Chapter 1

Purpose, Need, and Forest Plan Revision Issues

Introduction

This Final Environmental Impact Statement (Final EIS) documents the effects of applying alternative ways of managing the Wayne National Forest (WNF) to revise the 1988 Land and Resource Management Plan (Forest Plan). The 2006 Forest Plan will guide all management activities on the WNF for the next 10 to 15 years. In addition to establishing management goals and objectives, the Plan will allocate lands to different management emphases and set standards and guidelines for Plan implementation.

This Final EIS identifies aspects of the 1988 Forest Plan that need to be changed, documents several management alternatives for addressing the needed changes, and describes the likely effects of implementing each of the various alternatives. The ecological, social, and economic impacts of Forest management are included in the effects analysis (Chapter 3).

The 2006 Forest Plan, the companion to the Final EIS, was developed in accord with the Regional Forester's "selected alternative", and is based on public input, legal requirements, and resource needs.

The Final EIS is divided into five chapters:

- Chapter One (Purpose, Need, and Forest Plan Revision Issues) describes the reasons for revising the Forest Plan.
- Chapter Two (Alternatives) describes and compares alternatives for meeting Revision goals. The alternatives present a reasonable range of responses to the Forest Plan Revision issues described in this chapter.
- Chapter Three describes the Forest's and surrounding area's physical, biological, and social environments and the likely effects of each alternative on these environments.
- Chapter Four lists those who helped prepare the Final EIS.
- Chapter Five lists distribution of Final EIS copies to Federal, State and local agencies, tribal governments, organizations, businesses, and individuals.

