AMENDMENT NO. 1
MAY 9, 2016–IN COMPLIANCE AND CONFORMANCE WITH 36 CFR 219

CHAPTER VI. IMPLEMENTATION, MONITORING AND EVALUATION

Implementation, monitoring and evaluation are separate, sequential activities required by NFMA regulations. This section explains how management direction will be implemented. Forest Plan monitoring and evaluation is the primary tool for revising the policy and vision for Forest management. Monitoring and evaluation involve more than merely collecting, analyzing and interpreting data. Data must be converted to useful information and stored in an accessible form. This Plan is intended to be an adaptable document that provides direction for management activities, but the direction must be able to address changing conditions. Monitoring and evaluation are intended to lead to the "long look ahead" and gauge the factors that indicate the Forest niche.

I. IMPLEMENTATION

Approval of this Plan establishes a framework for future Forest-management decisions and includes an "interdisciplinary approach to achieve integrated consideration of physical, biological, economic and other sciences" (16 USC 1604[b]). Implementation of the Plan involves two levels of decision-making: approval of the Plan itself and approval of specific projects that advance the Forest to the desired future condition as expressed in the Plan. The Plan itself contains no commitment to the selection or execution of any specific project. Land-use decisions implementing the Plan are based on the appropriate analyses of proposed projects.

A. APPROVAL OF THE FOREST PLAN

The Forest Supervisor is the responsible official for approval of a plan amendment, or plan revision, for lands under the responsibility of the supervisor (36 CFR 219.2[b][3]).

B. PROJECT-LEVEL DECISION-MAKING

The approval of project-level decisions to achieve the desired future condition is the second level of approval. These decisions are made after appropriate environmental analyses. Analysis of any proposed project must consider the goals and objectives previously decided in the Forest Plan. By referencing the discussions in the Plan and tiering to the FEIS, subsequent analyses can concentrate on issues and activities specific to a proposed project.

Implementation of the Plan is the process of applying its management direction to each management area in order to achieve the desired future condition of those areas. Interdisciplinary analysis, teamwork and public involvement are integral components of Plan implementation. The principal steps in implementation are:

- Selecting land areas that best provide opportunities for accomplishing Plan management direction,

- Analyzing the situation and identifying multiple-resource projects that assure an integrated approach to achieving the desired future condition,
- Prioritizing, scheduling and budgeting those that best meet Plan direction,
- Designing projects that integrate the needs of all resources and values,
- Completing multiple-resource projects as designed, and
- Protecting and managing resources, and providing for public health and safety.

1. Program Workplans

Annual program workplans identify and plan necessary expenditures. This Plan provides the basis for developing multiple-year programs. The budget appropriated by congress determines the annual program of work. The Forest program-development and budget process consists of evaluating fixed- and variable-cost activities, along with capital investment projects.

- Fixed-cost activities include those necessary to ensure public safety, environmental protection, and the maintenance of existing capital assets at a defined level of service/availability.
- Variable-cost activities include those outputs or uses that can be controlled or changed, such as trail construction and/or maintenance, landline recovery and wildlife habitat maintenance.
- Capital investments entail funds spent to provide or improve a facility or product for continued or future uses.

Annual funding could result in the implementation of practices at different rates than listed in Table 4-2, Schedule of Management Practices. These differences, over time, could require de facto, administrative, changes to the schedule.

2. Compliance with the Forest Plan

As soon as is practicable after approval of the Plan, the Forest Supervisor will ensure that all projects, outstanding and future permits, contracts, cooperative agreements and other instruments for occupancy, and the use of affected lands, subject to valid existing rights, are consistent with the Plan.

II. MONITORING AND EVALUATION PROGRAM

Monitoring and evaluation are required by NFMA regulations at 36 CFR 219.12. Monitoring and evaluation ensure compliance with, and determine the efficacy of, Forest Plan direction and assess the quality of implementation. In the process of evaluating Plan implementation, any necessary changes are determined.

A. MONITORING

Monitoring is conducted to observe and/or record the results of actions and to inform management decisions, whether they are prescribed by the agency, implemented by users with agency authorization, or unauthorized. Information is collected from selected sources, on a sample basis, and should enable the responsible official to determine if a change in Plan components or other content that guide management of the Forest may be needed.

