ODNR Division of Wildlife, The Ohio State University, and the US Fish and Wildlife Service, began to re-introduce this endangered beetle in two locations on NFS lands in Perry and Athens Counties, Ohio. Additional partners include Cincinnati Zoo, The Wilds, and individual volunteers.

Reintroduction efforts on the WNF took place from 2008 to 2012. The WNF is now monitoring for continued presence of the ABB.

In FY 2014 six non-lethal traps were set in the East Branch, Antle-Orchard, Cornstill Road, Dugan Ridge, Old Town and Salt Run areas of the Athens Unit of the ARD for a total of 26 days. No ABBs were captured during this effort. Monitoring will continue into 2015.

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

<p>Objective 5.1.4b: Conduct annual monitoring of known running buffalo clover populations and adjacent areas to identify potential risks or management needs.</p>	<p>Monitoring Work Plan Question #20: Were there any changes to known running buffalo clover populations and were any potential risks identified and mitigated?</p>
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Running buffalo clover (*Trifolium stoloniferous*) is a federally endangered plant. Prior to 2013, it was only known to occur on the WNF in one location on the IRD. The IRD population was discovered in 2005 along an unauthorized ATV trail when personnel were assessing the impacts of the Binion wildfire that had burned the area. In 2013, a new population of running buffalo clover was found on the Athens Unit of the ARD. This monitoring section is divided in two, to show activities at each of the populations.



Running buffalo clover

Ironton Ranger District -

Since this population was inadvertently discovered in 2005, it has been monitored yearly by WNF and US Fish and Wildlife Service. It was monitored on June 18, 2014, with 145 individuals detected (11 were in flowering). The number of counted individuals decreased quite a bit from 2013 counts (260 to 145).

Although it appears that the population has declined significantly, there are a number of factors that could be in play to skew the data. First, there was a new group of people measuring the population that had no prior experience with running buffalo clover or the area. Their inexperience could have led to a miscount of the population, or missing individuals not located with the main concentrated area. Second, the population assessment was completed later than in previous years, which could account for some senesced plants. Third, FY 2013 monitoring documented a smaller patch of running buffalo clover located about four miles from the large population that was not visited in FY 2014. Documentation from the FY 2013 visit notes there were very few flowers and an abundance of seedlings present.

We will have a better idea on the success of this population after the 2015 surveys. The crew involved in monitoring will have had some experience with the plant and the area and will make sure to visit the disjunct population.

Management actions to help the clover have been developed with the assistance of the

U.S. Fish and Wildlife Service. Management actions included:

- Mowing or hand-pulling of Japanese stiltgrass: 2007-2014
- Surveys for additional populations of clover nearby know patch: 2007-2014
- Felling of trees across illegal ATV trail to protect population: 2007
- Clearing of thick brush understory: 2008
- Planting of tree seedling to replace dying overstory trees: 2008
- Control garlic mustard, Japanese stiltgrass and tree-of-heaven along ATV trail that leads to clover patch: 2009-2012
- Clearing of vegetation around planted seedlings: 2010
- Additional 3 walnut trees planted: 2010
- Girdling of small nearby trees that were providing too much shade: 2011-2012
- Shrub removal to increase light penetration to forest floor: 2012, 2014
- Compare methods of Japanese stiltgrass removal on RBC numbers: 2012
- Chemical treatment of stiltgrass, garlic mustard, multiflora rose and tree-of-heaven at a safe distance from the RBC: 2013, 2014

Table 6: Monitoring results of IRD population of running buffalo clover from 2005-2014.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Rooted Crowns	34	69	87	162	180	250	209	208	260	145
Flowering	N/A	17	21	10	99	24	20	30	8	10
Date Monitored	N/A	5/24/06	5/23/07	5/15/08	5/18/09	5/19/10	6/17/11	5/16/12	5/30/13	6/18/2014

The hand pulling of Japanese stiltgrass (*Microstegium vimineum*) appeared to help and this could be extended on either side of the population. The stiltgrass was still germinating. To really address the stiltgrass problem and reduce the movement of seed into the area, increasing the treatment size to one acre should be implemented.

Athens Ranger District -

This population of running buffalo clover was discovered by a partner in early May, 2013, and monitored for the second time by WNF employees on June 17, 2014. It is along an unauthorized ATV trail and a stream. A small tributary meets the stream on the opposite side from the clover. Some very small seedlings that may be running buffalo clover were found up this side stream, so the side stream may be the source of the population’s establishment, since high flows would have caused flooding and potential seed distribution where the current population is found. While

Habitat of running buffalo clover on the Athens Ranger District in 2014



small seedlings were found within the bed of the stream and side stream, no other established populations were found.

The established population had 89 rooted plants (an increase from 64 counted in 2013), with 11 flowering (down from 15 flowering in 2013).

Invasive plant species near the population include multiflora rose and Japanese stiltgrass. Stiltgrass was manually pulled at the site during monitoring efforts. No other management activities have taken place at this location.

General -

We plan to continue our efforts with the U.S. Fish and Wildlife Service to follow these populations and any new populations that may be discovered. Future efforts to encourage the species will continue to be developed and considered with input from the U.S. Fish and Wildlife Service.

Goal 5.2.1 - Protect bald eagle communal night roosts, daytime concentration sites, and occupied breeding territories.

<p>Objective 5.2.1a: Conduct a minimum of three annual winter searches to locate any previously unknown communal night roosts of bald eagle concentrations.</p>	<p>Monitoring Work Plan Question #21: How many mid-winter bald eagle searches were conducted?</p>
	<p>Monitoring Work Plan Question #22: How many bald eagles were observed?</p>

Four comprehensive searches were conducted at Burr Oak Reservoir on the Athens Unit from December thru mid-April. Five adult bald eagles were seen at Burr Oak during this time. Additional searches at Newell’s Run and the Ohio River corridor on the Marietta Unit were also conducted from February thru mid-April. Three immature bald eagles and 2 golden eagles were observed at Newell’s Run. Two adult bald eagles were observed near the nest on Neal’s Island. Three casual surveys were conducted at Lake Vesuvius from November through March. No bald eagles were observed. Additional bald eagles were spotted during the winter season at Lake Logan and the gravel pit ponds along US Highway 33 near Logan and Lancaster, not far from the Athens Unit of the ARD.

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.

<p>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.</p>	<p>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?</p>
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Please refer to the answer for Monitoring Question # 8. Treatments intending to result in maintenance and restoration of the oak hickory ecosystem were largely completed within the Historic Forest or Historic Forest with OHV management areas.

Aerial treatments to prevent gypsy moth defoliation were conducted on approximately 13,900 acres of the Athens Unit of the ARD in FY 2014. This treatment maintains oak by preventing defoliation from feeding of the gypsy moth caterpillars. Species of oak are among the most preferred species for the gypsy moth caterpillars, and 1-3 years of heavy defoliation can lead to 100% mortality of oaks.

<p>Objective 6.1b: Use commercial timber sales and stewardship contracts to accomplish wildlife habitat objectives.</p>	<p>Monitoring Work Plan Question #24: How many acres are being treated through commercial timber sale operations and/or stewardship contracts that will likely meet objectives of improving wildlife habitat?</p>
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A total of 678 acres were harvested through the use of traditional timber sales and stewardship contracts in FY 2014. Out of this total, 418 acres of mixed-oak stands were improved through single-tree and group selection harvest in the HF. There were 243 acres of mixed hardwoods harvested using single tree and group selection methods in the DCF. Thinning took place on 17 acres of non-native, white pine plantation.

These harvests meet wildlife objectives by:

- Improving stand conditions for the endangered Indiana bat by creating an open under-story canopy to forage in,
- Recruiting and retaining oak and hickory trees for mast dependent species and Indiana bats, which are known to utilize oak-hickory forest types extensively, and
- Reducing crowded, low-light conditions in a pine plantation to begin to move the area back to native forest types that will provide potential foraging and roosting habitat for Indiana bats in the future.

Goal 6.2 – Improve Fire Regime Condition Class

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

Objective 6.2a: Use prescribed fire to conserve fire-adapted plant and animal biodiversity and to maintain and restore mixed oak and native pine ecosystems.	Monitoring Work Plan Question #25: How many acres are being treated with prescribed fire that will likely conserve fire-adapted plant and animal biodiversity, and to maintain and restore mixed oak and native pine?
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Prescribed burns were conducted on the Athens Unit of the ARD (Baileys A, B, C, D) and IRD (Buckhorn D, E, F, H, I, J) for an approximate total of 3,250 acres to move closer to the Historic Forest management area desired future condition. The prescribed fire treatments for the Buckhorn project were coupled with timber sale harvests (CH&D, Clarkson Hollow, Washington) on a subset of these acres (337 acres) to meet the objective of site preparation and promotion of oak-hickory regeneration by controlling competing hardwoods in the understory.

