

Agenda Item No.:	4
Work Plan:	State Forests Work Plan
Topic:	State Forest Management
Presentation Title:	Forest Inventory, Growth and Yield Contract
Date of Presentation:	April 26, 2017
Contact Information:	Marganne Allen, Acting Deputy Division Chief, State Forests (503) 945-7213, marganne.allen@oregon.gov ; Mike Wilson, Information Unit Manager, State Forests (503) 945-7374, michael.wilson@oregon.gov

SUMMARY

The purpose of this agenda item is to inform the Board of progress by the State Forests Division and ESSA Technologies (ESSA) in evaluating growth and yield (G&Y) calibrations. These calibrations include:

1. Site index estimation;
2. Basal area growth calibration;
3. Genetic gain and disturbance modifiers;
4. Maximum density limits;
5. Volume Estimation;
6. Characterization of error, uncertainty or bias; and
7. Analysis hierarchy.

Two additional items were added to the statement of work as an amendment to the contract:

8. A review of ODF's technical implementation of the recommendations within the Forest Vegetation Simulator (FVS) growth model; and
9. Advice on sampling methods to address some issues where additional internal review may be necessary.

This work has been completed, and certain recommendations implemented, with additional items to be implemented in the future. ODF and ESSA will present the findings of ESSA's report, and the specific recommendations that were implemented. ODF will also address future implementation items that are not supported by the current inventory data.

CONTEXT

The Division has previously reported to the Board on the status of its Stand Level Inventory (SLI) that is used to support operations, analysis and planning. Sound methods for calibrating growth and yield (G&Y) are critical for providing a current inventory estimate (where older inventory data must be grown forward to the current year) and for long term projections associated with modeling projects.

During the Alternative Forest Management Plan process, the Technical Expert Review Group (TERG) was formed to review and provide feedback on the Division's forest modeling practices. At the October 19th, 2015 Board meeting, the Board received individual testimony from TERG members, and a summary matrix of their input. TERG identified a number of common issues, but varied in their recommended solutions. Several of these issues centered on growth and yield.

In July of 2016, ODF contracted with ESSA to explore options related to growth and yield calculations, and provide recommended methods, based on available data. Where data are not available to implement a preferred method, the outcome may be an interim solution, with the recommendation to pursue data collection to support implementation of the preferred method.

An ambitious deliverable schedule was set, which was extended. ESSA's recommendations were implemented by Division staff to produce a new current inventory estimate for review by field staff. The new estimate differed from previous estimates, primarily due to a change in tree mortality functions within the Forest Vegetation Simulator (FVS) software. A field review met with mixed results. Details on the implementation and review are provided in Attachment 1.

ESSA will present the findings and recommendations of the report. Division staff will describe which recommendations have been implemented and which recommendations require additional refinement.

NEXT STEPS

The primary deliverables from the contract with ESSA will be complete with this presentation to the Board. ODF has implemented a small contract amendment to allow for review of ODF's implementation of the recommendations and to obtain additional advice on sampling methods related to internal review of the mortality functions. Division staff will continue to improve growth and yield methodology as resources and available data allow. Growth and yield is one component of the overall forest inventory information system, which the Division is committed to continually improving to support forest planning and management.

RECOMMENDATION

Information only.

ATTACHMENTS

Attachment 1: Implementation of contractor recommendations, field review and methodology used to arrive at a new current inventory estimate.

Attachment 2: Executive Summary of ESSA's final report for ODF Modeling Support