Oregon Department of Forestry

State Forests Planning, Decision-Making and Review Framework

Issue Paper

June, 2008

I. Summary

This issue paper describes information management processes to be used in the State Forests adaptive management program. Processes include those for incorporating Board performance measure analyses as well as those for assessing scientific information from research and monitoring. In addition, a review process to determine scientific and policy implications of the information is presented.

II. Define the Issue

The framework for State Forests planning, decision-making, and review has evolved over the past two decades. The adoption of performance measure targets and interest in a more timely, systematic and open review process, necessitates a review and revision of this framework. This paper describes:

- The biennial report of performance measures
- The assessment of results of research and monitoring to determine effectiveness of forest management strategies in adaptive management
- The process for analyzing information from these reviews for scientific and policy relevance in Board of Forestry decision-making.

III. Background

The 2007 Board of Forestry issues scan identified the need for improvements to the decision-making framework associated with state forests management planning. These improvements would ensure timely and systematic evaluation of forest management plans and clear decision-making authorities at all levels. Additionally, the improvements would assure a clear link to the Board's recently adopted performance measures for the State Forest Program, and outline how the Program will respond to the Board's feedback on these measures. This issue was added to the 2008 Board work plan.

At the March, 2008, Board meeting, a Background Paper[1] was presented that provided historical information and context on the State Forest decision-making framework. Staff proposed three questions for the Board to address:

[1] State Forests Planning, Decision-Making and Review Framework. Background Paper. March, 2008. Agenda Item 4, Board of Forestry meeting, March 5, 2008,

1. How and where should State Forest performance measures be codified in policy?
2. Are any modifications to State Forester / BOF decision authorities necessary?
3. What refinements can be made to the review framework to incorporate performance measures and make it more effective overall?

The Board decided that discussion of the first two questions was premature and asked for the third to be developed, with options. This paper presents information related to the review framework and options for managing and reviewing information.

IV. Alternatives and Their Consequences

A general description of an adaptive management process and framework that provides for change at the appropriate planning level is provided in Chapter 5 of the Northwest and Southwest Forest Management Plans (FMPs). As new information is available, it must be evaluated in the context of the guiding principles, goals, and adaptive management strategies of the FMPs. Following, we describe options for gathering and evaluating information and for using that information in decision-making related to performance measures and program plans.

Performance Measure Reporting

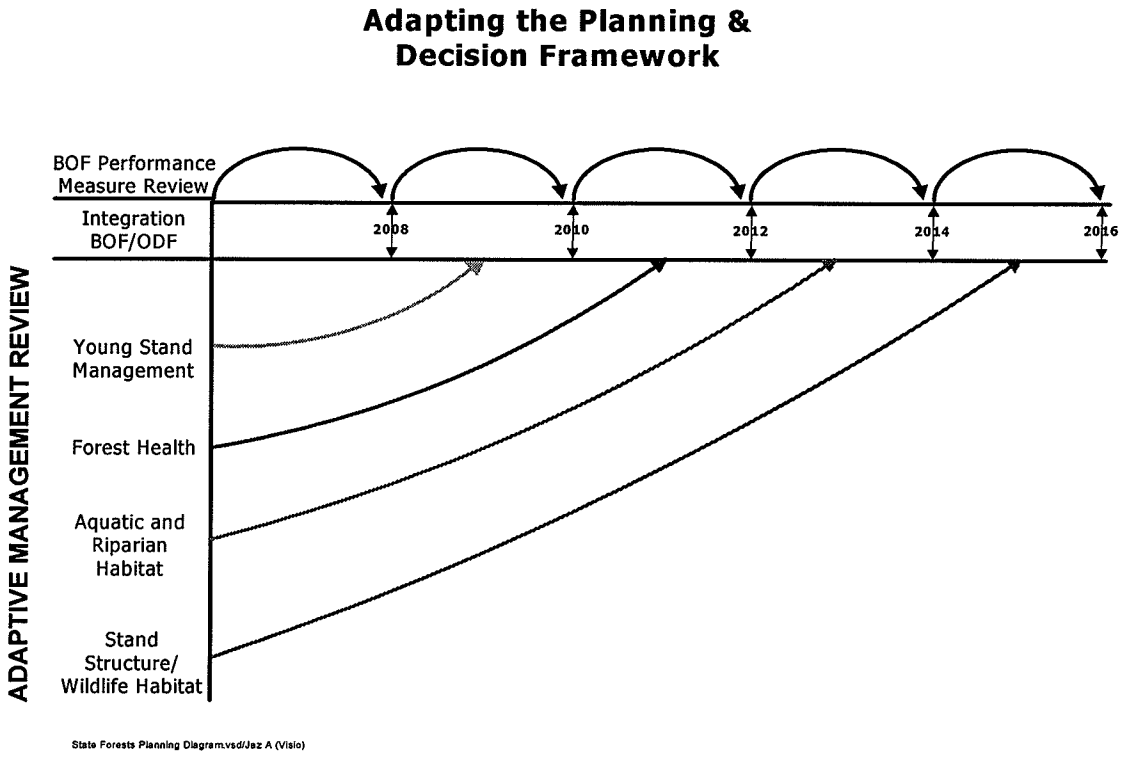
In March, 2007, the Board of Forestry adopted a set of nine performance measures that reflect their values and that would be used as a tool for ongoing review of FMP success. The measures will gauge outcomes resulting from State Forest management strategies and whether these outcomes are achieving "greatest permanent value" (GPV) as defined in statute and rule. A biennial reporting standard for the performance measures was also adopted, with the next report scheduled for the November, 2008, meeting.

