Monitoring Report

for the

Wayne National Forest

Land and Resource Management Plan

Fiscal Year 2005

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

April, 2006

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Monitoring/Evaluation Report

Introduction

The Monitoring and Resource Evaluation Report documents monitoring of the Wayne Forest Land and Resource Management Plan (Forest Plan) accomplished during fiscal year 2005. This is the final Monitoring/Evaluation report for the 1988 plan, subsequent reports will be based on the 2006 Forest Plan.

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 2005. 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 fiscal year 2005.

Table 1. Forest Plan Upper Limit Projected Outputs (from Forest Plan Table 4 - 1). Compared To Actual Output for Fiscal Years 2005.

		(From Forest Plan) Average Annual Per Decade		
Item	**Unit of Measure**	**1986-1995 Planned**	**1996-2005 Projected**	**2005 Actual**
Recreation [1]				
Semiprimitive, Nonmotorized ROS	MRVD's	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	**14**
ORV Trail Const./ Reconst.	Miles	25.0	5.0	**41**
Wildlife and Fish				
Habitat Improvements (New Developments)				**0**
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	**0**
Range				
Grazing Use	M AUM's	1	1	**1.3**
Timber				
Total Volume Offered	MMBF	7.5	11.2	**1.374**
Hardwood Volume	MMBF	6.5	9.7	**0.694**
Pine Volume	MMBF	1.0	1.5	**0.680**
Reforestation	M Acres	1.02	1.11	**0**
Lands				
Purchasing Acquisition and Exchange	M Acres	2.9	2.9	**0.37**
Facilities				
Permanent Rd. Const.	Miles	2.2	1.8	**0**
Permanent Rd. Reconst.	Miles	6.6	5.2	**3**
Total Permanent Roads	Miles	8.8	7.0	**3**
Temporary Const.[5]	Miles	1.6	2.0	**0.5**
Temporary Reconst.[5]	Miles	4.8	6.0	**0.5**
Total Temp. Roads [5]	Miles	6.4	8.0	**1.0**
Roads Closed [6]	Miles	78.8	13.9	**0.9**
Cost				
Total Funds (2005 dollars)	MM $	6.71	6.71	**8.45**

[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 2005.

Description	Unit of Measure	FY 2005 Accomplishment
Above Project Integrated Inventories	ACRE	3187
Acres Acquired	ACRE	211
Administer Minerals Operations	OPERATIONS	370
Administering recreation special use permits	PERMIT	4
Approved Timber Management NEPA documents thru appeal & litigation, all funding sources.	DOCUMENT	2
Authorizations Administered to Standard	AUTHORIZATIONS	177
Boundary Line Marked/Maintained	MILE	2
Communication/Education/Interpretation in all recreation programs	PRODUCT	87
GIS Resource Mapping	QUARTER QUADS	2054
Grazing allotment administration to Standard	ACRE	1
Heritage Resources managed to standard	SITE	19
Improve Forest Vegetation	ACRE	149
Improve Range Vegetation	ACRE	86
Lakes Restored or Enhanced	ACRE	14
Land Management Plan (LMP) Monitoring and Evaluation Reports	REPORT	1
Land Management Plan (LMP) Revisions/New Plans Underway	PLAN	1
Land use proposals and applications processed	APPLICATIONS	11
Manage ECAP/AML	ACTIVITIES	4
Manage ECAP/AML	ACTIVITIES	1
Manage ECAP/AML	ACTIVITIES	12
Manage ECAP/AML	ACTIVITIES	1
Manage General Forest Areas	DAY	493
Manage Geologic Resources and Hazards	ASSESSMENT	2
Miles of Road Decommissioned	MILE	1.05
Miles of Road Improved	MILE	3.5
Miles of Trails receiving maintenance	MILE	80
Miles of high clearance roads receiving maintenance	MILE	18
Miles of passenger car roads receiving maintenance	MILE	18
Miles of trail improved to standard	MILE	55
Non-wildland/urban interface (non-WUI) high-priority hazardous fuels treated	ACRE	437
Noxious Weed Treatment	ACRE	153
Oil and gas applications processed in prescribed timeframes	APPLICATIONS	13
Operation of Developed sites to standard	PAOTS	269601
Process Mineral Operations	OPERATIONS	0
Provide Wildlife Interpretation and Education	NUMBER	12
Soil & Water Resource Improvements	ACRE	10
Special products permits administered	PERMIT	225
Terrestrial Wildlife Habitat Restored or Enhanced	ACRE	207
Timber Volume Harvested -- all funding sources	CCF	1443
Timber volume offered for sale – Appropriated (firewood)	CCF	84

Description	Unit of Measure	FY 2005 Accomplishment
Timber volume offered for sale -- Appropriated	CCF	1147
Timber volume offered for sale -- Salvage Sale	CCF	1058
Total biomass from low-value and small diameter trees used for energy	GREEN TONS	336
Total miles of high clearance road maintained at objective maintenance level (Level 1 & 2)	MILE	70
Total miles of passenger car road maintained at objective maintenance level (Level 3, 4, & 5)	MILE	18
Total trail system miles meeting standard	MILE	243
Wildland/urban interface (WUI) high-priority hazardous fuels treated	ACRE	1803

2. Document measured prescriptions/effects

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

Two commercial timber sales were prepared for sale in 2005 from the Ironton Heavy Fuelwood Decision of January 2004. The following table displays the volume sold from these projects. The prescription for these projects called for reducing fuelwood and wildfire suppression difficulties. Marking guidelines called for removing trees that are on the forest floor and are over 6 inches in diameter; trees that are still standing but have less than 25% live crown; trees along access routes or landings; and trees presenting a safety hazard to crews working in the area. Monitoring during the marking and cutting process indicates the following:

- Mortality is occurring as predicted in trees with heavily damaged crowns;
- Many of the down trees cruised as sawlogs had deteriorated to pulpwood by the time the sale was cut;
- Criteria to reserve a specified number of roost trees for the Indiana bat allowed markers to remove more of the damaged trees; and
- The objective to reduce the fire hazard and suppression difficulty was met.

Off-Highway-Vehicle (OHV) trail construction consisted of 5 miles of new trail, and 55 miles of trail maintained to standard. While new trail construction does impact affect the productivity of the immediate location of the trails the change is not considered to be significant.

Table 3. Wayne National Forest Volume Sold 2005.

Sale	Acres	Volume	Cut
Athens Ranger District			
Dugan Ridge	64	947ccf	0
Burr Oak	10	201ccf	0
Ironton Ranger District			
Olive Salvage	244	1058 ccf	0

ccf = one hundred cubic feet

Vegetation Management

Non-native Invasive Species (NNIS)

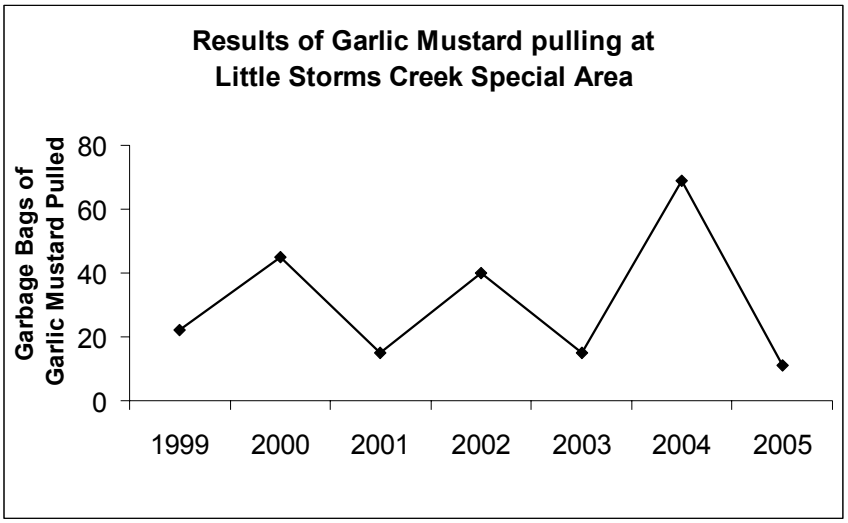
Garlic Mustard

After 6 years of hand pulling garlic mustard in the Little Storms Creek Special Area, our data indicate that hand pulling is not significantly decreasing garlic mustard. The data suggest that garlic mustard exhibits some cyclical trends in abundance, based on the amount hand pulled. Our annual efforts are at least keeping it from spreading into unaffected areas. Non-native invasive plant inventories completed during summer 2005 showed that in addition to garlic mustard, there is an abundance of Japanese stiltgrass and Japanese knotweed now lining the banks of Little Storms Creek.

