

# Chapter 1

## **Purpose, Need, and Forest Plan Revision Issues**



Cover image: Flow from Greer Spring  
Photographer: Randy Long, Mark Twain National Forest

## Chapter 1

# Purpose, Need, and Forest Plan Revision Issues

## Introduction

This Final Environmental Impact Statement (FEIS) documents the effects of applying alternative ways of managing the Mark Twain National Forest (MTNF). The FEIS reviews the need to change the 1986 Forest Plan as presented in the Notice of Intent published in the Federal Register, (Volume 67, Number 73, Pages 18580-18583) on April 16, 2002. The FEIS presents alternatives to address the need for change, and evaluates the effects of implementing each of the alternatives. The companion document to the FEIS is the 2005 Forest Land and Resource Management Plan (2005 Forest Plan). The 2005 Forest Plan is developed in accordance with the Regional Forester’s identified “selected alternative,” which is based on public input, legal requirements, and resource needs. Forest Plans guide all natural resource management activities and establish management goals and objectives, allocation of lands to different management emphases, and standards and guidelines for Plan implementation.

The FEIS is divided into the following 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 on the Mark Twain National Forest. The alternatives display a reasonable range of responses to the 8 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 effects of the alternatives on these environments;
- Chapter Four lists those who participated in preparing the FEIS; and
- Chapter Five lists distribution of FEIS copies to federal, state and local agencies, tribal governments, organizations, businesses, and individuals.

## Proposed Action

The Forest Service proposes to revise the 1986 Land and Resource Management Plan (1986 Forest Plan) for the Mark Twain National Forest to address new information and changed conditions outlined in the Purpose and need section below. Current Forest Plan management direction not needing revision will be affirmed by the revised plan. The revised Forest Plan will be used to guide all natural resource management activities on the Forest to meet the objectives of federal law, regulations, and policy.

## Decisions Made in the Forest Plan

Forest Plans make six key decisions for managing a National Forest on a landscape scale in the long term. While no project-level decisions are considered during the 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
- Land suited and not suited for timber management
- Monitoring and evaluation requirements
- Recommendations to Congress, such as Wilderness designations.

In 1986, the management direction in the 1986 Forest Plan was analyzed and disclosed in the Record of Decision and Final EIS. Since that time, 31 non-significant amendments have been analyzed to update the Forest Plan. The most recent amendment was made in August, 2004, and established the Brown's Hollow area of influence for an Indiana bat maternity roost site.

While recognizing the need to change some management direction, revision will also affirm some of the existing management direction in the 1986 Plan, and may make minor editorial changes to improve the clarity of that direction.

## Responsible Official

The Regional Forester is the Responsible Official for the analysis and decisions for Forest Plan Revision. Conducting analysis, developing alternatives, and preparing the Final Environmental Impact Statement (FEIS) were done at the local Forest level under the direction of the Forest Supervisor for the Mark Twain National Forest.

Based on the analysis in the DEIS, public comments, and this Final EIS, the Regional Forester has selected alternative 3 to become the 2005 Forest Plan. The Regional Forester has documented the rationale for the selection in a Record of Decision accompanying the Final EIS. The alternative selected includes the six key Forest Plan decisions.

## Purpose and Need for Forest Plan Revision

The development of the revised Forest Plan and this accompanying environmental impact statement is intended to satisfy regulatory requirements and to address new and changing information about the Forest and its uses.

The Forest Plan embodies the provisions of the National Forest Management Act, the implementing regulations, and other guiding documents. Multiple-use goals, objectives, management area prescriptions, and standards and guidelines all define the Mark Twain National Forest's management direction. However, successful implementation of this direction depends on the annual budget and other factors.

The National Forest Management Act requires that national forests revise forest plans at least every 15 years (U.S.C. 1604[f][5]). Additional indicators of the need to revise the 1986 Mark Twain Forest Plan are:

- Land conditions and public demands have changed;

- Agency policies and strategic priorities have changed;
- Results of monitoring and evaluation suggest the need for revision;
- New information is available; and
- Those interested in management of the Mark Twain National Forest have made suggestions for changes.

## Need for Change in Management Direction

In April 2002, the Forest Supervisor and Regional Forester identified forest plan revision needs in the Assessment of the Need for Change for the Mark Twain National Forest Land and Resource Management Plan. A Notice of Intent to Revise the Forest Plan was published in the Federal Register on April 16, 2002. The Need for Change discusses the process and information used to develop proposed changes to the Forest Plan. Following is a brief review of the revision topics that resulted from these two documents. The revision topics are the focus of this forest plan revision process. They address the central issues and public concerns to which future management of the Mark Twain National Forest must respond. The 2005 Forest Plan and the alternatives were developed to answer questions raised by these revision topics.