During the two-year time period between Board reviews of the performance measures, periodic updates on the status of the performance measures will be provided, as appropriate and as information becomes available (Figure 1). The periodic updates will present information that continues to accumulate from a number of sources, including forest inventory, operations assessments based on implementation monitoring, internal and external research and monitoring projects, model simulations, etc. Some of this information will directly inform performance measure targets (e.g. forest inventory relates to structure development.). Some information will directly inform adjustments to forest management plans (e.g. young-stand management research could influence landscape design), while other information will be used more generally in day-to-day forest management (e.g. blowdown of leave trees is not resulting in anticipated amounts of downed wood.)

During the biennial performance measure reviews with the Board, all available information will be presented so that the Board may evaluate achievement of "greatest permanent value," and where appropriate evaluate progress toward meeting performance measure targets. This open, predictable review cycle will assess:

- Whether we are meeting performance measure targets
- Whether targets, measures or associated metrics need to be adjusted,
- Whether new actions (e.g. management guidance) are required, and
- Whether the biennial review process is working as expected.

Figure 1: Anticipated schedule of performance measure and adaptive management reviews.



Research and Monitoring Assessments

We anticipate two possible pathways to evaluate information from research and monitoring to frame proposals for change: 1) pre-scheduled review of specific research and monitoring themes and 2) requests for investigation of potential changes to forest management practices or guidance.

Scheduled review of scientific information

The state forests research and monitoring program is in place to ensure that the levels of research, monitoring, and technology transfer are adequate to meet the information needs required by the long-range management plans. A critical

function of this program is to contribute to the adaptive management framework by which the State Forests Division assesses the impacts of management decisions and makes changes where necessary. Several overarching research and monitoring themes guide the pursuit of research projects and monitoring opportunities. The themes relate directly to the working hypotheses, the integrated forest management strategies, and underlying assumptions:

- stand structure development and wildlife relationships;
- hydrologic functions and aquatic and riparian habitat;
- young stand development and management; and,
- forest health.

These themes are meant to encompass a broad problem area that includes a number of more specific issues and questions, and, therefore, a number of potential research and monitoring approaches to meet the information needs. A theme may cover a number of working hypotheses and assumptions, so there is not necessarily a one-to-one connection between projects and hypotheses.

In addition, research and monitoring projects are designed to address management strategies described in the FMPs:

- stand structure types (e.g. early-seral, "complex" older forest structure)
- landscape design (e.g. patch sizes and placement on the landscape)
- structural habitat components (e.g. snags, downed wood, residual green trees)
- aquatic and riparian strategies (e.g. buffer sizes on different stream types)
- forest health strategies (e.g. integrated pest management, disease prevention)
- recreation (e.g. day-use of recreation facilities)

A potential schedule to cycle through the review of the research and monitoring themes and their associated management strategies is presented as occurring between the biennial performance measure reporting periods (Figure 1). This would allow evaluation of the preceding performance measure report as well as preparation for the upcoming report. Timing of the review would depend on availability of staff and budget. During these scheduled reviews, updates to relevant Resource Descriptions (Chapter 2, FMP) will be proposed as necessary.