Illegal OHV use is occurring and field reviews suggest this illegal activity is causing the spread of garlic mustard and Japanese stiltgrass. Garlic mustard and Japanese knotweed are coming in along Little Storms Creek from the north; the source appears to be on adjacent private property.

We believe spot treatments with glyphosate (an herbicide) on the basal leaves of garlic mustard (during the late-season), on the cut stems of Japanese knotweed, and patches of stiltgrass will be necessary to control invasive species in this special area.

Figure 1. Garlic Mustard Pulled.

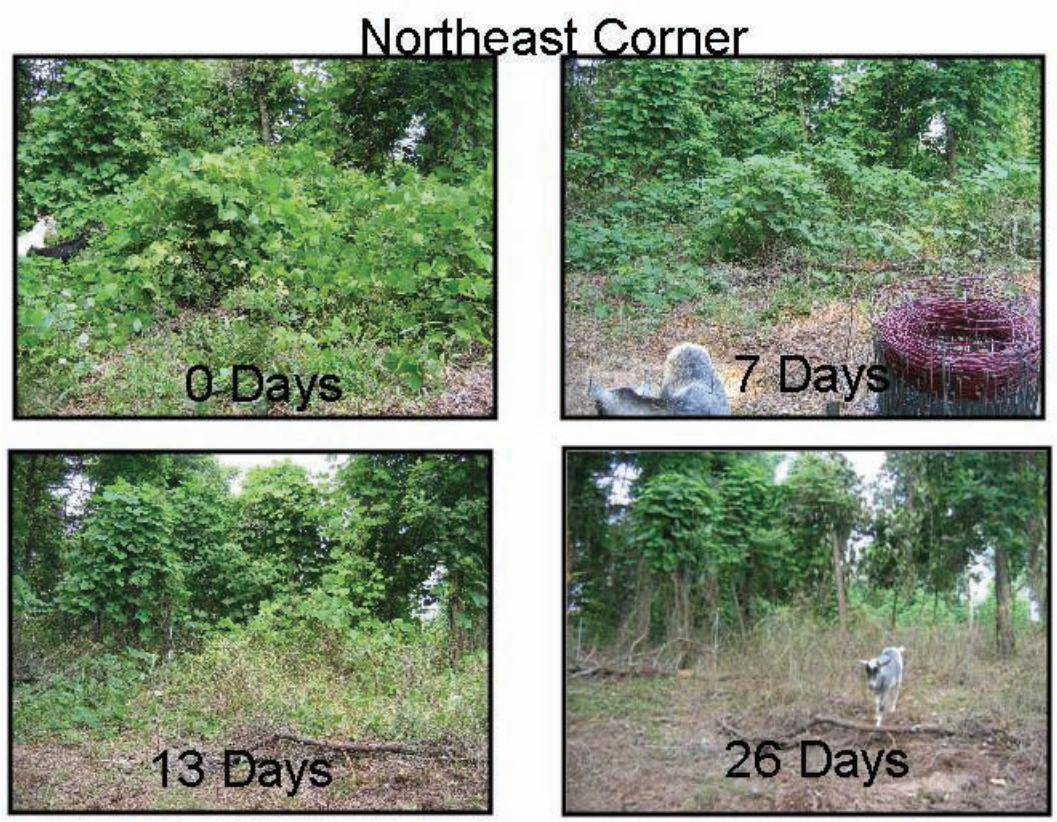


Kudzu

A kudzu infestation identified on the Ironton Ranger District has increased to about 3 acres in size. In June 2005, we fenced a 0.3 acre secluded part of the infestation and brought in four goats to see if this mechanical method would effectively control the kudzu. The goats were rotated between three units in the fenced area, and after each rotation the kudzu seemed to rebound more slowly (visual observation). The goats reduced kudzu cover by 90-100% in the fenced area. Each goat ate about 63 square feet of vegetation each day, but did not eradicate it. It is expected that the kudzu will sprout and grow once again in spring 2006.

Using goats to control this kudzu patch may not be the most feasible method available to us. Using goats for mechanical control is costly. In addition to constructing the fenced area, Forest Service employees had to drive to the site and visit the goats daily to provide fresh water and to check on fencing. Prior to returning the goats to their owner, we had to purchase and feed them alternative forage to ensure all kudzu material was purged from their systems to avoid any off-site infestations.

In order to treat the whole patch, we will need to expand the fenced area. But, increasing the fenced area will result in the goats being visible to people driving by the area, possibly leading to harassment of the goats. Four satellite patches of kudzu have spread from the initial infestation site to sites deeper into the woods. Such a fast spreading plant species warrants consideration of a control method that can occur quickly and one that can truly eradicate the species. For these reasons, we are considering the use of an herbicide.



NNIS Inventories

Biologists conducted field inventories in specific areas of the Wayne National Forest to catalog and map NNIS infestations. These areas included the Gore-Greendale project area on the Athens Unit, the Binion Fire area on the Ironton Unit, and several Special Areas Forest-wide. Field data were placed in our NRIS-Terra database, adding to those data collected along recreational trails during the past two summers.

Most of the NNIS in the Special Areas and in the Gore-Greendale project area were along current and old roads, railroad beds, cemeteries, and illegal ATV/horse trails. The NNIS consist of a multitude of species: Japanese stiltgrass, multiflora rose, several honeysuckle species, tree of heaven, Oriental bittersweet, and garlic mustard.

The Binion Fire (an uncontrolled wildfire) was at an intensity much greater than any prescribed fire, and subsequently led to exposed mineral soil and increased light levels. These understory forest conditions could now facilitate the establishment and spread of NNIS already present in and around the burn area. We surveyed firelines and some pre-existing ORV trails in the northern section of the burned area to assess what NNIS were present, along with their abundance. Those found included multiflora rose, Tartanian honeysuckle, Japanese honeysuckle, Japanese stilt grass,

and garlic mustard. We received special funding to mechanically treat NNIS in the Binion Fire area during Fiscal Year 2005. We will be conducting an administrative study to evaluate the effectiveness of the mechanical treatments on controlling Japanese stilt grass (i.e., hand pulling, cutting with weed trimmers, and seeding with native cutgrass).

Native Plants and Communities

Yellow Fringed Orchid

Woody encroachment that leads to increased shade can be detrimental for the yellow fringed orchid, a Regional Forester sensitive species. This population seems to have responded well to burning initially, but the regrowth of shrubs and saplings has severely shaded the population 5 years after the last burn. A spring prescribed fire was used to increase the light conditions of a known yellow-orchid site on the Marietta Unit in 2005. A follow-up survey was conducted in spring 2005 to evaluate the effectiveness of the fire.

One yellow-fringed orchid was found during the survey, but this plant had aborted prior to setting seed. This one plant was found in a full sunlight location, leading botanists to believe that more intense management of the understory is needed to provide more light to the forest floor. The prescribed fire killed a lot of tree seedlings and saplings that were shading out the yellow-fringed orchid population, but resprouting of these trees was noted. The low number of orchid plants could be due to an extremely dry season, therefore biologists will revisit the site in 2006 to assess the population and habitat conditions.

Botanical experts suggest that if burning is to be used to control this population, the regime needs to be implemented frequently enough to keep regrowth of woody stems in check. Burns should also be initiated in the fall or very early spring (early March) to avoid damaging the growing tips of emerging plants.

Wildlife

Bobcat tracks were observed during routine monitoring trips to the Bluegrass and Markin Fork timber sales during 2004 and 2005. The Forest Service timber sale representative was checking temporary roads for any signs of erosion and found the tracks in a wet area on the road. Pictures of the tracks were sent to the Ohio Division of Wildlife, where research biologists confirmed they were indeed bobcat prints. The bobcat is a Regional Forester sensitive species. Sightings of this animal remain rare, but the Ohio Division of Wildlife reports that there have been 74 verified bobcat reports since 1970, with 65 of the reports since 1990.

Watershed Restoration

Carbon Hill Bat Gate

Past underground mining activities left surface openings that are safety concerns. When openings are not sealed upon abandonment, these opening become attractive nuisances. Some people, and hapless animals, may wander through these openings to explore inside the mine and the result can be deadly. In some cases the atmosphere in an abandoned underground mine may be unfit or poisonous to breathe and the condition of the roof rock may be so deteriorated that collapse can occur without warning. Closing known mine openings is necessary to protect the public. However, some open mine portals access underground chambers that possess suitable bat roosting habitat, or these openings function as part of an overall air flow system that may be important to roosting bats using another part of the underground mine.

