



Riparian Rule Analysis Prescription Information

Board of Forestry
3 June, 2015

Outline of Presentation

- **Overview: context and background**
- **Analysis:**
 - Prescription descriptions
 - Temperature results for prescriptions
 - Changes in encumbered acres
 - Economic information
 - Ecological information: large wood, shade
 - Discussion of patterns and trade-offs
- **Reports / comments from advisory committees**
- **Public comment**
- **Board Discussion**
- **Wrap up, next steps**



Context



- **Rule Analysis for Protecting Cold Water criterion**
Establish riparian protection measures for small and medium fish-bearing streams that maintain and promote shade conditions that insure, to the maximum extent practicable, the achievement of the Protecting Cold Water criterion
- **Decision timeline on findings, “informal checklist” to be made at each step of the process**
- **June 2015: presents some of analyses of prescriptions for supporting July 2015 decision on prescription(s), geographic extent, and regulatory nature**

July 2015 Decisions



- **Prescriptions to move into formal rule making as either regulatory or voluntary measures**
- **Geographic extent of prescription application:**
 - Geographic Regions
 - Stream Extent
- **Remaining 527.714 findings (from checklist):**
 - Restrictions on practices directly relate to, and substantially advance the objective 527.714(5)(d)
 - Must choose least burdensome alternative 527.714(5)(e) and resource benefits achieved by the rule must be proportional to the harm caused by forest practices 527.714(5)(f)

Decision Matrix



Purpose:

- Provides summary tradeoff information
- Focuses on key information requested by the Board

Organization:

- Groups prescriptions by the Board alternatives (columns)

Matrix content:

- Predicted temperature change,
- Equivalent fixed-width buffer,
- Change in restriction on forests practices, and
- Economic and ecological information.

Prescriptions



Board Direction: 1. Direct the department ... to develop prescriptions to meet the PCW criterion to the MEP ... , including:

- No-cut buffer rule alternatives (5 widths shown)
- Variable retention (8 options)
- Alternate Prescriptions (2 staggered harvest, 3 south-sided buffer options).

Prescriptions

No-Cut: five widths are included in matrix

- 50 feet
- 70 feet
- 80 feet
- 90 feet
- 100 feet



Prescriptions

Variable Retention:

<u>Prescription</u>	<u>RMA Width, Sm/Med (ft.)</u>	<u>Total BA, Sm/Med. (ft²/1000')</u>
FPA	50 / 70	40 / 110-140
OFIC-E	50 / 70	40 / 140
AOL-B	50 / 70	60 / 140
RFPC-A	50 / 70	80 / 160
70/200	70 / 70	200 / 200
80/250	80 / 80	250 / 250
170/275	170 / 170	275 / 275
FMP	170 / 170	Depends on stand conditions



Alternate Prescriptions:

<u>Staggered harvest</u>	<u>RMA Width, Sm/Med (ft.)</u>	<u>1st entry</u>	<u>2nd entry</u>
RFPC-B	50/70	50'/70' NC	FPA both sides
OFIC-C & AOL-A	50/70	40 / 120 ft ² /1000'	FPA both sides
<u>South-sided buffers</u>	<u>RMA Width, Sm/Med (ft.)</u>	<u>S-side, Sm/Med (ft²/1000)</u>	<u>N-side, Sm/Med (ft²/1000)</u>
AOL-C	50/70	70 / 210	10 / 30
OFIC-F	50/70	52 / 182	28 / 98
RFPC-C	50/70	100 / 180	40 / 120