Requested review of scientific information[2]

Requests may also be submitted to the Adaptive Management Coordinator[3] for consideration in the adaptive management program. Requests can be initiated by the Board, for example, as a result of an systematic evidence review (SER), changing values or belief systems, or in response to public requests. Requests

[2] Based on: WA-DNR. 2005. Guidelines for Adaptive Management Program, Board Manual, Section 22

[3] The State Forests Division is working on a finance package for this position and anticipates recruitment for it within the next six months

may also be submitted by Division staff, resource specialists, district personnel, etc. The general public may present requests at Board of Forestry meetings. Requests will be considered for inclusion in the next appropriate review process.

These requests relate to:

- Research and monitoring of specific issues, in addition to the R&M program described above;
- Interpretation and modifications to policies;
- Review of completed or in-progress technical studies for consideration in proposals for change; and,
- Adjustments to strategies or performance measure targets based on an external review of scientific and policy information.

To ensure an effective evaluation of such requests, each must address:

- The affected forest management practice, action, or guidance;
- The urgency based on scientific uncertainty or resource risk;
- Any policies supporting the request;
- Relationship to performance measures;
- How results of the requested action might be used in the adaptive management process; and
- Supporting literature, data, or other information.

For both the scheduled and requested reviews of information, the scientific and policy review processes would be conducted as described below (Figure 2).

In summary, these information streams are not necessarily mutually exclusive. A decision for one or the other or both should be based on an assessment of the advantages and disadvantages of each, as summarized in Table 1:

Table 1: Pathways for information gathering and analysis

Pathway	Advantages	Disadvantages
Biennial review of performance measures (Board approved in March 2007)	• Transparent, predictable review cycle • Opportunity to adjust targets or measures	• Quantitative targets not yet developed for all measures • Measurable changes may not occur.
Scheduled review of research & monitoring themes	• Transparent, predictable review cycle • Focus on management strategies	• Sufficient information may not be available at designated review point • Staff/time/budget constraints
Requests for review of information	• Responds to new issues	• Complex process • Could lead to "system overload" if not properly managed.

Information Review Process

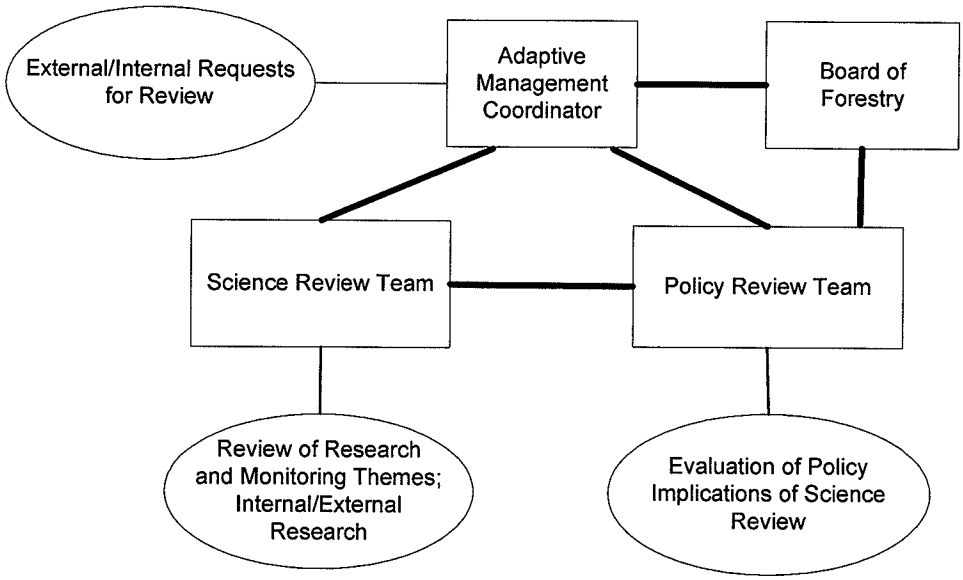
The Adaptive Management program is designed to produce scientific knowledge and to better inform policy makers about the relationship of managed forests and ecosystem functions and specifically about how well forest management is achieving desired outcomes relative to GPV. The program provides science-based recommendations and technical information to assist the Board in determining if and when it is necessary or advisable to adjust rules and/or guidance for forest management to achieve resource goals and objectives. Therefore, it is critical for policy makers to understand the implications of research in the context of the decision framework and goals.

