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Agriculture

Forest Service

Eastern
Region

Summary of Final Environmental Impact Statement

January 2006

2006 Land and Resource Management Plan

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Final Environmental Impact Statement

Summary

Overview

This Final Environmental Impact Statement (Final EIS) documents seven alternatives for revising the Land and Resource Management Plan (Forest Plan) for the Wayne National Forest (WNF). All alternatives represent feasible ways of managing the Forest for the next 10 to 15 years. These alternatives were developed to address major public issues for the WNF Forest Plan revision. The Final EIS presents the likely effects on various resources of implementing each of the alternatives.

The Revised Forest Plan provides detailed direction for implementing the selected alternative, which is Alternative E Modified in the Final EIS.

What is the Forest Plan?

The 2006 Forest Plan will guide the management of the WNF for the next decade or longer. To accomplish this, the Plan does the following:

- Establishes the management direction and associated long-range goals and objectives for the WNF for the next 10-15 years.
- Establishes management areas, which reflect different desired conditions and the management prescriptions to move the areas toward their desired conditions.
- Specifies standards and guidelines to achieve Forest-wide and management area specific goals and objectives.
- Identifies lands suitable for various uses, including timber production, and sets the allowable sale quantity.
- Confirms 1988 Forest Plan direction that the entire Forest is administratively available for leasing of Federally owned oil and gas, and specifies stipulations to be attached to Federal leases, including no-surface-occupancy and controlled-surface-use, stipulations.
- Establishes the monitoring and evaluation requirements needed to ensure that Plan direction is carried out.

Forest plans make broad-scale decisions, similar to city or county zoning allocations. They do not undertake or describe site-specific projects; rather they establish overall goals and objectives that provide guidance and the purpose and need for site-specific projects. The goals emphasized in the 2006 WNF Forest Plan are to:

- Improve watershed health
- Provide plant and animal habitat to support viability of all native species
- Provide a variety of recreation opportunities matched to the capabilities of the Forest and public demand
- Lease Federally-owned oil and gas resources
- Continue to consolidate National Forest ownership through land acquisition
- Contribute to the economies of local communities.

National Forest management is complex. The forests belong to all Americans, and all have a stake in their management. As stewards of these important lands, we have a responsibility to be responsive to the whole collection of diverse interests that make up the American public and to ensure that the selected management strategy is ecologically feasible and protects the Forest's long-term productivity.

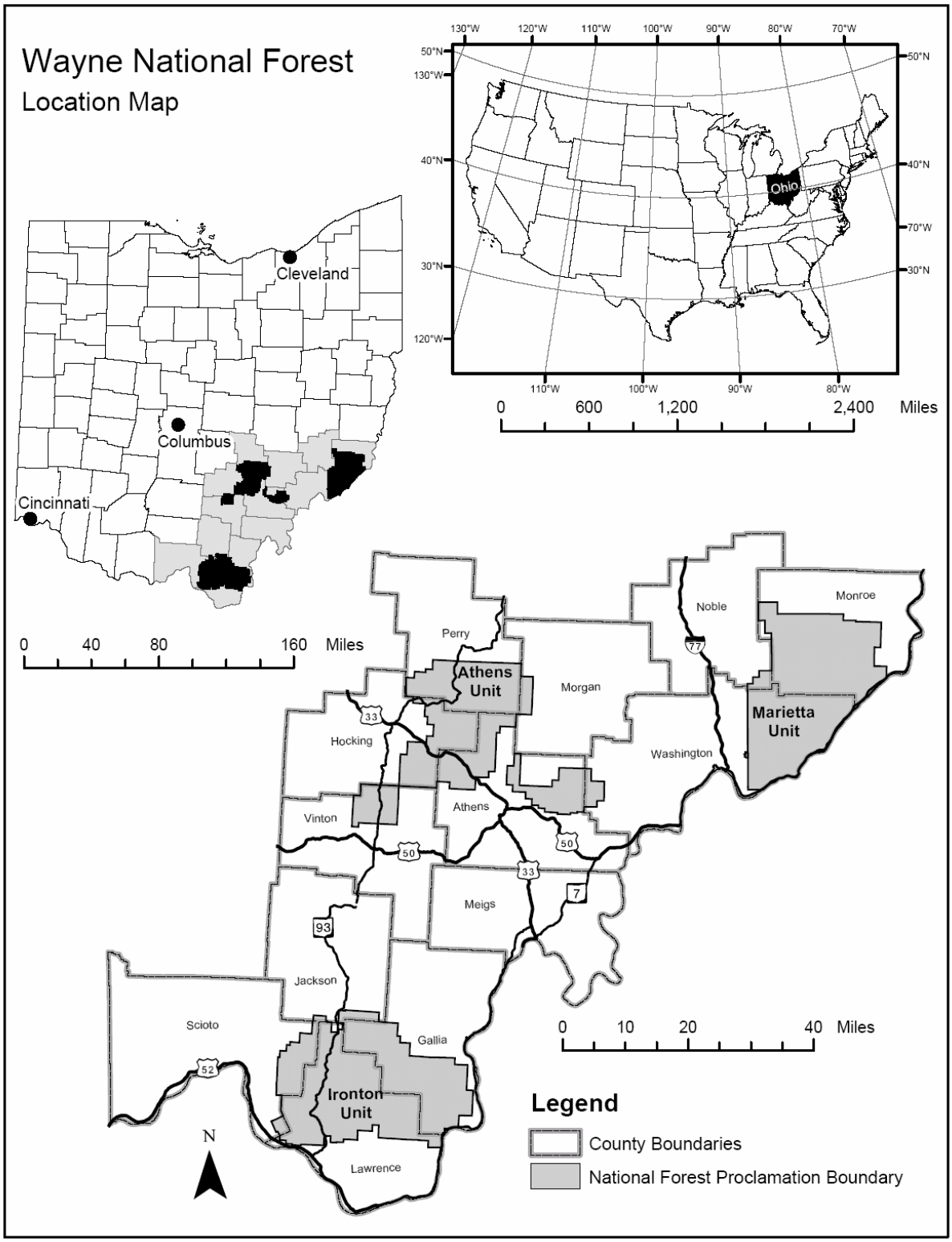

Figure S - 1. Vicinity Map of Wayne National Forest.

Forest Profile

The Wayne National Forest, located in 12 counties of southeast Ohio, is the state's only national forest. The hills of southeast Ohio, the unglaciated region of the state, lie within the Ohio River Basin. Ecologically, the area is considered part of the Southern Allegheny Unglaciated Plateau, which reaches into western Pennsylvania, northern West Virginia, and Kentucky.

Since the earliest hunter-gatherers arrived here several thousand years ago, humans have found the Ohio River Basin to be a very hospitable environment. Through the flowering and decline of successive Native American cultures, European settlement, industrial development, and now forest re-growth and recovery, what is now southeast Ohio has supported human populations who, in turn, modified their environment. From Indian mounds and rock shelters, to sections of the old Erie Canal, iron furnaces, African American cemeteries, and barns painted with Mail Pouch Tobacco signs, humankind has continually marked its presence on the landscapes we value in today's Forest.

The rich farmland that dominates much of Ohio supports large industrial cities and sprawling suburbs that are connected by busy highways. While southeast Ohio is the most heavily forested and least densely populated part of the state, large population centers lie nearby. About 12 million people live within 100 miles of the Wayne. Ohio ranks seventh among the states in population but only 47th in public lands (Federal and State) per capita. As a result, there are intense, often competing, demands on this limited public lands resource.

Of the 850,000 acres within the Wayne proclamation boundary, about 28 percent, or 238,000 acres, is owned by the National Forest System (NFS). These Federal holdings are intertwined with many small communities. The substantial amount of undeveloped, privately owned forest within the proclamation holds the potential for increasing NFS ownership.

Acquisition of land for the WNF began in 1935. Congress set the Forest's Proclamation Boundary in 1951. The proclamation area is divided into three geographic areas: Marietta, Athens, and Ironton. Administration of the Forest was provided through the Forest Supervisor's Office of the Wayne-Hoosier National Forest, located in Bedford, Indiana, until 1993. At that time, Congress authorized a separation of the combined forests and creation of a Forest Supervisor's Office in Ohio for the WNF.

A wide variety of plants and animals native to the eastern hardwood forest find habitat on the Forest. As European settlers entered and developed Ohio from about 1800 to 1920, most of the forested land on what is now the Wayne was cleared for farms, timber, and fuel. The iron furnaces and brick factories prevalent in the area during this period consumed large amounts of wood fuels. Much of the forested land cleared by settlers,

loggers, and miners has re-seeded and re-sprouted. Ohio's forests continue to grow and mature, even as suburban sprawl tends to divide private forest ownership into smaller pieces. In light of these trends, the WNF offers the most promising prospect for providing some forest habitats unlikely to occur on private lands, including large blocks of mature forest, forest with a prescribed fire regime that maintains a high proportion of oaks and hickories, and areas of young, brushy forest.

Streams, riparian areas, and wetlands provide essential habitat for a variety of animals and plants found on the Wayne. More than 280 miles of perennial warm-water streams run through the Forest. Fully one half of this stream mileage does not meet water quality standards because of acid drainage from abandoned underground mines and sediment from strip-mining. The Wayne is uniquely positioned to implement state-of-the-art restoration of abandoned mine lands, contributing to ecological and economic recovery in southeast Ohio.

Oil, gas, and coal have been produced in the Appalachian Basin, which includes the WNF, for well over 100 years. Ohio ranks fourth nationally in total number of oil and gas wells drilled. As energy prices and emphasis on domestic energy production increase, interest in energy minerals production on the Wayne, especially natural gas, can be expected to increase. More than 65 percent of the Wayne's surface ownership is underlain by privately owned mineral rights. Most gas, oil, and coal production on the Wayne will likely come from these privately held rights. Leasing of Federally owned gas and oil rights, however, can contribute substantially to the local economy and regional energy needs.

More people use the Wayne for outdoor recreation than for any other purpose. The Wayne's 238,000 acres constitute the second largest holding of public lands in Ohio. The State manages nearly 390,000 acres of state parks, forests, and wildlife management areas. A wide variety of outdoor recreation activities are popular on the Wayne, including hunting, fishing, hiking, horseback riding, mountain biking, and wildlife viewing. In addition, highway motorists enjoy driving through the Forest to view scenery. Riding through the Forest on off-highway vehicles (OHVs), including all-terrain vehicles (ATVs) and off-highway motorcycles (OHMs) continues to grow in popularity. The Wayne is well positioned to provide trails for OHV riding. The Wayne is also uniquely positioned to provide viewing and interpretation of historic sites in the region, including those related to the Underground Railroad, mining, and iron furnaces.

Together, the primary values of the Wayne – wildlife, fish, and plant habitat; energy minerals production, outdoor recreation, and an appreciation for those who have shared this land before us – contribute to the quality of life and economic vitality of southeast Ohio and the population centers that surround the Forest.

Public Involvement

Before the WNF published the Notice of Intent (NOI) to revise the 1988 Forest Plan, invitations to comment were sent to interested parties, including 1,400 addresses on the Forest's mailing lists. The media were informed, and three public meetings were held.

After the Notice of Intent (NOI) was published April 4, 2002, the WNF made further efforts to involve the public in the planning process and gather information about current Forest resources.

During the initial 90-day comment period, 626 responses were logged from various sources. Ten public meetings were held in June 2002. Nine meetings were held in Ohio, and one was held in Huntington, W.Va. The Huntington location was selected because it is a large population center on the south side of the Ironton Ranger District. Comments were also received via regular mail and e-mail. All comments were included in the content analysis process record.

Development of Alternatives

Alternatives for revising the 1988 Forest Plan were developed using this public input as well as resource data. Three public workshops focusing on alternative development were conducted during October and November 2003.

