Oregon Department of Forestry

Memo

To: Board of Forestry Subcommittee on Alternative Management Plans

From: Liz Dent, Division Chief, State Forests Division

Cc: Doug Decker, State Forester

Date: October 5th, 2015

Re: Preparation for October 19th Subcommittee meeting

Context

A Forest Management Plan (FMP) Subcommittee of the Board of Forestry was established to achieve financial viability and improve conservation outcomes. The Subcommittee gave the State Forests Division direction to evaluate a Land Allocation concept as an alternative to the Northwest State Forests Management Plan (FMP). At the August 12th 2015 Subcommittee meeting, initial draft model results were provided and the Subcommittee directed staff to do work on several fronts for the October 19th meeting. The following direction was given:

a) Develop and present maps demonstrating conservation and production emphasis areas;
b) Evaluate and report on the value of comparing previous model results with current model outcomes;
c) Refine conservation metrics and describe how they can be used to evaluate conservation outcomes;
d) Provide an example of coarse evaluation of conservation metrics;
e) Compare projected revenue from current FMP to the current Land Allocation approach;
f) Further refine financial, and threatened and endangered species assumptions, and solve for financial viability. Preliminary draft model results will be presented.
g) Provide an update on the Technical Expert Review Group; and
h) Provide a description of the social benefits provided by State Forest management.

The associated materials and brief summary are provided below.

1. **Maps of a "30/70" Land Allocation Across the Six Northwest Districts | Discussion Tool**
   Draft maps have been generated and will be presented to provide a visual example, within the context of a Land Allocation approach, of how conservation and production emphasis areas could be distributed across the landscape and an approximation of stand ages in 100 years. The

draft maps represent approximately 30% in conservation emphasis areas and 70% in production emphasis areas. It is important to understand that the 30% conservation emphasis areas are primarily comprised of areas that are difficult to adjust, as they fall into the following categories:

a) Deed restricted areas that preclude timber harvest;
b) Inoperable areas (i.e. not able to log due to physical conditions);
c) Areas designated for FPA rules for wildlife and public safety (high risk landslide and public safety category);
d) Areas designated to prevent "take" of threatened and endangered species under federal law;
e) Existing old growth; and
f) Current FMP riparian buffers and inner gorges.

In addition, the Astoria, Tillamook, and Forest Grove maps show alder stands as an overlay on the 100 year projection. Alder stand dynamics have implications for how these stands age. Typically alder stands begin to senesce or "fall apart" within about 60-80 years, and may take a variety of natural regeneration pathways. The projected age of these stands should be interpreted in terms of management intensity, rather than an actual stand age projection. The intent of the maps is to help visualize the current Land Allocation concept, how it would be distributed across the six districts, and the predicted stand age in the conservation and production emphasis areas. <u>These maps, based on draft model outputs, are not intended to be used as an implementation plan.</u>

2. Utility of Comparing Outcomes between Land Allocation Model and Previous Model

One of the goals of revising the current forest management plan is to improve conservation outcomes. A potential tool for quantifying conservation outcomes is to compare Land Allocation model outputs to outputs from previous modeling efforts for the current FMP. The Division's analysis suggests there are significant differences in policy choices, modeling methodology, model data, and model outputs that severely reduce the utility of this comparison (Attachment A).

3. Conservation Metrics

Several potential metrics and their relationship to overarching conservation goals have been presented previously[1]. Attachment B presents these draft metrics which are reiterated in this document with more detail and expanded proposed metrics. The intent of this document is to provide an update on this ongoing work.

4. Legacy Forest Structures and Riparian Areas: Comparisons of Strategies

Short of model outcomes, and as directed by the subcommittee, the Division has compared green tree retention, snags, and downed wood strategies using a Forest Practices Act (FPA) approach as compared to an FMP approach. Likewise comparisons between FPA and FMP riparian strategies are provided. These comparisons don't use model outputs directly; however,

[1] Proposed Conservation Measures and Benefits for a Revised Northwest Oregon State Forest Management Plan (Subcommittee meeting - August 12th, 2015).

they do use model growth and yield data to describe the range of possible outcomes associated with different wildlife and aquatic strategies.

