



NEWSLETTER May 2002

Previous newsletters have presented information about the overall process of Forest Plan Revision on the Chippewa and Superior National Forests. Specific articles have focused on parts of the analysis that will be conducted to refine and evaluate the alternatives that will be considered in the draft Environmental Impact Statement.

The topics covered in previous editions include Range of Natural Variability, Landscape Ecosystems, Key Issues and indicators, Preliminary Alternatives and Management Areas, Wilderness Evaluation, and Species Viability Evaluation.

This edition of the newsletter focuses on the social and economic analyses and how computer modeling is being used to help understand the complex inter-relationships between the parts of the environment affected by proposed management on the two Forests.

Additional information is posted along with the newsletters on the recently revised Forest Plan Revision web site:

www.fs.fed.us/r9/chippewa

Computer Models and Forest Plan Revision

Computer modeling is one tool being used to help estimate the potential outcomes of the alternatives and to assist in the effects analysis required in the draft Environmental Impact Statement for Forest Plan Revision.

A computer model is a set of assumptions designed to provide a simulation of what might happen in the “real world”. The computer models being used for Forest Plan Revision analysis work with logic that is similar to a series of “*if this, then this*” assumptions identified by the planning team.

Example: The model might be told that **IF** an area were not inventoried as “tentatively suitable for timber management”, **THEN** the model would not apply a timber harvest treatment to that area.

It is important to understand the limitations of a computer model. The model can only use the assumptions and data that are input. If complete data is not available or if the computer program is only capable of modeling certain types of activities, these limitations must be considered in interpreting the outcomes projected by the model.

While the outcomes of the computer models do not reflect actual management scenarios under the alternatives they do provide for comparison of generic or general conditions that might occur.

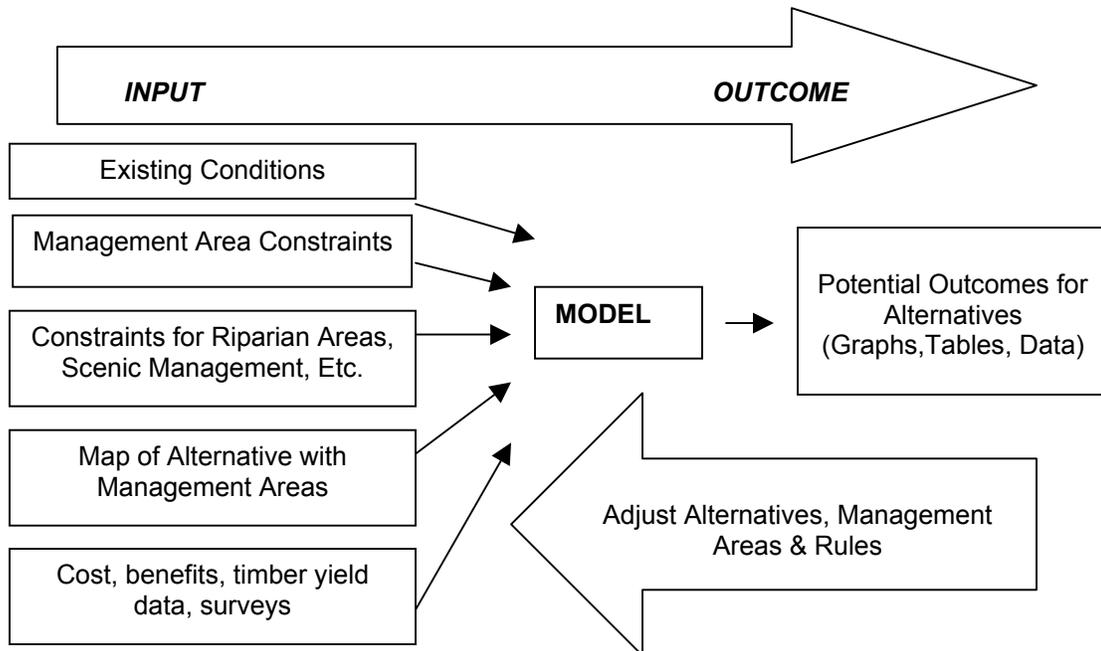
For example, the models are useful in estimating both the short and long-term vegetation condition of the forests and outcomes such as timber volume or economic effects under each alternative. The outcomes can then be compared to

desired conditions in terms of landscape ecosystem health as well as social and economic benefits as a measure of potential success.

Computer modeling is also a useful analytical tool to help further refine the preliminary alternatives. Estimates of ecological, economic, or social effects from the modeling provide important indications to the planning team about how closely the preliminary alternatives would achieve desired outcomes.