### Revision Topic 1 – Vegetation and Timber Management

Concerns about vegetation management, especially timber management, have evolved over the last 15 years around harvest levels, cutting methods, timber sale cost efficiency and maintaining or restoring healthy ecological processes through the application of vegetation treatments. It has also been suggested that the Mark Twain NF should restrict or prohibit commercial development of natural resources.

#### Revision Topic 1a – Lands suited to timber production and Allowable Sale Quantity (ASQ)

The National Forest Management Act (NFMA) regulations require that Forests review lands designated as not suitable or appropriate for timber production as part of Forest Plan revision. The 1986 plan identifies 88% of Mark Twain National Forest lands as suitable and appropriate for timber production. Changes in national policy, including the Roadless Area Conservation Policy, have identified additional acres that may be inappropriate for scheduled timber production. Through implementation of the Forest Plan and better mapping techniques, we have learned that the number of acres available and appropriate for timber harvest is less than shown in the 1986 Forest Plan, due to the combined effect of mitigation factors such as filter strips for riparian areas, visual quality measures, and limits on the combined size of adjacent openings.

There have also been concerns about the Allowable Sale Quantity (ASQ) established by the 1986 Forest Plan.

*There is a need to:*

- Revisit suitable lands determination, revise demand estimations, and rebuild ASQ determination based on those changes.

#### Revision Topic 1b – Even-aged and uneven-aged management

The 1986 plan was developed with the assumption that even-aged management, including clear-cutting, would be the primary methods of perpetuating oak-hickory, shortleaf pine, and oak-pine communities that constitute the desired future condition on the majority of the Forest. Uneven-aged management was to be used “on selected areas to determine the long

term feasibility of using this system...” (1986 Forest Plan, page IV-3.) The use of clearcutting has decreased from 65% of acres sold for timber harvest in 1988, to an average of 10% of acres sold for the past 10 years. In contrast, the use of uneven-aged techniques has increased from less than 1% of acres sold in 1988 to over 26% of acres sold in 2001, with an average of 31% in the last ten years. While some see this as a positive shift by the Forest, others believe that the decrease in clearcutting has contributed to the current problems of oak decline.

*There is a need to:*

- Provide for adaptive management and greater flexibility of silvicultural techniques in order to maintain oak-hickory, shortleaf pine and oak-pine communities.

## **Revision Topic 2 – Ecological Sustainability and Ecosystem Health**

Sustainability consists of ecological, social, and economic components. By managing for ecological sustainability, forest ecosystems will be healthy and resilient in the long term and will provide a lasting flow of goods and services that help sustain the economy and local communities. Managing for ecological sustainability requires an integrated management approach that considers natural processes such as fire, insect and disease outbreaks, and catastrophic wind events, along with forest management activities that mimic those natural events. The USDA Forest Service Strategic Plan for FY 2004 - 2008 includes several goals focused on ecosystem health.

### **Revision Topic 2a – Oak decline and forest health**

In the early 1900’s the Missouri Ozarks were subjected to extensive logging, open-range overgrazing, over-burning, and subsequent soil erosion and loss of the grass/herbaceous ground cover component. Changes in forest vegetation brought about by these activities, along with changes in hydrological processes have led to less productive, droughtier soils, timber overstocking, and loss of healthy ecosystems. Oak decline, which occurs cyclically on the forest and appears to coincide with extended periods of drought, has been worsened by these historic changes. Long-term implications to forest health exist. The 1986 Forest Plan did not anticipate the current extended drought cycle and subsequent oak decline.

*There is a need to:*

- Develop management direction for restoring and maintaining healthy forest ecosystems in response to oak decline; providing a healthier balance of shortleaf pine and white oak in what is now a predominantly black and red oak forest; and restoring some of the more open woodland habitats encountered by early settlers.

### **Revision Topic 2b – Reforestation and Timber Stand Improvement**

The 1986 Plan contains restrictions on reforestation and timber stand improvement under certain management prescriptions. These restrictions were most likely intended to insure that hardwood forests were not converted to softwood plantations. Under the 1986 Plan, we cannot plant pine in management areas that emphasize wildlife habitat diversity, even within the natural pine range. Techniques to improve areas of pine are prohibited in management areas that emphasize hardwood tree species, even within the natural pine range. Practices to improve areas of oak forests are not permitted in management areas that emphasize motorized semi-primitive recreation. However, these restrictions are preventing the Forest Service from implementing practices to encourage healthier, more resilient and sustainable oak and oak-pine forests when confronted with large-scale natural events such as fire, tornados, red oak borers and oak decline.

