UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

05 MAY 2005

Content Analysis Team
Mark Twain National Forest Plan Revision
P.O. Box 22810
Salt Lake City, Utah 84122

Dear Content Analysis Team:

RE: Mark Twain National Forest Land and Resource Management Plan, Implementation, Revise to the 1986 Land and Resource Management Plan, several counties, MO

The Environmental Protection Agency (EPA), Region 7, has reviewed the Forest's Draft Environmental Impact Statement (DEIS) for the Revision of Forest Management Plan, Mark Twain National Forest. The EPA reviews DEIS documents in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. Section 309 directs EPA to review and comment in writing on the environmental impacts of any major federal agency action. EPA's comments include rating the environmental impacts of the alternatives and the adequacy of information in NEPA documents. This DEIS was assigned a Council on Environmental Quality (CEQ) number 050037.

EPA expresses concerns with three aspects of the DEIS: 1) Air Quality Impacts, 2) Cumulative Impacts Analysis, and 3) Adaptive Management (indicators, monitoring and process). EPA's detailed questions, comments, and concerns regarding the analysis, documentation, and potential environmental impacts of the (draft) Forest Management Plan are enclosed with this letter. These comments propose additional information for the Final EIS regarding impacts analysis. Based on the procedures that EPA uses to evaluate the adequacy of the information and the potential environmental impacts of alternatives, the DEIS is rated "EC-2" which means "Environmental Concerns - Insufficient Information". A copy of EPA's rating criteria is enclosed.

EPA appreciates the productive meeting between EPA and the Forest Service on March 24, 2005, at the Missouri Resource Assessment Partnership (MoRAP) offices in Columbia, Missouri. At that meeting, it was learned that the Forest Service intends to develop environmental assessments for each prescribed burn, and that a programmatic level smoke management plan would provide the detailed framework for those assessments, including air quality factors that will be considered when deciding to burn or not to burn. EPA desires to work with the Forest Service to identify a reasonably effective combination of predictive tools and real time measurement tools (like the U.S. Forest Service's BlueSkyRAINS) and continuous ambient air monitoring that can be used for evaluating and adjusting individual prescribed burns to mitigate their effects. These tools should encompass all of the air pollutants of concern including $PM_{2.5}$, PM_{10}, NOx, and CO.

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Thank you for considering our concerns and comments. Questions about these comments should be directed to Mr. Joseph Cothern, NEPA Team Leader, at (913) 551-7148 or cothern.joe@epa.gov.

Sincerely,

U. Gale Hutton
Director
Environmental Services Division

Enclosure

cc: Laura Watts, U.S Forest Service
Missouri Department of Natural Resources
Missouri Department of Health
Missouri Department of Conservation

EPA Comments on the Mark Twain National Forest Management Plan
Draft Environmental Impact Statement

General Comments

Project Overview:

The Forest Service (USFS) evaluates revision alternatives to the Forest Management Plan for the Mark Twain National Forest of located in central to south Missouri. The DEIS analysis covers approximately 1.5 million acres of National Forest lands.

Revision topics include (1) Vegetation and Timber Management, (2) Ecological Sustainability and Ecosystem Health, (3) Fire Management, (4) Management Areas, (5) Riparian Areas and Water Quality, (6) Threatened, Endangered, and Sensitive Species Viability, (7) Access and Transportation Management and (8) Monitoring and Evaluation. The goal of revising the Forest Management Plan is, "to provide environmentally sensitive, socially responsive, economically feasible, and scientifically sound multiple use management." The importance of incorporating adaptive management principles and contemporary information and science are highlighted in the Need to revise the Forest Management Plan. EPA agrees with these stated goals, and intends to assist the Forest in obtaining the most current and appropriate information to help inform this Revision.

Alternatives

Four alternatives plus "No Action" are evaluated in the DEIS:

(A) Alternative 1 minimizes direct human influence. No commercial timber harvest would be allowed. Natural disturbance factors would be the primary influence on the forest environment. Management would focus on visitor safety, law enforcement and custodial elements.

(B) Alternative 2 emphasizes restoration of terrestrial natural communities while providing forest products and multiple use benefits. Management prescriptions would be employed to attain and sustain habitat and species diversity. A broad spectrum of recreational opportunities would be provided.

(C) Alternative 3 (Forest Service's Preferred Alternative) is designed to seek a balance between natural community restoration and production of traditional forest commodities.

(D) Alternative 4 represents an emphasis on traditional forest management and production with an emphasis on ecosystem enhancement. Extractive use and recreation activities would influence ecological processes.

(E) Alternative 5, The No Action Alternative reflects current Forest-wide direction and continues current management allocations and activities. The management direction found in the 1986 Forest Plan, as amended, would continue. The 1986 plan gives strong emphasis to wildlife habitat development.