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?
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The ARD sold permits at two offices (Nelsonville and Reno), and IRD sold permits at the District office in Pedro. Firewood and plant/root permits were \$20 per permit.

One hundred and fifty-nine firewood and 162 root permits were sold on the WNF in FY 2014. In comparison, a total of 93 firewood and 67 root permits were sold during the previous year. Table 7 shows a breakdown of permits sold, by type and by Administrative Unit (Athens, Marietta, and Ironton).

Table 7: Forest Product Permits (2014)

WNF Unit	Athens	Marietta	Ironton	TOTAL
Firewood Permits	77	18	64	159
Root Permits	86	34	43	163

Firewood permit sales increased by 66 additional permits sold in FY 2014 in comparison to FY 2013. This represents an additional 186 cord of wood being harvested across the WNF (firewood permits allow up to two cords of downed, dead trees to be harvested as firewood). Permittees are not required to report back their actual cord harvest.

The number of root permits sold in FY 2014 more than doubled in comparison to FY 2013 (163 from 71). Since 2000, the average number of root permits sold is just over 98 across the WNF.

Root permits allow up to 5 wet lbs. of roots to be collected of which up to 1 lb. (95 plants) can be ginseng. A total of 163 permits were sold, so maximum permitted collection would equate to 810 wet lbs. of total roots collected, of which up to 163 wet lbs. or 15,485 plants (approximately 54 dry lbs.) could be ginseng.

Reported harvests from root permits returned to the WNF (which is required in the root permit) are far lower than the maximum. Of the 163 permits issued across the WNF, 80 were returned with a total reported harvest of 3,438 ginseng individuals (assumed to be approximately 36 wet lbs.), 22.5 lbs. of goldenseal, 18.5 lbs. blood root, and 18 lbs. of black cohosh. This represents approximately 1/5 of the total permitted amount of ginseng being harvested and less than 1/10 of total permitted roots being harvested.

In an effort to understand the impacts of harvesting on wild ginseng, 14 long-term monitoring plots have been established on WNF (4 Ironton, 3 Marietta, 7 Athens). These plots were not measured in FY 2013 due to insufficient funds (first time not monitored since initiated in 2008) but were monitored in FY 2014 due to an administered grant by our partner organization, Rural Action. Establishment of additional plots and continued re-measurement of current plots are planned for the future to better understand how harvesting impacts ginseng viability on the Forest. The plots will be monitored each year; however, approximately 10 years of data are required to analyze population trends. 2014 was the sixth year of monitoring for the oldest of the ginseng plots. The WNF is working with the ODNR and Monongahela National Forest to maintain similar protocols so that future analyses could include monitoring efforts from all three entities to better understand ginseng population trends at a regional scale.

USGS research focused on the population, habitat, and genetic distribution of ginseng

was initiated in 2014 on the WNF, Monongahela and two national forests in North Carolina. Continuing in 2015, this research will produce population assessments of ginseng for these Forests. This research has been funded by the Regional Office.

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 WNF.

<p>Objective-7.1a – Maintain an inventory of NNIS insects and diseases affecting or potentially affecting NFS resources.</p>	<p>Monitoring Work Plan Question #27: How many acres of the Forest are inventoried for NNIS insects and diseases and when was it inventoried?</p>
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The Ohio Department of Agriculture (ODA) cooperates with the USFS Forest Health Protection Program to annually monitor for the presence of the gypsy moth on the WNF. Traps are deployed across the WNF and southeast Ohio to monitor the presence of gypsy moths across the state. Trap data is used to identify areas for potential treatment. The traps are installed in spring and monitored during summer and fall months.

A population of gypsy moth was discovered in Athens, Hocking, and Perry Counties in the Corning, Shawnee, New Straitsville, and Murray City areas in FY 2014. The area encompasses approximately 40,000 acres.

<p>Objective-7.1b – 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"> • Retard advance of the gypsy moth • Eradicate NNIS species that are present but not yet well established, such as the emerald ash borer • Prevent the spread of non-native species currently lacking natural controls 	<p>Monitoring Work Plan Question #28: How many NNIS (insects and diseases) sites were treated and how did the populations respond to treatment?</p>
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<ul style="list-style-type: none"> • Protect populations of, or habitat for, endangered, threatened, or sensitive species • Protect rare communities likely to be severely impacted by insect outbreak • Prevent extensive tree mortality or defoliation in developed recreation areas and other areas where maintaining visual quality is a major objective • Prevent spread onto land or into high value areas of the Forest (e.g., rare communities, developed recreation areas) • Prevent the introduction and spread of Sudden Oak Death Syndrome 	
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As part of the nation-wide Gypsy Moth Slow the Spread Program, the ODA aerially sprayed approximately 13,900 acres of National Forest System Land on the Athens Unit of the WNF for gypsy moth in FY 2014. This treatment included:

- Aerial application of Gypchek to approximately 46 acres of WNF (two applications),
- Aerial application of *Bacillus thuringiensis* var *kurstaki* (*Btk*) followed by mating disruption pheromone to approximately 2,126 acres of the WNF, and
- Aerial application of mating disruption pheromone only to approximately 11,685 acres of WNF.

The area of treatment was identified from monitoring efforts conducted by the ODA in the summer of 2013. Areas of lower gypsy moth populations are identified for mating disruption treatment, with the Gypchek or *Btk* designated for areas with higher populations.

Both Gypchek and *Btk* are considered larvacides since they kill the gypsy moth caterpillars, although they are not chemicals. Gypchek is made from a naturally-occurring virus that is propagated in live gypsy moth caterpillars. The caterpillars are then ground up and aerially applied to spread the virus over the treatment area. The virus is specific to only the gypsy moth; therefore, there are no impacts to other species from this treatment. Gypchek production is limited, so its use is targeted to areas that have known populations of rare, threatened or endangered moths or butterflies that would be susceptible to *Btk*. *Btk* is a naturally-occurring bacterium that is manufactured for aerial treatment of gypsy moth caterpillars. It is somewhat species-specific in that moth and butterfly caterpillars that are present and feeding during or within 7-14 days following the treatment may be killed by the bacterium. Species like swallowtails are not present as caterpillars at the time of the application and typically monarchs are not either.

Mating disruption pheromone is a synthetic formulation of the pheromone naturally produced by the female gypsy moth. It targets the gypsy moth at the adult, moth life-stage and; therefore, does not immediately prevent defoliation. In low-level populations

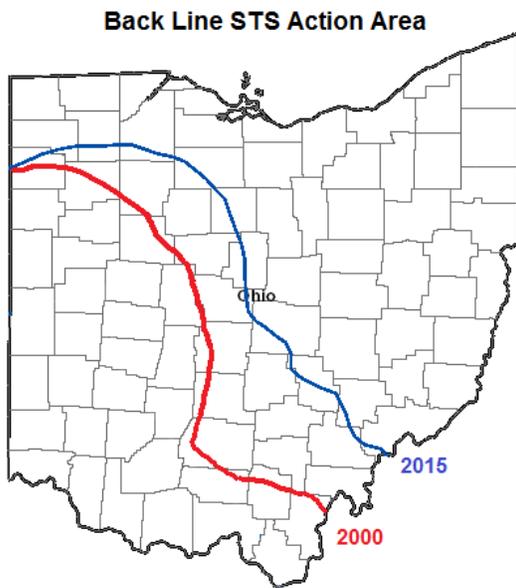
of gypsy moth the males find the females by following the pheromone scent emitted by the female. In the mating disruption treatment, the area is saturated with female gypsy moth pheromone so that the males cannot find the females. The result is that reproduction is eliminated or drastically reduced. This will reduce caterpillar numbers in subsequent years. At higher densities of gypsy moths mating disruption pheromone becomes less effective because male moths can find females visually, without the aid of a pheromone.

This project operates cooperatively with the ODA, the USFS Forest Health Protection Program out of Morgantown, WV, and the WNF. Treatments have occurred annually on the Athens Unit of the ARD starting in 2012. Previous treatments took place on the Ironton District in 2003 and 2010.

The purpose of this project was to reduce the impacts of gypsy moths locally by eliminating caterpillars in areas of higher densities and/or disrupting mating of adult moths, thereby drastically reducing future numbers of the pest. On a large-scale front, the purpose of the project, as part of the Slow the Spread Program, was to slow the advance of the gypsy moth by treating populations on the leading edge of the species known range.

Monitoring of treatment effectiveness

Treatment products are aerielly applied during the late spring-summer each year. Treatment effectiveness cannot be monitored during the same year, so we will not know the effectiveness of FY 2014 treatments until after the trapping season of the summer of 2015.



Since the Slow the Spread Program has become operational in Ohio in 2000, the leading edge has been pushed back 46 miles (averaged across the state).