There was evidence that the public was accessing the Carbon Hill portal. Upon evaluation, we noted that it possessed strong air flow. Rather than backfilling the opening, we chose to install a bat-friendly gate to preserve the air flow patterns and microclimate of the mine.

Carbon Hill mine portal before and after installation of a bat-friendly gate.

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

Table 4. Budget Figures for Fiscal Year 2005 (MM$).

	2005
Forest Plan Budget *	6.71
1997 Forest Leadership team Estimate inflated to 2005 dollars	10.40
Actual Budget	6.50
Earmarks and competitive grants added to Budget	1.95
Total Budget for Fiscal Year (MM$)	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 2005.

	Acres Surveyed	Acres Fully Stocked	Acres NOT Fully Stocked
Combined Districts	38	38	0

The areas planted on 2002, and surveyed in 2005, were all stocked adequately to meet habitat needs.

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

Recreation

Developed Recreation Areas

Ironton Ranger District

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. Larger projects included demolishing the beach house, filling in and gravelling the old treatment wetland for a possible turn-around at the beach parking lot, removing the trees and under growth from Big Bend Overlook area to re-establish the vista of Lake Vesuvius, and the installation of a new accessible drinking fountain at the Vesuvius Furnace Picnic area.

All picnic grounds and trailheads on the Ironton Ranger District were open on time and maintained to standard. Information boards throughout the Vesuvius Recreation Area were replaced and two restrooms were installed on the Hanging Rock Trail system.

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 2005:

- 124 miles of hiking, horse and OHV trails were cleared of downed trees and vegetation, and patrolled
- Repaired and seal coated Hanging Rock and Lyra trailheads parking area
- Performed heavy maintenance on 36 miles of trails, re-surfaced and/or re-established water bars and lead out ditches
- Inventoried possible new trails in the Kosmos area
- Rehabilitated Paddle Creek tie stalls were

Hiking trails in the Symmes Creek area were not maintained, due the redirection of resources to Athens Ranger District. This was brought about by a substantial flooding event causing a large amount of trail damage.

Athens District

Maintenance activity was conducted on 45 miles of the Monday Creek OHV Trail, 2 miles of the Stone Church Horse Trail and 10 miles of the North Country Trail. Most maintenance activity is directed at keeping soil on the trail and not moving downslope into local streams, at hardening soft spots where water holes form, or at clearing vegetation (Marietta). Table 6 displays fiscal year 2005 maintenance and improvement activities.

Table 6. Trail Maintenance Athens District.

Athens Ranger District	
Monday Creek ORV Trail Maintenance	30 miles (Athens)
Monday Creek ORV Trail Improvement	15 miles (Athens) 20 bridges 2 culverts
North Country Trail Maintenance	8 miles (Marietta)
North Country Trail Improvement	2 miles (Athens)
Other Hiking Trail Maintenance	2 miles (Athens)
Horse Trail Improvement	1 mile (Marietta) 1 mile (Athens) 3 bridges (Athens) 1 culvert (Athens)

Unauthorized motorized use continued to be an issue in fiscal year 2005. Forest Plan standards and guidelines limit the ORV trail system to vehicles 50” or less in width, however tracks of vehicles over 50” have been found indicating unauthorized use. Unauthorized ORV paths can be seen leading from private lands onto the Forest. Contact with landowners has been initiated when these paths lead to specific locations. The Forest does not have the resources to block every illegal trail found every year.

A culvert with riprap protection against washout was installed on the Monday Creek ORV trail after 2004 flood damage.

Roads

Ironton District

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 Hurricane Charley and the winter flood events. Road slips on the Vesuvius and Pine Creek roads were assessed and contracts were awarded to make repairs.

Mineral and Special Use Monitoring

Ironton District

A total of 26 special use permits were inspected in 2005, and four trespasses were investigated. Thirteen new special use permits were processed on the Ironton Ranger District.

Athens District

The Athens Ranger District monitored mineral permits for Outstanding Mineral Rights, Reserved Mineral Rights, Private Acquired Mineral Rights, and Bureau of Land Management (BLM) Federal Mineral Rights. The table below shows number of wells associated with the leases monitored and the number of new wells associated with each type of lease in fiscal year 2005.

Table 7. Mineral Permit Monitoring.

Monitoring of mineral permits:	Athens Ranger District Number in compliance	New wells in 2005
Outstanding Rights 55 leases	123 wells	1 new well
Reserve Minerals 50 leases	118 wells	1 new well
Private Acquired 50 leases	74 wells	1 new well
BLM Federal 30 leases	55 wells	1 new well (and 2 other application for permit to drills approved on the Marietta Unit)
Total	370 wells	4 new wells

Approximately 33% of the 1,250 federal and private wells on the Wayne National Forest are inspected by the BLM, the Forest Service and/or the Ohio Department of Natural Resources – Division of Mineral Resources 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 in relation to minerals management. Three new federal wells were drilled in the past 5 years – the Drake 4B, the Drake 4C, and the Chaney 2. 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.

Four new wells were drilled on the Marietta Unit. Two orphan wells were plugged in cooperation with BLM on the Marietta Unit, and one was plugged on the Athens Unit.

A field review of two federal oil and gas leases was conducted (Drake 4B and Drake 4C) in July 2005. No seeding recommendations were given for the Drake 4B project; Japanese clover was used to revegetate disturbed areas (a species not included on the Wayne's seed mix). The Forest botanist recommended that the Drake 4C area be allowed to reseed itself with native vegetation from the immediate area.

At Drake 4B, the Japanese clover covered the disturbed area and seemed to have reduced the ability for native species to seed into the area. Some species of lespedeza are considered invasive. A dense planting of a legume, such as Japanese clover, may alter the physical characteristics of the soil (increases nitrogen content), which in turn could affect future establishment and succession of other species in the area. The natural seeding of Drake 4C allowed for a much more diverse and natural habitat then the seeding of Drake 4B site. Species found in the area included St. John's wort, smartweed, chicory, ragweed and multiple other forbs and

graminoid species. No areas of bare soil were seen, besides those on the access road.

This monitoring effort showed how important it is to use species on the Wayne's seed mixture list when seeding is considered necessary. However, it seems that the natural seeding approach for Drake 4C was very effective and should be considered for future projects similar in nature.

All operating equipment and heavy machinery was required to be washed of mud, soil and vegetation prior to entering the Drake 4C project area. The lack of non-native invasive species growing in the surrounding area after installation of the well suggests that the equipment cleaning clause for Drake 4C seemed to be effective at limiting spread of non-native invasives.

Wildlife, Fisheries, and Native Plants

Biological Evaluations

The Forest Plan calls for programs and activities to be reviewed through biological evaluations to determine their effect on threatened, endangered and sensitive species. Forest Service biologists completed 37 biological evaluations and one biological assessment during 2005.

Special Areas

The Felter Ridge Special Area contains a state significant Appalachian oak upland forest community (i.e., chestnut oak, red oak, red maple, sourwood, and Blackgum) that grades to a mixed mesophytic forest community (i.e., red oak, beech, white oak, and poplar). A timber trespass occurred within the Felter Ridge Special Area in 1991, but no one had yet to determine how the trespass affected the state significant community. The trespass area occured on the northwest facing slope of the western drainage. The lower benches to the stream were selectively cut with only large beech trees remaining. The young understory trees were predominately poplars. The upper slopes of this drainage were not cut and still have large oaks and an open understory.

The ODNR Division of Natural Areas and Preserves Natural Heritage database shows the state significant area occurring in the same place as the state significant upland forest community.

However, during an August 2005 field review we determined for sure, that the timber trespass area did not occur in the state significant upland forest community. Non-native invasive plant species threaten the integrity of this Special Area. Both the access road and the timber trespass area

contain the non-native invasive species tree-of-heaven and multiflora rose, with Japanese honeysuckle, ground ivy, lespedeza and Japanese stiltgrass occurring along the road into the Special Area. The stiltgrass was a small population (40 square feet) and all individuals were pulled during the field review.

We found that the understory trees (seedlings and saplings) of the state significant portion of this forest are now primarily composed of maple, ash and beech. There are very few oak or hickory represented. In addition, the tree-of-heaven and the other non-native invasive species have seeded into the trespass area, or have the potential to spread and degrade the quality of this state significant community. These issues should be addressed when developing the management plan for this Special Area.

Bat Boxes and Bridges

Bat boxes were connected to the underside of the Monday Creek ORV bridge. Guano droppings were observed below one box during an inspection, indicating bats are using this artificial roosting structure. A second bat box that was installed on the west end of the bridge was found on the ground about 100 feet upstream of the bridge. Heavy bat boxes do not float upstream, so we know this box did not fall off the bridge – someone removed the box and moved it upstream. A third box that was installed was never found.