The information used to develop the alternatives has been available for public review, much of it on the WNF's planning website (www.fs.fed.us/r9/wayne). This information includes:

- Content Analysis from three public meetings prior to NOI publication and 10 public meetings held afterwards
- Analysis of the Management Situation (review of Forest resources)
- Recreation Feasibility Study
- Assessment of Roadless Areas and Wild and Scenic River Eligibility
- A broad-scale Ecological Assessment by The Nature Conservancy (not on the website)
- Subsurface (Minerals) Ownership Database and Geographic Information System Mapping (not on the website)
- Reasonably Foreseeable Development Scenario for Oil and Gas Resources from the Bureau of Land Management
- Species Viability Evaluations
- Threatened and Endangered Species Plan Amendment

- Social Assessment
- Roads Assessment
- Silvicultural Systems Workshop (not on the website).

Issues

Analysis of the comments on the Notice of Intent (NOI) confirmed that the six Revision topics set out in the NOI did address the principal concerns of the public and the Forest Service regarding management of the WNF. Those topics were then distilled into six issues. The issue discussions presented below are divided into four parts:

- Issue components
- Issue statement
- Current Forest Plan direction
- Information indicating a need to consider changing current Plan direction.

Issue 1 – Watershed Health

Issue Components

Restoration of watersheds impacted by coal mining.

Protection of streams and riparian areas.

Issue Statement

Watershed health includes treatments to protect and restore in-stream conditions and associated riparian areas. Active stewardship of the land and water within the Forest is fundamental to protecting and restoring watershed health. Management activities that protect and improve upland and riparian areas benefit aquatic resources within and downstream of the Forest's boundaries. Public comments indicated that people were interested in seeing more wetland habitat restoration and protection.

Current Forest Plan Direction

Direction for management of streams, riparian areas, and floodplains focuses primarily on protecting water quality. Standards and guidelines for the reclamation of mined areas are also included.

Indicators of Need for Change

Restoration of abandoned mine lands has been ongoing. Management emphasis has shifted from treatment of eroding uplands to the treatment and elimination of acid mine drainage. This shift in emphasis was not refected in 1988 Plan direction on abandoned underground coal mines.

An evaluation of plant and animal species whose continued viability is potentially at risk indicated that over one-third of these species depend on healthy riparian and aquatic habitats.

Three stream systems on the WNF (Little Muskingum River, Symmes Creek, and Pine Creek) provide habitat for a diverse assemblage of aquatic and semi-aquatic species. The health of these relatively high quality systems can be improved, as can those of more degraded systems, such as those on the Athens Unit.

Project implementation and monitoring has indicated that current Plan direction for protection of streams, riparian areas, and floodplains could be improved by new management direction designed to better protect and restore their structure and function. In addition to providing clearer definitions and delineation methods for these resources, Forest Plan direction could be enhanced by incorporating conservation approaches for species whose continued viability is potentially at risk. Updating of wetland and stream restoration guidance would also be beneficial.

Issue 2 – Plant and Animal Habitat

Issue Components

Providing a variety of habitats for animals and plants

Maintenance and restoration of the mixed-oak ecosystem

Control of non-native invasive species.

Vegetation management tools including commercial timber sales, prescribed fire, and pesticides (herbicides, insecticides, etc.).

Issue Statement

Regulations implementing the National Forest Management Act (NFMA) require national forests to provide habitat that can maintain viable populations of existing native and desired non-native plants and animals. To meet this requirement, Forest managers employ various vegetation management techniques to encourage development and maintenance of diverse habitats. Vegetation management techniques designed to achieve the habitat variety upon which native species depend include:

- Various methods of timber harvest
- Prescribed fire, mowing, and herbicide application

- Planting of trees, grasses, and other plants
- Non-commercial tree thinnings and weedings.

Broadly speaking, habitats found on the Wayne include mature hardwood forest, early and mid-succession hardwood forest, native pine forest, non-native pine plantations, reclaimed strip mine grasslands, prairie remnants, and shrub communities as well as aquatic and wetland habitats. How habitats occur geographically and over time are critical considerations in providing for the viability of species.

Public comments reveal a diversity of opinions regarding both what habitats the Wayne should focus on providing and which vegetation management techniques are appropriate for producing those habitats. Some people believe the Wayne should focus exclusively on providing mature, or "old-growth", hardwood forest and not conduct any commercial timber harvest. Others support the creation of early and mid-succession forest habitat that results from commercial timber harvest that also provides economic benefits to local communities.

Current Forest Plan Direction

The 1998 Forest Plan, when first implemented, emphasized the use of clearcutting to produce early successional habitat as well as timber volume.

Amendment 11 shows that implementation of the original 1988 Plan's emphasis on clearcutting was substantially curtailed after 1990, and no clearcutting has occurred on the Wayne since 1994. Amendment 11 projected that only thinning and selection harvests would occur from 1998 through completion of the 2006 Plan revision. Consultation with the U.S. Fish and Wildlife Service on protection of threatened and endangered species resulted in a 2001 Biological Opinion and, subsequently, Forest Plan Amendment 13. Both reflect the direction of Amendment 11 (i.e. only thinning and selection harvests).

Table S - 1. Comparison of the projected annual harvest (by harvest category) between the 1988 Forest Plan and the 1988 Amended Forest Plan.

	1988 Plan (Acres)	Amended 1988 Plan (Acres)
Average Annual Acres of Clearcut Harvest*	410	0
Average Annual Acres of Shelterwood Harvest	100	0
Average Annual Acres of Commercial Thinning Harvest	60	50
Average Annual Acres of Selection Harvest	280	450

* When the current Forest Plan was completed in 1988, 71 percent (126,107 acres) of the Forest was classified as suitable for timber production, and 29 percent was classified unsuitable. Average commercial timber harvesting was projected to be 850 acres per year, or 0.7 percent per year of the suitable acres. Note that clearcutting in the first decade was projected to be 410 acres per year on 100,603 acres to be managed under even-aged management regimes. In order to meet the stated target rotation ages on that area, clearcutting would eventually have had to reach an average of 1758 acres per year.

The current Forest Plan provides little direction in the form of desired future conditions, objectives, standards, guidelines, or monitoring for the maintenance and restoration of the mixed-oak ecosystem or the control of non-native invasive species. Use of herbicides and prescribed fire are permitted, if necessary, to accomplish objectives, but specific objectives for such use are not spelled out in the current Plan.

Indicators of Need for Change

Species Viability

Evaluations of species whose viability may be at risk on the Forest indicate that a variety of habitats is required to maintain their viability, including large tracts of mature hardwood forest, mid-successional hardwood forest, early-successional habitat, pine forest, grasslands, and healthy aquatic and riparian habitats.

The Nature Conservancy’s assessment of the Western Allegheny Plateau Ecoregion shows how the Wayne fits within its broader ecological context. This greater landscape view confirms the limited nature of large, intact forest communities within the Western Allegheny Plateau. The Nature Conservancy also identified areas within the WNF with the best potential to provide relatively large, intact blocks of forest habitat.

Mixed Oak Ecosystem Maintenance and Restoration

Research indicates that oak-hickory forests have dominated what is now southeast Ohio for thousands of years. Stands dominated by more shade tolerant-species and/or fire-intolerant species, such as maples and tulip-poplar, were confined mostly to north slopes and other wetter sites.

Recent forest inventory and analysis, based on satellite and ground surveys, show the proportions of oak and hickory species declining on the

WNF and throughout southeast Ohio. At the same time, more fire-intolerant and/or shade-tolerant species, particularly red maple, tulip-poplar and cherry, are increasing. The virtual elimination of fire from eastern forests since the 1920s has been identified as a key factor in the decline of oaks. Given current and foreseeable land ownership patterns, the re-introduction of fire to the extent necessary to reverse the decline of oaks across their entire range is very unlikely. The use of fire to maintain the mixed oak ecosystem on public land, therefore, may become even more important.

Non-native Invasive Species

The arrival of non-native pathogens significantly changed ecological conditions in the 20th century, virtually eliminating important tree species such as American chestnut and American elm. Non-native invasive species (NNIS) continue to cause ecological change. When NNIS are transplanted outside their original range, they often lack natural controls, such as diseases, predators, or parasites. This allows them to out-compete, and in some cases almost completely replace, more sensitive native plants and animals. Worldwide, NNIS are considered to be the second-leading threat to biodiversity; only habitat loss is a greater threat.

NNIS plants are estimated to infest 100 million acres in the U.S., and they invade an additional three million acres annually. The presence of NNIS plants continues to increase in southeast Ohio. Forty-two plant species identified by the State of Ohio, The Nature Conservancy, or Region 9 of the Forest Service as currently or potentially invasive occur on the Wayne. These plants often completely dominate their niche (e.g., understory shrub layer or herbaceous layer) crowding out native wildflowers, hindering native tree regeneration, and altering wildlife habitat.

The most widespread invasive insect is the gypsy moth, which has been identified within the WNF. The gypsy moth often causes heavy defoliation and extensive tree mortality. Its preferred hosts are oaks, so it has the potential to exacerbate the ongoing decline of oaks relative to more fire-intolerant and/or shade-tolerant species.

Issue 3 – Recreation Management

Components

Providing a variety of recreation opportunities

Off highway vehicle (OHV) use

Protection and interpretation of cultural/heritage/archeological resources.

Issue Statement

National forests play a key role in helping to meet the nation's growing demand for outdoor recreation. National forests must balance the provision of high quality outdoor recreation opportunities with the responsibility for stewardship of the health, diversity, and productivity of the land. The potential for conflict between these competing responsibilities is high on the Wayne because Ohio has a large population relative to the amount of public land available (47th out of the 50 states in terms of public land per capita). About 12 million people live within 100 miles of the WNF.

Demand is increasing for most types of recreation opportunities available on the Wayne. Demand is high for additional OHV trails, horse trails, hiking trails, and mountain bike trails. Fishing at Forest ponds and lakes has been documented at nearly twice the state average. Hiking, backpacking, hunting, nature viewing, and visiting historical sites, continue to be popular activities. While interest in primitive camping remains stable, campers using developed campgrounds are demanding more amenities, such as improved recreational vehicle pads, electricity, and sewer hookups.

Public comments reveal a diversity of opinions regarding what recreation opportunities the Wayne should focus on providing. Some want the Wayne to provide more OHV trails. Others believe OHV use should be excluded from the Forest in order to increase opportunities for wilderness or near-wilderness experiences. User groups for activities such as horseback riding, hiking, and mountain biking also petition for expanded opportunities for their favored uses. These groups often express the view that permitting more than one user group (e.g., OHVs and horse-back riding) on the same trail, or in the same area, detracts from the quality of the recreation experience.

1988 Forest Plan Direction

The 1988 Forest Plan restricts OHV use to designated trails within specific management areas. Use of these trails is limited to OHVs 50 inches or less in width. The introduction of OHV management was one of the most important decisions made in the 1988 Forest Plan. Prior to 1988, OHV use

was not restricted to designated trails or specific areas of the Forest. The 1988 Forest Plan projected that 250 miles of OHV trails would be created by the end of 1995, with 285 miles of trails in existence by 2002. Currently, there are 116 miles of designated OHV trails on the WNF.

Direction for development and maintenance of hiking and horseback riding trails is included in the 1988 Plan, but mountain biking is not mentioned. Direction and the allocation of management areas for developed recreation sites (campgrounds and picnic areas) are included.

Interpretation and education direction for heritage resources, such as the iron furnaces, the Underground Railroad, and pre-historic sites, received minimal mention in the 1988 Plan.

Indicators of Need for Change

Forest Plan direction restricts OHVs to designated trails, but these areas contain many illegal, user-developed trails. Illegal trails, along with inadequate signing on some legal trails, cause confusion among OHV riders as to which trails may be used. In addition, some OHV users have expressed dissatisfaction that Forest Plan projections for construction/reconstruction of OHV trails for 1998 and 2002 have not been met.