*There is a need to:*

- Change management direction to allow pine and oak reforestation and stand improvement in a wider variety of situations, so as to encourage natural vegetation most suited to Missouri's natural communities.

### **Revision Topic 2c – Wildlife habitat management**

The 1986 Forest Plan was developed during a time of emerging ecological knowledge. Management direction and objectives for various wildlife habitat conditions were identified based on the needs of Management Indicator Species. These standards and objectives varied based on landtype association (LTA) and management prescription in order to provide a well-distributed diversity of habitats across the Forest. After seventeen years of implementing the 1986 Forest Plan, the resulting habitat conditions are very similar across all management prescriptions, resulting in a more homogenous landscape than had been envisioned. Additional information suggests that the diversity of natural communities found historically in the Ozarks is not provided for under current management direction. In addition, it has been difficult to measure accurately some habitat conditions based on data we currently collect.

*There is a need to:*

- Provide a wide diversity of natural communities and wildlife habitat conditions based on differing landscape capabilities and advanced ecological knowledge.

### **Revision Topic 2d – Management Indicator Species**

The management indicator species (MIS) for the 1986 Forest Plan were selected by a committee of State and Federal biologists to represent the range of species present on the Mark Twain National Forest. MIS were selected to emphasize species of interest to the public, including species that are hunted and those that are not, and as indicators of ecological change. Information gained in the past seventeen years through monitoring population trends suggests other species would better indicate the effects of management to natural communities considered most in need of restoration.

*There is a need to:*

- Revise list of Management Indicator Species.

## **Revision Topic 3 – Fire Management**

The topic of fire management focuses on the concept of using fire as a management tool. Fire management includes two aspects: 1) the use of fire to meet resource and land management goals; and 2) all activities required for protecting property and natural resources from fire.

### **Revision Topic 3a – Prescribed fire**

Natural disturbance factors that shape vegetation in Missouri include insects, disease, floods, wind, and fire regimes. Fire has historically been a major disturbance element influencing development of Missouri's diverse ecosystems, including savannas, woodlands, prairies, forests, fens, wetlands, and glades. Plant species presence, forest structure and composition across the landscape are influenced by fire. Natural area inventories conducted by state officials throughout the Midwest have demonstrated great loss of Missouri's historic, fire-adapted ecosystems due to landscape alteration, conversion to croplands and pasture, urban/housing development, and fire suppression.

The 1986 Forest Plan has very little guidance for using prescribed fire, and it is silent regarding when, where, why, and how prescribed fire can be utilized as a tool.

*There is a need to:*

- Develop management direction guiding the use prescribed fire to restore ecosystems, maintain healthy forests, provide wildlife habitat, and reduce hazardous fuels.

### **Revision Topic 3b – Wildland fire suppression**

Wildland fire suppression is necessary to protect life and property, especially considering the intermingled ownership patterns and proximity of private homes and communities to the Forest. The 1986 Forest Plan has very little guidance relating to wildland fire suppression. There are several national reports that have been developed in response to wildland fire threats to communities in recent years. These reports include: “A Collaborative Approach for Reducing Wildland Fire Risk to Communities and the Environment-10 year Comprehensive Strategy, August 2001;” “Managing Impacts of Wildfires on Communities and the Environment, September 2000;” and the National Fire Plan, September 2000. These reports outline a comprehensive approach for wildland fire management, and make recommendations for protecting communities.

*There is a need to:*

- Improve management direction for managing wildland fires to protect life, property, and communities.

### **Revision Topic 3c – Fuels management**

While wildland fire suppression is essential and necessary to protect life and property, it can result in unnatural fuel buildup that leads to more intense and damaging fires than in the past. Extensive logging in the early 1900’s, combined with decades of fire suppression, has resulted in forests with a high density of trees and an increase in the amount of woody debris on the forest floor. Oak decline is adding to the problem by increasing fuel loads and changing fuel types. In addition to increasing fire intensity, these accumulated fuels damage otherwise diverse, healthy ground vegetation. The Forest Plan does not address hazardous fuels that might result from natural events or management activities, or the effects on rural interface communities.