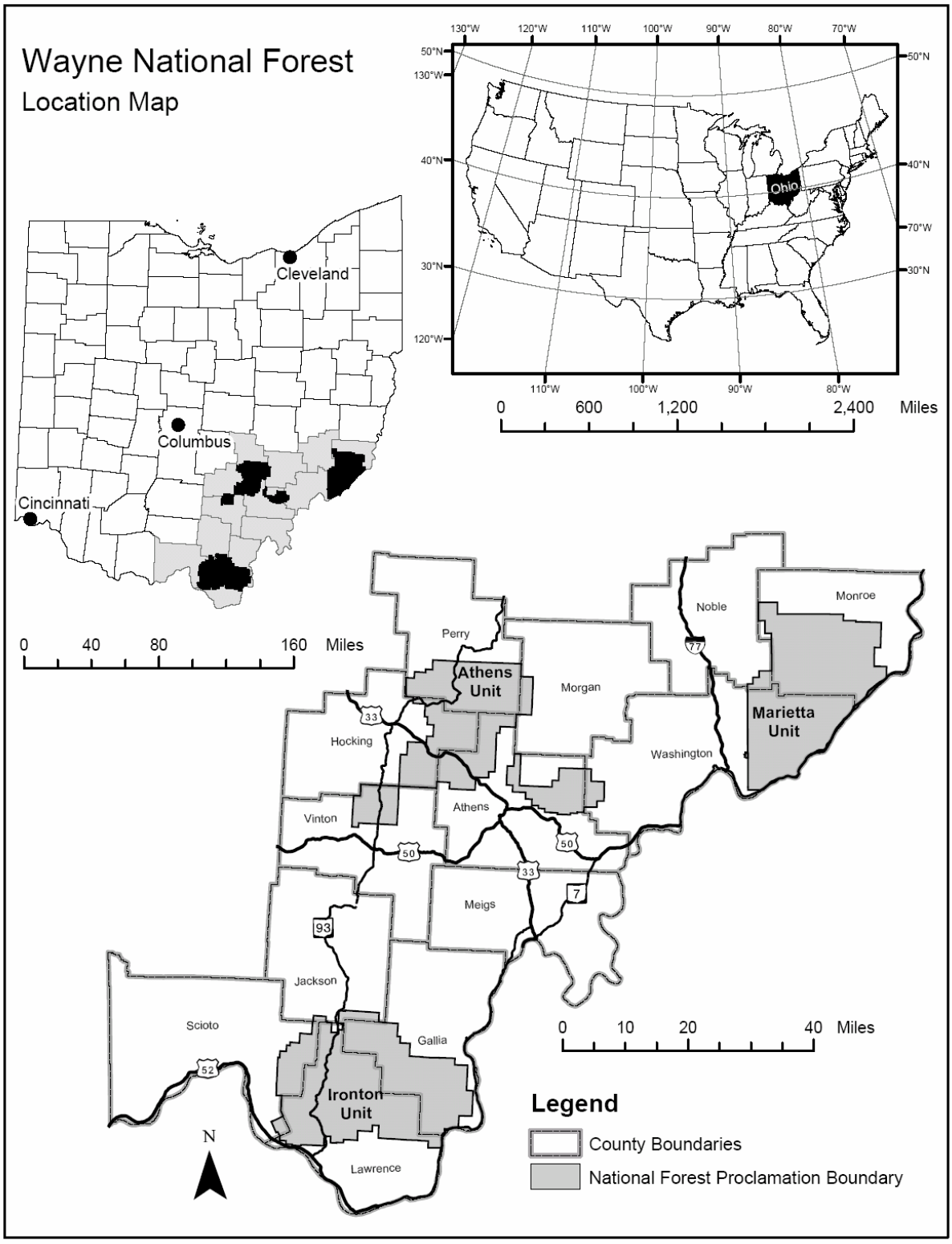

Figure 1 - 1. Vicinity Map of Wayne National Forest showing State, county, and proclamation boundaries.

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, and 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 Forest began in 1935. Congress set the Wayne'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 Wayne. 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 Wayne National Forest 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 WNF. 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 Forest 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 WNF 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 Forest, including hunting, fishing, hiking, horseback riding, mountain biking, and wildlife viewing. In addition, highway motorists enjoy driving through the Forest to view scenery while all-terrain vehicle (ATV) and off-highway motorcycle (OHM) riding continues to grow in popularity. The Wayne is well positioned to provide trails for both types of off-highway vehicle (OHV) riding. The Forest 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.

Forest Plan Decisions

National Forest System land management decisions at the Forest level are made in two stages. The first stage, a forest plan, establishes overall goals and objectives for desired conditions that the forest will strive to achieve. A forest plan allocates lands and resources to various uses or conditions by establishing management areas and management prescriptions for the planning area to achieve the goals and objectives. Forest plans also set limitations on what actions may be authorized and what conditions must be maintained as projects are implemented.

The second stage of making land management decisions is approving project-level decisions. The forest planning process for the Wayne does not make any project-level decisions.

Forest plans make six key decisions for managing a national forest in the long term. While no project-level decisions are considered during this revision process, the following are decided (36 CFR 219, 1982 regulations):

- Forest-wide multiple use goals and objectives
- Forest-wide management requirements for protecting resources (standards and guidelines)
- Management area direction
- Lands suited and not suited for timber management
- Monitoring and evaluation requirements
- Recommendations to Congress, such as Wilderness designations.

Purpose and Need for Forest Plan Revision

The Wayne National Forest proposes to revise its programmatic Land and Resource Management Plan to address new information, changed conditions, and public comment. The 1988 Plan, as amended, has guided WNF management since its adoption. Existing management direction not needing revision will be continued in the 2006 Plan. The revision must satisfy current Federal laws, regulations, and policies as well as new and changing information about the Forest and its uses.

The Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act (NFMA) of 1976, requires that each national forest be administered under a comprehensive land and resource management plan. Statutes and regulations also require that forest plans be reviewed every five years and revised at least every 15 years, or more frequently if warranted by changing conditions (16 U.S.C. Sec. 1604(f)(5)). Forest plans may be updated with amendments in

response to changes of a limited nature. The 1988 WNF Forest Plan has undergone 13 amendments since its adoption.