The demand for recreation opportunities on the Wayne has increased since the 1988 Forest Plan was developed. National recreation trends are reflected locally, including an aging population and increased demand for mountain biking opportunities. Demand for non-consumptive nature-based recreation (bird watching, photography, sight-seeing) is increasing faster than demand for more traditional consumptive activities such hunting and fishing. Those activities remain popular on the Wayne, however.

Interest in heritage resources, especially pertaining to the Underground Railroad which ran through the WNF, is increasing.

Issue 4 – Land Ownership

Issue Components

Land acquisition and exchange

Boundary line marking and maintenance.

Issue Statement

The Forest Service began acquiring land in southeast Ohio in 1935, at the invitation of the State of Ohio. The original purchase units were established to provide for the restoration of key watersheds that had been heavily impacted by farming and mineral extraction in the 1800s. Despite

an active land acquisition program, the Wayne still has one of the most fragmented ownership patterns of any national forest: currently 24 percent NFS ownership within the proclamation boundary of the Marietta Unit; 27 percent within the Athens Unit; 33 percent ownership within the Ironton Ranger District; and 28 percent for the entire Forest.

Virtually all NFS lands in Ohio were acquired from private individuals or corporations through purchases on a willing seller basis, when Federal funding was available. Occasionally the Forest acquires land through exchange. Eminent domain/condemnation has never been used.

The fragmented ownership pattern of the Wayne complicates resource protection and management. It also results in a high total mileage of boundary lines between National Forest and private ownership, currently nearly 2,000 miles. This largely unmarked boundary creates a potential for trespass by Forest visitors onto private lands and encroachment by adjacent landowners onto NFS lands.

The Wayne lies within the Appalachian Basin, North America's oldest producing oil and gas region. Surface and minerals ownerships are separate on much of the land within the proclamation boundary of the Wayne. The Forest Service explicitly recognizes and accepts the presence of privately owned minerals beneath land it acquires.

The Wayne's land acquisition program is the subject of considerable public and political interest. In 2000, the Ohio Legislature considered but did not pass a bill to revoke the State's consent for further land acquisition by the Forest. On the other hand, support for the Forest has been substantial in the U.S. Congress with several recent annual appropriation bills including line items for further land acquisition. Some local residents and community leaders believe that National Forest ownership adversely affects local tax bases and school funding while precluding the potential benefits of commercial or residential development. Others support additional land acquisition because they see resource protection, economic development, and recreation opportunity benefits in public land.

1988 Forest Plan Direction

The 1988 Forest Plan decision set an ultimate goal of 322,000 acres in National Forest ownership and estimated that the WNF would contain approximately 250,000 acres by the year 2000. As of March 31, 2003, National Forest System ownership on the Wayne was approximately 233,000 acres.

Indicators of Need for Change

An analysis by the WNF of local property tax statistics indicates that National Forest ownership does not reduce tax bases and school funding, as compared to undeveloped privately-owned forested land. A recent study

by the General Accounting Office of the U.S. Congress reached a similar conclusion. Additionally, a 2003 study by The Ohio State University states that "it is impossible to conclude that the presence of the National Forest is harming the local tax base."

Issue 5 – Minerals Resource Management

Components

Leasing of Federally owned mineral rights for oil and gas extraction.

Management of National Forest System owned surface lands over privately held mineral rights.

Issue Statement

Oil, gas, and coal are the most economically important minerals found on the Forest, and they contribute to the national goal of increased domestic energy production. The Wayne is located in the heart of Ohio's oil, gas, and coal deposits. Ohio's oil and gas industry dates back to the mid-1800s.

As is typical of a mature oil and gas field, most wells in Ohio have relatively modest production, usually less than 10 barrels of oil per day and/or less than 60,000 cubic feet of gas per day. On the WNF, stripper wells produce less than one barrel of oil, and about 7.4 Mcf of gas, per day. With current technology, most remaining oil and gas deposits in Ohio, and particularly on the Wayne, are considered to be economically recoverable only where surface occupancy is permitted.

Oil and gas production on the Wayne has generally followed statewide trends. About 1,200 oil and gas wells currently operate on the WNF. Many other wells are closed and no longer in operation. Most wells are owned by small, independent local producers.

The ownership pattern of oil and gas rights on the WNF is even more complex than the surface ownership. Of the 1,200 active wells located on National Forest surface ownership, only about 70 occur on Federal mineral leases. The great majority of wells on the Wayne are located on National Forest surface with private oil and gas rights beneath. More than 65 percent of National Forest ownership on the Wayne is underlain by privately owned mineral rights. Laws governing minerals rights require the Wayne to provide access to those individuals and corporations who own such rights under national forest surface ownership.

Coal is Ohio's most valuable mineral resource. Coal mining was essentially unregulated in Ohio until 1950. Initially, coal mines were exclusively underground operations and largely powered by manual labor. Early underground mines were highly prone to uncontrolled subsidence. (Subsidence is the collapse of sections of the land surface/mine roof into

the cavities left by underground mining.) As more advanced machinery and technology were developed, surface or "strip" mining became a viable alternative to underground mining.

Coal production on the Wayne has generally followed state trends. In addition to the underground coal mining that occurred under much of what is now the WNF (especially the Athens Unit), about 10 percent of the Athens Unit and 5 percent of the Ironton District (or about 5 percent of the entire Forest) has been strip-mined. There are currently no active strip mines on the Forest. One underground coal mine is currently in operation within the Athens Unit, and exploration for a possible second mine on the same unit is currently underway. The subsurface ownership pattern of coal rights is similar to those described above for oil and gas rights. Additional strip-mining on the Wayne would be limited to valid existing rights that pre-date the Surface Mining Control and Reclamation Act of 1977.

Public comment regarding minerals management on the Wayne ranges from those who want to see no additional leases of Federally owned oil and gas rights, to oil and gas producers and industry proponents who favor more lease offerings and the streamlining of leasing and environmental analysis processes.

1988 Forest Plan Direction

The 1988 Forest Plan recognized oil and gas exploration and development as a suitable use of the Forest and determines that the entire Federally owned oil and gas mineral estate is administratively available for leasing. This is consistent with law and regulation that direct that Federally owned minerals should generally be available for leasing and that administrative availability is to be withdrawn only under special circumstances, such as in designated wilderness.

Surface occupancy is prohibited in some management areas. Amendment 8 to the 1988 Plan, adopted in 1992, established a three-step process for leasing Federally owned oil and gas rights:

- Step 1 is the Forest Plan, its associated environmental impact statement, and the record of decision – specifically decisions regarding mineral rights availability and surface occupancy permissibility by management area.
- Step 2 is decisions to authorize leasing of specific tracts of Federally owned minerals for oil and gas development.
- Step 3 is decisions regarding applications to drill (APDs) wells, build access roads, and install related structures on specific leases.

Indicators of Need for Change

Oil and gas operators along with oil and gas trade associations have expressed interest in seeing the leasing/ADP process streamlined.

The Wayne has recently completed an inventory and computer-based mapping (GIS) of subsurface ownership of the Forest. This inventory indicates that there is Federal ownership of oil and gas rights on 104,955 acres (44 percent of surface National Forest ownership). Of these, 20,456 acres have been leased, leaving 84,499 acres available for leasing. Of the 84,499 acres available for leasing, 67,239 acres (per Selected Alternative E Modified are in management areas that permit surface occupancy.

Issue 6 – Roadless Areas, Wilderness, and Wild and Scenic River Recommendations

Issue Components

Roadless Area Inventory and Evaluation

Wilderness Area Recommendation

Wild and Scenic River Recommendation.

Issue Statement

Roadless Areas/Wilderness

The concept of wilderness was codified into law by the Wilderness Act of 1964, which defined wilderness as areas of national forests and other public lands where natural processes are predominant while the presence and effects of humans are minimal. Wilderness, unlike other management areas, must be designated by Congress, generally after first being recommended for such designation by the land management agency. The WNF currently has no designated wilderness.

Forest Service regulations require that NFS lands be evaluated for roadless character during forest planning. For an area to be recommended for wilderness designation, it must first qualify as a roadless area. Criteria for identifying roadless and potential wilderness areas in the eastern United States recognize that virtually all of what is now public land was once privately owned. These areas often show signs of human activity and modification, even though Eastern ecosystems are very productive and resilient.

Some individuals and organizations favor wilderness designation on the Wayne. Others perceive a lack of wilderness character and the potential for such designation to conflict with other uses of the Forest.

Wild and Scenic Rivers

The Wild and Scenic Rivers Act of 1968 provides for designation of selected rivers or sections of rivers to preserve their natural, free-flowing condition. To be eligible for designation, rivers must possess outstandingly remarkable scenic, recreational, or other natural values. Wild and Scenic Rivers also require designation by Congress. The WNF currently has no designated Wild, Scenic, or Recreation Rivers.

Some individuals and organizations favor designating the Little Muskingum a Scenic River, while others oppose such designation.

1988 Forest Plan Direction

A roadless area analysis conducted for the 1988 Forest Plan found no areas of the Forest that met the definition of "roadless". Based on this lack of roadless character and the Forest's fragmented surface and subsurface ownership patterns, no areas were recommended for wilderness designation.

The Forest's streams were assessed for characteristics that might qualify under the Wild and Scenic River Act. No streams were determined to have such character, and none were recommended for Wild or Scenic River designation.

Indicators of Need for Change

Roadless Areas/Wilderness

No roadless areas were identified in the Roadless Area Review and Evaluation process (RARE or RARE II) completed as part of the 1988 Forest Plan. Since 1988 the WNF has acquired over 50,000 acres of land. An inventory of the current National Forest ownership completed in March 2003 found that there are still no areas on the Forest that meet roadless area criteria. Criteria necessary for Wilderness or Roadless designation that are not found on the WNF include:

- Areas with less than 0.5 mile of road for each 1,000 acres, with such roads primarily under Forest Service jurisdiction
- Areas with surface and subsurface ownership patterns that would ensure perpetuation of wilderness values
- Areas without improvements (e.g., electric transmission lines) or where such improvements are relatively unobtrusive
- Areas relatively remote from sources of noise, air and water pollution that affect the potential for wilderness experience.

Alternatives Eliminated from Detailed Study

Several alternatives were considered in the initial analysis. Some were developed internally, some were surfaced during the Alternative Development workshops, and others were proposed by groups or individuals. Some alternatives had similar themes and are grouped together here for discussion. This section briefly describes the alternatives that were not studied in detail and discusses the reasons for their elimination. These alternatives are labeled by their major emphases.

Benchmark Alternatives

Several "benchmark" alternatives were developed during analysis for the 2006 Forest Plan revision. Benchmarks represent maximum production parameters for various resources and uses. Benchmarks were developed for maximum timber production, maximum early-successional habitat, maximum off-road vehicles, maximum present net value of market values, etc. These benchmarks were updated for the revision analysis based on the increased NFS ownership since approval of the 1988 Forest Plan.

The benchmark alternatives were eliminated from detailed consideration because they would not provide balanced resource protection and management. The National Forest Management Act, Multiple Use-Sustained Yield Act, Endangered Species Act, and other laws and Forest Service policy require that national forests be managed for a variety of uses along with resource protection. The benchmarks did serve their purpose, however. They helped define the range within which the alternatives considered in detail must fall.

No Commercial Timber Harvest Alternative

A number of individuals and organizations proposed consideration of alternatives that would include no commercial timber harvest. Some of these comments suggested that vegetation treatments to meet habitat objectives would be acceptable to them, but *commercial* timber sales would not. No evidence was found to suggest that the degree of vegetation management necessary to provide for viability of all species could be accomplished without commercial timber harvest. This alternative was eliminated from detailed study because it would not provide habitat needed to support the viability of *all* the animals and plants native to the Wayne, and would not adequately address the need to restore and maintain the mixed oak ecosystem.