<p>Objective 7.1c - Protect the Forest from wildfire by:</p> <ul style="list-style-type: none"> • Treating hazardous fuels that present a high risk of wildfire. • Treating hazardous fuels to move the Forest closer to desired fire regime condition class and desired future condition. • Maintaining areas that are at the desired fire regime condition class 	<p>Monitoring Work Plan Question #29: How many acres of hazardous fuels were treated?</p>
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Approximately 95 % of the WNF lands are within the Wildland Urban Interface (WUI), and hazardous fuels were reduced on approximately 3,250 acres using prescribed fire - all within the WUI.

Goal 7.2 - Control Non-Native Invasive Plants

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

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

Inventories have been occurring on the WNF since 2002. In FY 2014, over 150,000 acres (part of the Athens Unit and IRD) were mapped for the invasive tree *Ailanthus* in partnership with the ODNR. This project involves aerial surveys where a trained technician recognizes female trees (laden with seeds) and maps them with a data recorder. Additional infestations were recorded by field going personnel.

<p>Objective 7.2b Treat and reduce populations of NNIS with high potential for spread. Implement control treatments of infestation that threaten priority resources. Prioritize treatment areas based on risk of spread, threat to resources, likelihood of successful control/containment, and partnerships.</p>	<p>Monitoring Work Plan Question #31: How many NNIS sites were treated and how did the NNIS populations respond to treatment?</p>
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Over thirty different sites, totaling 2,508 acres, were treated manually, mechanically, or chemically for non-native invasive plants in FY 2014. This is an increase by approximately 800 acres from 2013, and was made possible by an agreement between the WNF and the National Wild Turkey Federation to treat 1,500 acres of *Ailanthus*.

Additionally, North American Wetland Conservation Act funds were used in collaboration with Hocking College interns' volunteer time to treat invasive species in six wetlands on the Forest (see also Goal 3.1 sustain favorable riparian and aquatic habitat conditions). A total of 500 volunteer hours contributed to NNIS suppression due to this partnership.

Invasive plant species controlled included autumn olive, bush honeysuckle, garlic mustard, ground ivy, Japanese honeysuckle, Japanese hops, Japanese knotweed, Japanese stiltgrass, Japanese barberry, spotted knapweed, lespedeza, kudzu, multiflora rose, Oriental bittersweet, princess tree, and *Ailanthus*. Some observations of these treatments are listed below.

Species-specific discussion -

Treatments of *Ailanthus* across the Marietta Unit seem to have been fairly successful, with little to no root sprouting. Adult *Ailanthus* trees responded quickly to the hack and squirt method used by National Wild Turkey Federation contractors and WNF weed crews. New seedling growth continues to be an issue especially where prescribed burns and timber harvests have been implemented. Follow-up foliar treatment of these seedlings, though effective, is time intensive. Time and labor requirements for that treatment method may be considered when deciding whether to continue treatment or not. Researchers at the Northern Research Station will begin an experiment to detect the spread rate of a native fungal pathogen of *Ailanthus*, *Verticillium nonalfalfae*. The potential to use this biocontrol agent as a method of treatment of *Ailanthus* on NFS lands will be considered following the results of this study.

Lespedeza treatments were attempted in a reclaimed mine area (Meada Rd) on the ARD for the first time in 2012 and continued in 2013 and 2014. The treatment was to mow early in the spring, spray with herbicides in the early summer, and a follow-up spray when remaining plants flowered. Treatment seems to have been approximately 85% effective at killing-off the established plants (based on visual estimates). New sprouts of

lespedeza continue to germinate in the treatment areas from the existing seedbank. Treatments and monitoring will continue in the future to remove this species from reclaim areas in order to convert them to more native plant species that can support openland-dependent birds and other wildlife. Currently, the native vegetation replacing the lespedeza appears to be predominated grasses, likely because treatments for lespedeza are also affecting other herbaceous plants. Biologists are watching the treatment area to determine if they want to change anything, including active planting of native plants, to create the desired herbaceous and grass species mix needed for the grassland/openland birds the area is intended to house.



Kudzu patch in Marietta, detected in 2013. Top photo was before treatment, bottom photo was taken about 9 months after treatment.

Kudzu treatments on the IRD seem to be successful in reducing vigor; however a new, rather large patch was identified in 2012, near the original infestation which was treated in 2013. Due to staff turnover, this population was not treated in 2014 and will be a program priority for treatment in 2015. A new population of kudzu was also found on the Marietta Unit in 2013 and treated immediately. Monitoring of this site in 2014 saw a great deal of success and was followed by another year of treatment. In future years, kudzu will most likely require biannual treatment and a greater emphasis on early detection and rapid response to decrease or eliminate spread.

In some areas where NNIS-plants have been successfully treated and almost eradicated, other undesirable plants are beginning to come in. For example, garlic mustard and Japanese knotweed have been treated for several years at Little Storms Creek SA. The treatments have been very successful and only an occasional individual of either species can be found; however, Japanese hop and silktree are colonizing the now-empty space. Using natives to restore areas after NNIS control needs to be a priority and become part of the cost of NNIS treatments that are shared by all program areas. A new WNF seed mix was approved for use on the Forest in FY 2014 and was used throughout the year to increase native plant diversity in disturbed areas that otherwise might be colonized by NNIS.

Goal 7.3 – Control Non-Native Invasive Species Aquatics

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

Monitoring Work Plan Question #32: How many NNIS awareness and education events were given?

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

Due to staff turnover and the loss of Eric Boyda, the coordinator for the Appalachian Ohio Weed Control Partnership (AOWCP - a Cooperative Weed Management Area that includes 16 counties of Southeast Ohio), fewer NNIS awareness education events were held by the WNF in 2014. A total of five NNIS awareness and education events were conducted in 2014: one Open House held jointly with the Ohio Department of Agriculture to answer questions about proposed gypsy moth treatments; one at the Get Outside Day at Leith Run Recreation Area, one at the AOWCP annual meeting, one at the Big Brother/Big Sister Camp Oty O'kwa for under-served youth, and continuous mentoring of Hocking College and Ohio University interns. The interns participated and learned about invasive species management and habitat restoration. A total of nine students were involved during the year with over 500 hours of volunteer time spent participating in these activities.

Informational displays and/or hand-outs were present at WNF offices during the year.

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 #33 How many acres of native vegetation (e.g., American Chestnut, American Elm), have become re-established?

A research project of The American Chestnut Foundation to test genetic material from their B3F2 seed orchards was completed on the ARD. Seven hundred potted seedlings of American and Chinese chestnut genetic material were planted in a grid design and will be monitored over the next several years for survival results. It is unknown at this time whether any of the material will be resistant enough to become re-established or at least serve as a seed source for future plantings. The planting was carried out with WNF staff, The American Chestnut Foundation staff and community volunteers.

8 – Fire Management

Goal 8.1 Integrated Fire Prevention

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

<p>Objective 8.1b – Safely extinguish wildland fires using ground and/or air resources.</p>	<p>Monitoring Work Plan Question #34: 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 FY 2014, there were 42 wildfires on the WNF that were suppressed with no reportable accidents/injuries. No privately-owned land, structures, improvements, or infrastructure were damaged from wildfire ignitions that occurred on the WNF.

<p>Objective 8.1c – Reduce hazardous fuels within communities at risk in cooperation with local, State, and Federal agencies.</p>	<p>Monitoring Work Plan Question #35: 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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Approximately 95 % of the WNF lands are within the Wildland Urban Interface (WUI), and hazardous fuels were reduced on approximately 3,250 acres using prescribed fire - all within the WUI. Two of our prescribed burns (Buckhorn Unit H and Upper Bailey) were conducted under MOU's allowing for sharing of resources including firefighters and engines from the ODNR Division of Forestry and The Nature Conservancy. The WNF has been participating in the creation of a Prescribed Fire Council for the State of Ohio.

<p>Objective 8.1e – Provide training to local volunteer fire departments in wildland fire suppression.</p>	<p>Monitoring Work Plan Question #36: How many local volunteer fire departments were trained in wildland fire suppression?</p>
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The WNF provided training to five fire departments during FY 2014: Oak Hill, Decatur, Gallia, Hamilton, and Lawrence Volunteer Fire Departments.

10 – Minerals

Background -

Statutory and regulatory direction divides Federal mineral resources into three categories: locatable, leasable, and saleable. Of these three categories, only leasable and saleable minerals occur on the WNF. The WNF is currently comprised of 244,226 acres of federally owned surface (this includes acreage outside the proclamation boundary) of which about 41 % (100,133 acres) is underlain by minerals fully owned by the Federal government. Private minerals are classed as Reserved or Outstanding mineral rights, wholly or partially, and make-up the remaining 144,093 acres¹.

In FY 2014 there were no mineral material sales, no mineral material free use permits issued, and no in-service use of mineral materials from the WNF for road maintenance, etc. This echoes the saleable minerals activity on the WNF for the last decade or so. No gravel pits were developed on the WNF in FY 2014.



