

Monitoring Report
for the
Wayne National Forest
Land and Resource Management Plan
Fiscal Year 2004

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

June, 2005

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Wayne National Forest – Fiscal Year 2004

Monitoring/Evaluation Report

Introduction

The Monitoring and Resource Evaluation Report documents monitoring of the Wayne Forest Land Management Plan (Forest Plan) accomplished during fiscal year 2004.

The report focuses on the monitoring items listed in Chapter 5 of the Forest Plan. The eleven monitoring items are indicated with a number and the Forest Plan Monitoring Statement listed in Chapter 5, followed by the monitoring and evaluation information for 2004. Also included in this report are maps showing turkey and deer harvest information by county for the State of Ohio.

1. Quantitative estimate of performance comparing outputs and services with those projected by the Forest Plan – 36 CFR 219.12(k)(1).

Forest Plan Monitoring Plan Statement – A quantitative estimate of performance - Compare outputs/services accomplished with those projected in Forest Plan.

The units-of-measure for several outputs have changed since the Forest Plan was approved. Some of the new units-of-measure, do not correlate well to the units-of-measure shown in Table 4 - 1 of the Forest Plan (such as: MRVDs in the Forest Plan = Thousand of Recreation Visitor Days, a measure of use or projected use, does not correlate well to the current measure PAOT's = Persons at One Time, a measure of potential to handle a level of use at one point in time. See Tables 1 and 2.) Table 1 is based on Table 4 - 1 in the Forest Plan. Table 2 is based on actual accomplishments reported for each of the two fiscal years.

Table 1. Forest Plan Upper Limit Projected Outputs (from Forest Plan Table 4 - 1). Compared To Actual Output for Fiscal Years 2004.

		(From Forest Plan) Average Annual Per Decade		
Item	Unit of Measure	1986-1995 Planned	1996-2005 Projected	2004 Actual
Recreation ¹				
Semiprimitive, Nonmotorized ROS	'2	26.7	27.9	MRVD's Not Used. (PAOTS now) ¹
Roaded Natural, Nonmotorized ROS	MRVD's	103.2	111.1	
Roaded Natural ROS	MRVD's	152.4	175.7	
Rural ROS	MRVD's	139.5	191.6	
Developed ²	MRVD's	136.4	188.4	
Dispersed ³	MRVD's	285.4	318.0	
Hiking and Horse Trail Const./Reconst.	Miles	6.0	3.5	0
ORV Trail Const./ Reconst.	Miles	25.0	5.0	11
Wildlife and Fish				
Habitat Improvements (New Developments)				1
Openings Const. ⁴	Acres	70.5	70.5	0
Small Lakes / Ponds	Acres	1.0	1.0	0
Marshes /Year	Acres	1.0	1.0	27.8
Range				
Grazing Use	M AUM's	1	1	1.3
Total Volume Offered	MMBF	7.5	11.2	3.315
Hardwood Volume	MMBF	6.5	9.7	2.364
Pine Volume	MMBF	1.0	1.5	0.951
Reforestation	M Acres	1.02	1.11	0
Lands				
Purchasing Acquisition and Exchange	M Acres	2.9	2.9	0.28
Facilities				
Permanent Rd. Const.	Miles	2.2	1.8	0
Permanent Rd. Reconst.	Miles	6.6	5.2	0
Total Permanent Roads	Miles	8.8	7.0	0
Temporary Const. ⁵	Miles	1.6	2.0	1.5
Temporary Reconst. ⁵	Miles	4.8	6.0	1.0
Total Temp. Roads ⁵	Miles	6.4	8.0	2.5
Roads Closed ⁶	Miles	78.8	13.9	1.1
Cost				
Total Funds (2004 dollars)	MM \$	6.449	6.44	10.18

¹ Recreation can be measured in terms of actual use – MRVD (thousands of recreation visitor days), or in terms of opportunity or capacity provided – PAOT (persons at one time). Because visitation is often difficult to measure, the Forest Service in 1999 began measuring capacity provided for different types of recreation rather than actual visitation.

² Includes large lake fishing

³ Includes small lake fishing.

⁴ New openings can be created through a variety of management activities such as oil and gas developments and timber management and direct wildlife habitat improvements

⁵ Represents miles of temporary roads estimated to be in use at one time during the decade.

⁶ Includes county, township and old “woods” roads from Table 4 - 20, page 4-41 of Draft EIS and other permanent and temporary roads to be closed to public use.

Table 2. Actual activities funded and/or accomplished during Fiscal Year 2004.

Description	Unit of Measure	FY 2004 Accomplishment
Mine clean-ups completed (CERCLA)	Clean-Ups	72
Manage abandoned mine land	Activities	18
Approved timber management NEPA documents thru appeal & litigation	Documents	2
Improve forest vegetation (TSI)	Acres	212
Special products permits administered	Permits	74
Timber volume harvested	CCF	5,523
Timber volume offered for sale -- Appropriated	CCF	1,750
Timber volume offered for sale -- Salvage Sale	CCF	3,775
Wildland/urban interface (WUI) high-priority hazardous fuels mitigated	Acres	1,307
Above project integrated inventories	Acres	103,348
GIS resource mapping	Quarter Quads	1,412
Land management plan (LMP) revisions	Plans	1
Monitoring and evaluation reports	Reports	1
Acres acquired	Acres	278
Boundary line marked/maintained	Miles	30.2
Cases resolved through litigation or processed through administrative procedure	Cases	3
Land use proposals and applications processed	Permits	23
Authorizations administered to standard	Permits	207
Authorizations administered - total	Permits	238
Total active energy operations	Operations	1,246
Energy acres processed	Acres	5,462
Total energy operations administered to standard	Operations	356
Energy operations processed	Operations	36
Geologic permits and reports completed	Reports	2
Oil and gas operations administered to standard	Operations	368
Oil and gas operations processed	Operations	36
Miles of road decommissioned	Miles	1.1
Miles of high clearance road maintained to objective maintenance level (Level 1 & 2)	Miles	9.4
Miles of passenger car road maintained at objective maintenance level (Level 3, 4, & 5)	Miles	23.3
Percent of road condition survey completed	Percent	150
Grazing allotment administration to standard	Allotments	142

Table 2 - Cont. Description	Unit of Measure	FY 2004 Accomplishment
General forest areas managed to standard	Days	1167
Operation of developed sites to standard	PAOTs	168,348
Products provided to standard	Products	212
Recreation special uses authorizations administered to standard	Permits	6
Non-wildland/urban interface (non-WUI) hazardous fuels in condition class 2 or 3 treated in fire regimes 1, 2, or 3	Acres	160
Miles of trail improved to standard	Miles	6
Miles of trail improved to standard	Miles	13
Miles of trail Maintained to standard	Miles	100
Miles of trail Maintained to standard	Miles	65
Noxious weed treatment	Acres	36

2. Document measured prescriptions/effects

Significant changes in productivity of the land –36 CFR 219.12(k)(2)

There were four small commercial timber sales sold or operated during FY 2004. The effect on productivity of the land from these timber sales was minimal. The sale amount of timber shown offered in Tables 1 was derived from two salvage sales responding to ice storm damage, pine thinning projects, and small personal use firewood sales. The harvest volumes shown in Table 2 came from the pine thinning project and small personal use firewood sales.

The total amount of open land on the Forest (approximately 3 percent) generally meets the objectives of the Forest Plan, which calls for 2 percent to 6 percent in the largest Management Areas. Due to a lack of recent even-aged timber management, the total amount of forestland in the 0 to 10 year age class (approximately 0.9 percent) is far below the objective of the Forest Plan, which calls for 8 percent to 13 percent in the largest Management Areas. There is thus a growing shortage of habitat for wildlife that requires early successional forest; this shortage is causing declining populations of the species that need this habitat condition and this shortage will translate to habitat shortages in mid-successional habitat conditions as time passes if the current trend is not changed. The Forest is not providing the diversity of wildlife habitats as prescribed by the Forest Plan. Nor is it providing timber products as prescribed.

Major reconstruction of the dam at Lake Vesuvius was completed in FY 2004. The reconstruction closed a major portion of the recreation sites at the Lake Vesuvius Recreation Area for more than two years. This project has significantly expanded recreational opportunities at this site.

Eleven miles of new ORV trails were constructed or designated during FY 2004, impacting approximately 11 acres of Forest land. While trail construction does affect the productivity of the immediate location of the trails the change is not considered to be significant.

All trails are being maintained for safety, but many sections are not meeting standards for user convenience. Trails and recreation sites are inspected annually, but repairs are prioritized and not always completed within 90 day as prescribed in the Forest Plan. Parking area capacity and trail density objectives also have not been met as prescribed.

No significant changes in the productivity of the land occurred due to the maintenance of forest openings. During FY 2004, no new wildlife openings were created by cutting trees. Existing openings designated as wildlife habitat were maintained in an early successional stage by mowing.