Bat box installed under an ORV trail bridge was used by bats.

Watershed Restoration

Snake Hollow

In September 2002, a federally endangered Indiana bat was captured at a mine opening (Mine #1) in Snake Hollow (Hocking County) during a fall bat swarming survey conducted in advance of a watershed restoration project. The U. S. Fish and Wildlife Service requested that we monitor Mines #1 and #2 in the vicinity of the Indiana bat capture for bat use after the project is finished and that we monitor the area for illegal OHV use or

other human visitation. In addition, creation of small ephemeral pools that resemble road ruts were to be constructed in the equipment access road as a project mitigation measure since a small beaver ponds had to be drained to complete the acid mine drainage restoration work. The restoration project took place during the summer and fall of 2004.

Approximately 50 bats (relatively high activity level) were observed flying over a nearby pond on September 18, 2005. On September 23, 2005, the two mines in the Snake Hollow project area were watched from 6:15 pm until 8:15 pm; we confirmed at least 3 bats exited Mine #1, but no bats left Mine #2. A bat detector survey was conducted on September 27, 2005. The bat detector picked up one bat entering or exiting Mine #1, and a minimum of 4 bats exiting Mine #2. A mistnet survey will be conducted at these mines in the future.

Guard rails were installed along the restoration project's access road at two points adjacent to the OHV trail. Also, multiple trees were laid down in groups of 2 or 3 across the access road at several points between the OHV trail and the stream crossing further back in the hollow. There is some evidence of illegal OHV traffic through the pines next to the acid beaver pond (adjacent to the designated trail), but otherwise, there does not appear to be any unwanted traffic further down the access trail or around the Indiana bat mine.

Once the access road was no longer needed and was ready to be put to bed, three small ephemeral pools were constructed in front of Mine #1 to enhance bat foraging habitat. The pools were about 10 feet x 12 feet and one was perhaps 2-3 feet deep. The other two were dried up, but there was evidence that they had held water recently. For future projects, we need to construct such pools differently. We want to simulate road ruts which are used by bats and other animals for drinking and by amphibians for breeding; the pools should be situated in open corridors not currently used by motorized traffic and should be approximately 2 feet wide, 8-10 feet long, and not more than 1.5 feet deep.

Kimble Creek

A 1995 flood event caused a release of acid mine drainage from an abandoned coal mine along Kimble Creek, which resulted in a fish kill along a 7-mile stretch of Kimble and Pine Creeks. The Forest Service monitored changes in water quality and in the fish community after the mine collapse, and then installed a pilot pyrolusite bed in 2002 at the mine to remediate the effects of the acid mine drainage. A pyrolusite bed is a form of bio-remediation, where microbes (bacteria) are used to help breakdown heavy metals in the water (e.g., iron). In June 2005, we conducted an electrofishing survey below the Kimble Creek mine seep to compare changes to the fish community that may have occurred since

implementation of the pyrolusite acid mine remediation pilot project.

After the mine collapse, water quality in Kimble Creek below the mine seep was unsuitable for fish. The pH of mine seep prior to the pilot project ranged from 2.2 – 2.8, but after two years (in 2004) the effluent was discharging at a pH of 7.1. The water collection system became plugged in late-2004 and the pyrolusite bed stopped functioning in spring 2005. At the time of our fish survey (June 2005), the mine seep was running at a pH of 3 because of the non-functioning beds, but water from upstream raised the pH of the water in Kimble Creek below the seep to 5.

In 1996, we captured no fish below in Kimble Creek below the mine seep. In 2005, we captured 12 individuals representing four species (creek chub, green sunfish, johnny darter, and creek chubsucker). We also observed a school of creek chubs (20+ individuals) and 2 green sunfish, a snapping turtle and some crayfish. We noted that the riparian area has revegetated since our 1996 sampling effort because the private landowner's cattle no longer access the stream for drinking. While the stream substrate is still covered by fine flocculent material (a by product of the acid mine drainage mixing with normal stream water), the amount of flocculent is clearly less than what was present in 1996.

While the pyrolusite bed was not functioning at the time of the survey, it was clear that it and the improved riparian conditions have led to improved water quality downstream of the seep, and a return of some fishes. The Forest Service pulled the pilot pyrolusite project out in late-summer 2005 and replaced it with a full-blown functioning pyrolusite bed system. This remediation work should aid in further recovery of the stream.

Fire Management

Big Bailey Prescribed Fire

A field review of the Big Bailey Prescribed Fire Area (Athens Unit) was conducted on March 18, 2005, approximately 11 months after the prescribed fire occurred. The purpose of the visit was to monitor whether mitigation measures relating to fireline construction identified in the decision document were implemented, and the effectiveness of these mitigation measures.

Mitigation 1 - To reduce the likelihood of introductions and invasions of non-native invasive species, it is recommended that all equipment be cleaned of soil and vegetation debris before entering the project area. Equipment cleaning could be done at any commercial car wash facility or other facility with a high-powered water hose. The project leader should inspect the equipment on-site to make sure it is free of soil and vegetation.

Finding - The bulldozer was cleaned prior to coming on the project site. It stayed for two days and was brushed off by hand before it left the project site.

Mitigation 2 - Confine all disturbances to the already compacted old roadbed. In areas without an old roadbed, use hand installation to prevent compaction of soils.

Finding - The monitoring group observed that this mitigation measure was followed. The firefighters reported that the firelines worked well during the burn.

Mitigation 3 - Install ORV obstacles and signs at end of fire lines to prevent illegal ORV use of the fire line.

Finding - The monitoring group did not see evidence of illegal ATV use, but 4-Wheel Drive vehicles were going around the Well Road gate. The firefighters shielded the fire line with uncut vegetation until just before the fire, and also avoided building line in a straight line off roads (i.e., added a curve), so as to minimize discovery of fire line by ORV vehicle drivers. The constructed obstacle at the oil and gas entrance has been removed without permission.

Mitigation 4 - Replace removed topsoil and litter back to the fire line after the burn, and seed the southern half (most visible to illegal ORV users) with a native seed mix specified by the Forest botanist. Replace topsoil to the northern portion of the fire line, without seeding, to allow natural re-vegetation of the area.

Finding - On the East Dozer Line, so little material needed to be bladed from the road that no effort was made to replace material. Natural leaf fall occurred and covered the dozer line. Well Road is covered by grass near the county road, but 4-Wheel Drive vehicles were driving around the gate and over it. There were deep ruts before and after the gate.

Other monitoring observations: (1) The monitoring group agreed that using a small bulldozer to construct fireline on existing old roads is effective and efficient for spring burns. The dozer lines stabilize during the growing season and are afforded a good cover of leaves during the fall. The use of a small bulldozer to construct firelines on old roads for fall burns may require more erosion mitigations, such as water diversions, seeding and mulching to minimize soil erosion. (2) A few hazard trees were cut down to protect firefighter safety. It was clear that the crews looking for and removing hazard trees were very careful and conservative.

As an example, the group observed a very large but dying tree that had been retained, obvious because leaf litter was raked away from its base. Subsequently, wind and rain caused it to fall across the dozer line sometime this past fall or winter. (3) Fire marks on trees and understory vegetation showed that a mosaic burn occurred. In places, the low intensity fire burned slightly hotter and fire marks up to 2 feet in height were present. The understory was more open in these areas.

Forest Archaeologist Ann Cramer is standing on the handline. Note that evidence of the handline is hard to see; saplings have resprouted on the line and wildlife species are using it for a trail.

Forest Archaeologist Ann Cramer and Wildlife Biologist Katrina Schultes are pictured on the dozer line that was constructed on an old existing road. Note the covering of leaf litter and growth of herbaceous plants.

Evidence that 4-wheel drive vehicles are going around the Forest Service gate we installed used to stop vehicular traffic on the firelines. In addition, the "Foot Travel Welcome" and reflector signs have been damaged by slugs and shotgun pellets.

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:

OHV's continue to leave designated trails and travel across National Forest System land and private property. These motorized vehicles adversely affect lands by degrading soil and water quality and increasing litter and noise. To help eliminate or minimize the effects of illegal off-trail riding, the Forest has applied the following measures.

A. Issue every rider with a map when they purchase a trail permit

B. Actively sign designated trails

C. Patrol trails with Law Enforcement and Forest Protection Officers, especially during high-use periods

D. Sign, close/block, and rehabilitate illegal trails

E. Routinely maintain legal trails to a safe standard to help reduce unauthorized off-trail riding.

The Wharton stream restoration project was completed in 2005. This project diverted acid mine drainage away from a private residence. The size of the project was approximately 1 mile of stream (2 acres improved). Preliminary results indicate the project was successful.