*There is a need to:*

- Develop a proactive approach to fire and fuels management so as to improve and maintain forest health and reduce the intensity of wildland fires.

## **Revision Topic 4 – Management Areas**

Management areas define which management prescriptions apply to various parts of the Forest. Management area boundaries are determined by ecological characteristics, social considerations, and on-the-ground practicality of differentiating one management area from another. New ecological principles and changes in social expectations may necessitate revision of some 1986 management area boundaries.

### **Revision Topic 4a – Management area boundaries and land-type associations (LTA)**

Current management direction, particularly for wildlife habitat, varies by landtype association (LTA), which is a subdivision of a landscape characterized by similar geological features, patterns, ecological processes and natural plant communities. Existing management area boundaries do not follow LTA boundaries, however, which have caused difficulties and complications for project level analysis. In recent years, new LTA boundaries for Missouri have been delineated through a multi-agency partnership.

*There is a need to:*

- Adjust management area boundaries as needed to incorporate ecological landtypes, current social demands, and management practicalities.

#### **Revision Topic 4b – Special Area allocations**

Wilderness, Natural Areas, Wild, Scenic and Recreational Rivers, and Special Management Areas are land allocations for specific purposes. A Forest roadless area inventory to identify potential wilderness areas is required during plan revision. An inventory to identify rivers with potential for inclusion in the Nation’s Wild and Scenic river system is also required.

*There is a need to:*

- Review management direction to insure protection of Roadless, wilderness, wild, and scenic river values, and other “special areas.”
- Evaluate inventoried roadless areas for their potential for Wilderness designation. Determine the most appropriate use and management for inventoried roadless areas not recommended to Congress for Wilderness designation.
- Determine eligibility and highest potential classification for any rivers identified with potential for inclusion in the Nation’s wild and scenic river system.

#### **Revision Topic 5 – Riparian Areas and Water Quality**

Knowledge of the important functions of riparian areas and their effects on the biological and hydrological integrity of streams has increased since the 1986 plan was approved. A Forest Plan amendment for management of riparian areas was approved in 1991. However, the criteria used for riparian area definition and delineation were not clear or quantifiable. Inconsistent identification of riparian areas in project planning and implementation has led to inconsistent application of management direction.

Knowledge of the interconnection of surface and subsurface waters due to the karst terrain in the area has also increased. Management direction for protection of groundwater and ecological processes associated with karst hydrologic systems are generally lacking in the 1986 Forest Plan.

*There is a need to:*

- Provide for the restoration and maintenance of the ecological function of riparian areas, emphasizing the ecological processes that riparian areas play in supporting aquatic systems and water quality.
- Develop clearer definitions and criteria for delineating for riparian areas and aquatic ecosystems, based on plant community, soil and hydrologic criteria.
- Develop management direction to protect water quality and ecological processes associated with karst terrain and karst features.

#### **Revision Topic 6 – Threatened, Endangered, and Sensitive Species Viability**

Management for federally-listed and Regional Forester’s Sensitive Species (RFSS) were originally considered an area that would not change during Forest Plan Revision. Between 2000 and 2002, we re-examined our RFSS management and updated the 1986 Forest Plan with two amendments for federally-listed species. After listening to public input and further discussions with the U.S. Fish & Wildlife Service (USF&WS), we decided additional changes were needed. There are three federally-listed species that had not previously been considered in Forest Plan management. They are Hine’s emerald dragonfly, scale-shell mussel, and Ozark Hellbender. The Regional Forester updated the RFSS list. We have a

better understanding of species needs and an obligation to use the best available information for management direction.

*There is a need to:*

- Examine and revise management direction to protect and provide for threatened, endangered and sensitive species.

### **Revision Topic 7 – Access and Transportation Management**

Roads are needed in the Forest for recreational access, management, and access to private property. Roads and access they provide have remained controversial. Concerns exist about the effect of roads on natural resources such as water quality and wildlife habitat. Traffic volumes have increased, and recreational uses of roads have changed. Forest managers are concerned about costs of road construction and maintenance.

The Mark Twain conducted a Forest-wide road analysis in 2003 to determine and provide for the minimum forest transportation system that best serves current and anticipated management objectives and public uses, while maintaining land health and water quality. Recommendations and key findings from the roads analysis are incorporated in the following subtopics.