Vegetation Management

Non-native Invasive Species

Garlic mustard is recognized as a threat to the native flora on the Wayne National Forest. In partnership with the Federal Correctional Institute in Ashland, Kentucky, garlic mustard has been pulled by hand in the Little Storms Creek Special Area for eight years. Hand pulling is conducted prior to the time when the plant sets seed. No significant decline in garlic mustard abundance has been visually noted. Hand pulling is likely reducing the seed source in this Special Area, but the localized disturbance of hand pulling may allow remaining seeds lying dormant in the seed bank to sprout and grow.

Markin Fork Timber Sale

Trees marked for removal in Markin Fork Unit 1 (Ironton Ranger District) were harvested 03-14 November 2003 and 30 July to 04 August 2004. Visual inspections of soil and water resource conditions were completed both during and after harvesting.

Remnants of Hurricanes Frances and Ivan dropped significant rainfall on southeastern Ohio in early September. Monitoring of Unit 1 showed that the erosion control measures used on the haul road, skid trails and landings stood up to the storms effects. The waterbars, temporary seeding, and mulching (measures recommended for use in the Forest Plan) prevented significant erosion from occurring on the roads, trails and landings during or after the heavy rain.



Above: Markin Fork skid trail that was temporarily seeded with annuals. Below: Markin Fork log landing showing growth of annuals that were seeded. Coarse woody debris is used along the contour to trap soil. (September 2004).



An Ohio Best Management Practices (BMP) Evaluation was completed on Markin Fork Unit 1 in November 2004. The evaluation is a tool used to monitor whether timber operators implement BMPs while harvesting timber, and whether the practices were effective at limiting soil erosion and sedimentation of streams. The results of the evaluation showed that the operator did use a combination BMPs. The overall compliance with BMPs was rated as excellent.

Two commercial timber sales were prepared for 2004 and one successfully operated during the Fall of 2004. The Athens District sold 66 acres of white pine as the Beech Grove Pine Thinning and 30 acres were cut in 2004.

The Ironton District marked and awarded the Greenville and Telegraph Timber sales from the Ironton Heavy Fuelwood Project. The Greenville project included 330 acres, while 417 acres were within the Telegraph project. Together, the volume totalled 3,773 ccf (approximately 2,250 thousand board feet [MBF]).

Table 3. Wayne National Forest Volume Sold 2004.

Sale	Acres	Volume	Cut	On Hold
Athens Ranger District				
Beech Grove Pine Thinning	66	1,584 ccf	846 ccf	
Ironton Ranger District				
Greenville	330	1,911 ccf		1,911 ccf
Telegraph	417	1,862 ccf		1,862 ccf

ccf = one hundred cubic feet

The prescription applied to Beech Grove was thinning from below with the goal of capturing mortality and increasing vigor in the residual stems. No hardwood trees were included in the prescription, although a few hardwoods were cut for road access. The prescription applied to the Ironton Heavy Fuelwood Project was to remove storm-damaged trees, while leaving ample stocking and potential roost trees for bats. A basal area reduction down to 60-80 square feet was accomplished during marking. The Ironton Heavy Fuelwood Project was part of the April 2004 Buckeye Forest Council lawsuit. Both sales were awarded, but both were subsequently returned to the government before any cutting because an ensuing lawsuit delayed the the purchasers' ability to operate. The Telegraph and Greenville sales may be re-offered after the lawsuit is resolved and possible volume adjustments made.

Watershed restoration and abandoned mine lands

Big-Four

Past water quality monitoring of the Monday Creek watershed indicated that the Big Four sub-basin was contributing 18 percent of the acidity found in the Monday Creek mainstem. In partnership with the Monday Creek Restoration Project and the Ohio Division of Mineral Resources, a series of open limestone channels and limestone leach beds were installed in several key locations in the sub-basin to neutralize the acidity generated from

discharging portals and seeps. The pH range before the project was implemented ranged from 2.8 to 3.4. Post monitoring results revealed the pH range increased (3.4 to 5.7). This improvement was observed within a couple weeks of the project being completed. Watershed experts expect the pH of downstream water to continue improving over time.



Open limestone channels in the Big Four sub-basin.



Rebecca Black, from the Monday Creek Restoration Project, measuring the pH of the stream below the doser. Water quality testing is done before and after abandoned mine land projects to assess their success at improving watershed health.

Snake Hollow

Water quality monitoring of Snake Hollow, another sub-basin within the larger Monday Creek watershed, showed it was contributing six percent of the acidity in the Monday Creek mainstem. A series of limestone leach beds, open limestone channels and steel slag beds were installed to neutralize the acidity. Post monitoring results revealed that pre-pH values ranged from 2.8 – 3.3 and post monitoring didn't show a significant increase as the geo-chemistry was only changed by a small amount; pH ranged from 2.94 – 3.97. The disparity in the pre vs. post monitoring

results can be explained by the fact that the water samples were collected within a week after project implementation and were collected at low flows where concentrations are the highest and residence time is at the lowest. We anticipate that the next round of sampling will yield a significant positive increase in the geo-chemistry.

Jobs Hollow

The headwaters of Monday Creek originate in the Jobs Hollow area where numerous acid mine drainage seeps and discharging portals have been located. The Forest Service, in conjunction with the Ohio Division of Mineral Resources and the Monday Creek Restoration Project, installed a



Water from the creek is pumped into the silo and mixed with finely crushed limestone. The high pH of the effluent raises the pH of the water in the stream. The photo shows the mixing zone where the untreated and treated water meets. The silo is refilled with finely crushed limestone about once a month.

doser in the headwaters to temporarily neutralize acidity until treatment could be implemented in the other sub-basins, slated for construction over the next 3 to 5 years. Pre-monitoring pH ranges in Jobs Hollow ranged from 2.4 to 3.0. Post monitoring results revealed a significant increase in pH values approximately ½ mile downstream of the doser (6.0 to 6.8).

Kimble Creek

In 2002, a pilot project was initiated on the Ironton Ranger District to assess the use of a pyrolusite system to treat acid mine drainage. A pyrolusite system is a form of bioremediation, where microbes (bacteria) are used to help breakdown heavy metals in the water (e.g., iron). Dr. William Vail, West Virginia University, developed and grew the microbes specifically for the geochemistry at the Kimble Creek site. These microbes were injected into pyrolusite beds (gravel-filled cells) through which the acid mine drainage flows. Researchers with the Northeastern Forest Experiment Station, West Virginia University, and University of Maryland monitor the viability of the microbes periodically, and they remain viable to date.

Prior to construction of the pyrolusite beds, the pH of the Kimble Creek acid mine drainage source ranged from 2.2 to 2.8. After two years of monitoring, the effluent is discharging at a pH of 7.1. The pilot project is

helping researchers determine effective designs that can be used at other mining impacted sites. For example, monitoring has shown that modifications may be needed in the French drain system that collects the acid mine drainage water, due to heavy metals such as iron precipitating out of the water causing plugging.

3. Document cost of actual management practices in relationship to estimated costs – 36 CFR 219.12(k)(3).

The Forest Plan projected an annual cost of \$2.2 million (1978 basis) to fully implement the program. In 1997, the Forest leadership estimated that, because of increases in the cost of forest management, full Plan implementation would cost approximately \$8.4 million (see 1997 Wayne National Forest Monitoring Report).

Table 4. Budget Figures for Fiscal Year 2004 (MMS).

	2004
Forest Plan Budget *	6.44
1997 FLT Estimate inflated to 2004 dollars	10.07
Actual Budget	6.50
Earmarks and competitive grants added to Budget	1.95
Total Budget for Fiscal Year (MMS)	8.45

* = Forest Plan Budget estimates in this table were calculated using the Forest Plan estimate from 1978 basis and inflating it to 2004 dollars.

4. Lands are adequately restocked as specified in the Forest Plan (3rd year stocking surveys) – 36 CFR 219.12(k)(5).

This monitoring item is to ensure adequate restocking after regeneration harvest. There have not been any regeneration harvests on the Forest since 1995. Acquired openings and reclaimed strip mines have been planted, however.

Table 5. Third year stocking surveys completed FY 2004.

	Acres Surveyed	Acres Fully Stocked	Acres NOT Fully Stocked
Combined Districts	107	78	29
Acres Planted			
Combined Districts	None		

The main reason for the low stocking of the non-certified plantations (29 acres) continues to be the heavy herbaceous cover in riparian areas, and compacted soils and heavy grass cover in the reclaimed strip-mined areas.

5. Evaluate how well management prescriptions, practices, and standards and guidelines have been applied on the ground (36 CFR 219.12k)

Ironton District

Recreation

Developed Recreation Areas

All developed recreation facilities on the Ironton Ranger District were maintained to ensure public health and safety. Examples of activities that were accomplished include hazard tree management, cleaning of restroom facilities, trash and litter pick-up, repair of water lines, and mowing and trimming of vegetation. At Lake Vesuvius, a new sewage treatment plant was constructed at Big Bend Beach, and the swimming area was rehabilitated by replacing tables, grills, buoys, anchors, and ropes. A new accessible drinking fountain was constructed at the Vesuvius Furnace Shelter area.

