

October 19, 2015

Oregon Board of Forestry
Subcommittee on Alternative Forest Management Plans
Oregon Department of Forestry
Salem Headquarters
2600 State Street
Salem, Oregon 97310

Members of the Board of Forestry:

Thank you for the opportunity to join this meeting. Over the past three months, I have participated in the Technical Expert Review Group (TERG) convened to review the forest modeling being used to evaluate the “Land Allocation” approach for the Northwest Forest Management Plan Area. My participation in this group has been sponsored by the North Coast State Forest Coalition.

Today, I would like to provide my initial feedback on the TERG activities to date and the primary issues and topics I believe should be addressed as forest modeling continues.

I would first like to express my thanks to the ODF team members who have led, coordinated, and participated in these meetings, including Justin Butteris, Josh Clark, Tod Haren, and Ron Zilli. The entire ODF team has provided a professional and constructive setting for our meetings so far.

Turning to our technical work, the starting point for our discussions began with the observation of a major disconnect between (1) the Stand Level Inventory (SLI) database; and (2) the growth-and-yield model being used to simulate long-term forest management alternatives. This divergence is exacerbated by the 10-12-year average timespan since inventoried stands were last measured. Growing these stands to the present year, the SLI model projects a significantly higher growth rate and inventory volume than the growth-and-yield model does. Until repeated measurements are available to reevaluate these growth estimates and confidently estimate current standing inventory, I would strongly encourage any inventory estimates reported to the public that require growth modeling to be on the same basis and use the same models now being used to assess management alternatives.

To meet the bar of wisely integrating best available science, it is also imperative to capture and communicate the sensitivity of the modeling to a variety of key assumptions. This process will likely take several months to complete. Confidently modeling complex environments requires a significant effort and the judicious review of model behavior is needed. Rushing this process would likely result in less confident modeling projections and a greater range of uncertainty that may or may not be adequately communicated for informed policymaking.

Although it is apparent that the ODF team has devoted extensive time, effort, and sophisticated technologies to these forestry simulations, the documentation of data selection and processing, model calibration, and model parameterization needs improvement to support independent review. To enable the Board to make a confident and lasting policy decision, the transparent documentation and effective communication of modeling methods that underpin these management decisions should be key priorities.

Significant work remains ahead to identify a reasonable range of values for key model parameters and to communicate the influence these choices have on model behavior for technical review, as well as the influence these choices have on the modeled outcomes that are intended to inform policy choices. There is a specific need to add new conservation and other forest metrics that have not yet been integrated. These include carbon storage in the forest and in long-lived wood products to capture the social cost (and value) of carbon sequestration and reduced carbon emissions, as well as metrics such as spotted owl habitat suitability and early successional forest structure.

Furthermore, there are a variety of key drivers of forest health and productivity that have not yet been addressed. Specifically, impacts of likely disturbances from root disease and pests and pathogens beyond Swiss needle cast, windthrow, seedling mortality, and fire should be expected to lower forest growth rates and timber yields. To adequately convey the confidence and uncertainty associated with these model simulations, it is imperative that model results be presented as multiple scenarios and ranges of reasonable outcomes rather than as a single scenario, data point, or trend line.

In the first round of simulations conducted by ODF, no conservation goals or targets have been set. The combined lack of silvicultural treatments designed to improve conservation outcomes, important stand- or landscape-level conservation metrics to evaluate those outcomes, and goals in the optimization model to improve those outcomes will inevitably produce scenarios that fail to optimize for any important management alternatives that would improve conservation values alongside other goals such as revenue generation.

Although all of the TERG members have suggested areas for improvement, the parameters now in use for forest growth-and-yield modeling are generally reasonable based on available data. The fact that the current modeling environment is unable to sustain financial targets and resorts to drawing down the inventory and reducing forest diversity within a couple decades raises important policy implications. I discuss these here insofar as they can be addressed through technical and modeling activities of ODF and the TERG.

First, these outcomes beg the question whether achieving the goal of increasing both conservation and financial outcomes compared to the current Forest Management Plan is plausible. I would strongly encourage the evaluation of the current Forest Management Plan as an important benchmark against which alternatives now being modeled may be interpreted.

Second, future iterations—or adjustments to the modeling environment—should be version-controlled and well-documented to enable independent review and to communicate a range

of reasonable outcomes that could be expected given current and previous model runs. Specifically, reviewers should be able to tell which assumptions were modified in each model run and what changes in model behavior and outcomes were observed. The discussion of the cumulative effect from numerous tweaks to model parameters should recognize and address potential systematic biases that may be introduced.

Finally, additional direction from the Board to the ODF modeling team on the definitions or criteria for sustainability and financial viability would be very helpful. For example, should harvest levels be allowed to exceed annual (or some other time period of) forest growth? Should the prioritization of near-term financial targets be permitted to reduce the standing timber inventory below current levels? Or to result in long-term yields that are successively reduced relative to near-term ones? The ODF modeling team has expressed uncertainty as to which of these sustainability criteria define the Greatest Permanent Value goal. If clear criteria are not provided, one possible alternative would be to evaluate all of these scenarios for side-by-side comparison.

Again, thank you for the opportunity to participate in this meeting and to share my experience as a participant on the Technical Expert Review Group.

Sincerely,

A handwritten signature in black ink, appearing to read 'David Diaz', with a stylized, sweeping flourish extending to the right.

David Diaz
Forestry Program Manager
Ecotrust