The draft generalized comparisons suggest that the current FMP strategies are more likely to provide long-term benefits of legacy structure in young stands over time than are provided using FPA regulations. These benefits support critical functions for several wildlife species and life histories.

Riparian buffers provide riparian functions such as large wood recruitment, shade, nutrient cycling, and sediment routing. These functions support aquatic and amphibian species. Buffer widths influence the level and effectiveness in providing these functions. This generalized draft comparison demonstrates that if wider buffers were applied to larger fish-bearing streams, the investment would provide the most direct benefit to fish and water quality. Additionally, on the financial side of the equation the cost of implementing increased riparian buffer widths on fish streams is 1/3 as much as adding buffers to the small Type N perennial and seasonal Potential Debris Flow (PDF) streams due to their prevalence on the landscape (Attachments C and D).

5. Financial Comparisons

As directed by the Subcommittee, the Division compared revenue projections between the current FMP and the current Land Allocation approach. The revenue projection under the current FMP predicts that program costs will continue to exceed revenue and suggest the division's operating fund will go below zero in 2020. The most recent draft Land Allocation model establishes a goal to increase revenue to achieve financial viability (revenues exceed costs) for the next 20 years and then sets a goal for non-declining even-flow of volume for the planning horizon. A comparison between expected revenue from the current FMP and revenue as projected with the draft Land Allocation demonstrates higher revenue that exceeds costs under a Land Allocation approach (Attachment E).

6. Draft Model Outputs

The draft model outcomes for a Land Allocation approach are provided in Attachment F. The unique set of inputs and assumptions are represented in the Model Rules spreadsheet (Attachment G). Given the inputs and assumptions, this particular scenario has both short- and long-term goals. In the short-term, the scenario achieves financial viability for the Division (20 years). The scenario then transitions to a long-term goal of non-declining timber harvest for the remainder of the planning horizon (150 years) with no specific financial goal due to the difficulty of forecasting market conditions that far into the future. The draft outcomes include planning-area level reports that show timber harvest volume, age class distribution, and standing inventory projections. Reports are separated into production and conservation emphasis areas (boundaries unchanged since last subcommittee meeting). The reports also show projections for the combined landscape.

7. **Technical Expert Review Group**

   The Technical Expert Review Group has been meeting with Division modeling staff for the past several weeks in order to facilitate a 3rd party assessment of the modeling process. Attachment H presents the background of the group and the study questions the group is tasked with answering.

8. **Social Benefits of State Forest Management**

   A description of the social benefits provided by State Forest management was also requested on August 12th by the Subcommittee. Work has been initiated on this request and reflected in Attachment I *Draft Social Benefits of State Forest Management*. This draft is submitted as a work in progress for information only and will not be a part of the presentation at the October 19th Subcommittee meeting.

Next Steps

In order to develop a fully-implementable plan, additional policy direction and policy refinements may be needed, relating to increased financial viability, increased conservation outcomes, and to achieve Greatest Permanent Value. We are seeking direction on either: a) conduct further analysis or comparisons as part of the "study question" process, or b) to begin the development of a land allocation plan for future review. Staff would like to identify additional analysis requests or information needs in order to complete the study of a land allocation strategy.

Attachments:

- Agenda
- Links to Maps
- Attachment A Comparing Land Allocation and Previous Modeling Efforts
- Attachment B Draft Conservation Metrics
- Attachment C Legacy Retention
- Attachment D Riparian Summary
- Attachment E FMP vs LA Revenue and Costs
- Attachment F Model Outputs for current Land allocation concept
- Attachment G Model Rule Spreadsheet
- Attachment H Technical Expert Review Group
- Attachment I Draft Social Benefits of State Forest Management