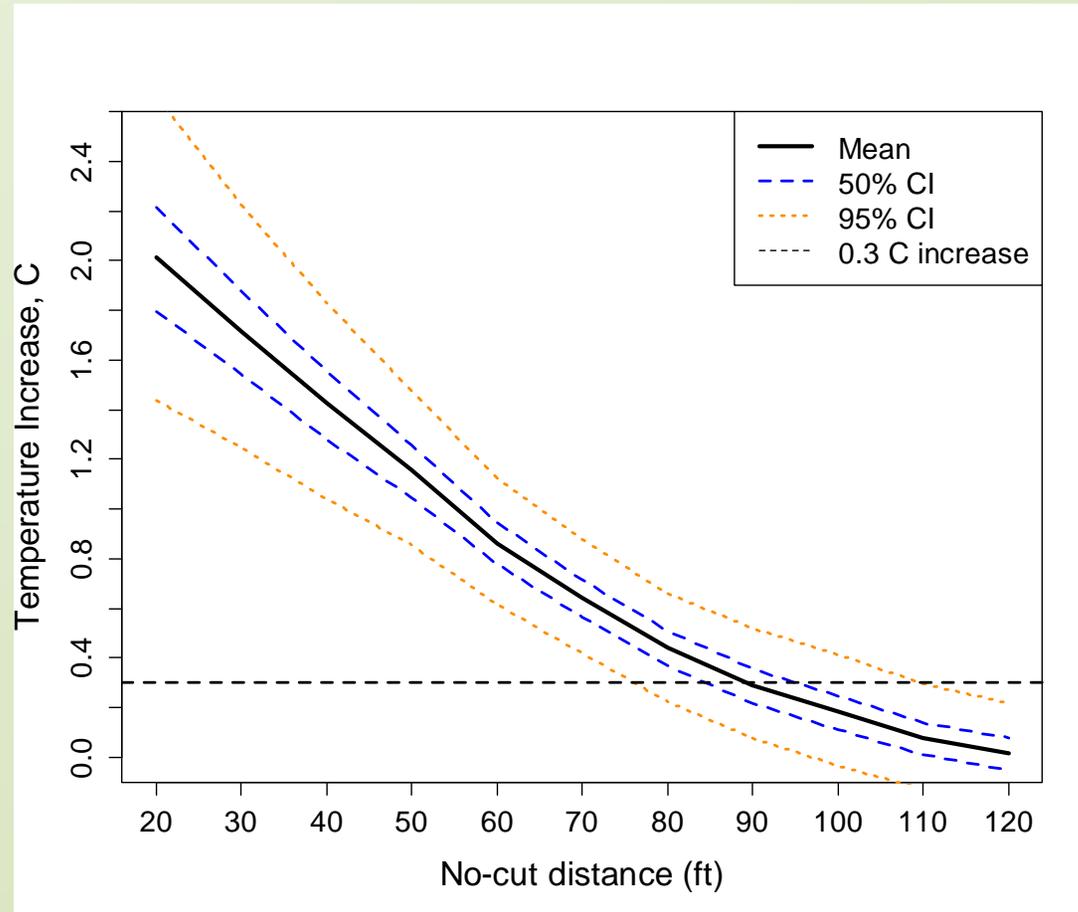
Predicted Temperature Change



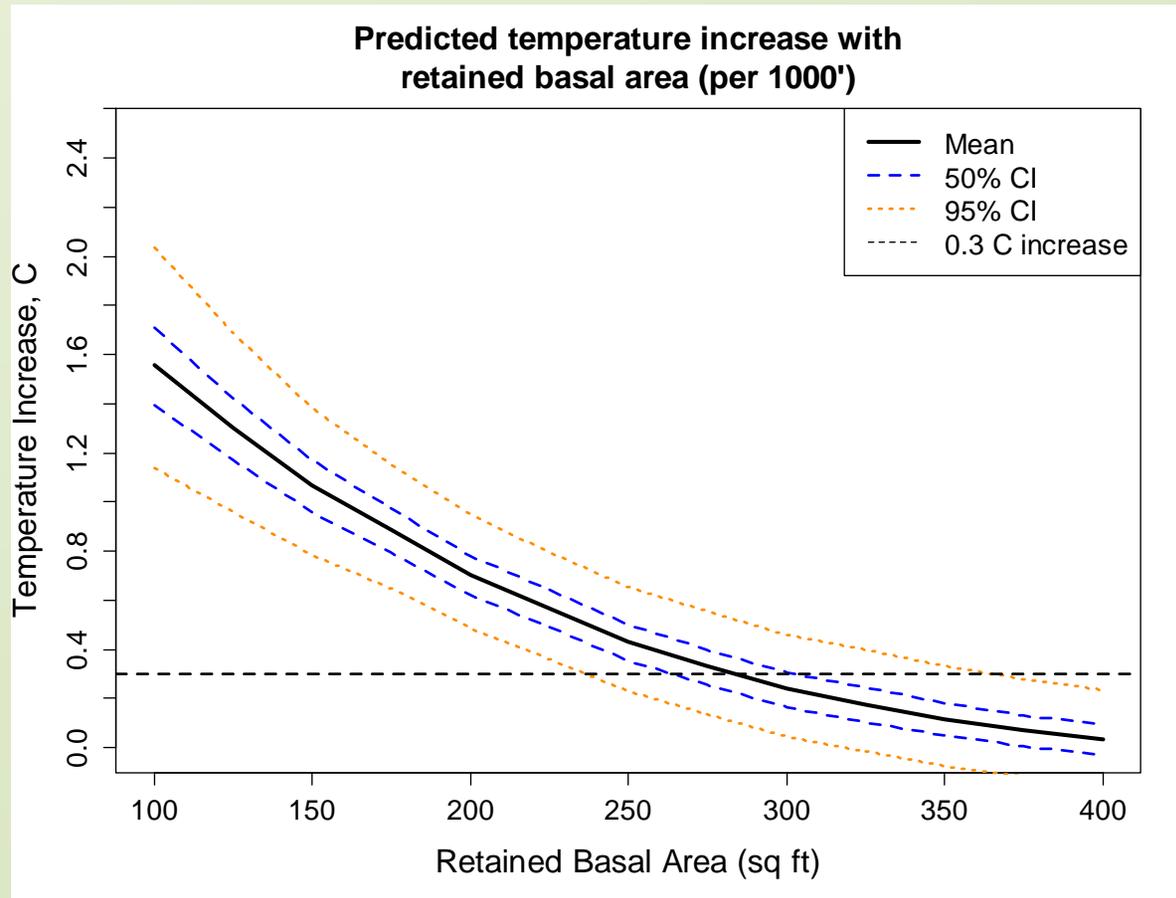
- Uses the model described in April.
- No cut prescriptions modeled by removing trees to a specified distance.
- Variable retention prescriptions also modeled as hard edge clear cuts, i.e., remove trees from outside until reach basal area target.