Air Quality

The Preferred Alternative proposes a fivefold increase in prescribed burning over the existing Forest Management Plan. EPA's concerns with this degree of burning increase include impacts to St. Louis attainment status, impacts to Springfield-Branson, Hercules Glades Class I visibility area, and health impacts to local communities (in which sensitive and Environmental Justice populations may reside).

In formulating these comments, EPA conducted preliminary modeling to estimate the $PM_{2.5}$ impact resulting from a single burn in the Mark Twain National Forest, over a 7 day period. We followed the U.S. Forest Service BlueSkyRAINS approach. Specifically, our model used the Fire Emission Production Simulator 1.0, EPM2BAEM pre-processor (version 1.0), CALPUFF version 5.711a, and CALPOST software for post-processing. The burn-specific parameters used to run the model, (such as fuel load characteristics and fuel moisture category) were discussed with the U.S. Forest Service prior to running the model. This modeling yielded $PM_{2.5}$ impacts above $0.1 ug/m^3$ for Hercules Glades and St. Louis on certain days. Although meteorological inputs to the model were limited (not including meteorological data for the entire burn window) $PM_{2.5}$ concentrations of concern extended several hundred kilometers downwind from the event source on certain days. The absolute magnitude of impact will vary by location of the fire and dispersive characteristics of the atmosphere.

In the absence of more detailed modeling, and a smoke management plan to guide burn operations, the potential for long range transport of fire emissions to sensitive receptors such as Hercules Glades and St. Louis substantiates EPA's environmental concerns with the Preferred Alternative. While EPA recognizes that the Draft EIS for the Draft Revised Forest Plan for the Mark Twain National Forest will assist in decision-making at the "program-level", and discusses environmental impacts on a broad scale, it is imperative that individual prescribed fires receive detailed scrutiny through individual environmental assessments.

A smoke management plan should be developed that outlines the steps the U.S. Forest Service's program will take for specific prescribed burns to reduce emissions, increase plume dispersion, coordinate (within the forest service as well as with other authorities) and communicate with the public to minimize the negative impacts of the prescribed burning on air quality. Communication needs to be effective and timely to allow individuals to take any steps necessary to adjust their behavior and resultant exposure to protect their personal health. In addition to the timing of the prescribed fires, information should be disseminated regarding the potential impacts on air quality and as a result, human health and the environment, and mitigation methods that could be followed by sensitive individuals should be provided. Furthermore, the plan should outline the plans for monitoring the impacts of burns, potential contingency measures and a decision hierarchy for adjusting plans in response to monitoring and actual burn conditions. The smoke management plan should also describe how the U.S. Forest communicates internally and with other officials to coordinate specific burns within the Forest and in other National Forests (particularly upwind in Arkansas and Oklahoma) to minimize the impact of prescribed burning on a more regional basis. Control strategies such as limiting the dates of burning to days outside the ozone window, limiting the volume of burning on the same or consecutive days on a regional basis, etc., should be included to limit emissions on a regional basis.

While we have seen elements of the smoke management plan that is being developed, (the April 2001 Draft "Comprehensive Guide to Incorporating Air Quality Effects of Prescribed Fire Management into Mark Twain National Forest Land Management Planning" and "FSM 5100 - Fire Management, Chapter 40-- Prescribed Fire") the current draft does not contain an adequate description of the level of analysis that will be undertaken to ensure the protection of human health and the environment with the implementation of the preferred alternative.

Cumulative Impacts

Cumulative impacts from proposed management direction are briefly noted throughout the document. However, we believe additional evaluation and discussion of direct, indirect, and cumulative impacts is needed in the Final EIS. EPA recommends that the Forest Service utilize recently developed spatial information from the Missouri Resource Assessment Partnership (developed under EPA/MoRAP Cooperative Agreement). These data and assessment tools appear to have direct application to the management directions expressed in the Revised Forest Plan and reveal some of the cumulative stresses that are being experienced within the project area.

EPA urges the MTNF to coordinate with the Ouachita and Ozark-St. Francis Forests in Northwest Arkansas to ensure that burn activities in those forests do not contribute (cumulatively) to exert a negative effect on Missouri populations or resources.

Adaptive Management

The Purpose and Need emphasizes the desire for a more adaptive management approach. EPA understands the value of an adaptive management process, especially when stressors are in flux or when essential information is not currently available. The DEIS does not provide details of how research results, monitoring data, and other information may be used to inform adaptive management decisions. EPA recommends the inclusion of additional details in the Final EIS regarding monitoring plans, planning forums and how adaptive management will be implemented consistent with those inputs, and focused on revision topic goals.

Monitoring plan details should note the monitoring and management protocols, thresholds, proposed responses to foreseeable and unforeseeable impacts, and budget and resource needs and availability. Monitoring is critical for an adaptive management approach that can respond to changing environmental conditions, habitat alteration, regulatory changes, and other stresses.