Each Plan monitoring program must contain one or more monitoring questions and associated indicators addressing each of the following elements:

- The status of select watershed conditions,
- The status of select ecological conditions, including key characteristics of terrestrial and aquatic ecosystems,
- The status of focal species to assess ecosystem integrity and diversity,
- The status of a select set of ecological conditions required to contribute to the recovery of federally listed threatened and endangered species and species of conservation concern,
- The status of visitor use and satisfaction, and progress toward meeting recreation objectives,
- Measurable changes in the Plan area related to climate change and other stressors,
- Progress toward meeting the desired conditions and objectives in the Plan, and
- The effects of each timber management system to determine that they do no substantially and permanently impair the productivity of the land.

All of these elements are addressed in the monitoring matrix at table 6, below.

B. BIENNIAL EVALUATION

Evaluation determines how well management outcomes are meeting Plan direction. It provides a "long look ahead" for trends and anticipated outcomes. The Forest Supervisor reviews and evaluates monitoring results in a biennial report. Based on the results of the evaluation, changes to Plan management direction may be recommended. The Forest will prepare a biennial monitoring and evaluation report for the Regional Forester, discussing monitoring results and recommended actions, including changes in management direction, or to the Plan. This report will be published to inform the public of the program, summarizing accomplishments, results of monitoring and evaluation, and expectations for future activities.

C. AMENDMENTS AND REVISIONS

Under the 2012 Planning Rule (36 CFR 219), planning for the Forest is an iterative process that includes assessing (§ 219.6); revising, or amending the Plan (§§ 219.7 and 219.13); as well as and monitoring (§ 219.12). These phases of planning are complementary and may overlap. The intent of the planning framework is to create a responsive planning process that informs integrated resource management, allowing the Forest to adapt to changing conditions, including climate change, and improve management based on new information and monitoring.

The Plan will be kept current through the use of amendments and, if necessary, revisions. The guidance for making these changes is 36 CFR 219.13. The Forest Plan may be amended at any time to keep it current and help the Forest adapt to new information or changing conditions. The Forest Supervisor may determine whether and how to amend the Plan. Amendments may be broad or narrow, depending on the need for the change. An amendment is required to add, modify, or remove a Plan component or to change how or where a Plan component applies to the Forest.

Amendments are based on the preliminary identification of the need to change the Plan, which may be based on an assessment of the Plan, a monitoring report, or other new information, changed conditions or circumstances. The public will be provided an opportunity to participate in the amendment process, which will be done consistent with NEPA procedures. The appropriate NEPA documentation for a Plan amendment depends on the scope and scale of the amendment and its likely effects.

A Plan revision creates a new plan for the Forest, whether the revision differs from the prior plan to a small or large extent. The Plan must be revised at least every 15 years from the date of approval. The Forest Supervisor may determine at any time that conditions have change changed significantly such that the Plan must be revised.

D. INFORMATION MANAGEMENT

An extraordinary amount of monitoring information will be collected over time. This information must be documented in a manner that allows it be easily retrieved, shared with the public, accessible to all interested parties and useable by agency managers to foster better decisions. Information management will consist of:

- Management of the collection and storage of data,
- Evaluation and interpretation of data,
- Sharing of information internally and externally.

The interdisciplinary team will work with Forest Service employees and cooperators to insure that data is collected using standard methods found in the monitoring guide and entered into the appropriate databases.

E. EVALUATION AND INTERPRETATION OF DATA

Evaluation is the process of converting data to information. It is a process of synthesis that consolidates value, judgment and reason with monitoring information to answer selected monitoring questions. Successful adaptive management depends on this evaluation of data to move the National Forest towards the desired future condition.

Resource specialists and others will collect and synthesize data. The interdisciplinary team will review the current year's monitoring and evaluation results at the end of each year. Based on their findings, recommendations may be made to the Forest Leadership Team.

F. PUBLIC INVOLVEMENT

We are committed to using an open process for decision-making. Our goal is to foster public understanding of the rationale for individual decisions. The same principles will be applied to monitoring. Additionally, since our approach incorporates an adaptive strategy, frequent public feedback is necessary to facilitate monitoring prioritization, protocols, evaluation and, ultimately, better-informed decisions. Partnerships with interest groups, volunteer groups, other federal, state and local agencies and universities will be part of this strategy. Monitoring-information trips for the public are encouraged to review findings and methods, as well as to address subsequent management implications. Other avenues of public involvement will include news releases, the Forest website, brochures and public reports.