Day Use Areas

All picnic grounds and trailheads on the Ironton Ranger District were open on time with the exception of the weekend during the Hurricane Ivan rain event. A handicapped accessible ramp was constructed at the Timbre Ridge Lake restroom facility.

Trails

To meet the minimum trail maintenance standards described in the Forest Service Trails Handbook, the following activities were accomplished on the Ironton Ranger District in 2004:

- 116 miles of hiking, horse and ORV trails were cleared of downed trees and vegetation, and patrolled
- Wolcott Trailhead parking area was repaired
- Performed heavy maintenance on 27 miles of trails
- Constructed a new bridge on the Rock House Trail
- Paddle Creek tie stalls were rehabilitated

Roads

Twenty-two miles of road on the Ironton Ranger District were maintained to standard. Twelve miles of roads were resurfaced with aggregate. All roads on the Ironton Ranger District were surveyed for damage after the Hurricane Ivan rain event.

Special Uses

A total of 26 special use permits were inspected in 2004, and four trespasses were investigated. Thirteen new special use permits were processed on the Ironton Ranger District.

Athens District

Developed Recreation - Recreational Trails

Construction was concluded on the Camp Ohio connector to the off-highway vehicle trail system in southern Perry County. The following table summarizes the application of the mitigations required in the project design.

Table 6. Mitigation measures implemented for Camp Ohio OHV connector trail.

Resource Concern	Mitigation	Monitoring Result
Protection of butternut trees	Do not cut any butternut trees during construction (none have been found in trail corridor).	None were cut.
Protection of endangered Indiana bat	Cut trees between September 15 and April 15.	Accomplished.
	Avoid cutting live or dead trees that have split trunks, broken limbs, shredded and hanging bark, signs of cavities, or hollowed out trunks. Consult with biologist for removal of hazard trees.	Biologists assessed each tree that needed to be cut.
	Use a bridge design that accommodates roosting and nesting habitat for bats and birds.	We added 2 bat boxes to the Camp Ohio bridge
Protection of ephemeral pools in bottomland along Monday Creek	Monitor trails closely; add signage, and/or fencing to keep riders on trail.	We re-signed the complete trail system this year and blocked illegal accesses with large rock and fence.
Protect fence lizard habitat.	Retain the pile of boulders located near the sweet smelling toilet at the New Straitsville parking area.	Accomplished
Protect amphibian habitat on loop trail.	Protect waterhole on loop trail by building a causeway around it and barriers to prevent rider use in wet area.	Accomplished.
	Install signage and barriers about the value of waterholes and vernal pools for amphibians.	Barriers installed; still need signage.
	Replace road ruts with constructed water holes where necessary, then drain and fill ruts in trailway.	Accomplished at many locations along ORV trail.
Protect soil and water resources from further degradation in the project area.	Construct drainage facilities and stream crossings between summer and fall when soil conditions and stream flows are at their lowest level.	Accomplished.
	Utilize culverts, bridges or hardening for ephemeral stream crossings.	Hardening stream crossing during maintenance activities.
	Use silt fence, straw bales, brush barriers, and lead-off ditches during construction close to streams.	Use these and filter fabric.
	Limit tree and brush removal along trail.	Accomplished.
	Install rolling dips and obstructions to prevent a smooth trail tread which would have more severe erosion problems.	We've constructed 92 broad-based dips.
	Divert water run-off by rolling the trail grade, out-sloping the tread, or constructing cross drains, water bars, rolling dips, etc.	Out-sloped 150 yards of trail, installed 2 bridges, 5 culverts, and hardened complete trail tread.
	Minimize the slope on the approaches to the intermittent stream crossings.	Used culverts and bridges.
	Minimize cutbanks. Avoid tight radius switchback turns.	Blocked access and made wider turns.
	Harden soft spots as they occur to prevent riders widening the trail.	Placed 1,700 tons of limestone rock this year.
	Utilize a seasonal closure.	District wide trail closure in effect until storm damage is repaired.
	Re-vegetate disturbed soils adjacent to the trail tread as soon as possible after construction.	Used 400# of seed this year.
	Implement a monitoring plan that will document pre-construction conditions, use of mitigation measures during construction, and trail use. Utilize monitoring to track effectiveness of mitigations.	In process at Camp Ohio.

Maintenance activity was conducted on 51 miles of the Monday Creek ORV Trail, two miles of the Stone Church Horse Trail, and 50 miles of hiking trails at Marietta. Most maintenance activity is directed at keeping soil on the trail and not moving downslope into local streams or at clearing vegetation (Marietta). The following maintenance activities occurred, with benefits to the noted resource.

Table 7. Trail maintenance and resource benefited.

Athens Unit	
Monday Creek ORV Trail	
1. Dorr Run Loop	15 miles
2. Inner Dorr Run Loop	8 miles
3. Purdum Loop	5 miles
4. Main Corridor	17 miles
5. New Straitsville	3 miles
6. Snake Hollow	3 miles
Stone Church Horse Trail	
Maintenance – bridges, waterholes	2 miles
Marietta Unit	
Hiking Trails	50 miles of clearing, treadwork accomplished by YCC crew.

Unauthorized motorized use continued to be an issue in fiscal year 2004. Forest Plan standards and guidelines limit the ORV trail system to vehicles 50 inches or less in width, however tracks of vehicles over 50 inches have been found indicating unauthorized use. Unauthorized ORV paths can be found leading from private lands onto the Forest. Contact with landowners has been initiated when these paths lead to specific locations. Some unauthorized trails were blocked during the Camp Ohio connector construction and during maintenance activities. The Forest does not have the resources to block every illegal trail found every year.

Table 8. Mineral and special uses monitoring.

Monitoring of mineral permits	Athens Ranger District Number in compliance	New wells in 2004
Outstanding Rights 49 leases Coal exploration	108 wells 53 holes	
Reserve Minerals 17 leases	32 wells	
Private Acquired 39 leases	119 wells	2 new wells
BLM Federal 24 leases	44 wells	
Totals	303 wells 53 coal explorations	

A 100 percent inspection of federal and private wells is conducted by the Bureau of Land Management (BLM), the Forest Service and/or the Ohio Department of Natural Resources – Division of Minerals (ODNR) each year. As deficiencies are noted, the permittee is contacted to rectify the deficiency and a re-inspection conducted to validate that the needed work was in fact performed. Forest Plan standards and guidelines have been applied on the ground in relation to minerals management. Two new federal wells were drilled in the past five years – the Drake 4B and Drake 4C wells. The permittee for these wells has complied with mitigations in the environmental documents with regard to road construction, flood levels, clearing, erosion control, and re-habilitation of the site after construction.

No new federal wells were drilled on the Athens District in 2004. Two wells were drilled on private acquired mineral rights. Two orphan wells were plugged in cooperation with BLM. Four abandoned cisterns were filled for public health and safety on the Marietta Unit.

Table 9. Monitoring of special uses.

	Number of uses monitored	Number in compliance
Athens Ranger District (total 650 special uses)	169	169

Monitoring of 169 special uses was accomplished. There are approximately 650 special use permits on the Athens District. In 2004, 26 percent were inspected. Forest Plan standards and guidelines are incorporated into all special use permits. As specific special use permits have been inspected, any deficiencies were noted, and the permittee contacted to rectify the deficiency. Follow up inspection were conducted to verify that needed work was performed and the deficiency corrected.

Wildlife, Fisheries and Native Plants

Lake Vesuvius Recreational Fisheries Improvements

According to the Forest Plan, lakes should be developed and managed to provide a high quality fishing experience and a highly productive aquatic habitat. In June 2004, the Wayne National Forest and its partners received the Forest Service Chief's "Rise To The Future Award" for the recreational fishing improvements made at Lake Vesuvius. In addition to improved boat dock and launch ramp facilities, a ¼-mile long boardwalk was constructed over the water from the boat dock to the dam. Biologists placed underwater structure near the boardwalk to improve habitat for the newly stocked largemouth bass and bluegill.



The Forest Service Chief's
Rise To The Future Award.

Public support of these improvements was evident during the first-ever Wheelin' Sportsman Fishing Day at Lake Vesuvius. Mentally and physically challenged persons came out to enjoy a day of trout fishing from the boardwalk. Numerous articles about the Lake Vesuvius improvements have been published, including some in *Ohio Magazine* and the National Wild Turkey Federation's *Wheelin' Sportsman Magazine*.

Biological Evaluations

The Forest Plan calls for programs and activities to be reviewed through biological evaluations to determine their effect on sensitive species. Forest Service biologists completed 43 biological evaluations during 2004.