Federal Oil and Gas well—Washington County, OH, WNF
(Alexander #1 Well)

Oil and gas is the most active leasable program on the WNF. There are currently 1,274 wells on the WNF, about 35% of which are on Federal minerals. This is a change from 1,283 in FY 2013 because 9 wells were plugged.

During FY 2014 there was continued increased interest in the potential for developing the Utica and Marcellus Shale in southeastern Ohio. The ODNR Division of Oil and Gas Resources Management (DOGRM) noted an increase in applications and permits for horizontal drilling in Ohio. No State applications from private mineral owners or federal lease holders have been submitted to Ohio for proposals to horizontally drill on or under the WNF in FY 2014. 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 FY 2014. No proposals or Application for Permit to Drill (APD)'s for horizontal drilling operations were received on the WNF in FY 2014. Several horizontal wells have been drilled on private land in Monroe County in the past year, but none were on the WNF or involved WNF minerals.

¹ NFS land ownership acres increased in 2014 due to a clerical switch to the use of eLSRS values.

Numerous statutes, regulations, and Executive Orders guide Forest Service policy for the exploration and development of mineral resources on NFS land, so that mineral resources can be made available while continuing to sustain the land’s productivity for other uses and its capacity to support biodiversity goals. To ensure this, yearly inspections are carried out on active leases. In FY 2014, 330 inspections were carried out on the WNF which exceeded the target by 10 inspections.

We work with State and Federal agencies to manage private and public mineral resources underlying the WNF. The ODNR DOGRM provides inspection, permitting, and enforcement actions in cooperation with the WNF on National Forest System land. The Eastern States Office of the BLM coordinates with the WNF when federally owned minerals are being leased on NFS lands.

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>Objective 10.1a – Coordinate with the Bureau of Land Management to offer leases of federally owned minerals.</p>	<p>Monitoring Work Plan Question #37: Are expressions of interest and lease offers processed in a timely manner?</p>
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Three private acquired lease packages were submitted to the Regional Forester for submission to BLM. No expressions of interest were received from BLM on the WNF in FY 2014.

There were no Federal coal leases offered on the WNF in FY 2014. Previously, Buckingham Coal Company of Corning, Ohio made a request to the BLM to lease approximately 433 acres of federal coal in the Perry and Morgan County area of the WNF. Prior to leasing the coal, the BLM asked for WNF consent. The WNF began working on this process toward the end of FY 2012. The analysis was completed and a decision made. This decision was appealed in FY 2014 and ultimately upheld by the Regional Forester, also in FY 2014. Forest Service consent was given in FY 2014. The BLM has not yet offered these minerals for lease.

<p>Objective 10.1b – Process plans of operation/applications for permit to drill on Federal leases in a timely manner.</p>	<p>Monitoring Work Plan Question #38: How many plans of operation/applications for permit to drill on Federal leases were processed in a timely manner?</p>
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Alexander USA#1-A federal well drilled on the Marietta Unit in FY 2013.

No Surface Use Plans of Operation (SUPO) or Application for Permit to Drill (APD) were submitted to the WNF in FY 2014.

Goal 10.2 – Respect owners’ rights and protect surface resources

When dealing with privately-owned minerals, the WNF shall negotiate operating terms and conditions and mitigation measures to protect surface resources while meeting the requirements of domestic energy production and the mission of minerals management on National Forest System lands.

<p>Objective 10.2a – Process plans of operation (and applications for major modifications) for privately owned minerals (reserved and outstanding rights) within 60 days.</p>	<p>Monitoring Work Plan Question #39: How many applications were processed within 60 days?</p>
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One private mineral proposal was received on the WNF in FY 2014. The Buckingham Coal Company Area #4 Core Drilling Operating Plan and Record of Administrative Action was completed in 2014. It was delayed beyond the sixty day processing time because the coal company’s private contractor was slow in providing the environmental information for review. This was acceptable to the mineral owner.

The coal company requested core drilling in a new area, Area #5, also to explore their privately-owned minerals. There has not yet been agreement on this new core drilling area, but it is expected in FY 2015.

<p>Objective 10.2b – Restore lands disturbed by minerals exploration and production when the minerals activity is completed.</p>	<p>Monitoring Work Plan Question #40: How many mineral activities were adequately restored upon completion?</p>
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Restoration of mineral activities as they relate to oil and gas occurs in stages. Partial restoration includes reclaiming that part of the drill pad not needed once production starts, and reclaiming 24-foot wide pre-drill access roads down to 16-foot wide post-drilling roads. Final restoration happens after a dry hole or a depleted producing well, is plugged and abandoned.

Nine oil and gas wells were plugged upon completion of production by the operator. Eight of wells were on outstanding right ownership and 1 was on a private acquired lease. All 9 wells plugged were on the Marietta Unit of the ARD. The nine sites were restored to the acceptance of the Forest Service.

<p>Objective 10.2c – Plug wells when production ceases.</p>	<p>Monitoring Work Plan Question #41: How many wells were plugged according to State regulations when production ceased?</p>
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See the answer to the previous question.

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.

<p>Objective 11.2b – By the end of this planning period, relocate/re-construct five miles of the North Country Trail where the trail is currently located on roads.</p>	<p>Monitoring Work Plan Question #42: How many miles of NCT have been relocated/ reconstructed off existing roads?</p>
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None of the North Country Trail (NCT) was relocated off of roads during FY 2014. A great deal of maintenance of the trail occurs every year, mostly from volunteers. We rely heavily on partners and volunteers to help maintain trails, including the NCT. Through an official partnership, the River Valley Mountain Bike Association (RV MBA) has continued to maintain sections of the NCT in the Marietta Unit, donating hundreds of hours of service each year (582 total hours in 2014). Additionally, we have received assistance from the Washington County Community Action Program to help clear the NCT of downed trees through a federal flood grant program. This year, the Buckeye Trail Association (BTA) also volunteered on the Marietta section of the NCT, brushing and clearing approximately 20 miles of trails (432 estimated hours in 2014).

The ARD has a NCT reroute proposal ready to consider. The Forest will continue to meet

with local representatives to relocate the NCT off of roads.

In FY 2014, the WNF recalculated its trail miles using newly available remote-sensed data (LiDAR), which better reflects actual miles on the ground because it accounts for changes in elevation. Before the recalculation our mapping showed 61 miles. Since the recalculation, the NCT mileage is now approximately 64 miles. No new NCT miles were constructed in FY 2014.



YCC crew dismantling old footbridge on the Archers Fork Trail, which is co-located with the NCT.



**NCT/Archers Fork Trail
footbridge at final stage of
completion**

Objective 11.2c – Maintain and administer the Forest’s trail system to provide safe/enjoyable trail riding opportunities and reduce resource impacts?

Monitoring Work Plan Question #43:
How many miles of motorized trails have been maintained to standard (annual routine and deferred maintenance)?

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

1. Effects from trail use do not conflict with environmental laws;
2. Hazards do not exist on or along the trail;
3. When signed as accessible, trails meet current agency policy and accessibility guidelines.

Motorized trail recreation is allowed in two management areas on the WNF: Diverse Continuous Forest with Off-Highway Vehicles (DCFO) and Historic Forest with Off-Highway Vehicles (HFO). These management areas are located on the IRD and Athens Unit of the ARD. Motorized trail recreation is not authorized anywhere on the Marietta Units of the ARD.

National trail performance measure definitions have recently changed. They include:

- **Miles Maintained** (TL-MAINT-STD) – is defined as the miles of National Forest System Trails (NFST) on which at least one maintenance task is performed to standard during the fiscal year. This measure includes annual maintenance and deferred maintenance (repair, replace, and decommission).
- **Miles Meeting Standard** (TL-SYS-STD) – is defined as the total NFST miles that meet Trail National Quality Standards consistent with the maintenance cycle identified for the trail. Trail-specific maintenance cycles are identified on Trail Management Objectives (TMOs) and in Infra.
- **Miles Improved** (TL-IMP-STD) – is defined as the miles of NFST improved or constructed to standard. This measure includes trail alteration, expansion, or new construction.

A total of approximately 331 miles of NFST (all types) were maintained on the WNF in FY 2014. Of this total, about 131 miles were motorized trails, which accounts for 88% of the total motorized trails (149 miles) on the WNF. Appropriated funds were leveraged with trail grants, user fees, and partner/volunteer contribution to complete trail maintenance projects. Heavy trail maintenance work was generally completed by contractors or force account, while light maintenance was completed with the help of partners and volunteers. The types of maintenance and locations are shown in more detail below.

Athens Ranger District –

As shown in Table 8, maintenance was completed on approximately 76 miles of motorized trail in ARD.