Timber sales are designed and implemented to improve desired wildlife and plant habitat. A timber purchaser recovers the cost of felling and removing the wood by selling the timber that is harvested. Therefore, the Forest Service does not directly pay for the work to be done. If the same

habitat is created through a service contract in which trees are felled or killed but not removed and sold, then the entire cost of the operation must be borne by the taxpayers. Additionally, if the trees were left in the woods, there would be added fuels and impediments to firefighting access.

The Secure Rural Schools Act severed the direct relationship between commercial timber harvesting and the funding of local schools. Counties may now opt to receive a constant level of Payment in Lieu of Taxes (PILT) funding, based on the acreage of NFS ownership within the counties. Prior to the Act, PILT fluctuated from year-to-year based on the payments the Forest Service received for the sale of timber in a county in the prior year.

However, it should be noted that the no-harvest proposal is addressed to some degree in all the alternatives considered in detail. These alternatives include management areas where there would be no commercial timber harvest. The largest of these management areas are the Future Old Forest and Future Old Forest with Minerals Activity.

Alternatives with Recommendations for Wilderness or Wild/Scenic River Designation

A number of individuals and organizations proposed consideration of alternatives that would include recommendations for Wilderness and/or Wild, Scenic, or Recreation River designation. (The Forest Service can recommend wilderness or Wild or Scenic Rivers, but Congress makes actual designations.)

As noted in the discussion of issues in Chapter 1, the WNF contains no areas that meet the “roadless” definition. For an area to be recommended for wilderness designation, it must first meet roadless area requirements. Similarly, the Wayne has no river segments that meet Wild, Scenic, or Recreation River criteria. Therefore, none of the alternatives considered in detail include recommendations for Wilderness or Wild, Scenic, or Recreation River designation.

However, the Wilderness issue is indirectly addressed to some degree in all the alternatives considered in detail. The considered alternatives include varying acreages of the Future Old Forest and Future Old Forest with Minerals Activity management areas. The management prescriptions applied in these areas are relatively similar to the management applied to roadless areas:

- A target recreation experience of semi-primitive non-motorized
- No commercial timber harvest
- Road construction essentially limited to that necessary to provide access to privately owned minerals.

"Conservation Alternative"

This alternative was submitted by an individual active in the group Friends of the Wayne. The alternative included maps of management area allocations, but did not include levels of treatments or outputs. The management area allocations would have included substantially more Future Old Forest than the No-Action Alternative, and no management area with any even-aged timber harvest.

This alternative was eliminated from detailed study because it would not provide habitat to support the viability of *all* animals and plants native to the Wayne (particularly those that require early successional habitat) and would not adequately address the need to restore and maintain the mixed oak ecosystem. However, the No-Action Alternative is similar to the Conservation Alternative in that it would not include any even-aged management. And, Alternative F would allocate to the Future Old Forest (FOF) or Future Old Forest with Mineral Activity much of the same area proposed for FOF in the Conservation Alternative.

Modifying Management of Off Highway Vehicles (OHV)

OHV use is one of the WNF's primary recreation activities and one of the topics of most interest to many Forest users. The Forest considered alternatives that would modify current OHV management, including reducing or eliminating OHV use, and substantially increasing the area allocated to OHV use.

These alternatives were eliminated from detailed study because analysis of public input indicates there is little support for either eliminating OHV use on the Forest or for substantially increasing the area allocated to their use. Rather, there is still broad support for the OHV management strategy of the current Forest Plan. Most of the concerns expressed regarding OHV management are related to implementation of the current strategy:

- Many OHV users are dissatisfied with the amount of new trail construction that has been accomplished.
- Many other Forest users are concerned with the impacts of OHV use on other resources due to illegal OHV use and/or inadequate maintenance of OHV trails.

National Park Designation

A number of individuals and organizations proposed consideration of alternatives that would include making all or part of the WNF a national park. This alternative was eliminated from detailed study because such a change is not within the authority of the Forest Service.

Alternatives Considered in Detail

Management Areas

All the alternatives use the same basic set of management areas (MAs). The alternatives do differ in the total acreages and locations of the MAs. (See Table S - 3 and the alternative maps.) How the MAs in the Revised Forest Plan compare to the MAs in the current Forest Plan is summarized in Table S - 2.

Table S - 2. 2006 Plan/1988 Plan Management Area Comparison

2006 Plan MA Name	2006 Plan MA Map Abbrev.	1988 Plan MA Number
Diverse Continuous Forest	DCF	2.2
Diverse Continuous Forest with Off-Highway Vehicles	DCFO	2.3
Historic Forest	HF	NA
Historic Forest with Off-Highway Vehicles	HFO	NA
Forest and Shrubland Mosaic	FSM	3.1, 3.3, 6.1
Forest and Shrubland Mosaic with Off-Highway Vehicles	FSMO	3.2
Grassland-Forest Mosaic	GFM	NA
Future Old Forest	FOF	6.2
Future Old Forest with Mineral Activity	FOFM	NA
River Corridor	RC	2.1
Developed Recreation	DR	7.1
Timbre Ridge Lake	TRL	NA
Special Areas	SA	8.2
Research Natural Areas	RNA	8.1
Candidate Areas	CA	9.2

A brief description of each MA follows. Each MA has a different mix of resource uses. These descriptions highlight only an MA's predominant use. The emphasis in each area should not imply an exclusive use. Detailed descriptions of all the MAs can be found in Chapter 3 of the 2006 Forest Plan.

Diverse Continuous Forest

Large blocks of mature forest that contain a variety of tree species of diverse ages and sizes characterize this management area. These features provide habitat for interior-forest wildlife species.

Shade tolerant/fire intolerant species such as maple and beech are becoming more predominant in the forest understory and canopy on the more mesic sites in this management area. The effects of low-intensity ground fire are evident, generally on ridges and drier slopes where efforts to perpetuate oak and hickory species are emphasized. A variety of mature forest conditions are maintained over time using predominately uneven-aged timber harvest and occasional prescribed fire.

Moderate amounts of dispersed, non-motorized recreation opportunities are offered in this management area. Examples of dispersed recreational activities that occur in these areas include hiking, mountain bike riding, horseback riding, hunting, fishing, viewing scenery and wildlife, and gathering forest products

Diverse Continuous Forest with Off-Highway Vehicles

This management area emphasizes trails for motorized recreation and mature forest habitat for conservation of forest interior species. Vegetation conditions and management are similar to the Diverse Continuous Forest MA. Off-highway vehicle trails are developed and maintained to provide safe trail riding. Moderate amounts of non-motorized recreation are also available. Hiking, horse, and mountain bike trails may be created to connect an existing trail system as long as these do not interfere with the OHV trails.

Historic Forest

The emphasis of this management area is restoration and maintenance of the mixed oak ecosystem through a combination of mostly uneven-aged timber harvest and frequent prescribed fire.

Forest conditions have always varied over space and time, due to natural processes and changes in climate as well as natural and man-made disturbances. Forest ecologists believe current conditions of the central hardwood forests lie outside the historic range of variability. The desired future condition of this management area is a mix of vegetation more nearly resembling the historic range that existed prior to $18^{th}/19^{th}$ century settlement and development.

A variety of wildlife habitat is provided with emphasis on habitat for species dependent on large oak and hickory trees and a near-continuous canopy. The open nature of the forest and the hard mast produced by the oaks and hickories would provide habitat for many animals.

Moderate amounts of non-motorized recreation opportunities are provided. These include viewing wildlife and scenery, hunting, horseback riding, fishing, trapping, and hiking. In some areas, trails may provide access for non-motorized activities.

Historic Forest with Off-Highway Vehicles

This management area emphasizes providing trails for motorized recreation and the restoration and maintenance of the mixed oak ecosystem through a combination of mostly uneven-aged timber harvest and frequent prescribed fire. Vegetation conditions and management are similar to the Historic Forest MA.

Motorized recreation opportunities are also emphasized. Off-highway vehicle trails are developed and maintained to provide safe trail riding. Moderate amounts of non-motorized recreation are also available. Hiking, horse, and mountain bike trails may be created to connect an existing trail system as long as they do not interfere with the OHV trails.

Forest and Shrubland Mosaic

Early successional habitat patches of various sizes are distributed throughout a forested landscape. Shrub and seedling/sapling forest habitats, along with associated species, flourish and contribute to overall landscape biodiversity and conservation. As shrub and seedling/sapling forest habitats grow into stands of pole-sized trees, new shrub and seedling/sapling forest habitat are created by even-aged timber harvest.

The mix of forest communities runs from oak and hickory in the uplands and on drier hillsides to yellow poplar, beech, maples, oaks, hickories, and other mesic species on moist slopes and in bottomlands. Native pine communities occur in portions of this area.

Prescribed fire plays a role in the maintenance of some forest communities and species, ensuring the continued presence of fire-adapted ecosystems.

Trails for hiking, mountain biking, and horseback riding may be provided. Hiking, mountain biking, horseback riding, hunting, fishing, viewing scenery and wildlife, and gathering forest products are examples of recreational activities that may occur in these areas.

Forest and Shrubland Mosaic with Off-Highway Vehicles

This management area emphasizes trails for motorized recreation as well as early successional habitat interspersed throughout a forested landscape. Vegetation conditions and management are similar to the Forest and Shrubland Mosaic MA.

Motorized recreation opportunities are also emphasized. Off-highway vehicle trails are developed and maintained to provide safe trail riding. Moderate amounts of non-motorized recreation are available as well. Hiking, horse, and mountain bike trails may be created to connect to an existing trail system as long as they do not interfere with OHV trails. No new non-motorized trail system would be constructed.

Grassland-Forest Mosaic

This management area emphasizes habitat for grassland-dependent wildlife species on reclaimed coalmine lands. Dispersed, non-motorized recreation opportunities are offered in this management area.

A mosaic of large grassland areas edged with shrub and various-aged forest habitat is provided. Recurrent application of prescribed fire and mowing retards succession to shrubs and trees, promotes growth of grasses and forbs and a diversity of grassland habitats. This provides habitat for grassland-dependent species such as Henslow's sparrow and bobwhite quail.

The forested areas surrounding these grasslands are managed as a mosaic of early successional habitat patches of various sizes that intersperse the predominately forested landscape. To replace areas growing out of this habitat condition, new early successional forest habitat is created using predominately even-age timber management. This provides habitat for shrubland-dependent species such as the prairie warbler and yellow-breasted chat.

Hiking, mountain biking, horseback riding, hunting, fishing, viewing scenery and wildlife, and berry picking are examples of the recreational activities that occur in these areas.

Future Old Forest

Mostly old forest that changes only as a result of natural disturbances and natural succession characterizes this management area. These areas offer Forest visitors opportunities to experience solitude and closeness to nature.

Natural processes will eventually change the forest composition of this management area. Over time, shade tolerant/fire intolerant tree species, such as maple and beech, will dominate the understory and canopy. Conversely, the amount of oaks and hickories will decline. Rare communities and associated species not dependent on disturbances will

continue to exist, but disturbance-dependent communities will generally decline across this management area.

Terrestrial wildlife associated with this area includes area-sensitive forest interior species such as the worm-eating warbler, Louisiana waterthrush, cerulean warbler, and wood thrush as well as species sensitive to human disturbance, such as black bear.

Forest Service roads will be closed and decommissioned where they are no longer needed, except for access to private oil and gas developments or similar specific uses. Use of roads that access privately held sub-surface rights or existing Federal leases are restricted to only those users or their agents to access, develop, or maintain their property.

In some portions of the area, access for hiking, horseback riding, viewing wildlife and scenery, fishing, and other non-motorized forms of recreation is provided by trails. Interaction among users is low to moderate. There is subtle evidence of other users except in the vicinity of oil and gas developments. The target recreation experience is semi-primitive, non-motorized.

Future Old Forest with Mineral Activity

This management area is located on the Marietta Unit of the Athens Ranger District. Similar to the Future Old Forest (FOF) Management Area, a primarily custodial regime of vegetation management is implemented. This will promote mostly old forest that changes only as a result of natural disturbance and succession, and will provide opportunities for relatively primitive recreation experiences.