Wetland Restoration

The Forest Plan includes a Forest-wide goal to *protect and improve riparian habitat* and a Forest-wide objective to *improve at least one acre of wetland habitat per year*. The Forest Service partnered with the Ohio Division of Wildlife to restore 25 acres of floodplain wetland along Symmes Creek, near Cadmus, Ohio. This wetland project helps support President Bush's new policy



Cadmus Wetland, late-summer 2004

of moving from “no net loss” of wetlands to a “net gain,” as announced earlier this year.

Following guidance in the Forest Plan, this wetland restoration project not only included the removal of old tile drains, but also included the construction several islands within the pool area and a water control structure were incorporated into the levee system to allow for future water level manipulations. Six smaller wetlands were constructed in the bottoms to promote the establishment of seasonally wet sedge meadows that will benefit amphibians, wood cocks, and insect eating birds.



Sand Fork Wetland, restored in 1997, has attracted numerous species of birds, amphibians and reptiles. Birds of special note that have been observed using this floodplain wetland include the pie-billed grebe, Virginia rail, and sora. Wood ducks are annually observed using the wood duck boxes that were installed in the wetland. Muskrats have caused some occasional and isolated damage to the levees, but repairs have been successful. Beaver-proof pipes have been successful at deterring beavers from plugging the water control structures.

Permanent Forest Openings

A Forest-wide objective calls for the development of an average of 70 acres of permanent forest openings each year. Permanent forest openings are comprised of a mix of herbaceous and shrubby vegetation that provides food and cover for various wildlife species. For example, insect abundance has been shown to be 25 times



Mowing (brush hogging) forest openings on a 3-year cycle has been used to maintain a proper mix of herbaceous and shrubby vegetation.

higher in forest openings than within forest habitat. During summer and fall, fruits become plentiful.

No new openings were developed in 2004, however, a total of 308 acres of existing forest openings were maintained in partnership with the Ohio Division of Wildlife.

Watershed Restoration and Abandoned Mine Lands

Bennett Hollow

Previous strip mining left a series of abandoned mine land strip-ponds behind a private landowner's home. During a large storm event, one or more of the ponds breached, causing severe flooding onto the landowner's property.

The problem was rectified by removing three earthen berms to allow the water from all the strip-ponds to be connected and diverted into an existing channel where the water once flowed. An open limestone channel was installed to prevent erosion and treat any water that may become acidic from the highwall which was recharging the strip-ponds.



The open limestone channel seen in the right of the photo not only diverts flood waters, but also helps decrease the toxicity of the water coming from the abandoned mines.

From initial landowner contact to project completion, the project took only six months to complete. Since project completion, the site has undergone several major storm events, particularly the severe flooding caused by Hurricane Ivan. Visual monitoring of the site was conducted after several rain events. This abandoned mine land project has been successful; no water has flowed onto the landowner's property since the work was completed.

6. Effects of NF management on adjacent lands and effects upon NFS lands by other government agencies – 36 CFR 219.7(f)

Effects of National Forest management on adjacent lands:

ORVs continue to leave designated trails and travel across National Forest System land and private property, adversely affect those lands. To help eliminate or minimize the effects of illegal off-trail riding, the Forest has applied the following measures:

- Updating the Forest ORV map
- Actively signing trails patrolling trails with law enforcement officers, especially during high-use periods

Five acid mine drainage sites were treated during 2004, totaling 70 acres. All projects had positive impacts on downstream water quality. The five projects included:

- Snake Hollow 46 acres
- Big 4, 12 acres
- Bennett 6 acres
- Kimble 2 acres
- Jobs Doser 4 acres.

Effects upon National Forest land by other government agencies

During FY 2004, the Ohio Department of Transportation (ODOT) continued its work on the Route 33 Bypass around Nelsonville. The preferred alternative does cross some NFS land near Nelsonville. The Wayne has no decision-making role in this project but is working with ODOT and the Federal Highways Administration (FHWA) to analyze the proposal's effects on NFS land.

7. Population trends of Management Indicator Species (MIS) will be monitored and relationships to habitat changes determined in cooperation with State fish and wildlife agencies – 36 CFR 219.19.

Birds

Cerulean Warbler, Pine Warbler, Pileated Woodpecker, Ruffed Grouse, White-eyed Vireo, Common Yellowthroat, Field Sparrow, Eastern Bluebird, Wood Duck, Virginia Rail



Zac Allen, WNF Firefighter, conducted the 2004 bird surveys.

A spring breeding bird survey was conducted during May and June, 2004 on the Wayne National Forest, following the survey protocols established in 2003. The survey was conducted only on the 12 Ironton Ranger District survey routes because of difficulties hiring qualified bird observers. A total of 92 bird species were observed during the survey, including 8 of the 10 MIS. A list of the birds observed during the survey can be found on the Wayne National Forest web page at: http://www.fs.fed.us/r9/wayne/wildlife/partners_in_flight.html.

Of the MIS, the common yellowthroat and white-eyed vireo were observed along each of the twelve survey routes. They also ranked as the 8th and 9th most abundant bird species during the 2005 survey respectively. The cerulean warbler and pileated woodpecker, species associated with mature forest habitat, were seen along more than half of the routes. The eastern bluebird and pine warbler were present along only a small number of survey routes, but that is expected since their preferred habitat is less abundant on the Forest.

A comparison of MIS observations along the Ironton Ranger District routes between 2003 and 2004 is provided in Table 10. Some MIS were observed along one more survey route in 2004 than in 2003: cerulean warbler, common yellowthroat, and white-eyed vireo. The eastern bluebird, field sparrow, pileated woodpecker, pine warbler, and wood duck were observed along one to three fewer routes in 2004 than in 2003.

The Virginia rail is an uncommon species in southeastern Ohio. One individual was observed in 2003, but this species was not present along any of the wetland routes in 2004.

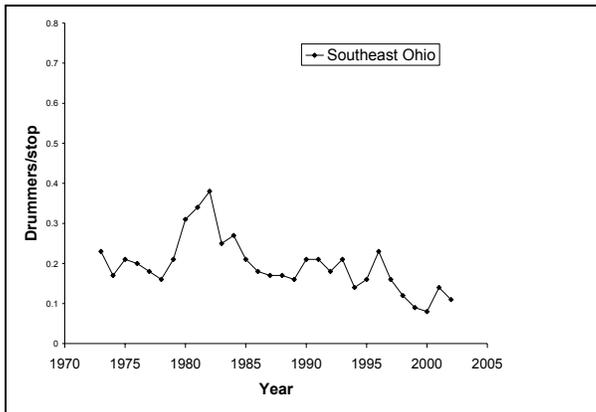
Table 10. Presence (X) of avian MIS on Ironton Ranger District breeding bird survey routes, 2003-2004.

	Cerulean Warbler		Common Yellowthroat		Eastern Bluebird		Field Sparrow		Pileated Woodpecker		Pine Warbler		Ruffed Grouse		Virginia Rail		White-eyed Vireo		Wood Duck	
	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
Brady Run			X	X	X	X	X	X	X	X							X	X	X	
Five Forks	X	X	X	X	X		X	X	X	X	X	X					X	X		
Hanging Rock		X	X	X					X	X	X	X					X	X	X	X
Lake Vesuvius	X	X	X	X					X	X								X		X
Pine Creek	X	X	X	X			X	X	X		X						X	X		
Pumpkintown Lake			X	X					X	X	X						X	X		
Sand Fork			X	X			X	X	X	X					X		X	X	X	X
Smith Hollow			X	X	X				X								X	X		X
Superior Wetland			X	X	X												X	X	X	X
Symmes Creek	X	X	X	X					X	X							X	X		
Telegraph Road	X	X	X	X					X	X	X	X					X	X		
Timbre Ridge Lake				X			X		X								X	X		

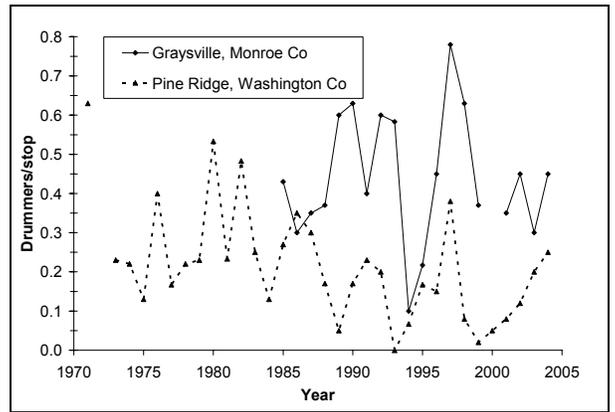
Ruffed grouse populations are generally sampled during the early part of April when the males are drumming. This species is not actively drumming during May and June and, therefore, would not be expected to be heard during the spring breeding bird survey. Information on ruffed grouse populations on the Wayne is obtained annually from the Ohio Division of Wildlife. The Division conducts five drumming survey routes through the Forest. The average number of male drummers per stop for each of the five routes was as follows for 2004: Kimble Ridge, Gallia County (0.05 drummers/stop); Telegraph Ridge, Lawrence County (0.25 drummers/stop); Graysville, Monroe County (0.45 drummers/stop); Monroe Township, Perry County (0 drummers/stop); and Pine Ridge, Washington County (0.25 drummers/stop). Ruffed grouse population trends appear to be stable to declining along these Forest routes and are similar to regional trends for southeast Ohio. (See Figure 1 a-d.) The Graysville route has continually had slightly higher drumming males per stop than either state or regional averages.