The wide variety of management activities performed in accordance with the 1988 Plan and natural events have altered conditions across the Forest. Also, 54,000 acres have been added to the Forest since the 1988 Plan took effect. Public expectations of the Forest continue to change, while concepts of ecosystem management evolve, and better data become available. Uses on private lands, beyond control of the Forest Service, also affect the Forest environment.

When the Wayne began its Forest Plan revision in 1998, the Forest Service's 1982 planning regulations were in effect. On Nov. 9, 2000, new planning rules were adopted. However, the 2000 planning rule allowed ongoing revisions to be completed under the 1982 rule if the revision was started prior to May 2001. The WNF Plan revision began with the publication in the Federal Register of a Notice of Intent to prepare an Environmental Impact Statement for the Revised Plan on April 4, 2001. Subsequently, on Jan. 5, 2005, a new planning rule was promulgated which replaced the 2000 rule. However, the transition provisions of the 2005 planning rule (36 CFR 219.14(e)) also allowed ongoing revisions to be completed under the rule that was in effect before Nov. 9, 2000. Since the Wayne had already released its Draft EIS and Proposed Revised Forest Plan before the 2005 rule was released, we have completed the Plan revision using the 1982 planning rule procedures.

This 2006 Forest Plan is a programmatic framework which guides site specific actions, but does not authorize, fund, or carry-out any project decisions. Forset plans function as a gateway for compliance with environmental laws during subsequent site specific decision making. The 2006 Plan allows for activities that may occur through future decision making, but does not itself authorize or mandate any ground-disturbing actions. The Plan is broader-scale decision that does not compel or contain any site specific decisions resulting in an irretrievable or irreversible commitment of resources, but simply represents one level in a multi-stage decision making process. Choosing the best course of action for this National Forest necessarily involves trade-offs among resources. The environmental disclosure information in this environmental impact statement is commensurate with the programmatic nature of the proposal. For additional information on the nature of forest plans, see: www.fs.fed.us/emc/nfma/includes/overview.pdf.

The USDA Forest Service Strategic Plan (2000 Revision) set long-term goals and objectives that will guide future agency actions in concert with the Government Performance and Results Act (Results Act). One objective is to "provide ecological conditions to sustain viable populations of native and desired non-native species and to achieve objectives for Management Indicator Species (MIS)." Strategies to accomplish this

objective include habitat restoration and other management activities to benefit species of viability concern and ecosystems at risk.

In 1991, environmental groups brought suit against the Forest Service over the implementation of the Wayne's 1988 Forest Plan. The plaintiffs maintained that the Forest Plan illegally favored timber production at the expense of other ecosystem benefits, and the U.S. Court of Appeals found in favor of the plaintiffs. However, the Ohio Forestry Association appealed that finding to the U.S. Supreme Court. In 1997, the Supreme Court ruled that the plaintiffs could not demonstrate injury because a forest plan sets only general management direction and does not authorize specific ground-disturbing activities.

On April 4, 2002, the Forest Service published a Notice of Intent to revise the Wayne National Forest Land and Resource Management Plan in the Federal Register. This Notice of Intent was based on the need for change analysis, including the public input.

Plan Implementation

The 2006 Plan does not mandate any site specific decisions, nor does it contain a commitment to propose or select any specific project. Site specific decisions determine exactly where, when, and how projects will occur in accordance with a forest plan. These decisions are not included in this programmatic Plan but instead involve a separate level of decision making. Thus, the environmental effects of future site-specific proposals are not analyzed in this Final EIS. Subsequent site-specific environmental analysis will occur prior to any ground disturbing, site specific project proposal. Public involvement is a key part of site specific project development. Site specific actions must be consistent with the standards and guidelines of the Revised Plan. These standards and guidelines operate as parameters within which future projects must occur, unless the Plan is amended to allow the site specific action to be implemented.