Unlike the FOF Management Area, however, surface occupancy of Federal oil and gas leases is permitted here. Many oil and gas wells are already present within this management area, both on lands in private surface ownership and on NFS land where the subsurface minerals are privately owned (outstanding and reserved rights).

River Corridor

This management area emphasizes retaining, restoring, and enhancing the inherent ecological processes and functions associated with riverine systems. Management will protect or enhance the scenic quality of these areas to provide high-quality recreation opportunities. This management area includes linear-shaped corridors along Symmes Creek, the Hocking River, the Little Muskingum River, and the Ohio River.

National Forest System land along streams and rivers is predominantly forested; however, some floodplain wetlands or herbaceous-shrub communities may occur. Vegetative conditions are maintained over time using mostly uneven-aged techniques.

The floodplains function as storage areas for floodwaters, sources of organic matter for the streams and rivers, and habitat for riparian wildlife species. Aquatic communities are maintained or are returning to their historic compositions and distributions. Aquatic habitat conditions contribute to the conservation of species that reside in these mainstem streams and rivers.

Roads within and on the perimeter of this management area are used for a variety of recreation activities. In some areas, boat ramps provide access for motorized and non-motorized boating. Viewing scenery and wildlife, fishing, hunting, trapping, canoeing, hiking, picnicking, and camping are key recreation activities. Trails in this management area are open only to non-motorized use.

Developed Recreation

This management area emphasizes management of existing recreation facilities and the future needs of the highly developed sites that serve large numbers of people. It includes both existing and potential developed recreation sites and vicinities on the Forest.

The landscape in and around these developed recreation areas varies from park-like to mature forest. Waterbodies are often associated with these areas. A variety of native wildlife is present, ranging from species accustomed to campgrounds and high human use to those that inhabit mature forest habitats. Ponds and lakes in developed recreation areas generally contain game fish such as largemouth bass, bluegill, and channel catfish. A variety of wildlife and nature viewing opportunities are available within and near developed recreation sites.

Roads and trails provide access within the more developed areas. Trails lead to lakesides, riverbanks, and undeveloped areas. Roads and trails accommodate the high-density recreation use and related activities associated with the area.

Facilities include campgrounds, picnic areas, boat ramps, interpretive sites, overlooks, swimming areas, and trailheads. Universal access is available to some existing and all newly constructed facilities and structures. Recreation sites are clean, safe, and well-maintained.

Because this is an area of high public use and visibility with major public investments in facilities and structures, priority is given to acquisition of private in-holdings and subsurface mineral rights. Such acquisition consolidates NFS surface and subsurface ownership.

Timbre Ridge Lake

This management area is located in eastern Lawrence County on the Ironton Ranger District. Timbre Ridge Lake provides quality fishing opportunities in a natural setting. Boating is limited to small watercraft powered manually or by electric motors. In addition to fishing, visitors may participate in low-impact, dispersed recreational activities, such as hiking, mountain biking, backcountry camping, hunting, wildlife viewing, and picnicking.

Water quality in Timbre Ridge Lake and its feeder streams contributes to the recreational fishing experience. Water quality parameters meet or exceed state standards throughout the life of the Forest Plan.

Recreation facilities intended for use by low numbers of people are present but do not diminish the scenic value of the area. Universal access is provided to some existing and all newly constructed facilities and structures. Natural site characteristics dominate the development. Rustic facilities of informal design are available.

Road access to the boat launch facility, the dam, and to private land in-holdings is maintained. Secondary emergency road access to the dam is also maintained.

The landscape around the lake is mostly a closed-canopy hardwood forest, with especially colorful views in the spring and fall. Over time, the forest will change as a result of natural succession and disturbances (similar to the Future Old Forest MA).

Special Areas

This management area emphasizes the preservation, management, and study of unique natural areas. These areas are regionally or locally significant and have been formally designated upon recommendation by a review committee and approval by the Regional Forester.

These areas meet one or more of the following criteria:

- Represent unique geological, ecological, cultural or other scientific values
- Appropriate area for scientific research
- Have potential to be a regional or national landmark based on natural or cultural values.

Areas allocated to this management area are scattered throughout the WNF. Sizes vary, ranging from a few acres to several hundred acres. These areas are individually unique and generally not connected to each other.

All activities in these areas are to be consistent with the protection or maintenance of the unique characteristics for which an area was designated (e.g., protecting and perpetuating populations of rare plants or communities).

Recreation activities are also limited to those consistent with the purpose for which an area was designated. A system of hiking trails may provide access for administrative and recreational purposes.

Research Natural Areas

Research Natural Areas (RNA) are nationally significant areas with unique ecosystems deemed worthy of preservation for scientific purposes. Research is conducted in these areas to better understand their natural processes.

RNAs must meet one or more of the following criteria:

- Contribute to the protection of diversity of vegetation communities and wildlife habitat
- Typify important forest, shrubland, grassland, alpine, aquatic, and geologic types
- Represent special or unique characteristics of scientific interest and importance
- Help fulfill legal requirements, such as providing habitat for endangered species
- Protect or maintain special aquatic, geologic or potential natural vegetation and faunal communities or protects cultural resources.

Candidate Areas

This management area emphasizes the preservation of potential RNAs and Special Areas. Management is directed at protecting the potentially unique characteristics of an area until it can be studied for designation as an RNA or Special Area. Management activities are limited to those necessary for maintaining public health and safety or for treating non-native invasive species.

Brief Alternative Descriptions

Alternative A

Alternative A, the no-action alternative, reflects 1988 Forest-wide direction, including the 13 amendments made to that plan. It meets the 1982 Planning regulations (36 CFR 219.12(f) (7); 1982 Planning Rule) and NEPA requirement that a no-action alternative be considered. ‘No action’ means that current management allocations, activities, and management direction found in the existing Forest Plan, as amended

would continue. Output levels have been recalculated for this alternative to comply with new information, in particular, new scientific and inventory data.

Alternative A would emphasize providing habitat for species dependent on mature forest. Timber harvest would be limited to thinning and selection, totaling an average of 500 acres per year. No habitat for early-successional dependent species would be created through even-aged regeneration harvests. No surface occupancy requirements would be maintained for the Future Old Forest management areas on the Marietta, Athens and Ironton units of the Forest. The Developed Recreation Management Area would apply to only the Vesuvius area of the Ironton Ranger District, and the Leith Run and Lamping Homestead on the Marietta unit. Maximum potential OHV trail construction objectives would remain at the same level as the 1988 Forest Plan.

Alternative B

This alternative was designed to provide early-successional habitat by allowing an increase in even-aged timber harvest. About 67 percent of the Forest would be allocated to management areas with an emphasis on early successional habitat.

Alternative B would also emphasize providing more opportunities for oil and gas development by allocating fewer acres to management areas with the No Surface Occupancy stipulation for Federal leases on the Marietta unit.

The Developed Recreation Management Area would apply to only the Vesuvius area of the Ironton Ranger District, and the Leith Run and Lamping Homestead areas on the Marietta unit. Maximum potential OHV trail construction objectives would remain at the same level as the 1988 Forest Plan.

Alternative C

Alternative C would emphasize providing diverse wildlife habitats, especially extensive tracts of mature forest. Habitat for early successional-dependent species would be provided at about the minimum level estimated to provide for their viability on the Forest. Habitat for grassland dependent species would also be provided in Alternative C, as well as alternatives D, E, E Modified, and F. This alternative would provide a modest amount of management for restoration and maintenance of the mixed oak ecosystem using the Historic Forest Management Area prescription on one area of the Ironton Ranger District.

Alternative C would be relatively restrictive regarding oil and gas development. The sizes of the Future Old Forest Management Areas are increased on all three units to provide larger semi-primitive non-motorized

areas. The Future Old Forest area on the Marietta unit would continue to have a no surface occupancy restriction.

Alternative C includes the Burr Oak Campground on the Athens unit as part of the Developed Recreation Management Area. Maximum potential OHV trail construction objectives would be lowered from the 1988 Forest Plan levels to reflect the mileages that could be developed within acceptable environmental limits.

Alternative D

Alternative D would emphasize diverse wildlife habitats, including extensive tracts of mature forest. It would also provide a moderate amount (greater than Alternative C) of early successional habitat and management for restoration and maintenance of the mixed oak ecosystem. Two areas of the Ironton Ranger District would be managed using the Historic Forest management prescription.

Alternative D would also provide more opportunities for oil and gas development by allocating fewer acres to management areas with the No Surface Occupancy stipulation for Federal leases. In particular, under Alternative D, surface occupancy on Federal oil and gas leases would be permitted within the Future Old Forest with Mineral Activity Management Area on the Marietta Unit. The Future Old Forest Management Areas on the Ironton and Athens units would remain the same as they are under the 1988 Forest Plan.

Alternative D allocates the existing main developed recreation sites on all three units to the Developed Recreation Management Area. The Future Old Forest with Mineral Activity Management Area on the Marietta Unit recognizes that the oil and gas development and maintenance precludes this area from offering a semi-primitive non-motorized recreation experience. Maximum potential OHV trail construction objectives would be between that of Alternatives A and B, and that of Alternative C.

Alternative E

The emphasis of Alternative E is diverse wildlife habitats, including extensive tracts of mature forest. It would provide more early-successional habitat than Alternatives A, C, D, and F. Alternative E and F would provide the most management for restoration and maintenance of the mixed oak ecosystem using the Historic Forest Management Area prescription on both the Athens and Ironton units.

Alternative E would also provide more opportunities for oil and gas development compared with Alternative A, but less than Alternative D. This would be accomplished by allocating fewer acres to management areas with no surface occupancy on the Marietta unit (using Future Old Forest with Mineral Activity Management Area rather than the Future Old

Forest Management Area). The Marietta unit is the part of the Forest that has historically been the most productive for oil and gas leasing and development.

Alternative E allocates the existing main developed recreation sites on all three units to the Developed Recreation Management Area. The Future Old Forest with Mineral Activity Management Area on the Marietta Unit recognizes that the oil and gas development and maintenance precludes this area from offering a semi-primitive non-motorized recreation experience. Maximum potential OHV trail construction objectives would be less than the 1988 Forest Plan levels to reflect the mileages that could be developed within acceptable environmental limits.

Alternative E Modified

Alternative E-Modified was developed in response to comments received on the Draft EIS and Proposed Revised Forest Plan. Alternative E Modified adjusts the preferred alternative for the DEIS using selected elements from other alternatives. The emphasis and theme for Alternative E Modified are essentially the same as Alternative E with a few changes. The main changes, described earlier in this Record of Decision, include:

- Additional land allocated to the Future Old Forest management prescription on three sides of the Morgan Sister's Woods Special Area on the Ironton Ranger District. This change also increases the acreage with a no surface occupancy minerals restriction;
- Management area allocations changed in the vicinity of the approved Nelsonville Bypass;
- Update the Monitoring and Evaluation chapter of the revised plan;
- Some clarifications and editorial changes to goals, objectives, standards and guidelines; and
- Increase the lower limit for the range of potential OHV trail construction objectives.

Alternative F

Within the overall objective of providing diverse wildlife habitats, Alternative F would emphasize unmanaged mature forest habitat and semi-primitive non-motorized recreation. Alternatives E and F would provide the most management for restoration and maintenance of the mixed oak ecosystem using the Historic Forest Management Area prescription on both the Athens and Ironton units.

Alternative F includes the same no surface occupancy on the Marietta unit (using Future Old Forest with Mineral Activity Management Area rather than the Future Old Forest Management Area), but on a much larger area.

On the Athens and Ironton units, the Future Old Forest Management area would be expanded over Alternative E making more land covered by the No Surface Occupancy stipulation.

Alternative F would include the largest allocation of any of the alternatives to the Future Old Forest and the Future Old Forest with Minerals Activity management areas. It also covers all of the developed recreation areas the same as Alternatives C, D, E and E Modified.