Ruffed grouse need forests that are less than 20 years old in order to survive and reproduce, however it requires contiguous patches of early successional forest habitat within heavily forested landscapes.

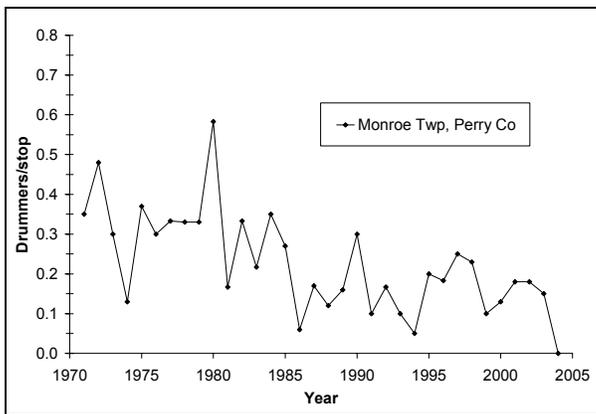
Interspersion of such habitats enables this species to take advantage of seasonally important foods and cover. Trends in early successional forest habitat since the 1960s (Figure 2) coincide with the general ruffed grouse population decline in Ohio. As of 2004, forest stand data show that early successional forest habitat comprises 5.4 percent of the forest cover on the Wayne. Early successional habitat less than 10 years of age, which contains a large shrub component, comprises less than 0.5% of the Wayne's forest cover.



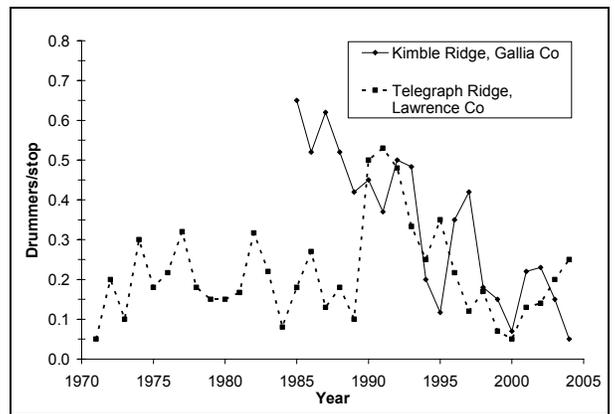
(a) Southeast Ohio



(b) Marietta Unit



(c) Athens Unit



(d) Ironton Unit

Figure 1. Ruffed grouse population trends, 1971-2004. (a) Southeast Ohio regional trend; (b) Marietta Unit trends; (c) Athens Unit trend; and (d) Ironton Unit trends.

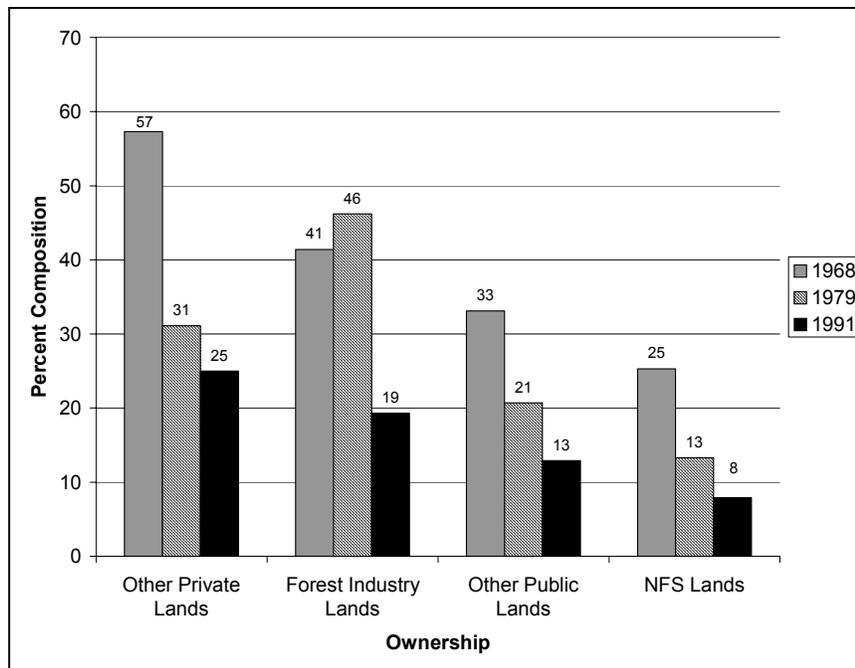


Figure 2. Trends in early successional forest habitat on lands managed by four land ownership classes in Ohio, 1968-1991.

Amphibians

Western Chorus Frog, Wood Frog

Two Ohio Frog and Toad Calling Survey routes have been established on the Ironton Ranger District. Each route has 10 stops where biologists listen to the species of frogs and toads they hear and record the calling index score for each species. Ohio frogs and toads, depending on the species, may begin chorusing as early as mid-to late February and continue into August. The routes are run in March, April, May, and June, the four periods where the breeding seasons of Ohio's frogs and toads overlap most frequently.



Gray Treefrog

The western chorus frog and wood frog were not heard during the calling survey; however seven other species were recorded (Table 11). Of particular interest is the Blanchard's cricket frog, a species proposed for Regional Forester's Sensitive Species designation on the Wayne. Its range is constricting across the United States, and it is currently found in the Forest only in the western portions of the Ironton Ranger District. It was heard calling on the Lawrence County route at site #2 (Hanging Rock Pond #18) during the May and June sampling periods. It was so abundant, the biologists reported, that the number of individuals could not be counted.

Table 11. Frog and toad species recorded during the 2004 survey.

	Lawrence Route #71	Gallia Route #72
Spring Peeper	X	X
Pickerel Frog	X	X
American Toad	X	X
Green Frog	X	X
Gray Tree Frog	X	X
Blanchard's Cricket Frog	X	
Bullfrog	X	



While not a management indicator species, Forest Service biologists observed the Cope's gray treefrog during a summer bat survey on the Marietta Unit. Cope's gray treefrog is identical in appearance to the gray treefrog, but has a faster trill.

Fish

Bluegill, Southern Redbelly Dace, Northern Redfin Shiner, Blackside Darter, Rainbow Darter, Golden Redhorse, Sand Shiner, Banded Darter

The Wayne National Forest and Otterbein College entered into a two-year participating agreement in 2004 to inventory the fish and mussels on the Ironton Ranger District. Dr. Michael Hoggarth and student interns from Otterbein's Department of Life and Earth Sciences performed the field collection work in the Symmes Creek and Storms Creek watersheds in 2004. They will work in the Pine Creek watershed in 2005.



Dr. Michael Hoggarth and Otterbein College students, Buffalo Creek, Ironton Ranger District.

This is not the first time the Forest has worked with Dr. Hoggarth. He and his students helped on a similar survey of the Little Muskingum River and Ohio River tributaries on the Marietta Unit in 1999 and 2000. The Forest Service receives quality data that can be used in planning and monitoring management projects, and student interns receive valuable field experience.

Fish communities were sampled using electrofishing gear and seines. Mussels were collected by handpicking the shells from the stream substrates. The field data are still being compiled, but Dr. Hoggarth reported that all aquatic MIS were collected during the survey. More detailed results will be presented in future monitoring reports when the inventory project is completed.

8. Habitat determined to be critical for threatened and endangered species shall be identified, and measures shall be prescribed to prevent the destruction or adverse modification of such habitat – 36 CFR 219.19.

No critical habitat for federally listed species occurs on the Wayne. However, the Forest Service and its partners made contributions toward the recovery and conservation of federally listed species, in accordance with the *Conservation Plan for Federally Listed Threatened and Endangered Species* (Forest Plan Amendment 13). Nine federally listed species occur within or near the Forest: Indiana bat, bald eagle, fanshell, pink mucket pearly mussel, American burying beetle, running buffalo clover, Virginia spiraea, small-whorled pogonia, and northern monkshood. A brief summary of 2004 accomplishments are provided in this monitoring report.