Table 8: ARD Motorized Trail Maintenance

TRAIL_NAME	ACCOMPLISHED_BY	MILES_MAINTAINED
MC OHV - NEW STRAITSVILLE LOOP	CONTRACT	2.8
MC OHV - NEW STRAITSVILLE CONN	CONTRACT	0.75
DORR RUN OHV - DORR RUN LOOP	CONTRACT	8
DORR RUN OHV - DORR RUN LOOP	FORCE ACCOUNT	7.38
MC OHV - MAIN CORRIDOR TRAIL	CONTRACT	18.85
MC OHV - SNAKE HOLLOW TRAIL	CONTRACT	2.47
MC OHV - SNAKE HOLLOW EAST	CONTRACT	0.34
LONG RIDGE OHV - LONG RIDGE TR	CONTRACT	4.17
LONG RIDGE OHV- CAWTHORN TRAIL	CONTRACT	2.35
LONG RIDGE OHV - CONNECTOR A	CONTRACT	0.53
LONG RIDGE OHV - CONNECTOR B	CONTRACT	0.22
LONG RDGE OHV-MISSING CREEK LP	CONTRACT	1.44
LONG RIDGE OHV - ORBISTON CONN	FORCE ACCOUNT	0.94
LONG RIDGE OHV - ORBISTON LOOP	FORCE ACCOUNT	1.7
LONG RDGE OHV-ROCKING HORSE LP	FORCE ACCOUNT	0.85
LONG RIDGE OHV - SUNDAY TRAIL	CONTRACT	1.3
LONG RIDGE OHV - HELIPAD TRAIL	FORCE ACCOUNT	0.72
LONG RDGE OHV-MISSING CRK CONN	CONTRACT	0.07
DORR RUN OHV - PURDUM LOOP	FORCE ACCOUNT	3.83
DORR RUN OHV-1985 LOOP TR WEST	FORCE ACCOUNT	0.99
DORR RUN OHV - 1985 LOOP TRAIL	FORCE ACCOUNT	1.71
DORR RUN OHV - BOWL TRAIL	CONTRACT	3.4
DORR RUN OHV - CCC #2 TRAIL	FORCE ACCOUNT	1.71
DORR RUN OHV-CENTRAL LOOP CONN	FORCE ACCOUNT	0.15
DORR RUN OHV - DEER STAND LOOP	FORCE ACCOUNT	2.28
DORR RUN OHV - SHORT CONECTR	FORCE ACCOUNT	0.17
DORR RUN OHV-MINE SHAFT TRAIL	FORCE ACCOUNT	2.25
DORR RUN OHV-PARAMOUNT LOOP S	CONTRACT	1.61
DORR RUN OHV- PARAMOUNT LOOP N	CONTRACT	1.53
DORR RUN OHV-PURDUM LOOP CONN.	FORCE ACCOUNT	0.25
DORR RUN OHV - TIMBER ROAD TR	CONTRACT	0.8
DORR RUN OHV- P2 ELM CONNECTOR	FORCE ACCOUNT	0.05
TOTAL TRAIL MILES MAINTAINED		75.61



**Dorr Run Loop OHV Trail Maintenance
(Before)**



**Dorr Run Loop OHV Trail Maintenance
(After)**

Ironton Ranger District –

As shown in Table 9, maintenance was completed on approximately 55 miles of motorized trail on IRD.

Table 9: IRD Motorized Trail Maintenance

TRAIL_NAME	ACCOMPLISHED_BY	MILES_MAINTAINED
IR_PC_TELEGRAPH OHV	FORCE ACCOUNT	6.35
IR_PC_LYRA OHV	FORCE ACCOUNT	4.23
IR_PC_WOLCOTT OHV	CONTRACT	7.63
IR_PC_WOLCOTT LOOP OHV	CONTRACT	0.85
IR_HR_HANGING ROCK LOOP OHV	VOLUNTEER	11.86
IR_HR_HANGING ROCK OHV TH CON	CONTRACT	0.08
IR_V_WHISKEY RUN HIKE	FORCE ACCOUNT	0.69
IR_HR_GAS WELL OHV LOOP	CONTRACT	1.72
IR_HR_GAS WELL CONNECTOR	CONTRACT	0.28
IR_HR_HIGH KNOB	CONTRACT	1
IR_HR_COPPERHEAD OHV	CONTRACT	2.82
IR_HR_LAKEVIEW OHV	CONTRACT	1.91
IR_HR_SAWMILL OHV	CONTRACT	0.66
IR_HR_POWERLINE OHV	FORCE ACCOUNT	4.1
IR_HR_PINE CUTOFF OHV	CONTRACT	0.46
IR_S_SUPERIOR OHV	FORCE ACCOUNT	4.6
IR_S_GRIZZLY TO TRAILHEAD OHV	VOLUNTEER	1.66
IR_S_BEAR CLAW LOOP OHV	CONTRACT	1.79
IR_S_BEAR CLAW TOP OHV	FORCE ACCOUNT	1.87

IR_S_CLAW TO WOLCOTT OHV	FORCE ACCOUNT	0.73
TOTAL TRAIL MILES MAINTAINED		55.29

<p>Objective 11.2d – Where maintenance methods prove ineffective and monitoring confirms unsafe conditions or unacceptable resource damage, close and rehabilitate and/or re-locate/reconstruct sections of ATV/OHV trails.</p>	<p>Monitoring Work Plan Question #44: 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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No WNF motorized trails were closed, rehabilitated, relocated, or reconstructed due to unsafe conditions or unacceptable resource damage in FY 2014.

<p>Objective 11.2e –Reduce and strive to eliminate illegal ATV/OHV use by:</p> <ul style="list-style-type: none"> • Prohibiting cross-country travel or riding on undesignated user-created trails. • Prohibit riding on trails designated for other uses. • Riding on designated trails during closed seasons • Closing at least 20 miles of illegal OHV trail within the next decade to: <ul style="list-style-type: none"> a) Protect federally listed species b) Protect Regional Forester’s sensitive species c) Improve watershed health 	<p>Monitoring Work Plan Question #45: Have sections of illegal trails on the Forest been closed and rehabilitated? If so, how many miles and where?</p>
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Funds designated for dealing with legacy road and trail issues and additional recreational grant funds were used to close access points to unauthorized routes on the WNF in FY 2014. This work was primarily completed by trail contractors during routine trail maintenance work.

On the Athens Unit of the ARD, much of the closure work was completed in the Dorr Run Area. User-created bypasses around 12 OHV trail bridges were closed off with stone and rehabilitated, totaling 1.2 miles. Access points to approximately 4 miles of unauthorized routes were blocked by placing fallen trees.

The IRD constructed eleven barriers that closed off approximately 74 miles of unauthorized routes. These barriers were used to close off unauthorized access points along trails within the Hanging Rock, Lyra, and Superior OHV areas, as well as along

horse trails within the Bluegrass area. Large boulders were used to block the unauthorized access points.



Closure of unauthorized routes on the ARD

<p>Objective 11.2f - Maintain the Forest’s non-motorized trail system to provide safe/enjoyable trail hiking, horseback riding and biking opportunities with minimal resource impacts.</p>	<p>Monitoring Work Plan Question #46: How many miles of non-motorized trails have been maintained/reconstructed to standard?</p>
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Non-motorized trails include all hiking, biking, and horse trails. Most of these trails are multi-use (shared) trails. A total of approximately 331 miles of trails (all types) were maintained in FY2014. Of this total, about 200 miles were non-motorized trails, which is 71% of the total designated non-motorized trail miles (300 miles) currently on the WNF. Appropriated funds were leveraged with trail grants, user fees, and partner/volunteer contribution to complete trail maintenance projects. Heavy trail maintenance work was generally completed by contractors or force account, while light maintenance was completed with the help of partners and volunteers.



Horse pulling a culvert to be installed on Ironton District trail.

Athens Ranger District -

As shown in Table 10, 132 miles of non-motorized trail were maintained on the ARD in FY 2014.