Modeling for Forest Plan Revision

The modeling of the preliminary alternatives will be an iterative process where the outputs of modeling will be evaluated and adjustments made with follow up modeling to see how these adjustments affect the projected outcomes.



Computer modeling will be used to define “benchmarks” as required by the 1982 planning regulations. Benchmarks define the range within which alternatives can be constructed with consideration of costs and benefits associated with maintaining and protecting the Forests, the maximum physical and biological potential to produce goods and services, the cost and benefits of producing goods and services, and an estimation of the present net value of resources with established market values or monetary values that have been determined or assigned to them. The modeling outcome for the benchmarks will be compared to the projected outcomes for the alternatives.

DUALPLAN and Analyzing Vegetation Change

DualPlan was developed by the University of Minnesota as a tool to model vegetation changes resulting from growth and management. This tool provides a means of finding the most cost-effective combination of many different activities and the timing of these activities for up to 150 years, to achieve a desired future condition of the forested landscape.

The DualPlan model starts with a computerized map of current ecological conditions of the landscape.

Other map information is included such as transportation routes, developed recreation sites, water features, and political boundaries.

Assumptions are input into the model that describe how growth, natural succession, and various management treatments affect vegetation growth, natural succession, and conditions over time.

Management treatments include vegetation thinning, partial cuts, shelterwood cuts, and clear cuts along with expected results associated with each forest type found on the landscape. DualPlan can only project the outcomes of these management treatments and cannot account for changing conditions over time such as fire or wind storms.

Sets of modeling assumptions are developed to describe how management

treatments will be applied for each alternative. These are not actual management direction for implementation but are needed as input to the model. Output from the model includes data describing acres of forest type in future time periods.

Running the model allows us to see how closely the constraints for each alternative produce the desired future conditions on the landscape. If needed, the assumptions are adjusted and the model is run again to see if the adjustments worked as expected. This process is repeated until the projected outcome for each alternative resembles the desired results associated with that particular alternative. Note that each alternative may have differing desired future landscape conditions.

General guidelines include:

- Clear-cut treatments are modeled to retain 9 trees per acre. Reserve trees are selected from trees within largest 50% of stand.
- Shelterwood treatments are modeled with overstory removal 10 years after initial shelterwood cut. Same reserve trees as clearcut treatment.
- Partial cut treatments modeled to attain multi-age conditions or provide an overstory while regenerating to a different cover type.
- Harvesting is only an option on lands that inventory identified as "tentatively suitable for timber management". The model assumes natural succession in the absence of harvest treatments.

Other, more specific guidelines are also input into the DualPlan model.

Economic Assessment

Economic impacts will be evaluated and compared in terms of:

- **Recreation revenues** (*\$/ Recreation Visitor Days*)
- **Value & volume of wood products** (*\$, cubic and board feet*)
- **Value and quantities of other forest products** (*\$, tons, gallons, etc.*)
- **Employment by Forest Service program area** (*number of jobs*)
- **Employment by major industry** (*number and type of jobs*)
- **Forest Service revenues & payments to counties** (*\$*)
- **Viability and adaptability to changing economic conditions of forest-dependent communities, including indigenous communities**
- **Cumulative economic impacts**

One objective of the Revised Forest Plans is to contribute to economic sustainability of local communities while being consistent with ecological and social sustainability. The alternatives considered in the Environmental Impact Statement (EIS) for Forest Plan Revision will represent a range of possible land allocations, management actions, uses, values, products, and services.

Recreation Visitor Day (RVD) is a measure of recreational use in a 12-hour period. To estimate the economic implications, spending profiles are characterized for various types of use such as hunting, fishing, sightseeing, etc, based on research and surveys.

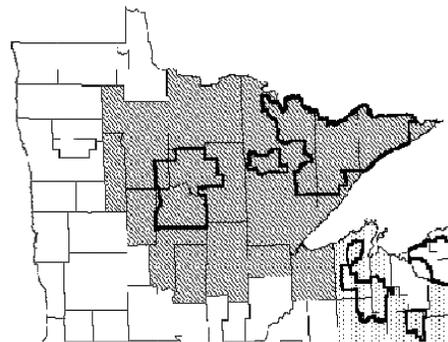
IMPLAN and Economic Analysis

IMPLAN is a computer model that will be used to help evaluate relative economic effects of each alternative considered in the analysis for Forest Plan Revision. The model, produced by the Minnesota IMPLAN Group, uses U.S. Government data to model the purchase of goods and services between all counties in the United States. Information from DualPlan outputs is use in IMPLAN.