Habitat Protection and Improvement

Re-initiation of Formal Consultation

The 2003 ice storm affected nearly 72,000 acres of forest land on the Ironton Ranger District. The Indiana bat is likely to benefit from this natural disturbance because a large number of trees were broken or damaged to the point where death is likely in the next few years. Many of these damaged trees can provide the Indiana bat's desired roosting characteristics now and into the immediate future. However, the ice storm also increased the amount of woody material on the forest floor, which could lead to higher risks for uncontrolled wildfire. The large amount of damaged trees could also foster a favorable environment for increased forest insect and disease activity. The Forest Service identified the need for several additional prescribed fire and timber harvest projects to reduce fire fuels and improve forest health conditions.

The 2001 Biological Opinion on the Wayne National Forest Land and Resource Management Plan from the U.S. Fish and Wildlife Service stated that incidental take of Indiana bats could occur in the form of harm through habitat alteration or loss. While prescribed fire and timber harvesting can improve habitat conditions for the Indiana bat over the long-term, these activities could alter suitable habitat in the short-term. Therefore, in March 2004 the Forest Service requested re-initiation of formal consultation on these unanticipated prescribed fire and timber harvesting projects that had not been accounted for in the 2001 Biological Opinion.

The Fish and Wildlife Service responded by stating that the Forest Service had “properly reinitiated consultation pursuant to 50 CFR 402.16.” The Fish and Wildlife Service also determined that implementing the additional prescribed fire and timber harvest



Forest Service employees discussing management options for a forest stand that was affected by the 2003 ice storm.

treatments above the levels outlined in the 2001 Biological Opinion would not likely jeopardize the Indiana bat’s continued existence on the Forest. The incidental take statement in the 2001 Biological Opinion was amended to encapsulate these additional projects. Table 12 displays the changes in the incidental take statement, along with the actual amount of habitat that has been altered or lost since the 2001 Biological Opinion went into effect. The Forest Service has completed the planning for numerous projects that fall under the management area categories, however only a few projects have been implemented to date.

Table 12. Comparison of incidental take allowed and amount of incidental take that has occurred on the Wayne National Forest.

Management Activity	Incidental Take Statement, 2001 Biological Opinion (acres)	Incidental Take Statement Amended, March 2004 (acres)	Amount of Potentially Suitable Indiana Bat Habitat Affected 2001-2004 (acres)
Permanent Loss of Indiana Bat Habitat			
Coal strip mining	2,100	2,100	0
Road construction	94	94	12.88
Trail construction	160	160	2.45
Oil and gas development	25	25	1.80
Special use permits	125	125	2.80
Total	2,504	2,504	19.93
Alteration of Indiana Bat Habitat			
Timber harvest	2,500	2,500	30
Timber stand improvement	2,500	7,365	0
Prescribed fire	2,500	9,527	560
Creation of wildlife openings	352	352	0
Closing underground entrances	250	250	37.50
Total	8,102	19,994	627.50

Hazard Tree Management

The Forest Service removes live or dead trees that pose an imminent public safety concern. Hazard tree management usually occurs in developed recreation areas, along trails and roads, and along utility corridors. Some of these hazard trees have structural characteristics that make them suitable as Indiana bat roosting habitat. Biologists work with hazard tree managers to identify trees that could provide suitable habitat.

Through the incidental take statement in the 2001 Biological Opinion, the U.S. Fish and Wildlife Service allows up to 125 trees may need to be removed during the Indiana bat non-hibernation season through 2006. Removal of hazard trees can occur anytime during the year, but employees make an effort to fell hazard trees during the Indiana bat hibernation season when individuals are wintering in caves and mines. Between 2001 and 2004, only 11 hazard trees have been removed during the non-hibernation season when the Indiana bat roosts in trees with exfoliating bark and other crevices. In 2004, one tree was removed along the newly constructed boardwalk at Lake Vesuvius to ensure visitor safety.

Protection of Individuals

Brushy Mine Gate

The Forest Service installed a bat-friendly gate on the Brushy Mine, located on the Ironton Ranger District. This mine opening was located during an abandoned mine inventory, and concerns about public safety were raised because illegal off-road vehicles were driving into the mine.



Eddie Park, WNF Biological Technician, and welders stand in front of the Brushy Mine bat-friendly gate.

Biologists conducted a winter mine survey and summer mist net survey to see if the mine was being used by Indiana bats. While no Indiana bats were found, other species were using the mine: big brown bat, red bat, eastern pipistrelle, northern bat, and little brown bat. Illegal motor vehicle use of the mine could pose direct and indirect risks to bat species using the mine.

Steel beams were transported by hand to the site, where they were cut and welded into place. Bat-friendly gates are designed specifically to allow bats to fly easily in and out of the mine. The illegal off-road vehicle use of the mine was eliminated as a result of this project.

Inventory, Analysis and Monitoring

Bat Survey

A summer mist net survey was conducted on the Marietta and Ironton Units during June and July, 2004. The objective of the survey was to increase our knowledge of the distribution of forest-dwelling bat species on the Wayne, including the federally endangered Indiana bat. Mist nets were set up at 56 sites that exhibited favorable sampling conditions (i.e., upland road ruts, ponds, and stream corridors). Data collected for each captured bat included species identification, gender, reproductive status, date and time of capture, age, weight, and notations on the presence of parasites, old injuries or band numbers. Bats were then released.



Katrina Schultes, WNF Biological Technician, preparing to age a big brown bat.

A total of 203 individuals, representing 6 bat species, were captured during the survey (Table 13). The northern bat was the most frequently captured species (127 individuals). No Indiana bats were captured.

Table 13. Bats species captured, 2004.

Species	Number Captured
Big brown bat	37
Eastern red bat	25
Hoary bat	2
Eastern pipistrelle	7
Northern bat	127
Little brown bat	5

Mid-winter Bald Eagle Survey

The Forest Service conducted two formal bald eagle searches in 2004 at Burr Oak Reservoir and Lake Vesuvius. No eagles were observed. An adult bald eagle was observed in the Logan, Ohio, area in mid-February, just outside the Wayne National Forest boundary. Observers noted that this individual was foraging along the Hocking River and at Lake Logan. No nesting territories were observed on National Forest System land by any Forest Service employees during 2004.

American Burying Beetle Release

The last known naturally-occurring collection of this species in Ohio was a single beetle near Old Man's Cave in Hocking County in 1974. The Ohio Division of Wildlife and The Ohio State University initiated a reintroduction program in Ohio in July 1998. Since then, over 200 adult pairs have been reintroduced at the Ohio Division of Wildlife's Waterloo Wildlife Research Station.

Seventy-eight adult pairs were released in July 2004. The Forest Service assisted in the July 14, 2004, post-release monitoring work where 125 larvae were found in 20 sampled burial sites.



American burying beetle larvae on a carcass, July 2004. Adults lay eggs on a small bird or mammal carcass, which they bury in loose soil. The carcass provides a source of food for the newly emerged larvae.

The Forest Service is considering the opportunity for reintroducing this species onto the Wayne. American burying beetle experts from The Ohio

State University joined the Forest Service in a field review of potential reintroduction sites. Two potential release sites were identified, each of which exhibits favorable soil and vegetation conditions. The Forest Service will continue to analyze the environmental effects of reintroducing this federally endangered species on National Forest lands. The Ohio State University maintains a captive colony of beetles for reintroductions in Ohio.

Mussel Survey

A freshwater mussel survey in the Symmes Creek watershed was conducted by Dr. Michael Hoggarth and student interns from Otterbein College. No federally listed mussels were found during the survey, but two Regional Forester sensitive species were collected (salamander mussel and little spectaclecase mussel). In addition, two Ohio threatened species (threehorn wartyback, black sandshell) and one Ohio species of special concern (creek heelsplitter) were found. The results are still being analyzed and are being compared to previous mussel inventory efforts in this watershed. A list of species is provided in Table 14, along with generalized locations where they were found in the Symmes Creek watershed.



Handpicking mussels from the headwaters of Symmes Creek. 2004

Table 14. Mussel species collected, 2004.

Species	Watershed Location
Paper pondshell	Headwaters of Symmes Creek
Giant floater	Headwaters and middle reaches of Symmes Creek; Black Fork
Cylindrical papershell	Middle reaches of Symmes Creek; Long Creek
White heelsplitter	Headwaters, middle and lower reaches of Symmes Creek; Black Fork; Long Creek
Creek heelsplitter	Long Creek
Salamander mussel	Middle reaches of Symmes Creek
Threeridge	Middle and lower reaches of Symmes Creek
Mapleleaf	Middle and lower reaches of Symmes Creek
Pimpleback	Middle and lower reaches of Symmes Creek
Pistolgrip	Middle and lower reaches of Symmes Creek
Wabash pigtoe	Middle and lower reaches of Symmes Creek
Fragile papershell	Middle and lower reaches of Symmes Creek
Pink heelsplitter	Middle and lower reaches of Symmes Creek
Threehorn wartyback	Lower reaches of Symmes Creek
Round hickorynut	Middle and lower reaches of Symmes Creek
Black sandshell	Lower reaches of Symmes Creek
Little spectaclecase	Headwaters
Fatmucket	Headwaters, middle and lower reaches of Symmes Creek; Buffalo Creek; Long Creek
Plain pocketbook	Headwaters, middle and lower reaches of Symmes Creek



Diversity of freshwater mussels collected at one sampling site in the headwaters of Symmes Creek.