#### **Revision Topic 7a – Road density standards in management area prescriptions**

Current road density management direction does not include non-Forest Service roads or private lands in their calculation. A roads analysis of the Salem and Potosi Ranger Districts questioned the meaning and usefulness of these density standards in light of the extensive non-Forest Service road network on both NFS and private lands. There is a lack of scientific data and research showing a correlation between these limits and their effect on any specific wildlife species or other natural resources at the Forest Plan level.

*There is a need to:*

- Clarify or modify or eliminate road density standards

#### **Revision Topic 7b – “Woods Roads”**

The Mark Twain National Forest is the only National Forest with a subset of classified roads called “woods roads.” These roads are generally unimproved, and are to be maintained between maintenance levels 1 and 2. This low level of maintenance, however, has not been appropriate for the level and type of use these roads have received, and in some cases has resulted in resource damage. The term “woods road” has led to confusion because the public commonly assumes it means any road in the Forest, including old roads that are not part of the Forest’s road system and are to be closed after management activities are complete.

*There is a need to:*

- Eliminate the term “woods road” and assign standard maintenance levels to all roads.

#### **Revision Topic 7c – Forest Plan Transportation Map**

The Forest Plan Transportation Map as part of the 1986 Forest Plan proved to be useful during implementation of the plan. However, the transportation system is now largely in place and very little new road construction is occurring on the Forest, reducing the need for a Forest Plan Transportation Map. Land acquisitions, changing demographics, and development in an area can affect the need for individual roads. The Forest Plan Transportation Map essentially makes site-specific decisions, which should be made at the project level, not at the Forest Plan level. In addition, changes in national direction regarding

roads management, especially the requirement to compile and maintain a Forest Transportation Atlas, make the Forest Plan Transportation Map unnecessary and redundant.

*There is a need to:*

- Eliminate the Forest Plan Transportation map. Clarify that changes to the road system are project level decisions.

#### **Revision Topic 7d – OHV and ATV use on the forest**

The 1986 Plan restricts off-road vehicle use to designated trails or use areas. The only designated trails on the Forest are the Sutton Bluff trail system, and the only designated use area is the Chadwick Motorcycle Special Use. The Forest Plan allows for development and designation of additional trails and use areas.

Off-road vehicles may also use Forest Service classified roads (system roads) if the vehicle complies with State law. The 1986 Forest Plan considers all unclassified roads to be closed, whether or not there is a physical closure, and therefore disallows all motorized vehicle use. The Forest Supervisor’s closure order for roads, however, seems to restrict use only on those roads that are gated, bermed, or signed closed. OHV users have expressed confusion regarding which roads they are allowed to use, as have forest managers.

*There is a need to:*

- Clearly state the existing Forest direction for OHV and ATV use of “closed unless posted open.” Clarify the relationship among the Forest Plan direction, State law, and the Forest Supervisor’s closure order.

#### **Revision Topic 8 – Monitoring and Evaluation**

Through implementation of monitoring and evaluation direction, we have found that some requirements can not be fully implemented, do not yield meaningful results, are not measurable or scientifically supported, or are not reasonably affordable. In addition, new information about ecosystem management and ecological sustainability concepts are not reflected in the current monitoring and evaluation requirements.

*There is a need to:*

- Revise and improve the strategy for monitoring and evaluation to reflect ecosystem management and ecological sustainability concepts and approaches.
- Focus the monitoring strategy on information that will (1) enhance understanding of resource management issues; (2) is measurable and scientifically supported; and (3) is feasible given probable budgets.

### **Other Changes**

In addition to the changes in management direction, we also made changes of an editorial nature in the 2005 Forest Plan. These include changes needed to explain or clarify direction already in the 1986 Forest Plan, removing items that do not pertain to the six Forest Plan decisions, or removing direction that can be found elsewhere, such as in the Forest Service Directives System. These changes do not represent a change in the direction, goals or objectives in the Plan, and are not discussed further in this document.

## Public Involvement

Key points in the Forest Plan revision process where the public provides input include developing the need for change, identifying potential issues and possible alternatives for addressing issues, analysis of possible environmental effects, and publication of the DEIS and Proposed Forest Plan. The Mark Twain National Forest used a variety of public involvement tools and methods, including public meetings, open houses, newsletters, and news releases to engage individuals, organizations, state and local governments, and other federal agencies in the Forest Plan revision.

The Forest hosted a series of public meetings both before and after the Notice of Intent was issued to provide information about the Forest Plan revision process and gather public input on the scope of the decisions to be made, issues to be examined and possible alternatives. Subsequent Forest planning open houses, newsletters, and news releases informed the public about progress of the revision.