Effects upon National Forest land by other government agencies

The Ohio Department of Transportation (ODOT) continued its work on the Route 33 Bypass around Nelsonville. The preferred alternative does cross some National Forest Service land near Nelsonville. The Wayne has no decision-making role in this project but is working with ODOT and the Federal Highways Administration on mitigation efforts. The following documents and mitigations show are summary of Route 33-Bypass activities for 2005.

Substantial progress was made on the project throughout 2005 including the following documents:

- Biological Opinion for Federally-Listed Species, April 2005
- Final Environmental Impact Statement, August 2005
- Biological Evaluation, August 2005
- Record of Decision, August 2005.

Significant mitigations include minimization of the footprint of the highway construction, inclusion of at least four wildlife crossings, provisions to preclude invasive species, reforestation with native species, ODOT funding for new ORV trails and a large culvert to reconnect impacted trails, and ODOT funding of a liaison position to inspect for field compliance with NEPA stipulations and coordinate during the design phase. All other terms, conditions, stipulations and mitigations are addressed in the above documents.

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.

Breeding Bird Survey

A spring breeding bird survey was conducted during May and June, 2005 on the Wayne National Forest, following the survey protocols established in 2003. A total of 4,717 birds (101 species) were observed during the survey, including 8 of the 10 MIS. We have compiled a list of the birds we have observed during the 2003-2005 survey and included it as an appendix to this monitoring report.

The following table summarizes the observations for the MIS during the 2005 survey.

Table 8. MIS Surveys

	Percentage of Routes	Number of Individuals	Relative Abundance
Common yellowthroat	78	127	2.69
Field sparrow	43	82	1.74
White-eyed vireo	78	78	1.65
Cerulean warbler	57	53	1.12
Pileated woodpecker	78	35	0.74
Pine warbler	35	32	0.68
Eastern bluebird	52	29	0.61
Wood duck	43	20	0.42

Ruffed Grouse Drumming Surveys

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 has conducted five drumming survey routes through the Forest since as early as the 1970s. The average number of male drummers per stop for each of the five routes was as follows for 2005: Kimble Ridge, Gallia County (0.15 drummers/stop); Telegraph Ridge, Lawrence County (0.05 drummers/stop); Graysville, Monroe County (0 drummers/stop); Monroe Township, Perry County (0.15 drummers/stop); and Pine Ridge, Washington County (0.15 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. The Division initiated two additional drumming count routes in the Wayne National Forest in 2005: Big Bailey/Utah Ridge, Athens County (0 drummers/stop) and Hanging Rock, Lawrence County (0 drummers/stop).

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. Some of the disturbance created by the ice storm on the Ironton Ranger District in 2003 may provide habitat for the ruffed grouse, and it is possible numbers could increase in parts of the District.

Frog and Toad Call Surveys

Five Ohio Frog and Toad Calling Survey routes were run during 2005. 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.

Table 9. Frog and Toad Surveys

	Route 71 Lawrence Co.	Route 72 Gallia Co.	Route 91 Athens Co.	Route 104 Athens Co.	Route 119 Hocking Co.
American toad	X	X	X	X	X
Spring peeper	X	X	X	X	X
Mountain chorus frog		X		X	X
Gray tree frog	X	X	X	X	X
Cope's tree frog			X	X	
Green frog	X	X	X	X	X
Bullfrog	X	X	X	X	X
Leopard frog			X		
Pickerel frog	X	X	X	X	X
Wood frog			X		
Blanchard's cricket frog	X				
Total Species	7	7	9	8	7

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. In 2004, it was heard calling only on the Lawrence County route at site #2 (Hanging Rock Pond #18) during the May and June sampling periods. In 2005, we heard it calling at sites #2, #7, and #10 during May and June.

Fish Surveys

The Forest Service partnered with Otterbein College to inventory the fishes in Pine and Symmes Creek during 2004 and 2005. A total of 178 sites were sampled during these two years, and these data are now being input into our Natural Resource Information System database for use in future analyses. During the electrofishing and seining surveys, all fish were counted – including management indicator species. These data will be shared with the Ohio EPA so that the Index of Biotic Integrity can be calculated for each site.

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 2005 accomplishments are provided in this monitoring report.

Habitat Protection and Improvement

Incidental Take

Table 10. Habitat Protection and Improvement

Type and amount of Incidental Take Allowed in the BO, as amended, through September 30, 2006	Amount of incidental take accounted for upon completion of the NEPA and FWS concurrence processes, October 2001-September 2005	Actual amount of incidental take (i.e., potentially suitable Indiana bat habitat affected on-the-ground), October 2001-September 2005
Permanent Loss of Indiana Bat Habitat		
Coal strip mining (2,100 acres)	0	0
Road construction (94 acres)	48.86	12.88
Trail construction (160 acres)	11.75	2.45
Oil and gas development (25 acres)	10.35	2.95
Special use permits (125 acres)	3.55	2.80
Total	**74.46 acres**	**21.08 acres**
Alteration of Indiana Bat Habitat		
Timber harvest (7,365 acres)	2,415	136
Timber stand improvement (2,500 acres)	0	0
Prescribed fire (9,527 acres)	5,260	1,282
Creation of wildlife openings (352 acres)	4.50	0
Closing underground entrances (250 acres)	60.45	37.50
Total	**7,739.95 acres**	**1,455.50 acres**

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.

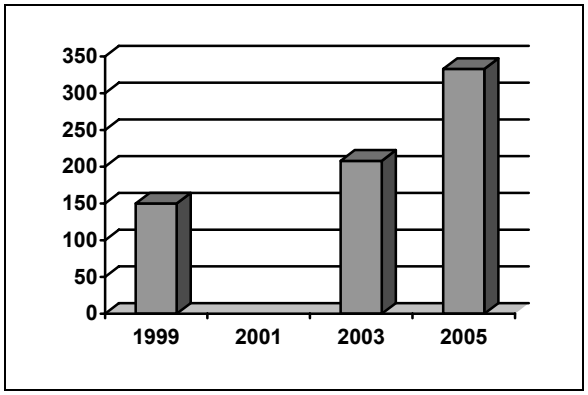
Through the incidental take statement in the 2001 Biological Opinion, the U.S. Fish and Wildlife Service acknowledged up to 125 trees may need to be removed during the Indiana bat non-hibernation season through 2006. Removal of hazard trees can occur anytime during the year, but employees make an effort to fell hazard trees during the Indiana bat hibernation season when individuals are wintering in caves and mines. In 2005, nine trees with Indiana bat roost tree characteristics were removed in the Oak Hill Campground and Furnace Shelter areas at Lake Vesuvius to ensure visitor safety. Between 2001 and 2005, only 20 hazard trees with roost tree characteristics have been removed during the non-hibernation season when the Indiana bat roosts in trees with exfoliating bark and other crevices.

Protection of Individuals

Winter Census of Indiana Bat Hibernaculum

The Forest Service monitored the population size of Indiana bats in the Woody Mine in 2005, a Priority III hibernaculum located on the Wayne National Forest.

Figure 2. Hibernaculum Population Monitoring



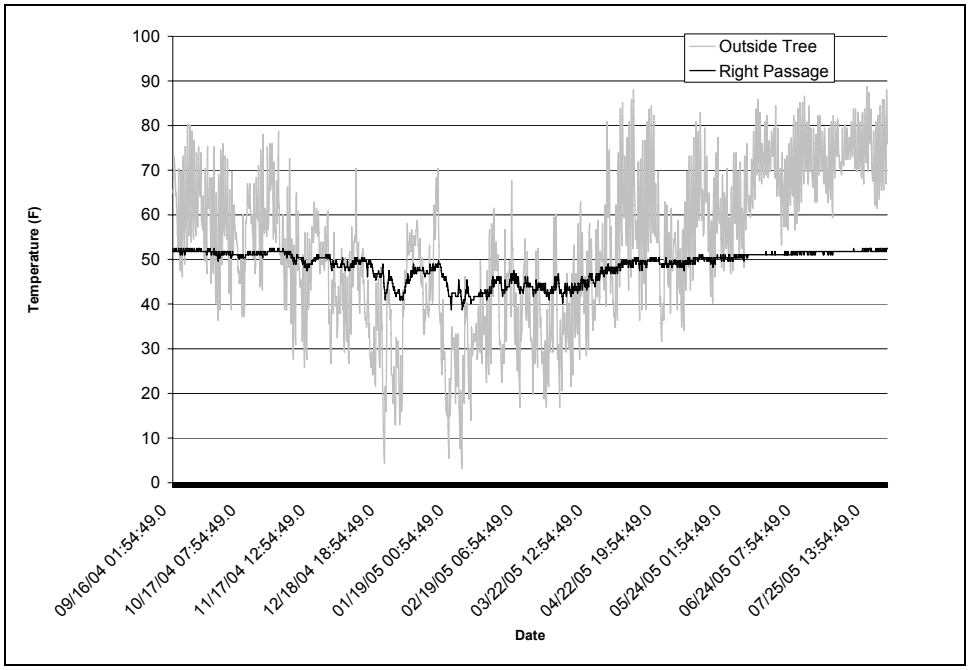
Number of Indiana bats observed in the Woody Mine during winter census efforts, 1999-2005. No census was conducted in 2001 a bat-friendly gate was installed at the entrance of the Woody Mine in 2001 to protect the Indiana bats from human disturbance.

