

**Minnesota Forest Resources Council
Project Prospectus
April 17, 2000**

Project Title

Spatial Analysis of Forest Landscape Conditions

Sponsor

Minnesota Forest Resources Council (MFRC)

Co-Sponsors

Minnesota Department of Natural Resources (DNR)
The Nature Conservancy (TNC)
Minnesota Forest Industries (MFI)
Audubon

Cooperators

Natural Resources Research Institute (NRRI)
USDA Forest Service
University of Minnesota – College of Natural Resources
Others

Project Overview

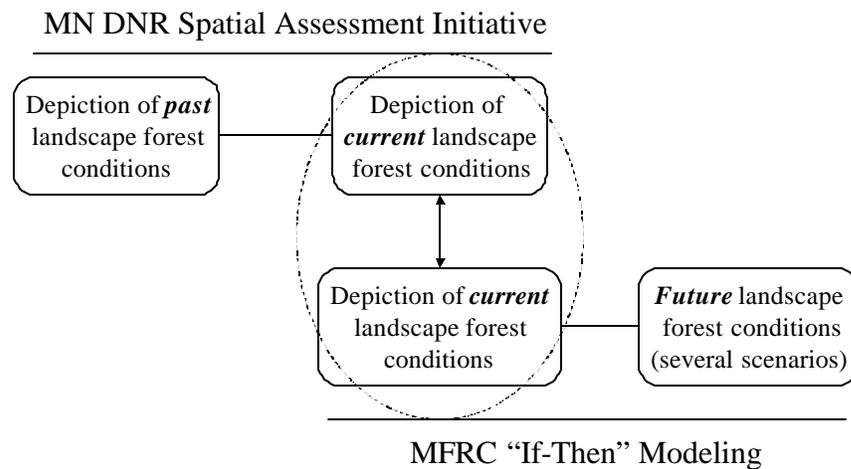
Purpose

The project aims to improve understanding of historical landscape patterns and possible future conditions as a guide for forest planning and management strategies. The project will work to determine the value and limitations of spatial pattern data in developing science-based management strategies and in evaluating the consequences of alternative decisions.

Background

This project is a joining of what formerly were two separate, yet related, projects. The first project was sponsored by the MFRC and called for the development of methodology for projecting and assessing consequences of land management practices across MFRC landscape regions (MFRC FY 00-01 Work Plan). The “If-Then” modeling would assess the extent, location, and distribution of **future** forest cover types and age-classes under several different scenarios. As a basis for the modeling, **current** forest landscape conditions would have to be identified. The second project was sponsored by the DNR and was titled the Spatial Assessment Initiative. As proposed, the project would examine the effects of land use on the type, shape, and configuration of forest patches. The project called for the assessment of **past** and **current** forest landscape conditions. The similarity (see graphic below) between the projects was sufficiently large enough that the MFRC and DNR agreed to merge the projects.

Major Components of MFRC and MN DNR Projects



Products

Products that answer important questions and assist forest managers and interested citizens in planning will be developed. Possible products are:

Important Questions – The first product will be a list of important questions related to the management of forest landscape conditions. These questions will guide analysis and development of products.

Current Forest Conditions – Base maps depicting the current extent, location, and distribution of landscape elements. Analysis of the effects of current forest conditions on wildlife habitat and additional forest resources.

Retrospective Forest Conditions – Base maps depicting the past extent, location, and distribution of landscape elements. Quantification of change in forest landscape conditions, causes of change, and potential impacts.

Future Forest Condition Modeling – Projection of forest landscape conditions based on land management and policy scenarios. Evaluation of the extent of change between current forest conditions and possible future conditions and the implications to wildlife habitat and other forest resources.

Natural Range of Variability – Determination to the degree possible the extent to which current and possible future forest conditions are in-line with the natural range of variability.

Project Management

MFRC Landscape Committee

The MFRC Landscape Committee (CLC), which oversees all MFRC landscape planning and coordination efforts, will administer this project. CLC members are Wayne Brandt, Betsy Daub, John Jordan, Steven Daly Laursen, Brad Moore, and Ron Nargang (chair).