P
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Plant Survey

With help from students enrolled in botany and biology programs, the Wayne's Forest botanist surveyed approximately 5,000 acres for federally listed plant species. The survey was conducted on the Ironton Ranger District where the 2003 ice storm had opened up the forest canopy. No federally listed plant species were found, however, new populations of some Regional Forester sensitive plant species were discovered and mapped. These plants included the rock skullcap, butterfly pea, striped gentian, and tall nut rush.

Education and Awareness

Plant Identification Refresher

Field-going employees traveled to the Cincinnati area to observe a population of running buffalo clover, a federally endangered species which could occur on the Wayne. This species



Wayne NF employees look for the running buffalo clover in May 2004, near Cincinnati, Ohio.

appears to have been dependent upon the woodland disturbance, soil enrichment, seed dispersal, and seed scarification provided by large ungulates such as the American bison. A U.S. Fish and Wildlife Service plant ecologist was on hand to provide identification tips to our employees, all of whom have taken part in annual running buffalo clover surveys. This federally endangered clover is similar to more common species we see on the Forest, therefore it is important to maintain our ability to recognize it and its habitat in the woods.

The Forest botanist also visited a site in Hocking County with U.S. Fish and Wildlife Service biologists to observe a population of small whorled pogonia. The small whorled pogonia was discovered in Hocking County near Camp Oty'Okwa in 1998. Field surveys on the Wayne have yet to locate any populations of small whorled pogonia, but botanists have found the large whorled pogonia.

Bat Gates

One of the Wayne's biological technicians attended a week-long training session to learn how to design bat-friendly gates. There are but a handful of people in the United States who are qualified to design and install bat gates. Having a qualified person on the Wayne National Forest is an asset, especially since there are many open abandoned mine portals. Each year biologists identify potentially suitable portals that may provide habitat for bats. Fall swarming surveys or summer mist net surveys are constructed to see if bats are using these portals.

Indiana Bat Biology and Management

A District wildlife biologist represented the Wayne at the second *Bats in Forests Symposium and Workshop* in Hot Springs, Arkansas. This conference was hosted by the Southeastern Bat Diversity Network and organized by Bat Conservation International. Papers and posters were presented about recent research findings related to the Indiana bat. Information from the conference was shared with all the Wayne biologists.

A poster was presented at the 64th *Midwest Fish & Wildlife Conference* in Des Moines, Iowa, about Indiana bat and northern bat research that was conducted by Katrina Schultes, Athens RD biological technician. The poster, *Characteristics of roost trees used by Indiana bats and northern bats on the Wayne National Forest, Ohio*, summarized her master's thesis. The project was funded by the Forest Service and the U.S. Fish and Wildlife Service. Attendance at this annual conference includes fisheries and wildlife professionals from agencies and universities in the north central United States.

9. Land Adjustment: Progress toward land consolidation that meets objectives; Changes in total acres and percent by county.

In fiscal year 2004, the Forest acquired another 278 acres of surface ownership. These acquisitions were located in Athens (51 acres), Hocking (89 acres), Monroe (57 acres) and Washington (81 acres) counties.

By September 30, 2004, the Wayne had acquired 236,453 acres, or 27.7 percent of the area within its modified proclamation boundary, which encompasses 853,531 acres.

Proclamation acres are calculated using information from the Forest GIS (Geographic Information System); ownership acres are calculated from recorded deeds. The totals for each county in 2004 are shown in Table 15.

Table 15. Wayne National Forest Acreage by County, Fiscal Year 2004.

County	WNF Acres	Proclamation Acres	Total Acres in County	WNF as % of County
Athens	18,721	83,860	325,327	5.8%
Gallia	17,907	112,405	301,543	6%
Hocking	25,741	61,293	270,974	9.6%
Jackson	1,650	7,562	269,632	0.6%
Lawrence	70,765	163,314	292,375	24%
Monroe	24,424	143,951	292,441	8.3%
Morgan	3,354	7,803	269,725	1.2%
Noble	715	5,626	258,738	0.3%
Perry	22,336	79,710	263,841	8.5%
Scioto	11,707	33,359	394,358	3%
Vinton	1,901	27,397	265,526	0.9%
Washington	38,832	127,251	409,125	9.6%
Total	238,053	853,531	3,613,605	6.6%

10. Vegetative Management

Verify research conclusions which use various silvicultural systems to achieve multiple use objectives.

Timber marking was completed during the early spring of 2004, 738 acres were offered for sale in 2004, and a lawsuit was filed on this project in April 2004. Implementation is pending the court's decision.

An interdisciplinary team began planning the Buckhorn Restoration Project in early 2004. Research showing the potential impact of gypsy moth on hardwood forests was used to prescribe a basal area reduction on 4,000 acres of forest, including increasing the vigor of regenerating oak stems. This prescription should be signed in the summer of 2005 and implemented the following winter.

Determine public reaction to vegetative management.

The public was given two opportunities to comment on the Buckhorn Restoration Project – in June and in August 2004. Twelve parties commented 10 supported the projects and 2 opposed the project. Two other respondents disagreed with commercial harvest on National Forest System land.

It appears that local residents recognize the extent of damage from the ice storm and the community benefits when logging contractors harvest local timber. The Forest Service may need to distribute more information about fire and the restoration of our timbered stands to a more historic condition. Some parties object to the federal government allowing commercial harvest on public land.

Determine if significant soil damage or loss occurs as a result of vegetative management.

District ADR for Natural Resources, Mike Freidhof, visited skid roads on the Markin Fork timber sale in August of 2004, after Hurricane Frances. Skid roads had been graded and seeded and showed no evidence of gullyng. Re-shaping roads and installing waterbars significantly decreases soil movement, even from bare soil, following major storms. Once seed establishes, the road should be protected from most storm events.

Markin Fork Timber Sale Road Before and After Erosion Control.

Examples of Road conditions *BEFORE* erosion control work.



Pictures taken 8/5/04

Markin Fork Timber Sale Road Before and After Erosion Control.

Examples of Road conditions *AFTER* erosion control work.



Pictures taken 9/7/04

Markin Fork Timber Sale Road Before and After Erosion Control.

Examples of Road conditions *AFTER* erosion control work *AND* after five inches of rain from Hurricane Frances.



Picture above is of Skid Trail in Unit 1.

Pictures taken 9/13/04

Determine effects of vegetative management on water quality.

The above monitoring shows evidence of no off-site soil loss from the one active timber sale at Ironton.

The Beech Grove Pine Thinning was sold by the Athens District in July of 2004. Less than 1/3 mile of temporary road was constructed and there were no stream crossings. A rubber-tired skidder was used to cut and skid the pine, causing minimal soil disturbance.



Pine planted on old fields grows thick, blocking out light and herbs in the near in the understory.



Thinning to remove some trees allows the remaining trees to expand. The rubber-tired skidder used in this operation has left the forest floor intact.

No impact to water quality was evidenced at either of these commercial timber sale operations.

11. Off-Highway Vehicle Use in Management Areas 2.3 and 3.2.

Determine OHV effects on other recreation uses in the 2.3 and 3.2 management areas.

At public meetings held in the past three years, the Forest heard comments from non-motorized users whom have expressed the need for undisturbed natural areas where they can enjoy solitude. In addition, excessive noise, dust, and the unsightliness of resource damage from ORV use were common concerns of non-motorized users.

Currently, all ORV trails on the Forest are open to mountain bikers and hikers. Mountain bikers and hikers commented during the Forest Plan revision their desire to not share trails with ORVs. Again, their concerns are safety and the quality of their riding or hiking experience.



Type of trail uses found on the Wayne N.F. (March 2005)

Designated motorized trails in the ORV areas allow access for fishermen (access to remote ponds in the Forest) and hunters (for game retrieval). Public comments received during the Forest Plan revision have also raised the issue that having legal ORV use provides access to some persons with disabilities or older users that perhaps would not otherwise be able to enjoy the Forest. Furthermore, we heard that the sport of ORV riding is a way for families to recreate together and strengthen family ties. ORV users have also expressed the need for space for a challenge and adventure that few places in the State can offer.

Determine if ORV use significantly effects silt volume in streams or drainages in 2.3 and 3.2 management areas.

Visual monitoring during the past several years concluded that erosion from the designated ORV trails has been kept to a minimum through continuous monitoring, maintenance, and occasional re-routing of trails.

Due to the sheer number of ORV riders on the Forest annually (estimated 79,000 visits in 2004) and the above normal level of precipitation the Forest received in 2004, the Forest's designated ORV trail system received noticeable amounts of trail

rutting, trail braiding/widenin, and soil erosion and displacement. Furthermore, unauthorized, off-trail use has caused increased erosion in a number of areas, especially at unauthorized stream crossings near the ORV trail system.