Hibernaculum Microclimate Monitoring

HOBO® temperature and relative humidity data loggers were installed in the Woody Mine in September of 2004. In August 2005, Forest Service employees entered the mine and downloaded the data loggers. Only two of the five data loggers possessed viable data; humidity in the mine may have negatively affected their performance. Data were retrieved from the loggers installed on the tree outside the mine and from the logger installed in the right passage of the mine.

The following graph and table display how little the temperature in the mine fluctuated over this time period.

Figure 3. Hibernaculum Temperature Monitoring



Temperature in Fahrenheit inside and outside the Woody Mine during the general hibernation season, October 15 – April 15.		
	Tree Outside Mine	Right Passage in the Mine
Max Temp	88.01	52.49
Min Temp	3.7	38.72
Mean Temp	43.18	46.71
Optimal winter temperature for Indiana bats is estimated to be 37-46°F		

Inventory, Analysis and Monitoring

Discovery of Running Buffalo Clover

The running buffalo clover was discovered on the Wayne National Forest (Lawrence County) in June 2005. The population is located along a 20 foot section of an old OHV/skid trail. There are 34 rooted plants (ramets) in this area. The total population may be higher because individuals of non-stoloniferus clover species were present that could not be positively identified. Of the 34 individuals, 27 are located on the old road, and 7 are located on the edge of the old road.

The habitat is fairly open with scattered trees. Two large trees, an American elm and bitternut hickory, provide dappled shading. Canopy cover above this old road section averaged about 47 percent (measured with a spherical densiometer at four points and in the cardinal directions at each point). Japanese stiltgrass covers over 75 percent of the area occupied by the running buffalo clover. This non-native invasive species

is threatening to shade out or choke out the running buffalo clover.

Mid-winter Bald Eagle Survey

The Forest Service conducted three bald eagle searches in 2005 at Lawco Lake, Lake Vesuvius, and Timbre Ridge Lake. One adult eagle was observed at Timbre Ridge Lake. It was flying low across the water, up a little side arm of the big north arm of Timbre Ridge Lake, headed north. It was seen again on the way back to the office, alternatively flying and sitting in trees along Buck Creek (near Arabia, Lawrence County).

Two other bald eagle sightings occurred near the Wayne National Forest in 2005. An adult eagle was observed at Lake Logan (Hocking County) in January, and an adult was often seen along the Hocking River, near Guysville (Athens County), in May 2005.

Indiana Bat Fall Swarming Surveys

Surveys were completed to assess use of various underground coal mines on the Athens Unit in 2005. These surveys occurred during the Indiana bat fall swarming period in August and September. No Indiana bats were captured during the mistnet surveys.

Table 11. Bat Surveys

Hocking County	
Name of Mine	**Survey Type**
Lost Run 1	Night vision scope and Bat detector
Lost Run 3	Night vision scope and Bat detector
Snake Hollow	Night vision scope and Bat detector
Monkey Hollow 1010C	Mistnet
Perry County	
Name of Mine	**Survey Type**
Lost Run 2005	Night vision scope and Bat detector
Lost Run 3001 A & B	Night vision scope and Bat detector
Lost Run 3004 A & C	Night vision scope and Bat detector
Gore-Greendale 4005	Mistnet
New Straitsville 114	Night vision scope and Bat detector
Athens County	
Name of Mine	**Survey Type**
Substation Mine	Mistnet

Dragonfly Survey

Dragonflies and damselflies are one of the most visible indicators of wetland diversity and health, and their population changes allow monitoring of environmental changes. Dragonflies are of special interest

to Wayne biologists because two dragonflies are proposed for Regional Forester sensitive species designation on the Wayne, the green-faced clubtail and the rapids clubtail. Both have been found in a specific section of the Little Muskingum River on the Marietta Unit by members of the Ohio Odonata Survey.

The 2005 survey focused on ponds and wetlands. Each pond or wetland visited had 5-8 species of dragonflies and damselflies, with Frogwood Pond having the greatest diversity and numbers. A total of 12 dragonfly and 6 damsefly species were captured during the survey.

We learned the following from this survey which will aid us in future collecting efforts: (1) Wear clothes that blend well with site surroundings; dragonflies have excellent vision and while they will still see you, your movements aren't as noticeable; (2) A green net seemed to increase capture rates; (3) Be stealthy! It's easier to sneak up on a dragonfly and get within range than to haphazardly swing while it's in flight. The dragonfly will more easily dodge the net flying than sitting still. Netting in flight usually ends up in damages to the specimens themselves; (4) When a potential specimen is resting, swing the net from underneath and near the tail end. Dragonflies see the best from the front and top so using the "blind spot" allows for more accuracy from the collector; (5) Dragonflies seem to prefer sunny, breezy days. They will often fly into a breeze and seem to be more active in this type of weather. They will also be more abundant in late afternoon, just after the hottest part of the day.

Fish and Mussel Survey

We completed a two-year fish and mussel inventory project with Otterbein College. This partnership allowed Otterbein College students to gain valuable field experience, and provided the Forest Service with a tremendous amount of aquatic data. In addition to cataloguing the species present in the Symmes and Pine Creek watersheds, we made a special effort to locate rare species. No federally listed fishes or mussels were found, but three Regional Forester sensitive species were located: the eastern sand darter, western lake chubsucker, and salamander mussel.

Although we are still adding the data to our NRIS Water database, we are happy to report that we found a new population of eastern sand darters in Pine Creek and new sites for it in Symmes Creek. This fish has been declining in its range because siltation has degraded the sandy pools it requires, however its numbers on the Wayne have been increasing.

The survey crew found a healthy population of western lake chubsuckers in Black Fork and in the upper areas of Symmes Creek. This fish is tied to the pre-glacial Teays River, and increased beaver activity in the upper part of the Symmes Creek drainage has increased habitat for this species.

From what we saw during the inventory, the draining of beaver wetlands on private lands appears to be one of the greatest threats to this species in our local area.

The tiny salamander mussel was found for the first time in Symmes Creek. The salamander mussel has an unique life history in that it is the only freshwater mussel that has a non-fish host. For it to successfully reproduce, salamander mussel glochidia (larvae) must attach to a mudpuppy for a period of time. As the glochidia develop and grow, they detach themselves from the mudpuppy. The stream crews found healthy reproducing populations of mudpuppies during the inventory – a good sign for the salamander mussel.

A seine haul of fish to be processed. Each fish is identified to species, counted and released back into the stream.

The eastern sand darter is a small fish that lives its life on the bottom of sandy pools. It buries itself in the sand and darts out after its prey (small insects).

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

In fiscal year 2005, the Forest acquired another 365 acres of surface ownership. These acquisitions were located in Monroe (131 acres), Perry (80) and Washington (154 acres) counties.

By September 30, 2005, the Wayne had acquired 236,818 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 2005 are shown in Table .

Table 12. Wayne National Forest Acreage by County, Fiscal Year 2005.

County	WNF Acres	Proclamation Acres	*Total Acres in County	WNF as % of County
Athens	18,632	83,860	325,327	5.7%
Gallia	17,049	112,405	301,543	5.7%
Hocking	26,001	61,293	270,974	9.6%
Jackson	1,701	7,562	269,632	0.6%
Lawrence	69,762	163,314	292,375	23.9%
Monroe	24,413	143,951	292,441	8.3%
Morgan	3,328	7,803	269,725	1.2%
Noble	694	5,626	258,738	0.3%
Perry	22,231	79,710	263,841	8.4%
Scioto	11,625	33,359	394,358	2.9%
Vinton	1,869	27,397	265,526	0.7%
Washington	39,513	127,251	409,125	9.7%
Total	**236,818**	**853,531**	**3,613,605**	**6.6%**

*Discrepancy between the 2004 report and 2005 report is due to the use of GIS acreage. The use of GIS acres was an error, the denoted column in the 2005 report is correct.