Project Manager

The CLC shall appoint a project manager. Responsibilities of the project manager are maintaining project budget; communicating project status to the CLC; providing technical expertise; establishing linkages with other, related projects; conducting modeling; coordinating the activities of project teams; ensuring integration and communication between project personnel; managing project contracts; and other activities as assigned by the CLC. The project manager is accountable to the CLC. Chris Edgar fills the project manager position.

Project Strategy Team (PST)

The PST has the important task of setting the context for the project through identification of important questions related to management of forest landscape conditions. These questions will guide the development of analysis tools and techniques, ensuring that products are in-line with the needs of forest managers, policy makers, and interested citizens. The PST will review analyses, results, and major findings.

The CLC appoints PST members and a team leader. Eleven people from a variety of interests have been selected by the CLC to serve on the PST.

<u>Agency/Organization/Group</u>	<u>Participant</u>
TNC	Jenny Brown
U of MN, CNR	Alan Ek
MCEA	Jim Erkel
MFRC	Jan Green
USFS	Logan Lee (team leader)
Partnership	Jim Marshall
County Land Commissioners	Garrett Ous
MFRC Landscape Program	Dave Miller
NRRI	Jerry Niemi
MFI	Tim O'Hara
DNR	Lee Pfanmuller

The team leader presides at PST meetings and assumes leadership responsibilities as needed. Logan Lee fills the team leader position.

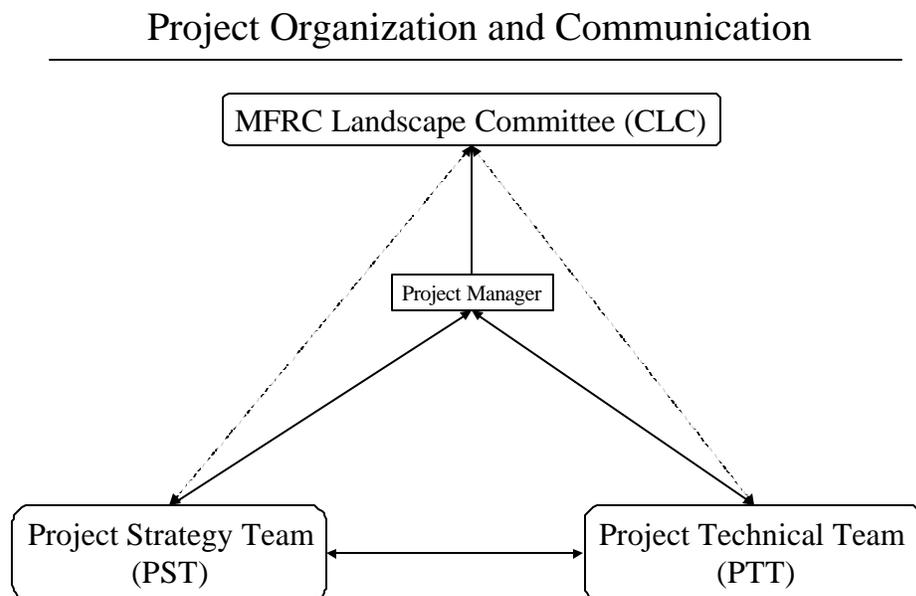
Project Technical Team (PTT)

The PTT will develop tools and techniques by which the important questions identified by the PST can be addressed. The PTT will put forth a detailed plan outlining the steps needed to conduct the various analyses and produce the desired products. Data requirements, methods, timelines, and estimated costs will be included in the plan. Once analyses are completed, the PTT will review all results and products to ensure they are credible and consistent. The PTT will advise the PST and the CLC on the interpretation of results and findings.

One or more experts in the fields of remote sensing, landscape ecology, wildlife management, forest biometrics, forest management scheduling, and GIS will be selected by the CLC to serve as core group members. Core group members must be willing to participate throughout the life of the project. The CLC will appoint a team leader from among the core group. The team leader presides at meetings and assumes additional leadership responsibilities as needed. The team leader position is filled by Jim Manolis. Professionals who will serve intermittently on the PTT may be added as situations arise and expertise is needed. The PTT team leader, in consultation with the project manager, will identify the additional participants.