In February of 2005, after the release of the Proposed Revised Forest Plan and DEIS, the Forest held another series of open houses to present the Draft Environmental Impact Statement and answer questions about the analysis and the preferred alternative. These meetings were important for providing the public a forum to ask questions about the Proposed Revised Plan so that they could provide more informed comments.

The Forest Service received 1,807 responses, including letters, emails, and faxes, on the Draft Revised Forest Plan and DEIS. Those responses contained 2,430 individual comments, which were coded and attributed to 336 public concerns. Those comments are addressed in Appendix A1 of this Final EIS.

The Forest consulted and exchanged information with local county governments, State agencies, and other national forests and federal agencies throughout the plan revision process to aid in the development of revised management goals and objectives, and standards and guidelines.

See Appendix A for details on the public involvement process.

## Forest Plan Revision Issues

An issue is a point of debate, dispute, or disagreement regarding anticipated effects of implementing the proposed action. Typically, an issue is described as a debate or disagreement about an effect on physical, biological, social, or economic resources. When making programmatic decisions, such as in this Forest Plan revision, issues often are framed as trade-offs between various desired conditions, amounts of products produced, or emphasis in management. For example, providing a diversity of natural communities and wildlife habitat conditions may involve tradeoffs with suitable lands determinations and ASQ. Issues stem from the topics summarized in the “Need for Change in Management Direction” section, and suggest alternative ways of responding to those topics. Public involvement, internal discussion, and analysis were used to identify the issues pertinent to Plan revision.

Response to the need for change (revision topics) and issues is tracked throughout the document by indicators that measure existing conditions and potential effects of management activities. These indicators focus our analysis and demonstrate differences between alternatives. Generally, indicators are quantitative, but some are qualitative. Descriptions of the issues below include a list of indicators that respond to each issue. These indicators are used in Chapter 3 of this document to discuss effects of alternatives, and to compare them.

The analysis for some resources in Chapter 3 may use additional indicators to show the differences between alternatives in more detail.

Depending on the topic and issue, indicators may be measured over different time periods and in different geographic locations. Indicators are analyzed at in multiple timeframes (such as 10, 50, 100 years) and multiple spatial scales (national forest, landscape ecosystem, county).

Forest Plan monitoring will document and evaluate applicable issue indicators. For more information on monitoring indicators, see Chapter 4 of the 2005 Forest Plan.

## Issue 1 –Timber Supply

### Forest Service Responsibility

In 1897, the Organic Act established the national forests to, among other things, furnish a continuous supply of timber. The regulations for implementing the National Forest Management Act require the Regional Forester to estimate the amount of timber that can be sold annually on a sustained-yield basis. The National Forest Management Act also requires that forest planning identify land that is not suited for timber production.

### Public Concerns

Many people agree with the need to reevaluate those lands suitable and appropriate for timber production. Some suggest excluding riparian, roadless, and recreation areas from the suitable timber base. Others ask that the reevaluation of timber suitability consider the impact on local economies. People also encourage the Mark Twain NF to take intermediate and long-range projections of timber harvest levels into account in the forest plan revision. Still others suggest that there should be no commercial timber sales on the Forest

### Issue Statement

There is disagreement about how much timber the Mark Twain National Forest can supply without adversely affecting ecosystem health, water quality, and the social and economic needs of people. Forest Plan revision will establish the acreage and location of land that is suitable for timber production. Revision will also determine the maximum level of timber that the Mark Twain NF may supply over time.

### Key Indicators

- Average Annual Allowable Sale Quantity (ASQ)

## Issue 2 – Ecological Sustainability and Ecosystem Health

### Forest Service Responsibility

In forest planning the Forest Service is responsible for providing for diversity in plant and animal communities and tree species, and the agency must provide for the overall multiple-use objectives of national forests (1909.12 FSH 219.26). The Forest Service is responsible for ensuring a sustainable flow of renewable resources (recreation, timber, water, range, and wildlife) without impairment to the productivity of the land (Multiple Use/Sustained Yield Act). Forest health is essential to providing a sustainable yield of the forest's resources.

## Public Concerns

Numerous respondents assert that the Mark Twain NF should promote forest ecosystem health and sustainability. Some suggest that the Forest Service adopt techniques so that the natural integrity of the ecosystem is recovered and natural processes function unencumbered within the natural range of variability. They suggest that the best way to achieve this is through a preservation approach which prohibits all management activities in the Forest. Many encourage the Forest to use the full array of silvicultural tools to achieve forest health and ecosystem composition objectives.