10. Vegetative Management

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

State and Private Forestry experts were consulted in 2003 following the Ironton ice storm to apply appropriate prescriptions to the clean-up of damaged stands. Researchers predicted that trees would likely die if they had less than 25% crowns left after ice damage. Dying trees with this damage verified this prediction over the past year.

In addition, numerous scientific papers were consulted to determine treatments to encourage oak regeneration in the Buckhorn Forest Restoration Project in 2005. Increasing mortality from storm-damaged timber has affected the selection of trees for removal from the upper and mid-canopy. Based on light available from canopy die-back already occurring, pre-existing oak regeneration is flourishing in the understory. Silvicultural treatments will remove damaged timber, add additional light to the understory, and increase growth on the oak seedlings. After salvage logs are removed burning units will be reviewed to ensure oak seedlings are of adequate size to ensure appropriate regeneration.

An interdisciplinary team completed the analysis of the Buckhorn Restoration Project in the summer of 2005. Research showing the potential impact of gypsy moth on hardwood forests was used to prescribe a basal area reduction on 3,405 acres of forest, including increasing the vigor of regenerating oak stems.

An interdisciplinary team completed the analysis of the Dugan Ridge and Burr Oak Projects. These projects are designed to improve the health and vigor of the pine stands, since the stocking was significantly more than recommended by the research guides.

An interdisciplinary team began analysis of the Gore-Greendale Project in the summer of 2005. The projects proposed will be designed to move the area closer to the Desired Future Condition in the Forest Plan.

An interdisciplinary team identified possible sites that could be used for a "Gypsy Moth" Pre-infestation Demonstration Project for public and agency education. These areas would be treated as described in the current research to minimize the effects of the gypsy moth, if or when gypsy moth populations arrive. Analysis is expected to begin in 2005 on the areas selected.

Timber marking was completed during the spring and summer of 2005 on 745 acres including the Dugan Ridge Timber Sale, Burr Oak Timber Sale, and part of the Buckhorn project. Timber sales were offered on a total of 318 acres in 2005.

Determine public reaction to vegetative management.

In 2005 three different timber sales were harvested: Markin Fork and Olive Salvage on the Ironton District, and Beech Grove on Athens District. There was very little public reaction to these sales while operations were active. The sale areas were closed for public safety during logging, and some news releases were made. Some members of the general public did question the location and duration of the activities. Some comments in support of the harvest were heard in the field at the time of the operations. Others were concerned that the operations would change the behavior of the game species during hunting season.

The Buckhorn Restoration Project was approved by the Ironton District Ranger on July 22, 2005; the decision was to thin 3,405 acres and prescribed burn 3,216 acres. The decision was subsequently appealed by the public, concerning potential harm to Indiana Bat populations from logging, disagreement with commercial logging, and the definition of ecologically mature forest. The Buckhorn Restoration proposal was upheld on appeal. A lawsuit was then filed for same reasons as previously mentioned and again the Buckhorn Restoration proposal was upheld.

The Athens District proceeded with the Dugan Ridge and Burr Oak pine thinning projects. These decisions were distributed to the public for comment; all the replies were in support of the proposed action to thin the pine stands.

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

The Forest Service monitors the effects that the logging could have on the soil and water resources. This is an important aspect of timber sale administration. Timber Program Manager and Forest Service representative, Mike Freidhof, inspected the log landings, skid roads, and roads on the Markin Fork, Beech Grove, and Olive Salvage Timber Sales.

As the loggers work on these sales, they are required to mitigate possible damage by constructing water diversions and grading the soil to remove rutting. After the loggers are finished with an area, disturbed soil is stabilized and seeded so that the road and landings will not significantly erode or add significant sediment to local waters.

Markin Fork Timber Sale - Examples of erosion control work.

Graded, Seeded, and Mulched Skid Road and Landing
(9/2/2005 and 8/26/2005)

Olive Salvage Timber Sale – After Temporary Road Erosion Control Work.

Beech Grove Pine Timber Sale - After Erosion Control Work is

Beech Grove Pine Landing Area

The following photos show a log landing construction, use and subsequent rehabilitation. These areas will re-vegetate and serve as possible hunter parking areas.

Determine effects of vegetative management on water quality.

Monitoring shows evidence of no off-site soil loss from the previously mentioned active timber sales.

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.

The Forest's OHV trail system was established in the early 1990's. Today, the Wayne is known for its OHV recreation. Most repeat visitors are well aware of the opportunities, as well as the impacts from this activity and therefore have adapted to OHV use or have found other recreation opportunities elsewhere on the Forest.

OHV riders enjoying a trail ride on the Wayne N.F. (May 2005)

However, some visitors (e.g. first time visitors) to the Forest have expressed their concerns through the Forest Plan Revision process, that they cannot enjoy their sport or activity within the OHV areas due to excessive noise, dust, and the unsightliness of resource damage from OHV activities. Furthermore, they feel that as OHV activities increase, their personal safety is becoming more of an issue and the quality of their recreation experience has been degraded...to the point that they feel they are being displaced to other areas of the Forest.

In 2005, the Forest with the help from seasonal employees and volunteers, made field contacts with non-motorized users to inform them of other recreation sites and opportunities adjacent to the OHV management areas that would provide them the setting, solitude, and sense of safety they were looking for. One such place is the Lake Vesuvius Recreation Area, which was significantly renovated and reopened to full service in 2005. The following recreation opportunities were enhanced and made available to visitors at Lake Vesuvius:

- New ¼ mile board walk and fishing pier were constructed along the lake's shoreline (2004);
- Lake was restocked and opened to fishing**;**
- Both family campgrounds were fully opened for camping;
- Beach area was refurbished and opened for use.
- Hiking trails along the lake's shoreline were reopened upon completion of the dam renovation (2004).

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

2005 was a year of extremes with respect to the weather. Heavy rainfall in January 2005 sent enormous amounts of water into already-saturated watersheds and streams throughout the WNF lands. Local rivers and streams were unable to accommodate the high levels of rain, snow melt and runoff associated with these weather events. The result was significant levels of flooding and surface erosion, slips and landslides to roads, stream banks, and trails throughout the Forest. Heavy rains also caused water control structures to fail and thus causing significant damage to the trails.

To help address the immediate public health and safety issues, as well as resource impacts from the storm damage, the Wayne delayed opening 60% of its OHV trail system until repairs could be made. Over $800,000 was spent to reconstruct more than 40 miles of OHV trails, repair approximately 24 trail bridges, and unclog several culverts. These trails were reopened for use beginning July 2005. The reduced number of available trail miles resulted in an overall decrease in the number of trail visitors and trail use in 2005. However, the 46 miles of the Ironton District's OHV trails that were opened for the first part of the trail season (April to July) experienced abnormally high use due to the temporary closure of the Athens District trail system.

Generally, significant investments made in the Wayne's OHV trail system over the past several years (approx. $2 million) have resulted in a more safe and enjoyable trail system for visitors and noticeably reduced impacts to soil and water quality. Some of these trail investments include:

- Increase number of miles of trails hardened;
- More bridge repair and replacements;
- Improved signing;
- More frequent blocking and rehabilitating of illegal trails;
- Greater Forest personnel presence - more trails patrols;
- Increased education of riders of responsible trail use.

Bridge repair on Monday Creek ATV Trail (June

During

Monday Creek ATV Trail Bridge completed (June

After

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 Wayne National 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. However, based on three years of data collection we have found that the number of breeding bird species in ORV areas is similar to those in non-ORV areas.

Table. 13 Bird Monitoring.