Project Organization and Communication

Relations among the CFC, the project manager, PST, and PTT are displayed in the following graphic. The strongest lines of communication (solid lines in the



graphic) are expected to occur (1) between the project manager and the CLC, (2) between the project manager and the teams and respective team leaders, and (4) between the PST and PTT. The CLC appoints team members but is not expected to work directly with the teams (dashed lines).

Project Development

The PST will meet regularly until a comprehensive set of questions and products related to the management of forest landscapes is developed. The PTT will convene after the PST has made progress. The PTT team leader will establish and maintain strong communication linkages between the PST and the PTT.

The project manager and PTT team leader will work together to identify options for conducting the analyses based on the detailed plans (data requirements, methods, timelines, estimated costs) put forth by the PTT. Options will be brought to the CLC for their consideration. The intent is to use personnel

available to the MFRC to accomplish a majority of the analysis. Contracts will be let out in the event that capabilities are lacking. The project manager handles management of contracts.

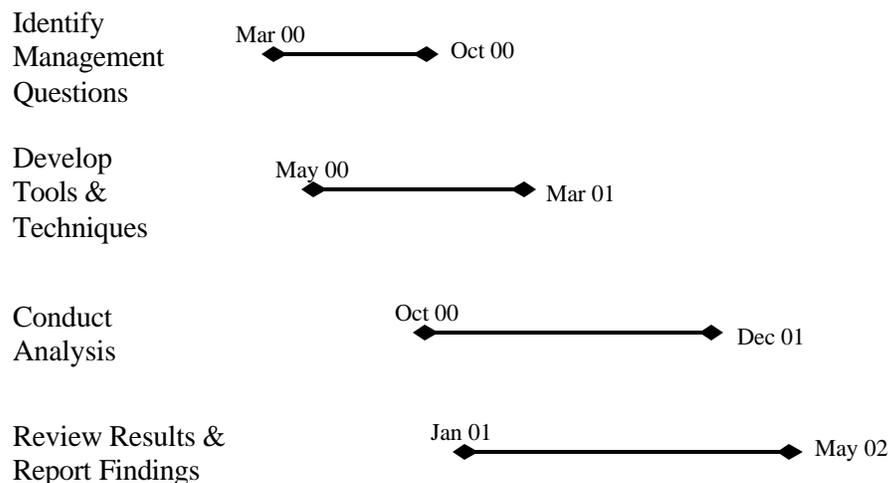
As analyses are completed the PTT will review results against several criteria that aim to ensure the analyses are credible and consistent. The PTT will present the analyses and results to the PST and work jointly with the PST to establish major findings. As project components are completed, findings will be presented to the CLC.

A project web page will be constructed and added to the MFRC's existing web page. Announcements, meeting schedules, meeting minutes, project results, products, and other important items will be posted and made available at the site.

Project Timelines

Total duration of the project is expected to be 2 - 2.5 years. The project is broken up into 4 major components: identification of management questions, development of tools and techniques, analysis, and findings. Several components may be active at any given time (see graphic). For example, tools and techniques for developing a base map of current conditions may be

Timelines for Project Components



completed by 10/00 with analysis completed by 4/01. Tools and techniques for developing future scenario modeling may not be completed until 2/01 with analysis completed by 12/01.

Project Budget

The budget for the project stands as follows:

<u>FY 00</u>	
MFRC	\$50,000.00
MN DNR	\$70,000.00
MFI	A
Audubon	A
TNC	\$5,000.00
Total	\$125,000.00+
<u>FY 01</u>	
MFRC	\$28,000.00
MN DNR	\$70,000.00B
MFI	A
Audubon	A
TNC	\$5,000.00
Total	\$103,000.00+
FY 00 – 01 Total	\$228,000.00+

A – Financial commitment to project not finalized.

B – Pending DNR FY 01 spending plan review.

Linkages

Several opportunities may exist for collaboration between this project and other efforts. Collaboration opportunities (purchasing of satellite imagery, classification, others) will be presented to the CLC as they arise. Programs being monitored for possible collaboration are:

USFS NCRS Landscape Change Program
 TerraSIP (<http://terrasip.gis.umn.edu/>)
 RESAC (<http://resac.gis.umn.edu/>)
 NRRRI LSDSP (<http://www.nrri.umn.edu/lsgis/>)

Additional programs will be identified as the study progresses.