<u>Specific Comments on the DEIS</u>

Revision topic 1b - An adaptive management process for silvicultural flexibility should be supported with a well developed monitoring program. EPA recommends inclusion of a diagram of the adaptive management process and actions to be taken per monitoring results in the Final EIS.

Revision topic 3b - Prescribed fire should be employed with due regard for the following: Protection of human health (including Environmental Justice populations), Air Quality Designated areas (St. Louis, Hercules Glades), and areas which may have future air quality

challenges during the life of the Revised Forest Plan (high growth metropolitan areas such as Springfield-Branson).

Issue 1- Timber Supply, Issue Statement, page 1-11, the issue statement indicates that "Forest Plan Revision will establish the acreage and location of land that is suitable for timber production (996,712 acres, Appendix E-1). EPA recommends that the "location" of suitable land (as summarized in Table 5, page 3-26) be depicted in the map appendix.

Pesticide Contamination, Cumulative effects, Page 3-109 - Without an accounting of the pesticide products used by "other ownerships" and volume applied, the declaration that no cumulative effects exist could be questioned. It may be useful to query local noxious weed control authorities, County Extension agents, and other sources to assess the magnitude of pesticide application, and the fate and transport of the specific products that are in use.

Ozark Hellbender, pages 3-128 and 3-129,- Specific human activities, (including non-native species introductions) are listed as potentially adverse to the Ozark Hellbender. Although the "Ozark Hellbender Working Group" has not identified "actions that the Mark Twain NF would be responsible for",...are there opportunities to reduce specific impacts, even if the MTNF is not the actionable agency? For instance, how many stream miles are not adequately fenced? Could the canoe liveries provide portable or fixed toilet facilities/rest spots along float routes?

Pages 3-146 thru 3-150, the scientific name of the three mussel species should be verified. The text currently reads *L. leptodon* for all three of the described species.

Fire Management, Issue Statement, Page 3-159 - The Revised Forest Plan does not contain the specifics of "how, where, and to what extent prescribed fire may be used".

Air Quality, Page 1-173, "Affected Environment" section, 2nd Paragraph - EPA recommends replacing "EPA accepted levels" with "the National Ambient Air Quality Standards (NAAQS)"

Page 3-179, top of page - EPA appreciates the Forest's contributions in developing a Statewide Smoke Management Plan. Until the plan is completed, EPA offers assistance in evaluating effects of individual prescribed fires.

Page3-190, cited webpage at www.mo.water.usgs.gov is a dead link. EPA recommends replacing with http://waterdata.usgs.gov.mo/nwis.

Effects from Rangeland Management, Page 3-206 - What is known about "other ownerships" grazing practices which could be affecting Forest management objectives?

Cumulative Effects, Page 3-211, first paragraph - EPA recommends that the temporal boundaries for the cumulative effects analysis be more specific than simply "the planning period". If the planning period amounts to the next 15 year increment of a Forest Management Plan it may not account for land use projections that may cover a longer time span such as county master plans, existing plans of the State Economic Development Office or other inputs valuable to a comprehensive cumulative impacts analysis.

Wilderness Use, Page 3-245, 3rd paragraph - What is the horse density standard? How is use that exceeds the standard managed?

Cumulative Effects, page 3-251, 3rd paragraph - What are the specific indicators of overuse in Paddy Creek Wilderness? Are there management activities that can control or mitigate this adverse cumulative effect?

Table 57 - Should the date of the Forest Plan Revision be 2005?

Population and Demographics, page 3-277, 1st paragraph - Are the growth rates differentiated enough to determine the age group of the growth? If this represents a retirement population, then the demand for forest related jobs and recreation may be much different than an influx of people of child-bearing age.

Environmental Justice, Pages 3-296 thru 3-297, Low income populations could receive a disproportionate impact from burn operations, since they may not be able to temporarily vacate a smoke plume. Smoke effects to environmental justice and sensitive populations (children and respiratory system impaired individuals) should be given diligent examination during burn planning.

Effects on Consumers, Civil Rights, Minority Groups, and Women, page 3-302, 2nd paragraph - Executive Order 12898 is not "part of (the) National Environmental Policy Act", but rather, it is to be a consideration given to Federal actions which are subjected to analysis under NEPA.

Appendix A-7, Revision Topic 2d, Revise Management Indicator Species (MIS) - EPA recommends evaluation of the sub-watershed species predictor work being compiled by MoRAP. A homogenous MIS list across all MTNF Districts may limit flexibility, or may establish un-attainable objectives.

Appendix E-11, the reach of Cedar Creek just north of the District boundary had a Total Maximum Daily Load (TMDL) approved by the U.S. EPA on July 14, 2004. Specific requirements of this TMDL are provided as an attachment to this letter and can also be found at http://www.dnr.mo.gov/wpscd/wpcp/tmdl/wpc-tmdl-EPA-Appr.htm.