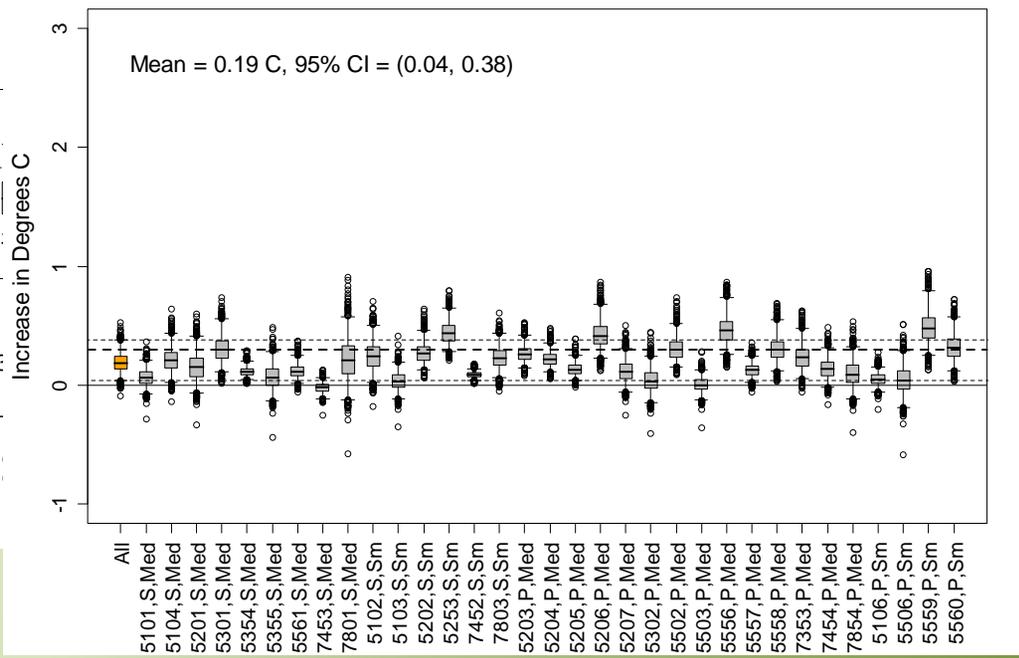
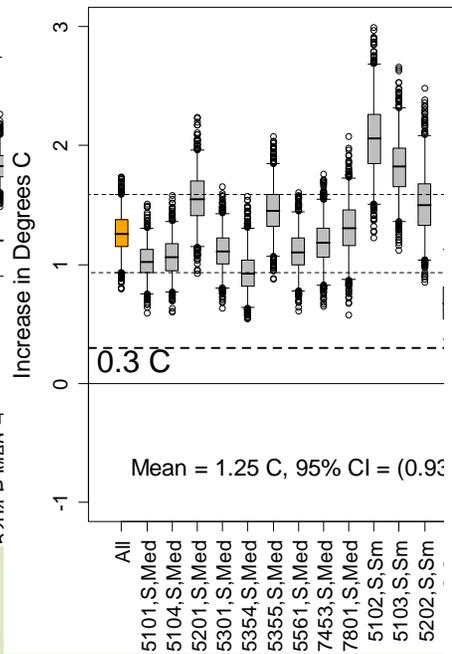
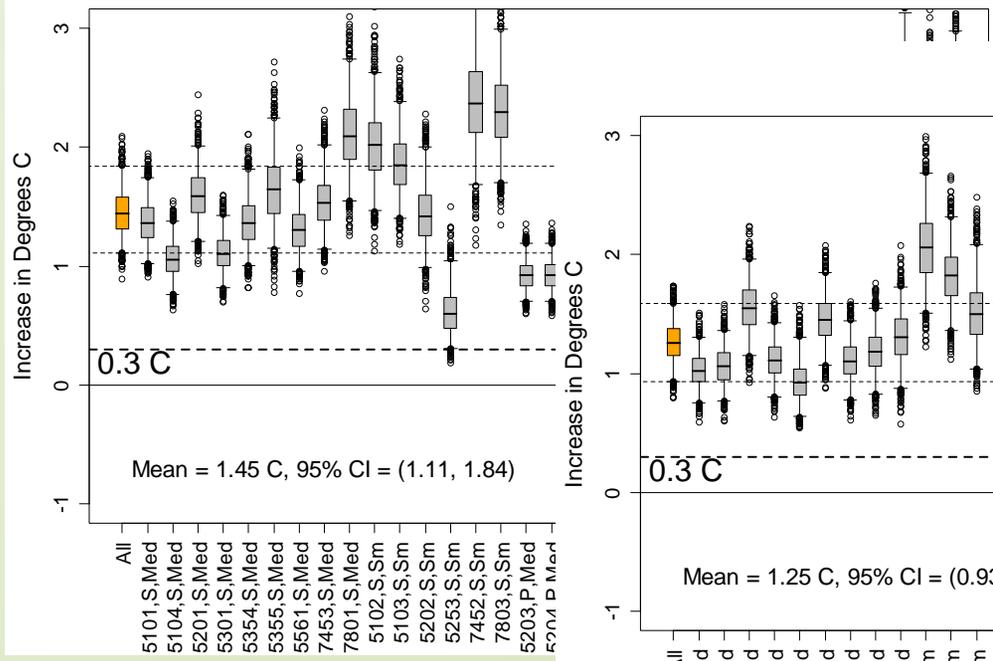
Predicted temperature change as a function of buffer width