Comparison of Alternatives

Management Area Allocations

Table S - 3. Management Area Allocations by Alternative.

	A No Action	B	C	D	E	E Modified Selected	F
Candidate Areas	981	981	981	981	981	981	981
Developed Recreation	1,839	1,839	4,078	4,078	4,078	4,078	4,078
Diverse Continuous Forest	155,408	12,079	98,292	83,405	55,089	55,267	45,971
Diverse Continuous Forest with OHVs	45,010	27,851	43,901	29,846	22,278	22,626	22,278
Forest and Shrubland Mosaic	0	143,329	22,946	45,536	57,562	54,580	35,779
Forest and Shrubland Mosaic with OHVs	0	17,159	0	0	0	0	0
Future Old Forest	18,470	9,603	23,649	8,793	13,496	16,478	26,326
Future Old Forest with Mineral Activity	0	8,867	0	10,154	10,154	10,154	28,225
Grassland and Forest Mosaic	0	0	5,334	5,334	5,334	5,334	5,334
Historic Forest	0	0	17,869	17,869	26,456	26,278	26,456
Historic Forest with OHVs	0	0	0	14,054	21,622	21,274	21,622
Research Natural Areas	117	117	117	117	117	117	117
River Corridors	8,682	8,682	12,544	12,544	12,544	12,544	12,544
Special Areas	7,546	7,546	7,546	7,546	7,546	7,546	7,546
Timbre Ridge Lake	0	0	796	796	796	796	796
Total	238,053	238,053	238,053	238,053	238,053	238,053	238,053

Estimated Management Activities/Outputs

The projected management activities in Table S - 4 were used to estimate the effects of the alternatives. These effects are summarized in Chapter 2, and discussed in detail in Chapter 3 of the Final EIS.

Table S - 4. Upper limits of projected outputs for management activities for the first decade.

Vegetation & Habitat Management							
Mgmt. Activity	**A**	**B**	**C**	**D**	**E**	**E Modified**	**F**
Even-aged Hardwood Timber Harvest (acres)	0	5,960	1,630	1,780	1,820	1,725	1,370
Even-aged Pine Timber Harvest (acres)	0	200	200	200	200	200	200
Uneven-aged Timber Harvest (acres)	5,000	5,000	16,120	15,470	14,590	14,556	13,500
Commercial Thinning (acres)	0	0	940	1,230	1,540	1,460	970
Crop Tree Release (acres)	1,150	3,250	3,239	2,786	2,142	2,113	1,719
Grape Vine Control (acres)	1,500	3,720	4,148	3,544	2,711	2,683	2,212
Site Prep for Native Pine (acres)	200	200	200	200	200	200	200
Reforestation (acres) (planting)	500	500	500	500	500	500	500
Prescribed Fire for Oak Regeneration (acres)*	6,764	12,214	35,725	40,599	46,611	46,215	44,537
Herbicide Application for Oak Regeneration (acres)	800	4,376	7,236	9,005	11,155	10,994	10,846
Development of Permanent Forest Openings (acres)	500	500	500	500	500	500	500
Maintenance of Permanent Forest Openings and other Herbaceous Habitats (acres)	6,500	6,500	6,500	6,500	6,500	6,500	6,500
Control of Non-Native Invasive Species (acres)	1,900	1,900	1,900	1,900	1,900	1,900	1,900
Installation of Bat-Friendly Gates on Mines (gates)	30	30	30	30	30	30	30
Recreation & Facilities Management							
Mgmt. Activity	**A**	**B**	**C**	**D**	**E**	**E Modified**	**F**
OHV Trail	184 mi (223 ac)	184 mi (223 ac)	124 mi (150 ac)	154 mi (187 ac)	124 mi (150 ac)	124 mi (150 ac)	91mi (110 ac)
Hiking Trail Construction	14 mi (8.5 ac)	14 mi (8.5 ac)	30 mi (18 ac)	30 mi (18 ac)	30 mi (18 ac)	30 mi (18 ac)	30 mi (18 ac)
Horse Trail Construction	30 mi (36 ac)	30 mi (36 ac)	50 mi (61 ac)	50 mi (61 ac)	50 mi (61 ac)	50 mi (61 ac)	50 mi (61 ac)
Mountain Bike Trail	30 mi (36 ac)	30 mi (36 ac)	30 mi (36 ac)	30 mi (36 ac)	30 mi (36 ac)	30 mi (36 ac)	30 mi (36 ac)
Recreation Facility and	60	60	60	60	60	60	60

Parking Lot Construction (Acres)							
Transportation Management							
Mgmt. Activity	**A**	**B**	**C**	**D**	**E**	**E Modified**	**F**
Temporary Road Construction	41 mi (118 ac)	45 mi (130 ac)	50 mi (146 ac)	50 mi (146 ac)	50 mi (145 ac)	50 mi (146 ac)	48 mi (140 ac)
Permanent Road Construction	17 mi (52 ac)	22 mi (68 ac)	24 mi (74 ac)	24 mi (74 ac)	24 mi (74 ac)	24 mi (74 ac)	23 mi (71 ac)
Permanent Road Reconstruction	47 mi (145 ac)	73 mi (223 ac)	104 mi (320 ac)	103 mi (317 ac)	101 mi (311 ac)	103 mi (318 ac)	93 mi (284 ac)
Road Decommissioning	10 mi (29 ac)	10 mi (29 ac)	10 mi (29 ac)	10 mi (29 ac)	10 mi (29 ac)	10 mi (29 ac)	10 mi (29 ac)
Energy Minerals Management							
Mgmt. Activity	**A**	**B**	**C**	**D**	**E**	**E Modified**	**F**
Surface Coal Mining Activities (acres)**	1,250	1,250	1,250	1,250	1,250	1,250	1,250
Reclamation of Depleted or Orphan Wells	128 wells (70 ac)	128 wells (70 ac)	128 wells (70 ac)	128 wells (70 ac)	128 wells (70 ac)	128 wells (70 ac)	128 wells (70 ac)
Oil & Gas Well Development	234 wells (121 ac)	234 wells (121 ac)	234 wells (121 ac)	234 wells (121 ac)	234 wells (121 ac)	234 wells (121 ac)	234 wells (121 ac)
Watershed Management							
Mgmt. Activity	**A**	**B**	**C**	**D**	**E**	**E Modified**	**F**
Treatment of AMD (acres)	270	270	270	270	270	270	270
Surface Mine Reclamation (acres)	20	20	20	20	20	20	20
Closure of Open Mine Portal/Subsidence (acres)	232	232	232	232	232	232	232
Fire Management							
Mgmt. Activity	**A**	**B**	**C**	**D**	**E**	**E Modified**	**F**
Reduction of Hazardous Fuels - Prescribed Fire (acres)	61,355	55,905	32,394	27,520	21,508	21,904	23,582
Reduction of Hazardous Fuels - Mechanical (acres)	10,181	10,181	10,181	10,181	10,181	10,181	10,181

Economic Effects							
	A	B	C	D	E	E Modified	F
Labor Income by Program							
Recreation ($MM)	$3.9	$4.0	$3.8	$4.0	$3.9	$3.9	$3.8
Wildlife and Fish ($MM)	$1.6	$1.6	$1.5	$1.6	$1.6	$1.6	$1.5
Grazing ($MM)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Timber ($MM)	$1.1	$4.4	$5.6	$5.7	$5.8	$5.7	$4.7
Minerals ($MM)	$2.6	$2.6	$2.6	$2.6	$2.6	$2.6	$2.5
Payments to States/Counties ($MM)	$0.1	$0.2	$0.2	$0.3	$0.2	$0.2	$0.2
Forest Service Expenditures ($MM)	$7.3	$7.8	$7.8	$7.9	$7.9	$7.9	$7.8
Total Forest Management ($MM)	$16.5	$20.7	$21.6	$22.1	$22.0	$27.0	$20.6
Percent Change from Current	---	25.8%	31.0%	34.2%	33.8%	33.8%	25.4%
Suitable Timber Lands and Allowable Sale Quantity							
	A	B	C	D	E	E Modified	F
Acres Suitable for Timber Production	170,884	164,884	163,913	167,643	163,932	161,752	131,613
Average Annual Allowable Sale Quantity (ASQ) in First Decade (MMBF)	2.0	8.4	8.7	9.0	8.4	8.3	7.2
Average Annual ASQ over 15 Decades (MMBF)	4.8	20.1	14.2	14.4	14.2	14.0	11.3

*A portion of these prescribed fire projections include acres that are burned twice in one decade.

** Assumes owners of valid existing rights to surface mine coal will exercise those rights.

How the Alternatives Address the Issues

The alternatives considered in detail vary in how they address some facets of the issues, but some issues or parts of issues are addressed the same way in every alternative. Table S - 5 summarizes which aspects of the alternatives are the same and where they vary. The details of the updated direction listed in Table S - 5 can be found in Chapters 2 and 3 of the Revised Forest Plan.

Table S - 5. Summary of How Alternatives Address the Issues.

Alternative Components by Issue	Varies by Alternative	Same for All Alternatives
Watershed Protection		
Update direction for abandoned mined lands restoration		X
Update direction for protection of riparian areas		X
Vegetation Management		
Desired future conditions regarding extent and location of forest-type and grasslands, age-class distribution, and canopy closure	X	
Areas allocated to even-aged management, uneven-aged management and no timber management	X	
Update direction and treatment objectives for the maintenance and restoration of the mixed oak ecosystem	X	
Update direction for the control of non-native invasive species		X
Projected levels of vegetation treatments	X	
Recreation Management		
Areas allocated to all-terrain vehicle (ATV) and off-highway motorcycle (OHM) trails	X	
Mileages of trail construction	X	
Areas with semi-primitive non-motorized recreation experience objective	X	
Land Ownership		
Update direction to provide for growth and development of communities within the proclamation boundary		X
Minerals		
Management areas with no surface occupancy (NSO) stipulation	X	
Provide direction for determining NSO stipulation for specific tracts within management areas that generally do permit surface occupancy		X
Remove analysis process discussion of Amendment 8		X
Update direction for surface management of lands with underlying reserved and outstanding minerals rights		X
Update direction for management of coal resources		X
Roadless Areas, Wilderness, and Wild and Scenic Rivers		
No areas recommended for wilderness designation		X
No river segments recommended for Wild, Scenic or Recreation River designation		X

Issue 1 – Watershed and Riparian Protection

Portions of thirty-one 5th level watersheds occur within the WNF proclamation boundary. Currently, only twenty-two 5th level watersheds include National Forest System lands (Table S - 6), but ownership patterns could change in the future with continuation of the WNF land acquisition program. NFS ownership determines the degree of influence Forest Service resource management could have in any particular watershed.

Table S - 6. Comparison of NFS ownership among the 5th level watersheds and the relative degree of influence Forest Service management activities could have on 5th level watershed integrity.

	Percent NFS ownership in 5th level watersheds					
	0	0-10	10-20	20-30	30-40	40-50
Number of 5th level watersheds	9	11	5	3	2	1
Degree of influence	N/A	Low	Low	Moderate	Moderate	High

There are over 200 miles of perennial stream with NFS ownership on one or both banks within the Forest. State and Forest Service assessments indicate that only 11 percent met State-wide water quality standards. Forty-eight percent were impaired and 41 percent had not been assessed by the Ohio EPA or the Forest Service. Impairment is caused primarily by two sources: agriculture and abandoned mine lands. Impairment for the Marietta Unit is due primarily to nutrients, siltation, and flow alteration due to non-irrigated crop production, pasture lands, and onsite wastewater systems (septic tanks). The impairment for the Athens and Ironton units is primarily due to acidity, metals, and sedimentation due to previous mining. There is insufficient data at this time to quantify water quality conditions for intermittent and ephemeral stream miles.