The Adaptive Management Unit (AMU) is responsible for coordinating the development of monitoring projects and interpretation of data from monitoring and research. An Adaptive Management Coordinator is responsible for the development of proposals for change. Information will be available from many sources, including BOF performance measures, ODF monitoring projects, academic research, operational feedback from the field, and the general public. AMU staff, together with ODF resource specialists, field staff, and the Policy & Planning Unit (PPU) staff will review the information to determine key issues for evaluation. The evaluation process could be similar to, or consistent with, a Systematic Evidence Review (SER).

Information review will include a "science phase" and a "policy phase" and result in an integrated "package" of information to support Board decision-making (Figure 2):

Figure 2: Information pathways and reviews[4]

[4] See Note 2



State Forests Planning Diagram.vsd/Jaz A (Visio)
5/19/2008

Science Review Team

A Science Review Team will be assembled to evaluate the technical information from performance measures, research, monitoring, operational input, and the public. The expertise on the team will vary depending on the topic, but could include field managers, resource specialists (internal and external), academics, consultants and contractors. The team will develop reports that interpret the available information and make recommendations for use of the information in policy discussions. Following a program-level discussion, the recommendations are then passed to the Policy Review Team to determine policy implications.

Policy Review Team

A Policy Review Team will be assembled to develop policy solutions for issues that may be raised by science reviews of program effectiveness or policy questions on implementation of management operations. Policy review may be internal, involving the Policy/Planning Unit (PPU), managers, resource specialists, district foresters, etc. Policy review may also be passed to an external committee consisting of forest landowners, academics, consultants/contractors, county representatives, and interest group representatives.

The Policy Review Team, through the PPU, makes recommendations to the Board of Forestry, State Forester, or District Foresters for consideration of values and policies, based on unbiased technical information and proposals from the Science Review Team. Outcomes of the review could include recommendations for no action, recommendations for additional research, or proposals to revise

guidance or adjust management strategies or performance measure targets. Recommendations will outline options that reflect tradeoffs related to policy decisions.

Recommendations for change could result from:

- New information about the forest (e.g. updated inventory shows significant changes in structure.)
- Effectiveness of management strategies (e.g. monitoring shows downed wood strategies create necessary habitat characteristics for wildlife.)
- Desired outputs not achieved (e.g. not meeting performance measure target for revenue.)
- Change in values (e.g. performance measure targets adjusted as a result of change in Board membership.)

Responsibilities of the two review teams are summarized in Table 2.

Table 2: Responsibilities of the science and policy review teams

Information Source	Science Review Team	Policy Review Team
BOF Performance Measures	Evaluate info to determine meeting PM targets Assess changes in relationships among all PMs Report conclusions to Policy Review Team	Assess policy relevance of meeting/not meeting PM targets Assess policy relevance of changes in relationships among PMs Recommend no action, additional data collection, or proposals to change targets/measures as necessary to the Board of Forestry
Research and Monitoring Themes FMP Management Strategies	Evaluate info related to current theme: • ODF research and monitoring • Academic research • Expert opinion Report conclusions to Policy Review Team	Assess policy relevance of conclusions from Science Review Team Recommend no action, additional research, or proposals to change management strategies as necessary to the appropriate level of decision making
Requested Review of Scientific Information	Determine scientific relevance of request Determine timing of review (e.g. with PM review or with R&M review) Evaluate info related to request: • ODF research and monitoring • Academic research • Expert opinion Report conclusions to Policy Review Team	Assess policy relevance of conclusions from Science Review Team Recommend no action, additional research, or proposals to change management strategies to the appropriate level of decision making

V. Closure

A generalized approach for obtaining and analyzing information in the adaptive management process is described in the FMP. The purpose of this issue paper is to move that approach from the general to the specific by describing processes and a potential schedule for review and analysis of information and the determination of the scientific and policy implications. It is presented to the Board for discussion and to reach agreement to incorporate the proposed process in the State Forest Monitoring Program Strategic Plan.