Table 10: ARD Non-Motorized Trail Maintenance

TRAIL_NAME	ACCOMPLISHED_BY	MILES_MAINTAINED
WILDCAT HOLLOW HIKING TRAIL	FORCE ACCOUNT	3
WILDCAT HOLLOW HIKING TRAIL	PARTNER	2.16
WILDCAT HOLLOW HIKING TRAIL	VOLUNTEER	12
WILDCAT HOLLOW CONNECTOR	FORCE ACCOUNT	0.43
LAKEVIEW HIKING TRAIL	FORCE ACCOUNT	1.24
STONE CHURCH HORSE MAIN LOOP	FORCE ACCOUNT	9.64
STONE CHURCH HORSE MAIN LOOP	VOLUNTEER	9
STONE CHURCH SHORTCUT TRAIL	FORCE ACCOUNT	1.56
STONE CHURCH NORTH CONNECTOR	FORCE ACCOUNT	0.14
STONE CHURCH SALT RUN CONNECTOR	FORCE ACCOUNT	0.22
STONE CHURCH CAMP CONNECTOR	FORCE ACCOUNT	0.62
ARCHERS FORK LOOP TRAIL	FORCE ACCOUNT	5.03
ARCHERS FORK LOOP TRAIL	PARTNER	6
COVERED BRIDGE TRAIL	FORCE ACCOUNT	4.79
SHAY RIDGE TRAIL	FORCE ACCOUNT	3.45
LAMPING HOMESTEAD TRAIL	FORCE ACCOUNT	4.17
OHIO VIEW TRAIL	FORCE ACCOUNT	4.5
OHIO VIEW TRAIL	PARTNER	4.29
JACKSON RUN TRAIL	PARTNER	4.72
SCENIC RIVER TRAIL	PARTNER	4.43
SCENIC RIVER GREEN WOOD LOOP	PARTNER	7.53
KINDERHOOK HORSE TR LONG LOOP	PARTNER	11.17
KINDERHOOK HORSE TH CONNECTOR	PARTNER	0.36
KINDERHOOK CONNECTOR SHORT LP	PARTNER	1.01
KINDERHOOK DAVIS RUN SPUR	PARTNER	4.02
SAND RUN HIKING TRAIL	FORCE ACCOUNT	0.31
UTAH RIDGE POND TRAIL	PARTNER	0.25
LEITH RUN GAZEBO TRAIL	FORCE ACCOUNT	0.36
ORA ANDERSON NATURE TRAIL	FORCE ACCOUNT	0.52
NCT MARIETTA SOUTH	PARTNER	25.04
MONROE OVERLOOK HIKING TRAIL	VOLUNTEER	0.11
TOTAL TRAILS MILES MAINTAINED		132.07

Ironton Ranger District -

As shown in Table 11, 68 miles of non-motorized trail were maintained on the IRD in FY 2014.

Table 11: IRD Non-Motorized Trail Maintenance

TRAIL_NAME	ACCOMPLISHED_BY	MILES_MAINTAINED
IR_V_ROCK HOUSE TRAIL	FORCE ACCOUNT	0.37
IR_HORSE_KIMBLE LOOP	VOLUNTEER	5.17
IR_HORSE_PADDLE CREEK LOOP	VOLUNTEER	2.05
IR_HORSE_DEAN CONNECTOR	VOLUNTEER	2.62
IR_HORSE_HUNGRY HOLLOW	VOLUNTEER	0.42
IR_HORSE_VESUVIUS CONNECTOR	FORCE ACCOUNT	0.96
IR_V_LAKE SHORE HIKING	FORCE ACCOUNT	7.49
IR_V_LONGBOW ARCHERY TRAIL	VOLUNTEER	0.58
IR_HORSE_ALDRIDGE CONNECTOR	VOLUNTEER	1.05
IR_HORSE_PADDLE CK TH CONNECTOR	VOLUNTEER	0.07
IR_HORSE_SANDHILL TH CONNECTOR	VOLUNTEER	0.04
IR_VESUVIUS BACKPACK	FORCE ACCOUNT	7
IR_VESUVIUS BACKPACK	VOLUNTEER	8.42
IR_V_LONGBOW ACCESSIBLE SPUR	FORCE ACCOUNT	0.15
IR_V_ADDIS MINE HIKE	FORCE ACCOUNT	1.11
IR_HORSE_VESUVIUS MAIN LOOP	VOLUNTEER	30.24
TOTAL TRAILS MILES MAINTAINED		67.74

<p>Objective 11.2g – Construct new trails during the next 10-15 years within the ranges and densities shown in Table 2-5. (<i>Forest Plan pg. 2-46</i>)</p>	<p>Monitoring Work Plan Question #47: How many miles of new motorized and non-motorized trails have been constructed?</p>
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Approximately 6 miles of new motorized trail were added to the WNF system, all on the ARD. The miles were added to existing motorized trail systems.

12 – Scenery Management

Goal 12.1 – Maintain scenic resources

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

Monitoring Work Plan Question #48: Is the Forest being managed in accordance with the assigned Scenic Integrity Objectives (SIOs) and scenery guidelines found in the Forest Plan?

Two timber sales were monitored in FY 2014 for compliance with Scenery Management System (SMS) guidelines – one on the IRD (Vista Timber Sale) and one on the ARD (Bessie Timber Sale).

Vista Harvest Unit 1 (completed July 2014) -

The Vista timber sale is a part of the Pine Creek Historic Forest Restoration Project within the Historic Forest with Off-Highway Vehicles management area on the IRD. It is within an area assigned a “moderate” scenic integrity objective (SIO) in the Forest Plan.

At this location the forest consists of mixed upland oak-hickory along ridgetops and rolling hills. There are some scenic views along ridgetops. An OHV trail passes through the east side of unit one. The hardwood stand was heavily thinned to approximately 50 – 60 ft.² of basal area.

Upon review of the project environmental assessment, some effects of the proposed action on scenery resources were analyzed; however, the section could have been expanded. Some appropriate scenery mitigation measures were included in the timber sale contract, such as heights of cut stumps; control of logging slash; and seeding of landings, skid trails, and berms.

Monitoring of this unit took place approximately 8 months after the harvest was completed. It can be partially seen from Forest Road 132 and was screened with residual trees. The cutting unit was also located higher than the road. The road was well graded and graveled in some areas (at broad-based dips). Little to no logging debris (flagging, trash, oil spills, etc.) was observed. The sale area boundary marking paint is noticeable. Much logging slash was present, but well scattered along skid roads – there were no noticeable large slash piles. Cut stumps were below 1 to 1½ feet high. There was some bark damage on residual trees from logging equipment operation along skid trails. Landing and skid trails were beginning to grass in and are currently covered with last year’s leaf fall. The cutting unit is irregularly-shaped and followed the contour of the land, which helped it to blend into its natural surroundings. The cutting unit currently meets its “moderate” SIO.



View of Road 132 from Unit 1



View of OHV trail from Unit 1



View of skid trail near landing



View from top of skid trail toward landing

Bessie Harvest Units 2 and 4 (completed August 2014)

These hardwood thinning (Unit 1) and white pine thinning (Unit 2) harvests are a part of the Gore-Greendale Diverse Continuous Forest Project within the Diverse Continuous Forest management area of the ARD. The area is assigned a “low” SIO. The harvests are adjacent to but can not be seen from State Route 595.

When this management activity was discussed in the environmental analysis, some effects on scenery resources were analyzed; however, that section could have been expanded. Some scenery mitigation measures were included in the timber sale contract and were applied and observed in the field. These measures worked relatively well to reduce the negative effects of timber harvesting activity on the scenic resources.

Unit 1 consists of mixed upland hardwoods intermixed with pockets of mature white pine on rolling hills. Unit 2 contains predominantly mature white pine forest type. Both stands were thinned to approximately 50 to 60 ft.² of basal area.

Monitoring of these two units took place about 7 months after the harvests were completed, prior to spring green-up. The landing was still barren - no grass had taken root. Skid trails were moderately to well grassed in. No noticeable piles of slash or logging debris were present. Stump heights were 1 foot high or less. However, some

residual trees along skid trails had their bark skinned from logging operation. The stands were evenly thinned to a park-like setting. The cuts blended in well with natural surroundings. The cutting units met the “low” SIO.



View of Cutting Unit 1 – thinned hardwood stand



View of Cutting Unit 2 – thinned white pine stand



View of landing



View of skid trail facing Unit 1

13 – Heritage

Goal 13.1 – Identify, Manage Heritage Resources

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

Objective 13.1c – Reduce the backlog of heritage sites that require formal evaluation for eligibility to the National Register of Historic Places.

Monitoring Work Plan Question #49: How many heritage sites have been evaluated for National Register eligibility?

No sites were evaluated for National Register eligibility in FY 2014. However, 5 new sites were identified, 301 acres were surveyed, and 21 sites were monitored for protection.

<p>Objective 13.1d – Develop management plans for the long-term preservation of heritage resources that are either listed on or eligible for the National Register of Historic Places.</p>	<p>Monitoring Work Plan Question #50: How many management plans have been developed for heritage sites that are either eligible for or listed on the National Register of Historic Places?</p>
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No management plans were developed for any of the 20 priority heritage assets on the WNF in FY 2014, but steady progress was continued toward the development of a Forest-wide Heritage Program Plan.

Most of the WNF heritage program activities continue to be based on NEPA compliance projects, as they are Forest priorities. However, with the help of partners and volunteers, the program continues to make progress towards activities that are heritage-based. This is the direction supported by the new heritage Program Managed to Standard (PMTS), specifically to strike a balance between project compliance and heritage legal mandates. Due to this new direction, Forest heritage programs can no longer report project-related accomplishments (i.e. heritage work completed in support of other program area NEPA projects). Yearly targets consist of purely heritage activities scored within a point system. In FY 2014, the Wayne exceeded its assigned target of 30 activities by “9” and consisted largely of public outreach, interpretive, and partnership projects.