Acid mine drainage is considered to be the most significant non-point source pollutant in northern Appalachia. Most of the mining on the WNF occurred on the Athens Unit. The Athens Unit has three major watersheds impaired by acid mine drainage: Monday Creek, Sunday Creek, and Raccoon Creek.

The acreage of ground disturbing activities that could occur on NFS land during the first decade varies little between alternatives. The alternatives also would vary little in the amount of potential soil erosion and sediment transport that could occur during the first decade, with less than one percent of the cumulative effects analysis area affected by ground-disturbing activities on NFS land. Forest-wide standards and guidelines are designed to minimize direct, indirect, and cumulative effects to watershed integrity. Furthermore, some activities that may be implemented could result in short-term disturbance, but significant long-term benefits. For example, abandoned mine land restoration may disturb

localized areas for a brief period, but could result in the restoration of habitable aquatic habitat for fish, mussels, and other aquatic invertebrates.

Issue 2 – Plant and Animal Habitat

The WNF lies within the Southern Unglaciated Allegheny Plateau Ecological Section (Section 221E), which covers parts of Kentucky, Ohio, Pennsylvania, and West Virginia. The Southern Unglaciated Allegheny Plateau can be further subdivided into smaller ecological units, called subsections – three of which contain the Forest: the Ohio Valley Lowlands, the East Hocking Plateau and the West Hocking Plateau (Table S - 7).

Table S - 7. Ecological patterns of the three ecological subsections that contain the WNF.

	Ohio Valley Lowlands Subsection (221Ec)	East Hocking Plateau Subsection (221Ed)	West Hocking Plateau Subsection (221Ef)
General Description	Rugged, wooded, and, commonly, too steep to be farmed. High gradient streams without acidity problems are characteristic and have developed on the underlying Permian shale, sandstone, and coal; on shale, the streams are often ephemeral and without large riffle-inhabiting fish populations.	Rounded hills and ridges that are generally less rugged than 221Ec, but are still steep. Gas wells, coal mining, and reclaimed land are locally extensive and associated stream degradation is common. Forests occupy steeper areas; dairy, livestock, and general farms also occur.	The ridges are forested while floodplains and broad, clay-filled, flat-bottomed, preglacial valleys are used for general farms. Characterized by extensive bituminous coal mining (especially in the north) and associated stream degradation. Originally, the hill slopes had mixed oak forests, while the broad, Teays-age valleys supported mixed mesophytic forests.
Physiography	Unglaciated, except in the extreme west and northeast. Highly dissected plateau with rounded hills, ridges, landslips. Steep slopes of high relief along the Ohio River. Stream flow can be low in the summer.	Unglaciated. Dissected plateau, rounded hills and ridges, narrow valleys, steep slopes of high relief. Landslips. Some streams impacted by acid mine drainage.	Unglaciated, except in the extreme northwest. Dissected plateau with broad, flat-bottomed, hanging, pre-glacial valleys. Stream degradation associated with coal mining.
Natural Vegetation	Mostly mixed oak forest; with mixed mesophytic forest, oak-sugar maple forest; beech forest in broad valleys in Meigs and Athens counties.	Mixed mesophytic forest and mixed oak forest; beech forest in wide valleys of certain counties.	Extensive mixed oak forest on hill slopes. Teays-age valleys support mixed mesophytic forests. Beech forests in the wide valleys of the Hocking River system.

Source: U.S. Environmental Protection Agency (no date)

The National Forest Management Act (NFMA) requires the Forest Service to provide for diversity of plant and animal communities. The 1982 regulations implementing NFMA require National Forests to provide habitat that can maintain viable populations of existing native and desired non-native vertebrate species in the planning area. Additional direction extends this mandate to include vascular plants.

There are over 300 aquatic and terrestrial vertebrate species, in addition to countless invertebrates and over 2,000 plant species, known to inhabit the WNF sometime during their life cycles. Species viability evaluations

conducted as part of this Forest Plan revision demonstrated that habitat diversity is the key to the conservation of these plants and animals.

The existing terrestrial habitat composition on NFS lands is dominated by hardwood forest, mostly less than 100 years old. At the time of the earliest land surveys, the area which is now the Wayne National Forest was covered primarily by mixed oak-hickory forests. On wetter sites, mixed hardwood and beech forest communities naturally occurred. Some pine was found locally on some ridges.

Mixed oak and oak-hickory communities still dominate the landscape of the WNF today. However, decreased fire occurrence over the last century has contributed to an increase in shade tolerant species in the forest understory and midstory and to a concern about maintenance of the oak component across the landscape in the future. Oak communities support numerous plant and animal species, and their potential decline on the landscape raises concerns about how changes in forest composition will affect species over time.

Table S - 8 provides an overview of trends for indicator species and habitats that could be expected to occur for each alternative after 100 years of Forest Plan implementation. Key results include:

- Oak-hickory is expected to decline from present levels in all alternatives. Many species rely on these tree species for food and shelter. Historic Forest management prescriptions and even-aged management will help retain oak-hickory in the landscape.
- Abundance of pine in the landscape was naturally low, but has increased with the planting efforts started by the Civilian Conservation Corps in the 1930s. Pine is expected to decline in all alternatives, or convert to mixed-pine hardwood stands. Therefore, it is expected that the pine warbler could experience population declines on NFS lands under all alternatives.
- Species dependent on early successional habitat, such as the yellow-breasted chat and ruffed grouse would likely experience drastic population declines after the first decade in Alternative A because it would not create any early successional forest habitat. Alternative C would provide what is considered to be the minimum amount of early successional habitat necessary to conserve these species on NFS lands. Alternative B and D through F would provide increased levels of this habitat.
- Habitat quantity and quality for interior forest species, such as the cerulean warbler, worm-eating warbler, pileated woodpecker, and Louisiana waterthrush would be higher in Alternatives C through F than in Alternatives A or B. All

alternatives will result in an increase of mature forest habitat, but the combination of management prescriptions in Alternatives C through F would provide more diverse mature forest structure and composition.

- Alternatives C through F would allocate areas of reclaimed strip-mined land to provide habitat for grassland-dependent species, such as the Henslow's sparrow. Its populations could decline or disappear from NFS lands in Alternatives A and B.

Table S - 8. Summary of key habitat indicators.

Issue Indicator	Amount or Trend* Estimate (after 100 years)	A	B	C	D	E	E Modified	F
Oak-hickory Forest	Amount (acres)	18,088	41,082	40,201	49,040	62,118	60,169	57,823
	Trend	↓↓↓	↓↓	↓↓	↓↓	↓	↓	↓
Pine Forest: Pine Warbler	Amount (acres)	13,193	13,193	11,871	11,699	10,574	10,461	7,770
	Habitat and Population Trends	↓	↓	↓↓	↓↓	↓↓	↓	↓↓↓
Early successional forest: Yellow-breasted Chat Ruffed Grouse	Habitat Amount (acres)	**	13,308	11,224	13,434	13,520	12,820	9,664
	Habitat and Population Trends	↓↓↓	– or ↑	↓	– or ↑	– or ↑	– or ↑	↓↓
Mature Forest Habitat: Cerulean Warbler Worm-eating Warbler Pileated Woodpecker	Habitat Amount (acres)	238,053	186,896	196,305	195,110	192,645	193,358	206,776
	Population Trend	– or ↑	– or ↓	– or ↑	– or ↑	– or ↑	– or ↑	– or ↑
Mature Riparian Forest Habitat: Louisiana Waterthrush	Habitat amount (acres)	29,623	29,623	29,623	29,623	29,623	29,623	29,623
	Population Trend	– or ↑	– or ↓	– or ↑	– or ↑	– or ↑	– or ↑	– or ↑
Grassland Habitat: Henslow's Sparrow	Habitat Amount (acres)	973	973	2,134	2,134	2,134	2,134	2,134
	Trend in population	– or↓	– or↓	– or↑	– or↑	– or↑	– or↑	– or↑
NFS lands allocated to management areas that allow timber harvesting	Amount (acres)	210,939	210,939	205,760	210,462	205,759	202,777	174,858
NFS lands allocated to management areas that allow prescribed fire	Amount (acres)	210,939	210,939	205,760	210,462	205,759	202,777	174,858

* Estimates of population trends for management indicator species are based on habitat trends on the WNF, and do not take into account how environmental conditions or factors related to wintering habitat could affect their population trends.

**No even-aged management prescribed; therefore pine would disappear over time on WNF.

↓ Slight decline from present levels; ↓↓ Moderate decline from present levels; ↓↓↓ Major decline from present levels

– Stable or no change from present levels

↑ Slight increase from present levels; ↑↑ Moderate increase from present levels; ↑↑↑ Major increase from present levels

Issue 3 – Recreation

The WNF is the second largest supplier of public recreation lands (approximately 238,000 acres) within Ohio, and the largest in the southeastern part of the State. The WNF provides a variety of unique natural settings for outdoor recreation, and a wide array of dispersed and developed recreation opportunities within those settings.

All alternatives would provide a range of recreation opportunities, settings, and experiences. The alternatives vary within a relatively narrow range in how they meet the demand for recreation on public land (Table S - 9).

Alternative F would provide the greatest opportunity for future semi-primitive recreation. The second highest opportunity for SPNM recreation would occur under Alternative C, followed by Alternatives E Modified, A, E, B, and D, respectively.

Alternatives A and B would allocate the same acreage for developed recreation. Alternatives C through F would allocate more than twice the acreage to developed recreation as do Alternatives A and B. Additionally, fewer miles of horseback riding and hiking trails would be constructed in Alternatives A and B compared to Alternatives C through F.

Table S - 9. Recreation Opportunity Spectrum (ROS) Setting Objectives by Alternative.

		ROS Objectives by Alternative (Percent of Forest)						
ROS Objective	**2004 ROS Inventory (%)**	**A**	**B**	**C**	**D**	**E**	**E Modified**	**F**
Semi-primitive Non-motorized	0	8	4	10	4	6	**10**	11
Roaded Natural	60	91	95	88	94	92	**88**	87
Rural	39	1	1	2	2	2	**2**	2
Urban	1	0	0	0	0	0	**0**	0

Two decades of national recreation studies have shown off-road driving to be one of the fastest growing outdoor activities. From 1983 to 2000 this sport has increased by 80%. From 1998 to November 2002, the registration of ATVs in Ohio has almost doubled. Ohio has maintained a ranking of 5th in the nation for retail sales of motorcycles from 1995 to 2001, but moved from 12th in the nation in sales of ATV's to 5th in this same period.

Table S - 10. New Motorized Trail Density, New Construction Miles, and Cross-country Travel by Alternatives.

Management Activity	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. E Modified	Alt F.
New ATV/OHM Trail Construction (Density Range - miles/mi^2)	3.2 to 6.4	3.2 to 6.4	2.0 to 3.5	2.0 to 3.9	2.0 to 3.5	2.4 to 3.5	2.0 to 3.0
New ATV/OHM Trail Construction (mileage range)	109 to 184	109 to 184	21 to 124	21 to 154	21 to 124	50 to 124	21 to 91
Total ATV/OHM Mileage Range (existing + planned)	225 to 300	225 to 300	137 to 240	137 to 270	137 to 240	137 to 240	137 to 207
OHV Cross-country Use	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited

Issue 4 – Land Ownership

Since the Consent Act (for land acquisition for a national forest) was signed by the State of Ohio in 1934, the Forest Service has acquired 238,053 acres (as of May 9, 2003) within the proclamation boundary, which totals 832,147 acres. The proclamation boundary includes portions of 12 counties (Table S - 11)

Table S - 11. Wayne National Forest Acreage in the Twelve Counties, 2003.