Monitoring and evaluation are an important part of this planning framework. The monitoring strategy here includes implementation, effectiveness, and validation monitoring. The multi-staged cycle or process of plan approval, project decision making, monitoring, evaluation, plan amendment and revision allows a Forest Plan to be responsive to changing social and environmental conditions. This Revised Plan is a management guide that describes the Regional Forester's expectations for future conditions. The Revised Plan should not be viewed as the "final word" on management of the Forest, but rather will be amended and ultimately again revised as the need for further change arises.

Planning Process

Forest planning occurs within the framework provided by implementing regulations of the National Forest Management Act (NFMA) and the National Environmental Policy Act (NEPA). The following actions, required by NFMA, were used in preparing the WNF's 2006 Forest Plan:

- Issues, concerns, and opportunities were identified.
- Planning criteria were developed.
- An inventory of resources and other data were collected.
- An Analysis of the Management Situation was conducted.
- Alternatives were formulated.
- Effects of alternatives were estimated.
- Alternatives were evaluated.
- A preferred alternative was recommended.

Implementation will begin after the Regional Forester approves the 2006 Plan. Management actions will be monitored and evaluated throughout the life of the Plan.

This Final EIS discloses the results of these planning steps. Please see Appendix B – Analysis Process for more details. Planning process records are on file in the Forest Supervisor's Office, and many are available on the Forest's public website: www.fs.fed.us/r9/wayne/. To review the paper process records contact:

Forest Supervisor's Office
Wayne National Forest
13700 US Highway 33
Nelsonville, OH 45764
Telephone: 740-753-0101

Public Involvement

Before the Wayne National Forest published the Notice of Intent (NOI) to revise its 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 NOI was published on 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, West Virginia. 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.

In October and November 2003, we held a series of three collaborative workshops to discuss how the alternatives should be developed. At these workshops, participants were given information on the issues, asked to breakup into groups and in their group develop one or more themes that they would like to see developed into an alternative.

The Draft EIS and Proposed Revised Forest Plan were released for public review and comment on April 1, 2005. The WNF held a series of six open houses to present the Draft Environmental Impact Statement, to provide information to the public, and to provide opportunities for members of the public to ask questions about the Proposed Revised Forest Plan so they could provide informed comments. The WNF received 674 responses to the Draft EIS and Proposed Plan revision. These responses included over 1,300 comments that were considered both individually and cumulatively using a nationally recognized content analysis process. The process and responses to the comments are in an Appendix to this Final EIS (Appendix PC). The Public Involvement process is described in more detail in Appendix A to this Final EIS.

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 in 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 – Western Allegheny Plateau Assessment (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).

How Forest Planning Compares to City or County Planning

National forest planning is similar to city or county planning – determining what uses will be permitted or emphasized, where, and under what restrictions. The five basic components to forest planning include:

- Deciding the desired conditions for the planning area
- Delineating management area boundaries on the Forest
- Defining specific Forest-wide and management area direction
- Devising a monitoring and evaluation strategy
- Updating Forest plan direction as monitoring results, changing conditions or demands dictate.

Desired Future Conditions

Congress charges the Forest Service with managing the WNF to provide a combination of wildlife and plant habitats, natural resource protection and production, and recreational opportunities that best meets the needs of people now and in the future. Through participation in the Forest Plan revision, the public and the Forest Service worked together to identify how we want the Forest to be now, and into the future. This is analogous to municipal planning – successful city or county planning and zoning depends on an agreement between planners and the public on a general vision for the future of the city or county.

Management Areas

Dividing the Forest into management areas can be compared to municipal zoning. Each management area emphasizes specific uses and defines certain desired conditions.

Forest-wide and Management Area Direction

Forest-wide and management area direction can be compared to municipal zoning restrictions – defining the "what" that may be done as well as the "how", to go along with the "where" of the management areas. Some direction is called "Forest-wide" because it applies to the entire Forest. An example is protection of archeological resources in every management area. Other management direction may apply only to a specific management area. For example, direction regarding all-terrain vehicle trails applies only to management areas where such trails are permitted.