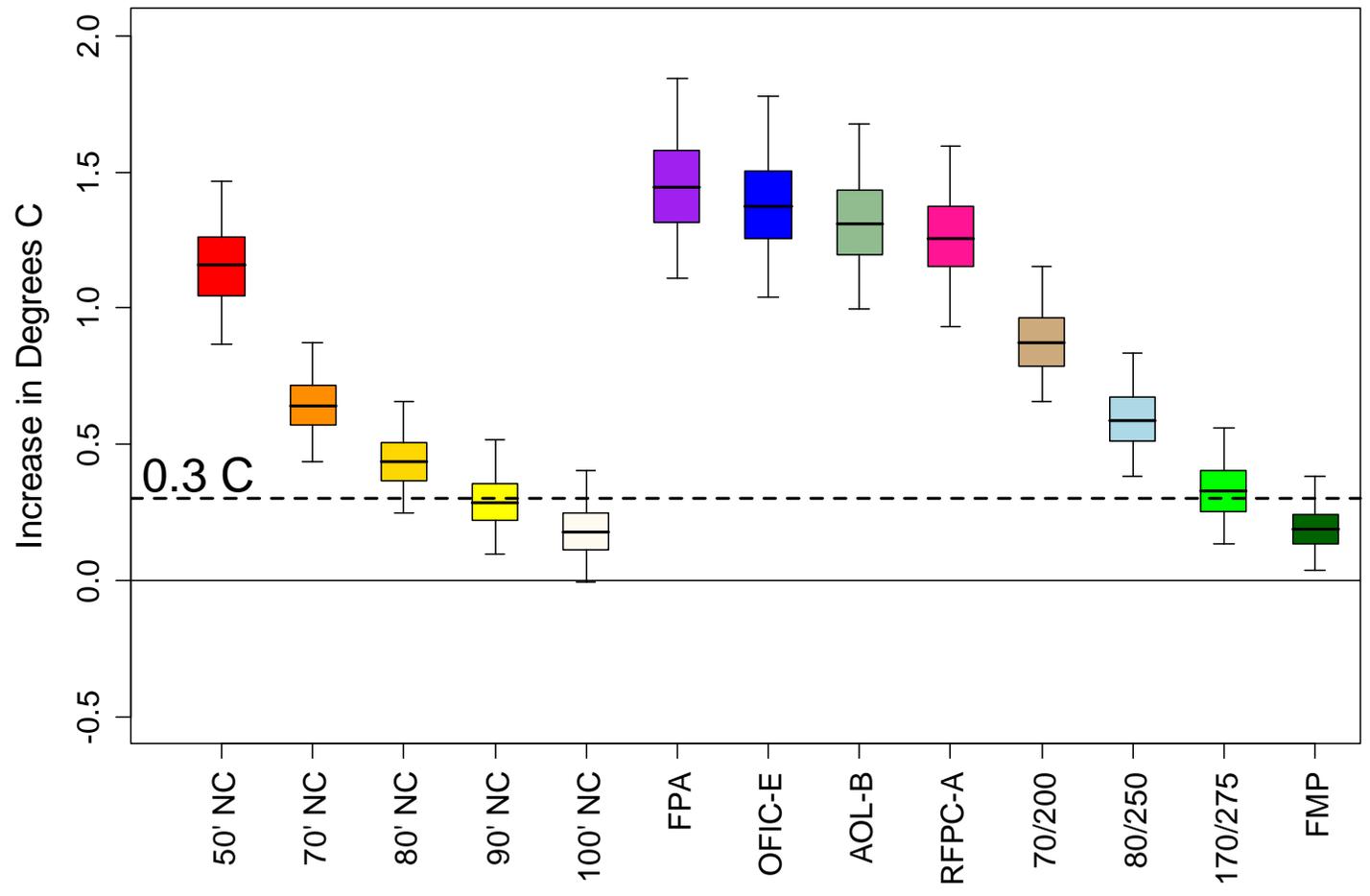
Predicted temperature change as a function of total basal area