Route Name	Primary Route Type	Number of Bird Species Observed (2003-2005)
Archer's Fork	Hardwood/Mixed Hardwood Forest	55
Big Bailey	Hardwood/Mixed Hardwood Forest	73
Brady Run	Grassland and Forest	57
Dorr Run	Hardwood/Mixed Hardwood Forest with ORVs	51
Greendale-Paines	Wetland	66
Hanging Rock	Hardwood/Mixed Hardwood Forest with ORVs	56
Five Forks	Hardwood/Mixed Hardwood Forest	57
Kinderhook	Hardwood/Mixed Hardwood Forest	44
Lake Vesuvius	Hardwood/Mixed Hardwood Forest with Lake	56
Lamping	Hardwood/Mixed Hardwood Forest	55
Peabody	Grassland and Forest	66
Pine Creek	Hardwood/Mixed Hardwood Forest	64
Pumpkintown Lake	Hardwood/Mixed Hardwood Forest with Lake	58
Rock Run	Hardwood/Mixed Hardwood Forest	55
Rutherford	Wetland	53
Telegraph	Hardwood/Mixed Hardwood Forest	55
Sand Fork	Wetland	63
Smith Hollow	Wetland	54
Stone Church Wildlife Opening	Permanent Forest Opening	27
Superior	Wetland	61
Symmes Creek	Hardwood/Mixed Hardwood Forest	66
Timbre Ridge Lake	Hardwood/Mixed Hardwood Forest with Lake	59
Wildcat Hollow	Hardwood/Mixed Hardwood Forest	44

12. Deer and Turkey Harvest Maps

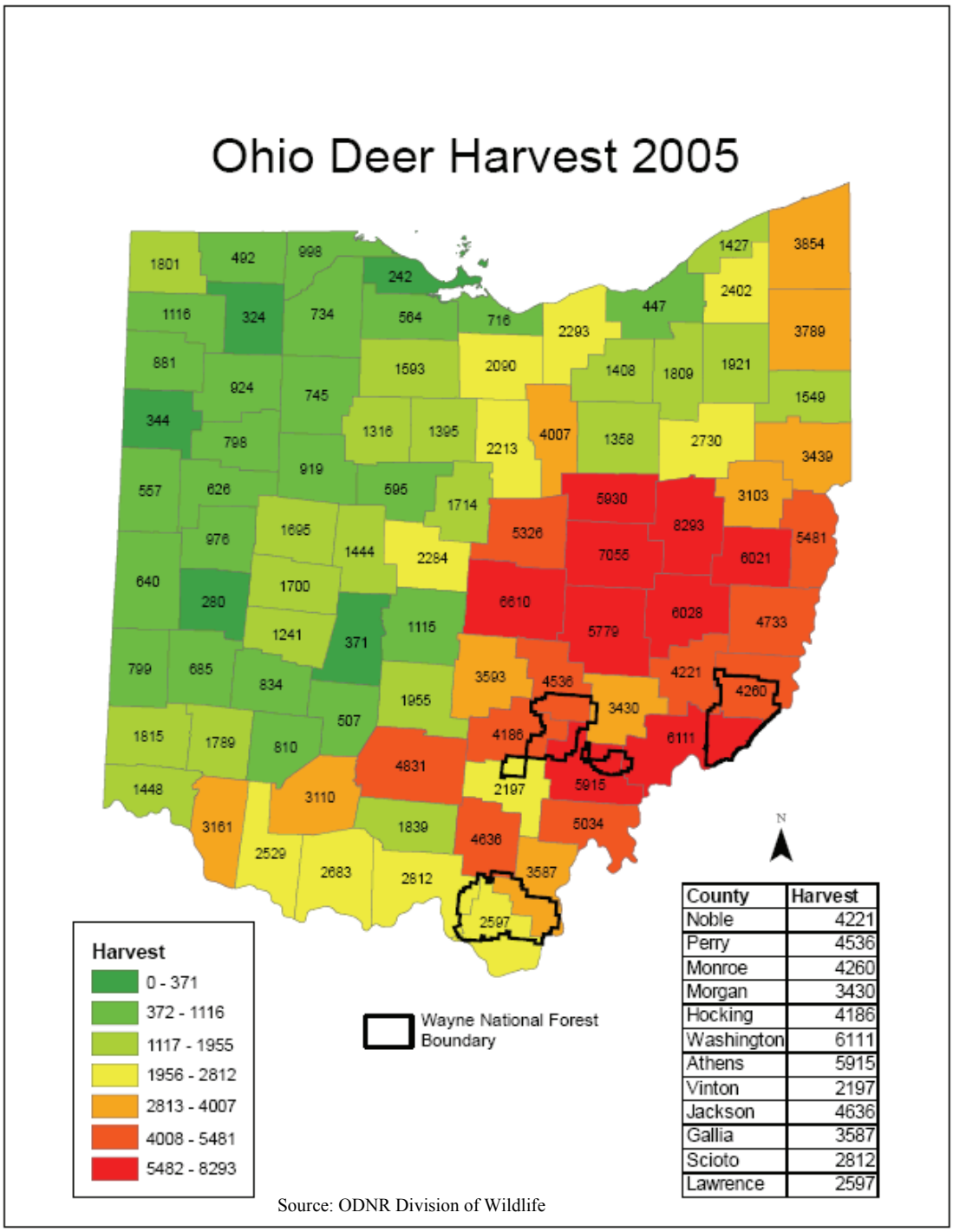
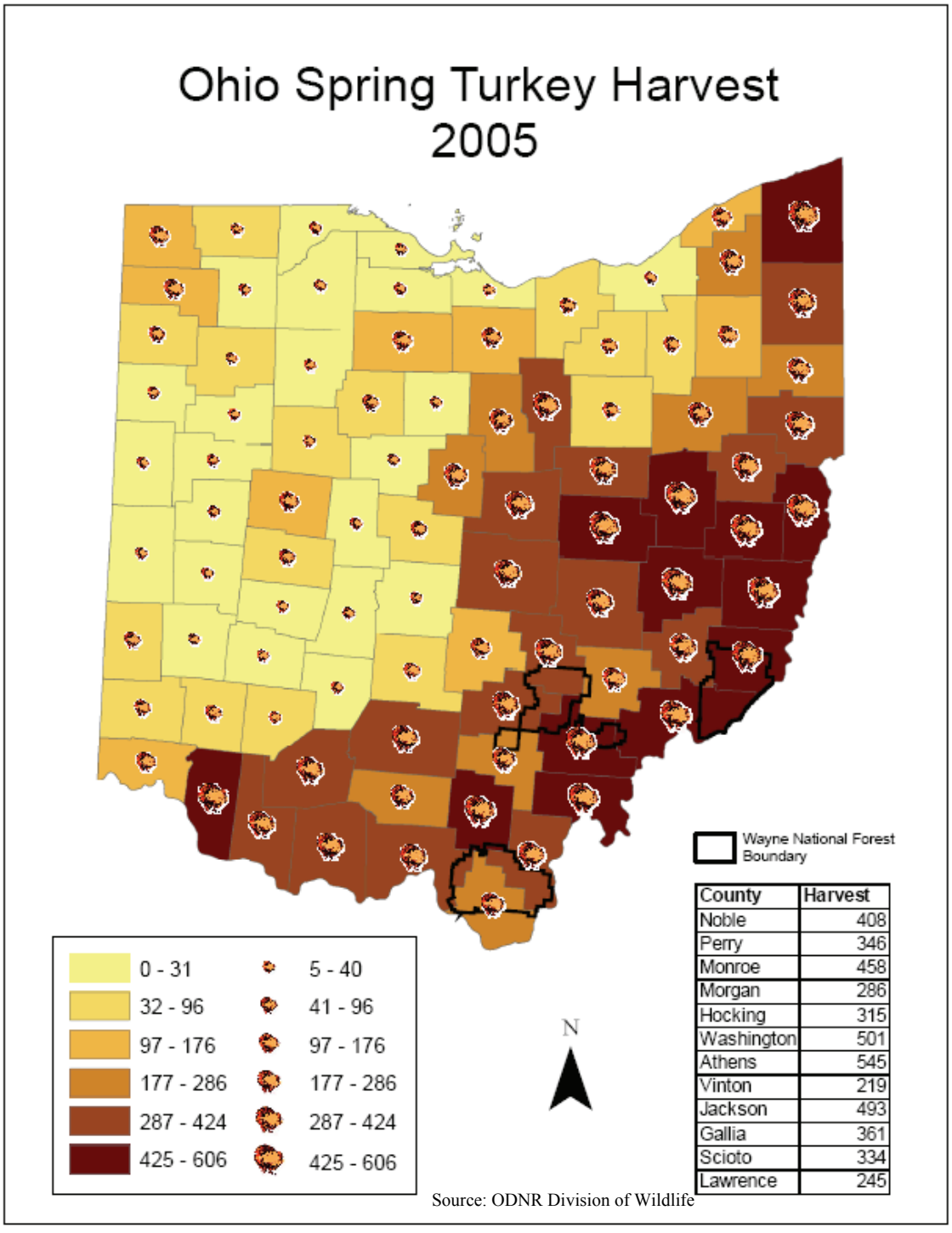


Figure 4. 2005 Deer Harvest Numbers.



County	Harvest
Noble	408
Perry	346
Monroe	458
Morgan	286
Hocking	315
Washington	501
Athens	545
Vinton	219
Jackson	493
Gallia	361
Scioto	334
Lawrence	245

Figure 5. 2005 Spring Turkey Harvest Numbers.