Monitoring and Evaluation/Updating Plan Direction

Forest plans incorporate monitoring regimes to ensure that management is being implemented as designed, and to determine if intended outcomes are occurring. Forest plans are expected to be modified (amended or revised) based on monitoring results, changing public demand, or new information. City or county plans are also amended, and zoning variances are granted, as conditions change, or site-specific situations are encountered that do not conform to plans or zoning restrictions.

Decision Making in the Face of Uncertainty

Forest Service managers recognize that natural ecosystems, and their interactions with social and economic systems, are too complex to be entirely understood or predicted. Management decisions cannot be postponed until understanding is perfect, however. Complete knowledge will never occur, and deciding to do nothing is still a management action that will have consequences.

The process of making natural resource management decisions in the face of uncertainty is the subject of an increasing body of literature. Glenn Haas (Haas, 2003) reviews recent studies and believes that "society needs to become more tolerant of uncertainty by discarding the illusion that with complete knowledge—with enough time and effort—the absolute right answer will reveal itself."

Haas compares degrees of certainty in scientific and judicial decision making. Science generally holds itself to a 95% probability of being correct: "a relationship of statistical finding with a lower probability is viewed as not significant and often dismissed as ineligible for publication in a scientific journal."

The judiciary uses different standards of certainty for different types of decisions: beyond-a-reasonable-doubt is the standard used in criminal law; clear-and-convincing-evidence is a lesser standard of certainty; preponderance-of-the-evidence is the standard used in civil law. Haas reports that "the three standards of judgment are commonly understood to have a degree of probability or certainty of >90%, >75% and >51%, respectively."

Haas concludes that "sound professional judgment is the recommended standard for natural resource decisionmaking. The U.S. Department of the Interior's Federal Interagency Task Force on Visitor Capacity on Public Lands (Haas, 2002, p. 16) defined *sound professional judgment* as '…a reasonable decision that has given full and fair consideration to all the appropriate information, that is based upon principled and reasoned analysis and the best available science and expertise, and complies with applicable laws.' …It is important to remember that the judiciary does not compare a person's decision against some absolute right decision conceived by the court; that is, the court's function is not to make administrative decisions but rather to judge the reasonableness of an agency's decision, using such judicial doctrine as reasonable care, due diligence, and sufficient evidence."

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
- 1988 Forest Plan direction
- Information indicating a need to consider changing 1988 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 Wayne National 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.

1988 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. Direction in the 1988 Plan regarding abandoned underground coal mines does not reflect this shift in emphasis.

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. Examples include:

- The Louisiana waterthrush that depends on good water quality for a key food source – aquatic insects
- The Ohio muskellunge that requires aquatic vegetation beds and large woody debris for spawning and hiding
- The mud salamander that relies on stable spring habitat.

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 1988 Plan direction for protection of streams, riparian areas, and floodplains can be improved by new management direction designed to better protect and restore their structure and function in the landscape. 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 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.

1988 Forest Plan Direction

When the 1988 Forest Plan went into effect, it emphasized the use of clearcutting to produce early successional habitat as well as timber volume. Annual allowable vegetation treatment acreages were set at 410 acres of clearcutting, 280 acres of selection harvest, 60 acres of commercial thinning harvest, 100 acres of shelterwood harvests, and 68 acres of pre-commercial timber stand improvement.

Amendment 11 to the 1988 Forest Plan shows that implementation of the original Plan's emphasis on clearcutting was substantially curtailed after 1990, and no clearcutting has occurred on the Wayne since 1994. Amendment 11 projects that only thinning and selection harvests (annual average of 500 acres) 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).

Error! Reference source not found. and Table 1 - 2 summarize key aspects of 1988 Forest Plan direction for vegetation management.

Table 1 - 1. Comparison of the desired future condition of forest age classes between the 1988 Forest Plan and the 1988 Amended Forest Plan.