County	WNF Acres	Proclamation Acres	Total Acres in County	WNF as % of County
Athens	18,721	81,213	325,327	5.8%
Gallia	17,907	106,017	301,543	6%
Hocking	25,741	59,174	270,974	9.5%
Jackson	1,650	7,440	269,632	0.6%
Lawrence	70,765	157,766	292,375	24.2%
Monroe	24,424	142,854	292,441	8.4%
Morgan	3,354	7,637	269,725	1.2%
Noble	715	5,531	258,738	0.3%
Perry	22,336	79,798	263,841	8.5%
Scioto	11,707	32,438	394,358	3%
Vinton	1,901	27,239	265,526	0.7%
Washington	38,832	126,883	409,125	9.5%
Total	238,053	833,990	3,613,605	6.6%

The Forest's land acquisition program has been the subject of some opposition, based on concerns that National Forest ownership may discourage residential and industrial development and adversely impact local tax revenues available for counties and school districts. These concerns stem from the fact that Federal land cannot be developed for residential or industrial purposes, and that state and local governments cannot tax Federal land. Jurisdictions that include Federal lands, therefore, face a reduced land base on which to levy property taxes.

These concerns resulted in a moratorium (included in the 1995 appropriations bill for Interior and Related Agencies) on the purchase of land by the WNF within Lawrence, Washington, Monroe, and Gallia Counties. The language was subsequently removed in the Fiscal Year 2000 appropriations bill. The Ohio State Legislature also considered action on this issue. In 1999, a bill was introduced to amend the State of Ohio's consent law. The bill passed the Ohio House of Representatives in November 2000 but did not come to a vote in the Senate.

To assess the impacts of National Forest ownership on local tax revenues, it is necessary to understand not only the tax-exempt nature of Federal lands, but also the Federal payments to local governments that arise from Federal land located in their jurisdictions. These Federal payments must be compared with property tax revenues that would be expected if the land were privately owned, and placed within the context of other sources of local government funding.

The presence of the Wayne, with its ongoing land acquisition program, does not appear to negatively impact economic development in its 12 host counties. There are substantial quantities of land remaining in an undeveloped state. The property enrolled in current agricultural use valuation (CAUV) ranges from 19.9 percent to 49.7 percent of the land base in these counties (Table S - 12).

Similarly, analysis suggests that NFS lands do not negatively affect local tax bases, when all relevant information is considered. The five-year average for combined Federal payments to the counties was $2.79 per acre (Table S - 14). Indirect tax revenue from Forest visitors is estimated at an additional $1.90 per acre annually. Combined, the estimated total of $4.69 per acre (Table S - 14) exceeds estimates for CAUV rates in all the sample taxing districts that have WNF land (Table S - 13). While providing this revenue, the NFS lands do not require the same level of county services as privately owned lands. Several studies show that open and forested lands typically require only about 37 cents in services for every dollar raised in revenue. Residential development, which is most likely in the rural inholdings within the Wayne, typically requires about $1.16 in county services for every $1 in tax revenue contributed.

Table S - 12. CAUV Enrolled Acreage in the 12 Counties of the WNF, 2001.

County	WNF Acres	WNF % of County	Total acres in County	CAUV Acres	CAUV % of County
Athens	18,365	5.6	322,560	92,143	28.6
Gallia	16,954	5.9	286,075	136,953	47.9
Hocking	24,151	8.9	269,440	54,728	20.3
Jackson	1,701	0.6	265,792	69,616	26.2
Lawrence	68,843	23.6	291,520	110,006	37.7
Monroe	24,137	8.2	291,200	146,607	50.3
Morgan	3,328	1.2	269,440	133,567	49.6
Noble	694	0.2	254,976	93,980	36.9
Perry	22,257	8.4	262,080	102,124	39.0
Scioto	11,625	2.9	391,040	183,580	46.9
Vinton	1,869	0.7	263,040	62,776	23.9
Washington	39,002	9.5	410,240	169,293	41.3
Total	232,926	6.5	3,577,403	1,355,373	37.9

Source: The Ohio Department of Taxation.
http://www.state.oh.us/tax/Publications/Tax_Data_Series/PD32/pd32cy01.htm
(accessed 9/30/03)

Table S - 13. All Forest-related Federal Payments to the 12 Counties

Source	Year 1997	Year 1998	Year 1999	Year 2000	Year 2001
Payment in Lieu of Taxes (PILT)	$141,106	$150,237	$156,524	$168,320	$237,758
Revenue Sharing	$16,380	$13,663	$22,984	-$3,116	$40,419
Mineral Royalties	$19,209	$14,853	$16,914	$15,858	$23,193
Coop LE	$35,000	$49,000	$36,500	$32,800	$32,500
Forest Highways	$586,856	0	$250,123	$507,304	$550,000
Road Projects	0	0	0	0	$49,698
Fire Equip Rentals	$10,000	$10,000	$10,000	$10,000	$10,000
Total	**$808,551**	**$237,753**	**$493,045**	**$731,166**	**$943,567**
Forest Acres	227,128	228,401	229,654	231,290	232,926
Average per acre	$3.56	$1.04	$2.15	$3.16	$4.05

Five-year average payment per acre: $2.79

Issue 5 – Minerals

Oil and Gas

The Appalachian Basin, which includes Ohio counties covered by the WNF, gave birth to the world's oil industry and is one of the oldest commercially producing provinces in North America.

Virtually all of the production on the WNF comes from wells owned by independent producers, many of which are small family-owned businesses. Research completed by the Ohio Department of Natural Resources (ODNR), Divisions of Mineral Resources Management and Geological Survey, indicates that Ohio has significant remaining producible oil and gas reserves (OOGA, 2002 and ODNR, 2003).

Surface and mineral ownership on the WNF is intermixed and complex. Minerals underlying NFS lands may be Federally or privately owned, or a combination of both (Table S - 14). Federal mineral rights are those that have been acquired by the Federal government through purchase, exchange, or donation. Private minerals are divided into reserved and outstanding rights. Reserved minerals are mineral rights retained by the seller when the surface is sold. Outstanding minerals are mineral rights retained by a third party prior to transfer of the surface.

Table S - 14. Wayne National Forest surface/mineral ownership.

Ownership			Marietta Unit (acres)	Athens Unit (acres)	Ironton District (acres)	Forest Totals (acres)
Federal Surface	Federal Minerals	100% minerals Unencumbered	8,507	10,382	43,491	62,380
		100% minerals with deed lease[1]	8,760	8,069	17,037	33,866
		Total Federal Minerals	**17,267**	**18,451**	**60,528**	**96,246**
	Private Minerals[2]	Reserved Minerals	4,384	5,663	9,182	19,229
		Outstanding Minerals	7,622	12,468	11,000	31,090
		Combination[3]	34,725	36,565	21,642	92,932
		Total Private Minerals	**46,731**	**54,696**	**41,824**	**143,251**
Total Federal Surface			**63,998**	**73,147**	**102,352**	**239,497**
Private Surface	Federal Minerals		7	116	708	831
	Private Minerals		204,053	195,682	214,273	614,008
Total Private Surface			**204,060**	**195,798**	**214,981**	**614,839**
Total Acres within the WNF			**268,058**	**268,945**	**317,333**	**854,336**

[1] Most of these leases appear to be inactive and/or may have expired, but their legal status is currently unknown.

[2] Reserved, Outstanding, and Combination minerals may not all be 100% private minerals. Partial Federal interests may exist as well.

[3] Combination indicates a parcel with two or more outstanding, reserved or deed lease rights.

Federally owned minerals constitute about 40 percent of the mineral ownership on the WNF. This represents the only class of mineral estate for which the Forest Service can decide whether to make the surface available for oil and gas development. The responsibility for managing Federal leasable mineral resources is shared by the Forest Service and the U.S. Department of the Interior's Bureau of Land Management (BLM). The BLM has a major role in issuing licenses, permits, and leases for Federal minerals and in supervising associated operations.

Increased national demand for energy has increased the price producers receive at the wellhead. Consequently there is increased industry interest in drilling wells on the Federally owned surface of the WNF. Based on a BLM survey of local oil and gas producers, a forecast of the total number of new wells and associated surface disturbance likely to occur on Federal surface over the next 10 years, is shown in Table S - 15.

Table S - 15. Forecasted Federal oil and gas operations over next 10 years.

Oil and Gas Activity	Athens Unit	Marietta Unit	Ironton Unit	Forest Wide
Number of new wells drilled	24	110	100	234
Miles of new access road needed	5	21	19	45
Total acres of surface disturbed by oil & gas drilling activity before reclamation	27	135	110	272
Total acres of surface needed to support drilled wells that are completed for production (excess disturbance reclaimed)	11	59	51	121
Number of depleted wells plugged	82	26	0	108
Total acres reclaimed by plugging depleted wells	45.1	14.3	0	59.4

No Surface Occupancy

For oil and gas, the Forest Plan makes two decisions:

- Availability of lands for future leasing.
- The lease terms and stipulations to apply to tracts of Federally owned minerals that the Forest consents to lease.

The first decision was made in Amendment #8 to the 1988 Forest Plan adopted in 1992, which made all Federally owned minerals on the Forest available for lease. None of the alternatives considered in detail would modify the availability decision.

The key stipulation addressed in the Forest Plan is the no surface occupancy (NSO) stipulation, which prohibits use or occupancy of the

land surface for oil and gas exploration and development. The Forest Plan applies NSO in two ways:

- NSO is applied to certain management areas (MA NSO).
- NSO is applied Forest-wide, where specific conditions (e.g. steep slopes) or resources occur (FW NSO).

Minerals underlying an NSO surface may be extracted by directional drilling, if adjacent lands are available for leasing with surface occupancy or are privately owned. Directionally drilled wells can be many times more expensive to drill and maintain, and their economic life is shorter than that of conventional wells. An NSO designation on the WNF currently has the same effect of a "no leasing" designation because despite the large number of wells drilled in southeastern Ohio, the exact location and production of oil and gas bearing formations remain virtually impossible to predict.

Surface acreage with the MA NSO stipulation would vary by alternative, from a low of 20,086 acres (Alternative B) to a high of 39,844 acres (Alternative F). This represents 8 percent to 17 percent of WNF surface ownership, leaving 83 percent to 92 percent of the Forest's surface ownership available for both private and Federal oil and gas development. Table S - 16 shows how the NSO stipulation would affect the availability of Federally owned oil and gas.

Table S - 16. Effects of MA NSO and FW NSO on availability of Federal oil/gas.

	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. E Modified	Alt. F
MA NSO acres underlain by Federal oil and gas ownership	14,269	10,668	18,237	12,091	14,077	15,160	18,544
Percent of Federal oil & gas affected by MA NSO	14%	10%	17%	12%	13%	14%	18%
Percent of WNF surface	6%	5%	8%	5%	6%	6%	8%
FW NSO acres	2,100	2,100	2,100	2,100	2,100	2,100	2,100
Percent of Federal oil & gas affected by FW NSO	2%	2%	2%	2%	2%	2%	2%
Percent of WNF surface	1%	1%	1%	1%	1%	1%	1%
Acres of Federal oil & gas available for leasing	88,586	92,187	84,618	90,764	88,778	87,695	84,311
Percent of total Federal oil & gas	84%	88%	81%	86%	85%	84%	80%
Percent of WNF surface available for Federal O&G leasing	37%	39%	36%	38%	37%	37%	35%

Coal is Ohio's most valuable single mineral resource. Since 1800, a total of 3.63 billion tons of bituminous coal have been mined in Ohio. Production peaked in 1970 at 55 million tons. Coal production in 2001 totaled 25.8 million tons, 48.6 percent of which was recovered from 102 surface mines with 51.4 percent from 10 underground mines.

USDI's Office of Surface Mining has the authority to regulate coal mining operations. The Interior Department's agencies cooperate with the Forest Service to ensure that impacts upon surface resources are mitigated and that affected land is reclaimed.

The Surface Mining Control and Reclamation Act of 1977, as amended, prohibits surface (strip) mining of coal (subject to valid existing rights and certain exceptions) on Federal land within the boundaries of any National Forest east of the 100th meridian. There are currently no leases of Federally owned coal on the WNF.