Some people believe that uneven-age management is necessary to restore the forest to a healthy condition, and should be the only silvicultural system allowed on the Mark Twain NF. However, others believe that even-aged management is necessary for regenerating oak and pine forests, for mast production, and to benefit wildlife dependent upon early-successional vegetation. New information about oak regeneration and successful implementation of uneven-aged management also indicates that uneven-aged management is sometimes ineffective and has led to undesirable results on forest health on some sites where the 1986 Forest Plan requires its use.

Some respondents ask the Mark Twain NF to address native plants in the Forest Plan revision by maintaining natural forest types, aggressively restoring natural vegetation and native terrestrial communities on large regional scales (especially glades and savannas), identifying and protecting all unique plant communities, and restoring shortleaf pine communities where they would have occurred before European settlement of the area. Others are concerned that efforts to decrease the amount of black and red oak and increase white oak and shortleaf pine would adversely affect the existing timber industry in the area.

## Issue Statement

There is concern about the effects on local timber markets from increasing the amount of white oak and shortleaf pine to provide for a healthy forest, and providing land dedicated to enhancement and restoration of natural communities. There is also debate about the effects on the forest health from passive management, and from current direction restricting certain silvicultural methods and prescriptions.

Forest Plan revision will establish what, if any, direction for increasing white oak and shortleaf pine will be provided, and how much of the Forest will be allocated to natural community restoration. The Forest Plan revision will also determine what, if any, management direction regarding timber management techniques and practices is needed to provide for forest health.

## Key Indicators

- Acres of ground cover meeting desired condition for savanna, woodland and glade
- Acres treated to move towards natural community type
- Acres burned
- Acres thinned

## Issue 3 – Wildlife Habitat Management

### Forest Service Responsibility

The National Forest Management Act, Endangered Species Act, other laws, and federal regulations require the Forest Service to maintain or improve biological diversity at the

genetic, species, and ecosystem levels and to maintain viable populations of existing native and desired non-native species. Federal regulations (36 CFR 219.19) require management to maintain viable populations, which are defined as those having the estimated numbers and distribution of reproductive individuals to ensure their continued existence is well distributed on national forests. Federal law also requires considering wildlife resources equally with other renewable resources in managing forests and how to manage non-native invasive species. Other federal laws assign national forests a role in managing wildlife habitat and support cooperation in such management with states and American Indian tribes.

### Public Concerns

A number of people urge the Mark Twain NF to protect and restore wildlife habitat, particularly for native species and species requiring large tracts of contiguous forest. Some stress the particular need to preserve bird habitat, which they believe will result in increased bird populations. Others are specifically interested in increasing ruffed grouse populations.

Some urge the Mark Twain NF to promote aggressively early successional conditions in order to promote population growth in early successional bird species, and to comply with NFMA's requirement to maintain viable populations of all native wildlife. Others express an interest in old growth conditions, with potential old growth areas identified based on both landscape and structural characteristics. Some suggest that riparian areas are a high priority for inclusion in old growth designations.

Numerous respondents write that the Mark Twain should make a special effort to protect threatened, endangered, and sensitive species. Specific species mentioned include mountain lions, endangered reptile and amphibian populations, the Ozark hellbender, bats, eagles, and various rare butterflies.

### Issue Statement

There is divergent views about how the Forest should be managed for the full array of wildlife species and habitats, whether rare or common, and what habitats and species should be emphasized. Forest Plan revision will establish goals for the types, amounts, distribution, spatial pattern, and function of wildlife habitats.

### Key Indicators

- Acres of natural community savanna, woodland and forest meeting desired condition for old growth natural communities.
- Management Indicator Community trends

## Issue 4 – Fire Management

Prescribed fires are intentionally set by forest managers under controlled conditions to meet specific natural resource objectives. Fuels are anything that will burn such as trees, branches, grass, and pine needles.

### Forest Service Responsibility

In forest planning, the Forest Service is responsible for determining vegetation management practices for each vegetation type and circumstance (FSH 219.15). Forest Plans must also determine standards and guidelines for vegetation management. The Forest Service has embarked on a national 10-year plan (A Collaborative Approach for Reducing Wildland Fire

Risks to Communities and the Environment 10-Year Comprehensive Strategy August 2001) that emphasizes reducing hazardous fuels as one of its four main goals.