14 – Land Ownership

Goal 14.1 – Consolidate Ownership

Adjust land ownership within the Forest proclamation boundary to enhance public benefits and improve management effectiveness.

The current size of the WNF is 244,226 acres of which 107,090 acres are on the Ironton District, 72,469 acres are on the Athens Unit and 64,667 acres are on the Marietta Unit. This is 29% of the land area within the Proclamation Boundary. The county with the highest acreage of NFS land is Lawrence County with 75,331 acres or 25% of the county land area.

Objective 14.1a – Purchase, exchange, accept donations or convey lands and minerals rights on a willing seller, willing buyer basis.

Monitoring Work Plan Question #51:
Does the Forest’s land base progress toward consolidation that meets objectives by exchange, purchase or donation?

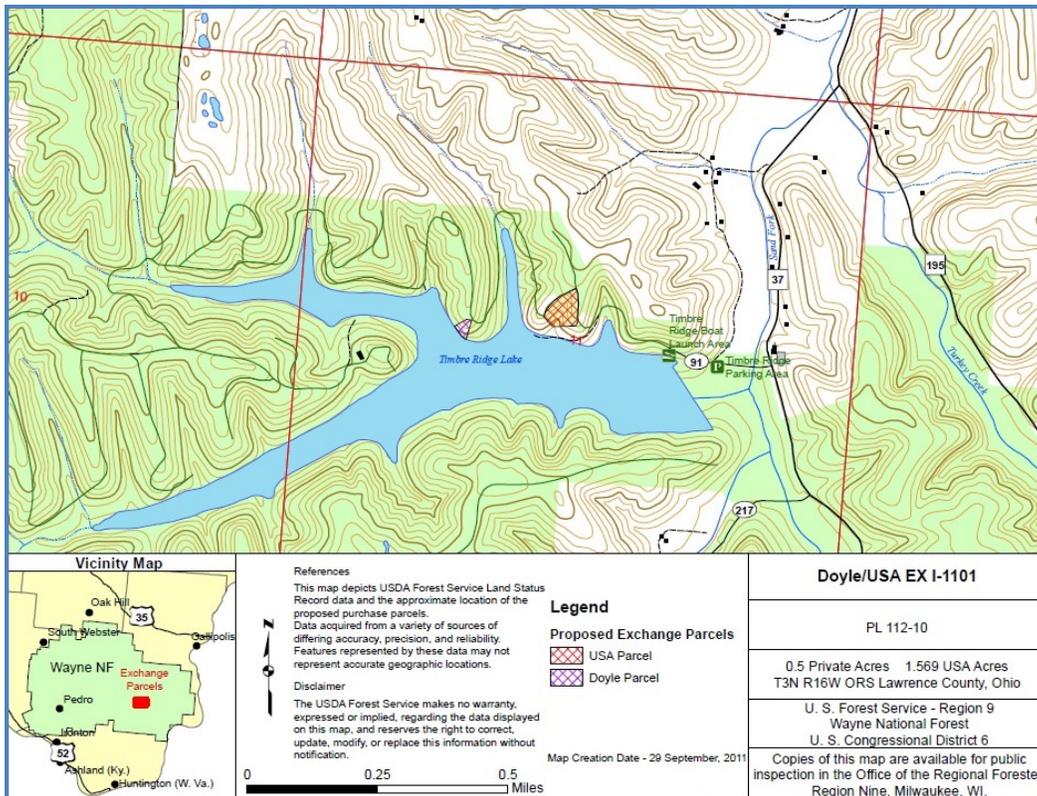


Figure 4: The Sean Doyle /USA land for land exchange was completed in 2014

The WNF land base is progressing toward improved consolidation by land purchase and exchange. One land exchange was completed on the IRD, the Sean Doyle Exchange at Timber Ridge Lake and was completed in 2014. A donation of land from the Appalachia Ohio Alliance-Land Trust was transferred to the USA in 2014. These two land adjustment projects complied with the Forest Plan objectives of consolidation.

The WNF competes annually for land purchase funds within the Eastern Region of the Forest Service. These funds are very limited and while the WNF is in an area of high demand for public land ownership, the priority for Eastern Region funding may not always respond to the opportunities here. Land exchanges and land donations are tools being used to continue to meet the objectives of consolidation of federal ownership. There are many willing sellers of excellent properties that would achieve consolidation efforts, but without funds to acquire them, the opportunities are lost to land development companies or others.

<p>Objective 14.1b –Acquire rights of ways or property to improve access to NFS land.</p>	<p>Monitoring Work Plan Question #52: How many miles of right-of-way, or parcels of land have been acquired to facilitate access to NF tracts?</p>
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A reciprocal right of way exchange between the WNF and Mr. Kevin Monroe was initiated in 2013 and is underway. This is on the IRD and will be completed in 2015.

No temporary right-of-ways were acquired for administrative use needs in FY 2014.

<p>Objective 14.1c – Foster good neighbor relations with local communities.</p>	<p>Monitoring Work Plan Question #53: How many Special Use permits were authorized and re-authorized to allow local community developments on NFS lands?</p>
	<p>Monitoring Work Plan Question #54: How many acres of prime farmland or acres of land with high potential for community development have been purchased?</p>

The WNF issued 17 special use permits in FY 2014. These permits contribute to community development since private individuals or companies hold permits to occupy public land or provide access to private property. The community benefits by the use of public lands for occupancy since alternatives are not available on private land. The WNF issued several temporary Recreation Event Permits in FY 2014.

The WNF did not acquire property that contained prime farmland or land with high potential for community development in FY 2014.

Goal 14.2 – Maintain Boundary Lines

<p>Objective 14.2a – Survey and post landlines not currently marked. Maintain lines previously marked on a 10-year cycle.</p>	<p>Monitoring Work Plan Question #55: Is the Forest making progress towards the eventual marking and maintaining of the entire perimeter of NFS lands against private property?</p>
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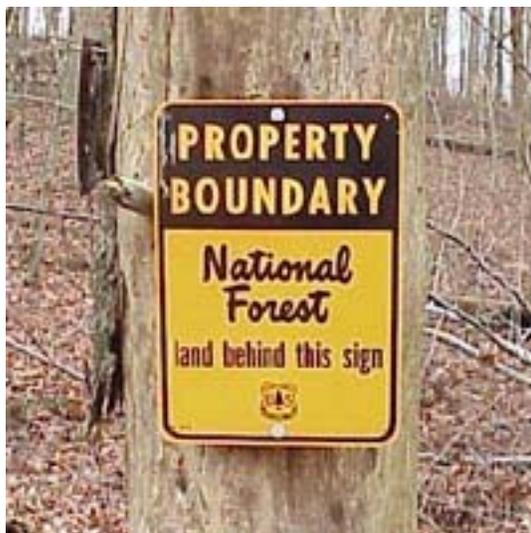
Forest Surveyor with his Total Station Surveying Equipment

The WNF completed 8 miles of boundary marking and maintenance. The WNF continues to make progress in marking NFS property boundaries. High visibility and recognition of boundary marking along public road frontage is making public land more available to the public.

Contracting for boundary maintenance and cadastral surveys achieved successful results across the WNF. The contracting responded to needs from timber and fire projects. The boundary marking also defined possible trespass concerns for future resolutions.

The WNF continues to provide recognizable property lines through meeting annual targets to mark and maintain boundaries. The Forest Surveyor meets targets by completing projects himself and through contracts.

Maintenance of previously marked boundary continues as identified within the 10 year cycle of need.



Entering National Forest Land – 2 Red Blazes

<p>Objective 14.2b – Survey and post landlines not currently marked. Maintain lines previously marked on a 10-year cycle.</p>	<p>Monitoring Work Plan Question #56: Is the Forest making progress towards resolving trespasses as they occur and are discovered?</p>
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The WNF resolved two 2 trespasses in FY 2014. We continue to investigate and resolve trespasses and encroachments on the WNF as they are discovered. When a trespass or encroachment is discovered, the Lands Staff coordinates with the District Ranger, the Regional Office, and Office of General Counsel to resolve the issue.

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, and/or cannot be reasonably accommodated on private land.

<p>Monitoring Work Plan Question #57: Is the Forest considering and processing reasonable requests for special use authorizations on NFS lands?</p>
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The WNF considers all special use requests. If the request meets the standards set forth in the directives of the Forest Service and are deemed an acceptable use, the application is processed per the customer service standards. A permit is issued for special use authorizations on NFS lands once all aspects of the process are complete and processing and land use fees are collected. The WNF processed and issued 17 permits and inspected 132 permits (all found to be managed up to standard) in FY 2014.



Hecla Water Association water tower under permit on the IRD in Lawrence County, Ohio

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

No parcels of land acquired in FY 2014 are under a grazing permit.

Monitoring Work Plan Question #59: How many acres were grazed and contributed to wildlife habitat objectives; and how many acres were grazed to control non-native species?