Table 6. Monitoring matrix.

FOREST PLAN MONITORING MATRIX			
I. STATUS OF SELECT WATERSHED CONDITIONS			
Condition	**Objective**	**Questions**	**Indicators/Sources**
1 Public water-supply reservoir	To determine effectiveness of applying best management practices and Forest Plan standards and guidelines in restoring water-supply watersheds and protecting drinking-water reservoirs.	Is upstream agricultural runoff being mitigated? Is water quality being maintained/improved?	Miles or acres of streambank or gully erosion repaired. IEPA water quality reports
2 Water quality	To determine effectiveness of applying best management practices and Forest Plan standards and guidelines in protecting water quality of streams, lakes and ponds.	Is water quality being maintained/ improved?	Miles or acres of streambank or gully erosion repaired. IEPA water quality reports
3 Water quantity	To determine effectiveness of applying best management practices and Forest Plan standards and guidelines in improving or maintaining stream-channel structure and natural stream-flow regime.	How many miles/acres of stream-channel or watershed have been improved? Water flow un-impeded?	Miles, acres treated, including with NRCS partnership
4 Aquatic biota	To determine effectiveness of applying best management practices in maintaining, restoring, or enhancing aquatic habitat with respect to fragmentation, large woody debris and channel shape and function.	What is the species distribution in sampled streams, ponds, lakes?	Sampling data

FOREST PLAN MONITORING MATRIX			
5 Riparian/wetland vegetation	To determine effectiveness of applying best management practices and Forest Plan standards and guidelines in protecting, maintaining, restoring, or enhancing native riparian vegetation along streams, waterbodies, or wetlands.	Is native vegetation maintaining dominance near waterbodies, streams or wetlands?	Sampling data
6 Travelways	To determine effectiveness of applying best management practices and Forest Plan standards and guidelines in maintaining, locating, or restoring trails and roadways.	Are travelways located and maintained to prevent erosion?	Miles of roads, trails de-commissioned, improved, maintained.
7 Soils	To determine effectiveness of applying best management practices and Forest Plan standards and guidelines in preventing or abating erosion.	Is soil protected during management, recreation activities?	Level of erosion abatement, mitigation, prevention
II. STATUS OF SELECT ECOLOGICAL CONDITIONS INCLUDING KEY CHARACTERISTICS OF TERRESTRIAL AND AQUATIC ECOSYSTEMS			
Condition	**Objective**	**Questions**	**Indicators/Sources**
8 Aquatic habitat quality	To determine effectiveness of applying best management practices in maintaining, restoring, or enhancing aquatic habitat with respect to fragmentation, large woody debris and channel shape and function.	What is the species distribution in sampled streams, ponds, lakes?	Sampling data
9 Mississippi River bottomland hydrologic regime	To determine effectiveness of applying best management practices and Forest Plan standards and guidelines in restoring, protecting wetland habitat, hydrology, and wetland functions in the Mississippi bottomlands.	How many acres have improved wetland characteristics?	Acres of wetlands restored, improved, maintained

FOREST PLAN MONITORING MATRIX			
10 Natural areas' unique features	To determine effectiveness of management activities and Forest Plan standards and guidelines in protecting and restoring rare ecosystems and communities.	Are natural area characteristics being conserved?	Reports from Forest Service, researchers, cooperating agencies and others regarding habitat condition.
11 Fire-adapted communities	To determine effectiveness of applying best management practices and Forest Plan standards and guidelines in restoring and maintaining fire-adapted communities.	How many acres are under burning prescriptions? Are fire-adapted communities being conserved?	Acres, oak regeneration plots
12 Species richness	To determine effectiveness of applying best management practices and Forest Plan standards and guidelines in maintaining or improving species richness in Forest habitat-types.		
III. STATUS OF FOCAL SPECIES TO ASSESS ECOLOGICAL CONDITIONS			
Focal Species	**Objective**	**Questions**	**Indicators/Sources**
13 Pileated woodpecker Red-headed woodpecker Prothonotary warbler	Serve as indicators of health of upland and bottomland central hardwood oak-hickory forests.	What are the population trends for these species?	Survey data
IV. STATUS OF SELECT SET OF ECOLOGICAL CONDITIONS TO CONTRIBUTE TO RECOVERY OF AT-RISK SPECIES (FEDERALLY LISTED, REGIONAL FORESTER SENSITIVE, SPECIES WITH VIABILITY EVALUATION)			
Condition	**Objective**	**Questions**	**Indicators/Sources**
14 Barrens, glades, and prairies	To determine the effectiveness of management in protecting and promoting the recovery of at-risk species dependent on barrens and glades.		See appendix for at-risk species associated with this ecological condition.