Age Class	DFC 1988 Plan Percent of Suitable Acres	DFC Amended Plan Percent of Suitable Acres*
0-9	8.2	
10-39	24.7	
40-79	32.4	
80-99	7.5	
100+	7.6	
Uneven-aged	19.5	100*

* The amended Forest Plan does not actually state this change in desired age class distribution, but it can be inferred from the types of harvesting techniques that are to be employed. See following table.

Table 1 - 2. 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 1988 Forest Plan was completed, 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 1988 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 1988 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. The evaluations identified seven bird species whose viability may be at risk. Nesting success for each species generally depends on a specific habitat structure and composition. For example, the worm-eating warbler and Louisiana waterthrush need large tracts of mature forest; the ruffed grouse needs early to mid-successional hardwood forest; the yellow-breasted chat needs early-successional habitat; and the Henslow's sparrow requires grasslands.

The Nature Conservancy's assessment of the Western Allegheny Plateau Ecoregion shows how the Wayne National Forest 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 reintroduction 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 United States, and 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 USDA Forest Service as currently or potentially invasive occur on the Wayne. These invasive plants include kudzu, purple loosestrife, multi-flora rose, Japanese honeysuckle, garlic mustard, and tree-of-heaven. 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 significant 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 Forest.

Demand is increasing for most types of recreation opportunities that available on the Wayne. Demand is high for additional off-highway vehicle (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, receives minimal mention in the 1988 Plan.

Indicators of Need for Change

Forest Plan direction restricts OHVs to designated trails, but the OHV 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 the1988 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 National Forest System 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 land in Ohio was 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 National Forest 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. A typical statement

in a Certificate of Use and Consent for land purchase is "[the forest supervisor certifies] that the possible outstanding mineral rights … disclosed by the evidence of title have been administratively considered … and it has been determined that such outstanding rights will not interfere with the use of lands for which they are being acquired".

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 land on the Wayne totaled approximately 238,000 acres.

The Wayne's Land Adjustment Strategy located in Appendix A to the 1988 Forest Plan was amended by Forest Plan Amendment 8. The direction assigns highest priority for land acquisition to Management Areas 2.1, 6.1, 6.2, 6.3, 8.1, and 8.2. Priority for land acquisition within other management areas is to be based on ecological, recreation, and cultural resource potential, and the effect of such acquisition on the goal of consolidating National Forest ownership.

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 Wayne National 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. The Ohio oil and gas industry dates back to the mid-1800s, with the first oil produced in Washington County in 1860. The first production of natural gas in Ohio occurred in 1884. Ohio ranks fourth nationally in the total number of wells drilled (269,790 as of 2001), exceeded only by Texas, Oklahoma, and Pennsylvania. Oil production in Ohio peaked in 1896 at almost 24 million barrels. The State's peak year for gas production was 1984 at 186 billion cubic feet. Oil and gas production in Ohio generally declined from 1992 to 2001.

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. These rights include both reserved rights – rights retained by the owner when the surface rights were acquired by the Forest Service, and outstanding rights – rights retained by a third party when the surface was acquired by the Forest. More than 65 percent of National Forest ownership on the Wayne is underlain by privately owned mineral rights. Laws governing mineral rights require the Wayne to provide access to 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 often poorly mapped, and 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. Since 1800, over 3.6 billion tons of bituminous coal have been mined in Ohio. Production peaked in 1970 at 55 million tons but declined to 25.8 million tons in 2001. Coal production in Ohio for 2001 was nearly equally divided between 102 surface mines and 10 underground mines.

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 Wayne National Forest (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 currently operates on the Athens Unit, and exploration for a possible second mine on the same unit is 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 recognizes 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 which 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. Forest Plan Amendment 8 (1992) establishes 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 and 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 Wayne National Forest currently has no designated wilderness.

Forest Service regulations require that national forest 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 Wayne National Forest 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 was conducted for the 1988 Forest Plan. This analysis determined that there were no areas of the Forest that met the definition of a roadless area. 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. Some of the eight criteria for Wilderness or Roadless designation not found on the Wayne include:

- Areas with less than 0.5 miles of roads for each 1,000 acres, with such roads being 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.