Resource impacts on the Hanging Rock Trail before maintenance (above) and after maintenance (below). (November 2004)



Increased law enforcement and rider education have both been used to curb this situation. Where the erosion has been found to be particularly bad, these sites have been repaired. Unauthorized user-developed trails are blocked and rehabilitated when resources are available. The Forest is also working with trail permit vendors, user groups, and volunteers to help educate riders about trail and land ethics, as well as assisting the Forest with trails maintenance needs.

Determine if ORV use significantly effects hunted and non-hunted wildlife populations. (Compare similar) 2.2 and 2.3, and 3.1 and 3.2 areas.)

Breeding bird survey routes were set up across the Forest in fiscal year 2003, including two routes in ORV areas. At this point, data from the survey can document only presence or absence of species. Survey data have not been collected over a long enough period to draw any conclusions on population trends.

Wildlife in the Wayne National Forest's designated ORV areas have been exposed to motorized use on designated trails since 1988.

12. Turkey and Deer Harvest Maps

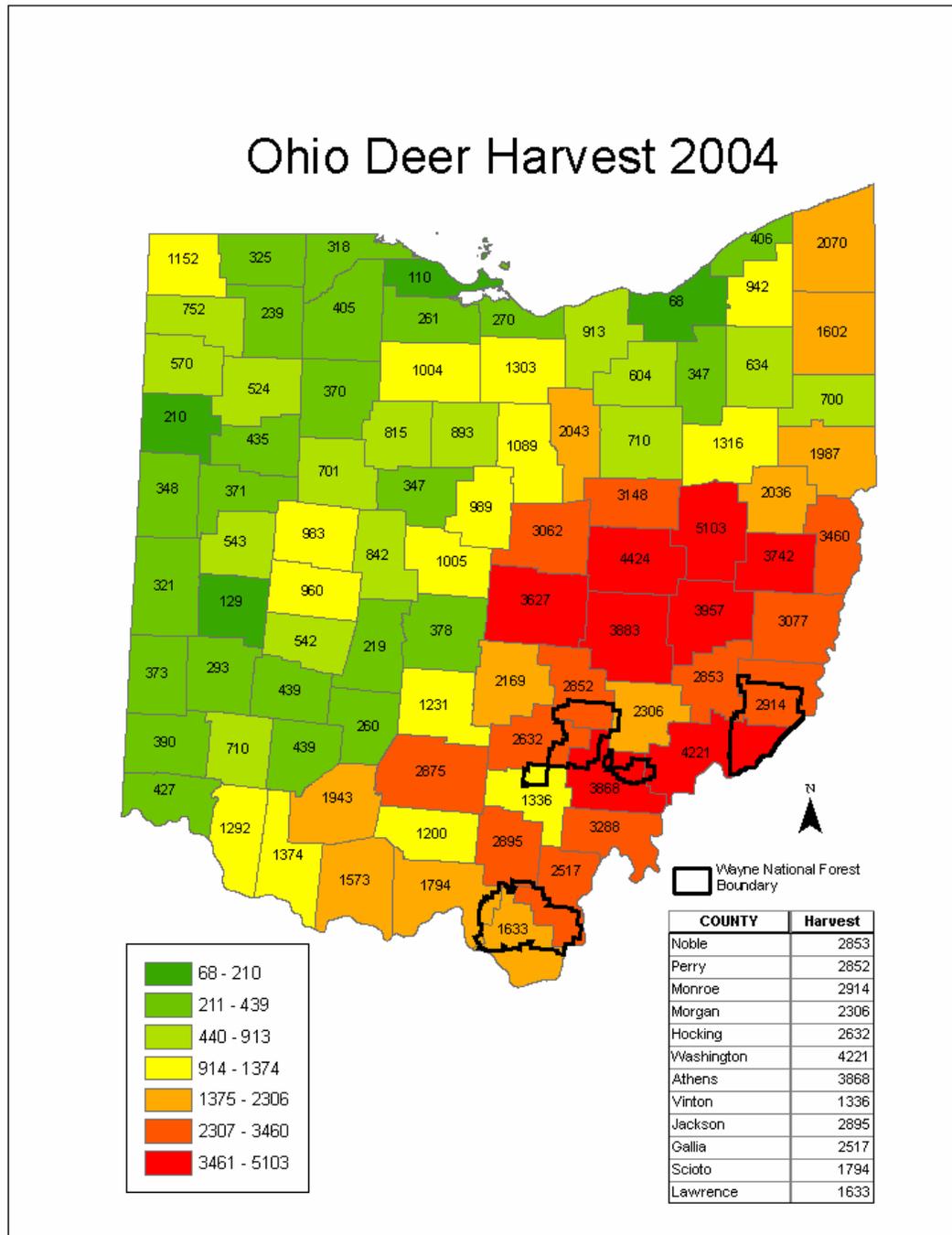


Figure 3. 2004 Deer Gun Harvest Numbers.

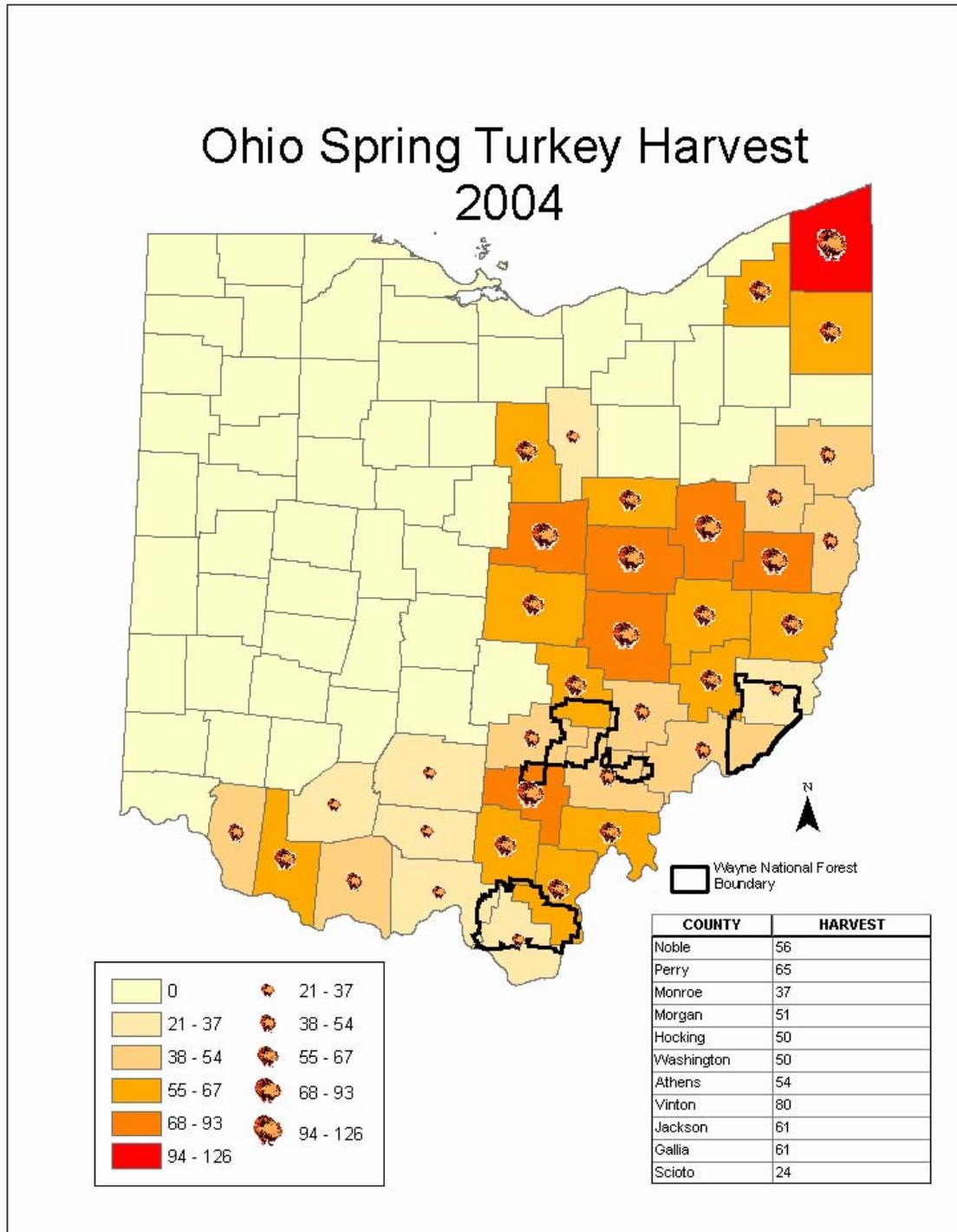


Figure 4. 2004 Spring Turkey Harvest Numbers.