FOREST PLAN MONITORING MATRIX			
15 Upland and oak-hickory forests	To determine the effectiveness of management in protecting and promoting the recovery of at-risk species dependent on dry-upland forest habitats.		See appendix for at-risk species associated with this ecological condition.
16 Dry-mesic and mesic hardwood forests	To determine the effectiveness of management in protecting and promoting the recovery of at-risk species dependent on dry-upland forest habitats.		See appendix for at-risk species associated with this ecological condition.
17 Wetlands, swamps, forested wetlands, floodplain forests, caves	To determine the effectiveness of management in protecting and promoting the recovery of at-risk species dependent on dry-upland forest habitats.		See appendix for at-risk species associated with this ecological condition.
18 Streams	To determine the effectiveness of management in protecting and promoting the recovery of at-risk species dependent on stream habitats.		See appendix for at-risk species associated with this ecological condition.
19 Openlands	To determine the effectiveness of management in protecting and promoting the recovery of at-risk species dependent on openlands.		See appendix for at-risk species associated with this ecological condition.
20 Cliffs	To determine the effectiveness of management in protecting and promoting the recovery of at-risk species dependent on ~~openlands~~ cliff habitats.		See appendix for at-risk species associated with this ecological condition.
21 Seeps, springs, caves	To determine the effectiveness of management in protecting and promoting the recovery of at-risk species dependent on ~~openlands~~ seep, spring, and cave habitats.		See appendix for at-risk species associated with this ecological condition.

FOREST PLAN MONITORING MATRIX			
V. *STATUS OF VISITOR USE, VISITOR SATISFACTION, AND PROGRESS TOWARD MEETING RECREATION OBJECTIVES*			
22 Recreation demand	To determine if recreational user needs are met, if responsive to future recreation trends, and protective of resources	Are recreational users satisfied with their experience?	NVUM, user satisfaction, RSA
23 Recreation facility health and safety	To determine if recreational facilities (structures, excluding trails) provide adequate health and safety for visitors	Are facilities managed to standard?	Facility Survey, deferred maintenance list
24 Level of use of trail system	To determine if use-level is appropriate to protect resources and manage user encounters	Is usage consistent with planned usage?	Trail Survey, NVUM
25 Wilderness management	To determine if visitor experience needs (primitive recreation, solitude), biophysical requirements, and goals for management presence are being met	Are wilderness users satisfied with their experience?	NVUM, user satisfaction, NNIS Inventory
VI. MEASURABLE CHANGES IN THE PLAN AREA RELATED TO CLIMATE CHANGE AND OTHER STRESSORS			
26 Long-term stream temperature monitoring	To determine if stream temperatures are changing over time.	Are stream temperatures changing?	Stream-temperature survey data
27 Invasive species control	To determine natural areas are being protected from invasive species.	Are we losing biodiversity in our natural areas from invasive species?	Natural Area Surveys
VII. PROGRESS TOWARD MEETING FOREST PLAN DESIRED CONDITIONS AND OBJECTIVES, INCLUDING PROVIDING MULTIPLE-USE OPPORTUNITIES			

FOREST PLAN MONITORING MATRIX			
28 Quantitative performance, comparing outputs / services with those projected in the Plan	To compare anticipated/projected and actual accomplishments	Is the plan being implemented?	Land Managed (Acres)
29 Species of recreational interest	To determine how Forest management affects species of recreational interest		Species of recreational interest
30 Heritage Resources	To determine how Forest management affects heritage resources.	Are heritage resources being protected?	Sites protected
VIII. EFFECTS OF (TIMBER) MANAGEMENT SYSTEMS TO DETERMINE THEY DO NOT SUBSTANTIALLY AND PERMANENTLY IMPAIR PRODUCTIVITY OF THE LAND			
31 Timber Harvest Program	To determine if timber program is accomplishing its' objectives while protecting soil productivity.	Is soil productivity being protected?	Soil Survey