### Public Concerns

The use of prescribed fire is a topic of concern to numerous respondents. People urge the MTNF to use fire to emulate historic natural disturbance regimes; restore and maintain Ozark ecosystems and large scale natural communities that benefit from periodic fire; to maintain wildlife habitat; and to reduce fuel loads. Some, however, caution the MTNF to use fire only on a limited basis, because they believe that fire is harmful, and that it is not a natural or necessary component of Ozark ecosystems. There are also concerns that increasing the amount of prescribed fire will adversely affect air quality.

### Issue Statement

While prescribed fire is needed to reduce hazardous fuels and restore ecosystems, there is concern that increasing the use of prescribed fire will harm forest ecosystems and air quality. Forest Plan revision will determine how, where, and to what extent prescribed fire may be used to mimic natural processes and to restore natural processes and functions to ecosystems, and to reduce fuels.

### Key Indicators

- Acres treated to progress toward FRCC 1
- Acres burned to reduce fuels and restore ecosystems

## Issue 5 – Economic Sustainability of Local Communities

### Forest Service Responsibility

Forest planning regulations direct that the overall goal of managing national forests is sustainability, key components of which are interdependent ecological, social, and economic factors that work together to allow goods and services to be produced without harm to the long-term productivity of the land.

### Public Concerns

Many people are concerned that reducing or changing the mix of resources provided from the Forests could economically affect local communities. Similarly, they are concerned that if the Forests do not increase the amount of goods and services they provide there may be negative impacts to the economic sustainability of the local communities in terms of growth and jobs.

Other people believe that changes in resource emphasis on the National Forest would not have significant effects on economic sustainability if local communities adjusted to take advantage of the different resources that were being emphasized. Some think that a high degree of long-term ecological sustainability, including species viability, a diversity of plant and animal life, and diversity of habitats, contributes to stability of local economics. Still others believe that if the Mark Twain NF produced little to no timber, local communities would benefit from increased revenue from recreation.

### Issue Statement

Forest Plan decisions contribute to economic sustainability by providing for a range of uses, values, products and services. At the same time, Forest plan direction must be consistent with

ecological sustainability. Forest Plan revision will determine the mix of uses, values, products, and services that the Mark Twain NF could provide over time.

### Key Indicators

- Income and Employment (by Resource Program)
- Income and Employment (by major Industry and Sector)
- Payments to Counties

## Resources with No Change in Management Direction

There was no change in management direction for several resource areas under any of the alternatives considered in detail in this FEIS. The 2005 Forest Plan continues the management direction from the 1986 Forest Plan for these resource areas. These resource areas and the reasons for not changing them are summarized in the Assessment of the Need for Change and Notice of Intent that was released in 2002 and in Appendix A – Public Involvement.

Of these resource areas, the most prominent are:

- Management of off-road vehicle use
- Minerals management
- Management of candidate Wild & Scenic Rivers
- Management of heritage resources, recreation, fish and aquatic resources

These topics and issues were not addressed in the formulation of alternatives, although they are discussed in the environmental analysis. In general, these topics are either not ripe for decision, have been addressed by recent (and still relevant) decisions, potential alternatives would cause unreasonable environmental harm, or adverse effects are easily limited under any alternative.

For example, in the case of off-road vehicle use, there is a strong demand for off-road and off-trail use on the Forest. However, extensive Forest Service experience with OHVs (<http://www.fs.fed.us/projects/four-threats/facts/unmanaged-recreation.shtml>) indicates that “open unless posted closed” policies frequently lead to environmental damage. While the demand for increased OHV opportunities on the Mark Twain could also be met by providing additional trails, potential impacts of those proposals are best assessed at a site-specific level that is outside the scope of decisions made in a Forest Plan. Such an analysis is underway ([http://www.fs.fed.us/r9/marktwain/projects/ohv\\_study/index.htm](http://www.fs.fed.us/r9/marktwain/projects/ohv_study/index.htm)). The general effects of OHV trails on various resources are included in the analysis in Chapter 3.

In the case of minerals management, the Forest is available for exploration and development, but effects cannot be meaningfully assessed until a site-specific proposal is made for exploration or development. Whether proposals will be submitted, and their content, are speculative. There have been no proposals submitted for development of minerals under the 1986 Forest Plan.

While there were no proposed changes to the management direction for Heritage, recreation, fish and aquatic resources, effects on these resources are discussed in Chapter 3. Each of these resources has been the subject of relatively recent decisions. Based on current information, the needs for change relate primarily to editorial clarification and removal of direction that repeats law or regulation.