There were 120 acres permitted for grazing, all on the Marietta Unit. None of these acres contributed to wildlife habitat objectives or were grazed for non-native invasive species control. The WNF Service mowed 40 acres of the grazing pastures to knock back multiflora rose, an invasive plant that cattle do not consume.

17 – Facilities and Transportation System

Goal 17.1 Buildings and Structures

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

Objective 17.1a – Conduct detailed inspections of facilities every five years more often if needed.	Monitoring Work Plan Question #60: How many administrative and recreation facilities meet current safety, mission, niche, and use requirements?
Objective 17.1b – Decommission facilities that are no longer needed.	

Normal updates and repairs consistent with standard procedures were undertaken at our offices consistent with normal operations.

In FY 2014, all 28 complex facilities were inspected by Greg Porter, R9 Technical Services Team. Normal maintenance as needed was completed when problems were noted by staff or the public at all facilities. Complex facility inspections are not required again until 2019. A partial list of safety deficiencies that have been identified by the Forest Safety Officer is below. These equipment and security concerns are being addressed and should be completed in FY 2015. Structural condition of the facilities is not affected.

Table 12: Facilities improvements needed

Requirement	Estimate
Bollard collision protection for Nelsonville CNG station	\$1500.00
Fencing for Ironton CNG station	\$9000.00
Repair/replace compressor in Marietta	\$2000.00
Nelsonville AMD Feasibility Study	\$8000.00

An inventory has been developed of abandoned buildings known on the WNF accumulated through property acquisitions. The majority are old homesteads and barns. These tend to become legal issues such as illegal drug centers and need removed.

Goal 17.2 – Safety and Effectiveness of Dams

Maintain dams as safe and effective water storage facilities.

Objective 17.2a – Maintain dams to standard.	Monitoring Work Plan Question #61: How many Forest dams meet current State and Federal regulations with respect to storage capacity, storm routing, spillway capacity, and general dam safety?
Objective 17.2b – Inspect high hazard dams annually.	
Objective 17.2b – Decommission or appropriately dispose of dams no longer needed.	

The WNF currently has two dams classified by the ODNR Division of Surface Water, Dam Safety Office as high hazard dams. They are Vesuvius and Timbre Ridge dams located on the IRD. Both were inspected in FY 2014 by both the Engineering staff and the Regional Dams Engineer. There was one deficiency noted at Timbre Ridge dam that has been observed in previous inspections: inoperable stem on the emergency dam drain valve. This deficiency was repaired under contract.

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

In FY 2014, inspection of Lamping Dam revealed work had not been completed. Discharge is through emergency bypass.

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.

<p>Objective 17.3a – Reduce sedimentation and improve passage for aquatic and semi-aquatic organisms at Forest development road and forest service recreation trail crossings.</p>	<p>Monitoring Work Plan Question #62: How many stream crossing were inventoried and/or corrected for sedimentation production?</p>
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In FY 2014, applications were received by the Eastern Federal Lands (EFL) office of Federal Highway Administration (FHA) Federal Lands Access Program (FLAP) for three projects affecting WNF: Pine Creek Road, Scioto County (CR 10), Happy Hollow Road, Athens County(CR 1A), and Gallia Road, Gallia County (CR60). These are three year projects to be coordinated with the new Forest Engineer.

A stream crossing area near CR9 in Washington County (Irish Run Rd) experiencing significant culvert scour and washout was identified to the county engineer. Preliminary survey and cost estimate were completed, but not submitted thru FLAP. However this has also been identified as a possible timber stewardship project. The WNF continues to work with Ohio Department of Transportation (ODOT), County Engineers and Township governments to improve the entire road/stream crossing system under public domain.

<p>Objective 17.3b – Decommission temporary and system roads when they are no longer needed for administration of the Forest or its resources.</p>	<p>Monitoring Work Plan Question #63: How many miles of roads were evaluated to determine maintenance, storage or decommission needs?</p>
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Due to the Engineering vacancy, no roads on the WNF were evaluated to determine maintenance, storage or decommission needs.

<p>Objective 17.4c – Maintain all roads in a condition that protects the government’s investment. If funds do not allow for regular preventive maintenance, close roads or restrict traffic to protect resources or investment.</p> <p>Objective 17.4d – Maintain at maintenance level 3, or higher, roads intended for passenger vehicles.</p> <p>Objective 17.4e – Maintain at maintenance level 2 roads intended for high clearance vehicles.</p> <p>Objective 17.4f – Maintain at Maintenance Level 1 roads that are closed to public travel.</p>	<p>Monitoring Work Plan Question #64: 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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Needed maintenance is dependent upon available personnel and funding, and is currently not at a level needed to meet standards. Several roads on the WNF currently have slips and are not environmentally stable. District staff routinely report safety or maintenance issues, and address them as time and funding permit.

As stated in the FY 2011 Report, the WNF INFRA database for roads needs a major clean-up. A first-cut study of the roads in INFRA indicates 3000-5000 pieces of missing or incorrect/erroneous data. A small amount of the clean-up was completed in FY 2014.

An overall evaluation of the roads has not been carried out because of engineering personnel shortage; therefore, it is not possible to determine the total roads not meeting objective maintenance levels at this time.

Looking forward, it appears that roads funding will be based off of the INFRA report to a greater extent so it will be important that a professional evaluation of the roads be completed and the INFRA database reflect what exists on the ground.

<p>Objective 17.4g – Remove hazard trees along Forest development roads from Sept. 15 through April 15.</p>	<p>Monitoring Work Plan Question #65: Are known hazard trees removed during the appropriate time of year?</p>
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No hazard trees with Indiana bat roost tree characteristics were removed from Forest System Roads during the period from April 15th to September 15th in FY 2014.

18 – Public Health and Safety

Goal 18.1 – Law Enforcement

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

<p>Objective 18.1a - Prevent violations of law through:</p> <ul style="list-style-type: none">• Education• Information and regulatory signing• Improved facilities• Effective citing and prosecution of violations• Public notice of prosecutions and penalties• Presence of uniformed Forest Service personnel• Working with cooperating agency law enforcement officials at times and locations of heavy public use.	<p>Monitoring Work Plan Question #66: How many prevention activities were performed?</p>
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Hundreds of routine daily prevention activities were performed in FY 2014 including: OHV patrols on designated and illegal trails, boat patrols, hunting, fishing, recreation areas, camping areas, horse and hiking trail patrols.

<p>Objective 18.1b - Focus law enforcement efforts on Forest priorities to reduce incidence of:</p> <ul style="list-style-type: none">• Illegal OHV use• Arson Fires• Trespass and timber theft• Trash dumping	<p>Monitoring Work Plan Question #67: How many incidences of illegal OHV use, arson fires, trespass and timber theft, and trash dumping were reported?</p>
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Incidences by category are as follows: illegal OHV use - 79, arson fires - 10, timber theft and related offenses - 23, trash dumping - 110.

<p>Objective 18.1c – Establish cooperative law enforcement agreements with State and local agencies. Review and adjust cooperative law enforcement (CLE) agreements every five years. Annually review and adjust operating plans developed under these agreements.</p>	<p>Monitoring Work Plan Question #68: How many agencies does the Forest have agreements with?</p>
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WNF has Cooperative Law Enforcement Agreements (CLE's) with ten counties: Athens, Gallia, Hocking, Lawrence, Monroe, Morgan, Noble, Perry, Scioto, and Washington. In addition, WNF has an agreement with the Ohio Department of Natural Resources.

<p>Objective 18.1d – Report violations of laws and regulations.</p>	<p>Monitoring Work Plan Question #69: How many violations were reported?</p>
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There were 766 violations in FY 2014 composed of 233 warnings, 401 incidents: 401, and 132 citations.

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.

<p>Objective 18.2a – Ensure that water supplies and wastewater facilities meet relevant state and federal laws.</p>	<p>Monitoring Work Plan Question #70: Were the appropriate water quality tests performed?</p>
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There are no Forest Service wells providing drinking water on the WNF. All potable water at developed recreation areas comes from local municipal water supplies. The municipalities test and restore water quality if there is a break in the line.

The WNF collects water samples from the public swim area at Lake Vesuvius, which is sent to a lab for testing.

The water is shut off and the public notified if there is a waterline break or anything else that may compromise water quality. The public would not be allowed to use the water (for drinking or swimming, in the case of the swim area), until it has been tested and assured of safety.

19 – Standards and Guidelines Compliance

Monitoring Work Plan Question #71: Did any project require guideline modification or a Forest Plan amendment to modify a standard?

No standards or guidelines from the 2006 Forest Plan were modified in FY 2014.

III. Acknowledgment of Contributors

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

The employees and volunteers of the WNF who contribute information to our monitoring efforts are too numerous to list. The primary editor of the report is Rachel Orwan, Forest NEPA Planner. The following staff directly contributed the many words, photos, tables, charts and expertise for this effort:

Jarel Bartig	Forest Management Program Manager
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