Estimates of timber volumes, costs of production, spending by the recreating public, and costs of providing recreation incurred by the Forest Service and other program expenditures will be inputs to the model. Model outputs include changes in jobs and income, by economic sector, predicted to result from the implementation of each alternative.

These impacts stand alone as effects and also provide information to evaluate other social impacts that might result from implementing each alternative

Local Area Impact



The IMPLAN model requires identification of the area impacted by the EIS analysis. The shaded area on this map indicates the area that is included.

Social Assessment: Values and Uses

In order to evaluate the social impacts of the alternatives it is essential to understand the values that people assign to National Forest resources and the uses that are expected. The Chippewa and Superior National Forests are working with the Arrowhead and the Headwaters Regional Development Commissions to accomplish this assessment. The two regional commissions are conducting mail surveys, focus groups, key informant interviews, and collecting data from existing reports and studies.

The following questions are being asked to help define values and uses on the Forests:

- *Who are the users?*
- *What are the uses?*
- *What are the social and economic characteristics and trends?*
- *What are the special places?*
- *What meaning do the Forests have to residents and visitors?*
- *What access do people have and what are concerns about access?*
- *What places are culturally and traditionally important?*
- *What are the unique characteristics and priorities related to the National Forests?*

March Open Houses

Public participation is important in developing revised Forest plans that are implementable and supported by the public. In March, District Rangers and the Forest Supervisors hosted seven open houses throughout the Chippewa and Superior National Forests and in the Twin Cities area. Approximately 200 individuals attended with a wide range of interests. Maps of the revised preliminary alternatives were displayed

and 12 fact sheets were available to describe the processes underway to address specific issues. The maps are available for viewing and copies of the fact sheets are available at the offices of the two Forests. This information is also posted on the Forest Plan Revision web site. A follow-up working session on April 17th was attended by 33 people who discussed selected Forest Plan Revision topics in detail.

The alternatives have been revised to integrate a Landscape Ecosystem approach. For more information, see the December 2001 Newsletter or the web site.

Recreational Motor Vehicles

Recreational Motor Vehicle (RMV) use was a topic of discussion at the Open Houses. The increased popularity and controversy associated with this use is being addressed in the Forest Plan Revision analysis.

Management direction for RMV use will consider trails, roads, and cross-country travel and will vary by alternative according to three classifications of use – *Allowed, Restricted, or Prohibited*.

The analysis in the draft EIS for the Revised Forest Plans will address the following questions regarding Recreational Motor Vehicles:

What access for the various recreation motor vehicle uses should be provided on the two National Forests?

How much of the Forests should be available for each type of use, where should the areas be located, and what rules for use should apply?

Should the access rules be consistent between the two National Forests and other public lands?

Species Expert Panels Meet in April

Species experts met to provide information that will help Forest planners evaluate the degree to which ecological conditions on national forest system lands in Minnesota and Wisconsin contribute to the long-term viability of species of concern identified earlier in the plan revision process. Specifically, Forest planners will use this along with other information to: 1.) ***evaluate the potential effects*** of the preliminary alternatives and help in finalizing the alternatives for the draft EIS, 2.) ***complete the analysis and documentation*** of environmental effects in the draft EIS, and 3.) ***help decision makers*** understand the alternatives and make an informed decision on the preferred alternative. Additional information will be provided in a future newsletter and posted on the web site.

What's Coming?....

Benchmarks

When completed, the computer modeling that addresses the requirement of the 1982 planning regulations for analysis will be posted on the web site. This information will also be included in the plan revision documentation.

Finalize Alternatives for DEIS

Information from the Species Expert Panels along with other concurrent analysis, including benchmarks, will be considered in finalizing the alternatives. The Regional Forester will approve the range of alternatives to be considered in the draft EIS.

Public Meetings

The next round of public meetings are planned for this summer after the range of alternatives have been approved by the Regional Forester. After approval, the final range of alternatives will be available for review - times and locations will be announced in a later newsletter and posted on the web site.

DEIS

The environmental effects for implementing each of the alternatives will be documented in the draft EIS along with identification of a preferred alternative. Two proposed Forest Plans will be developed based upon the preferred alternative(s). The Forests expect to release these documents in fall 2002 followed by a comment period of at least 90 days to provide opportunity for the public, other agencies, tribal and other governments to comment on the draft EIS analysis, alternatives, and the proposed plans. These comments will be considered in preparing a final EIS and two final Forest Plans.

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