Predicted temperature change for each prescription



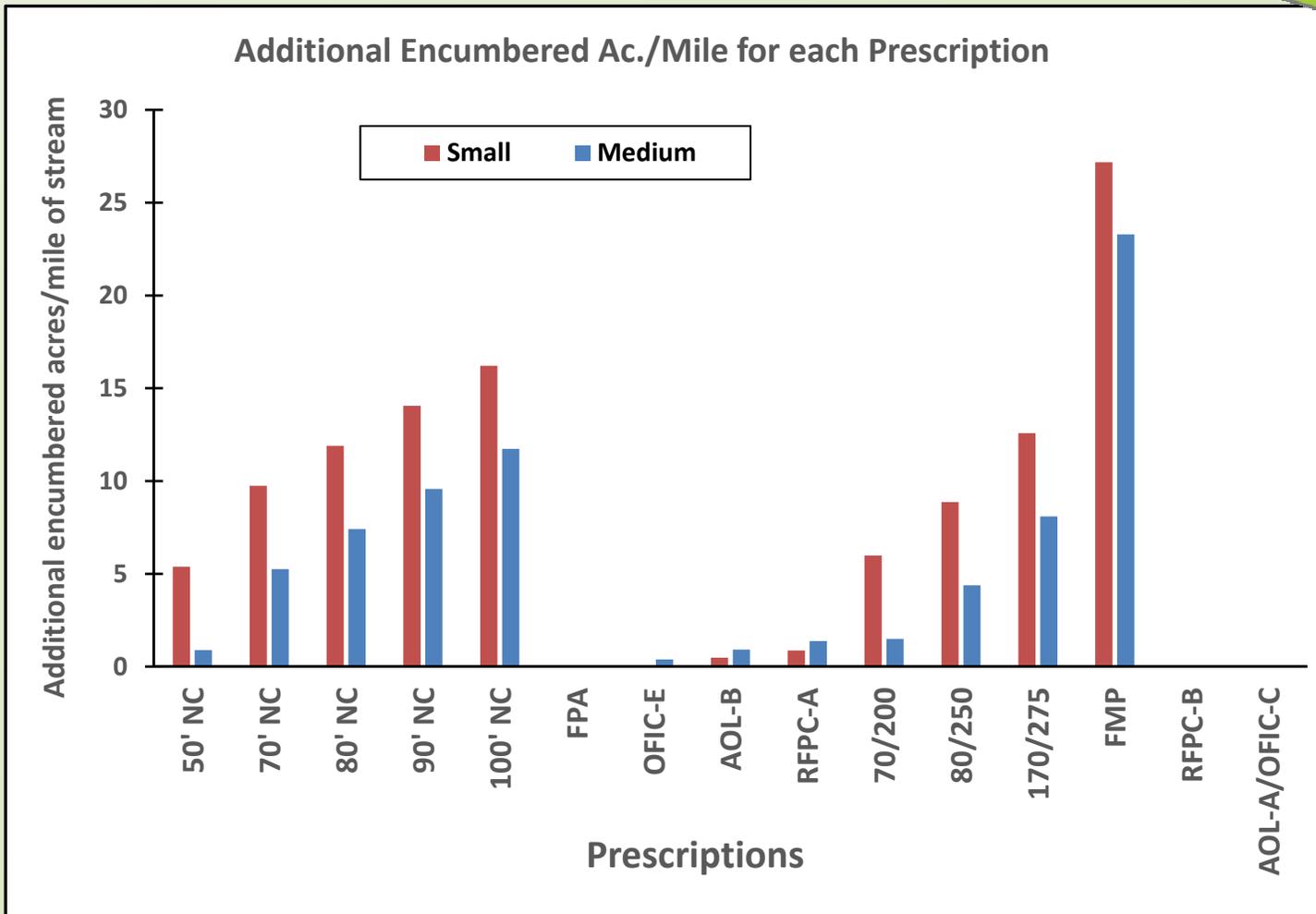
Predicted temperature change for each prescription



Changes in Encumbered Acres

- Calculated based on equivalent fixed-width buffers (horizontal distance in feet). Widths are displayed in matrix.
- Determined from RipStream model described in April.
- Calculated relative to current FPA rule.
- Assumed two-sided buffers.





Changes in Wood Production Values

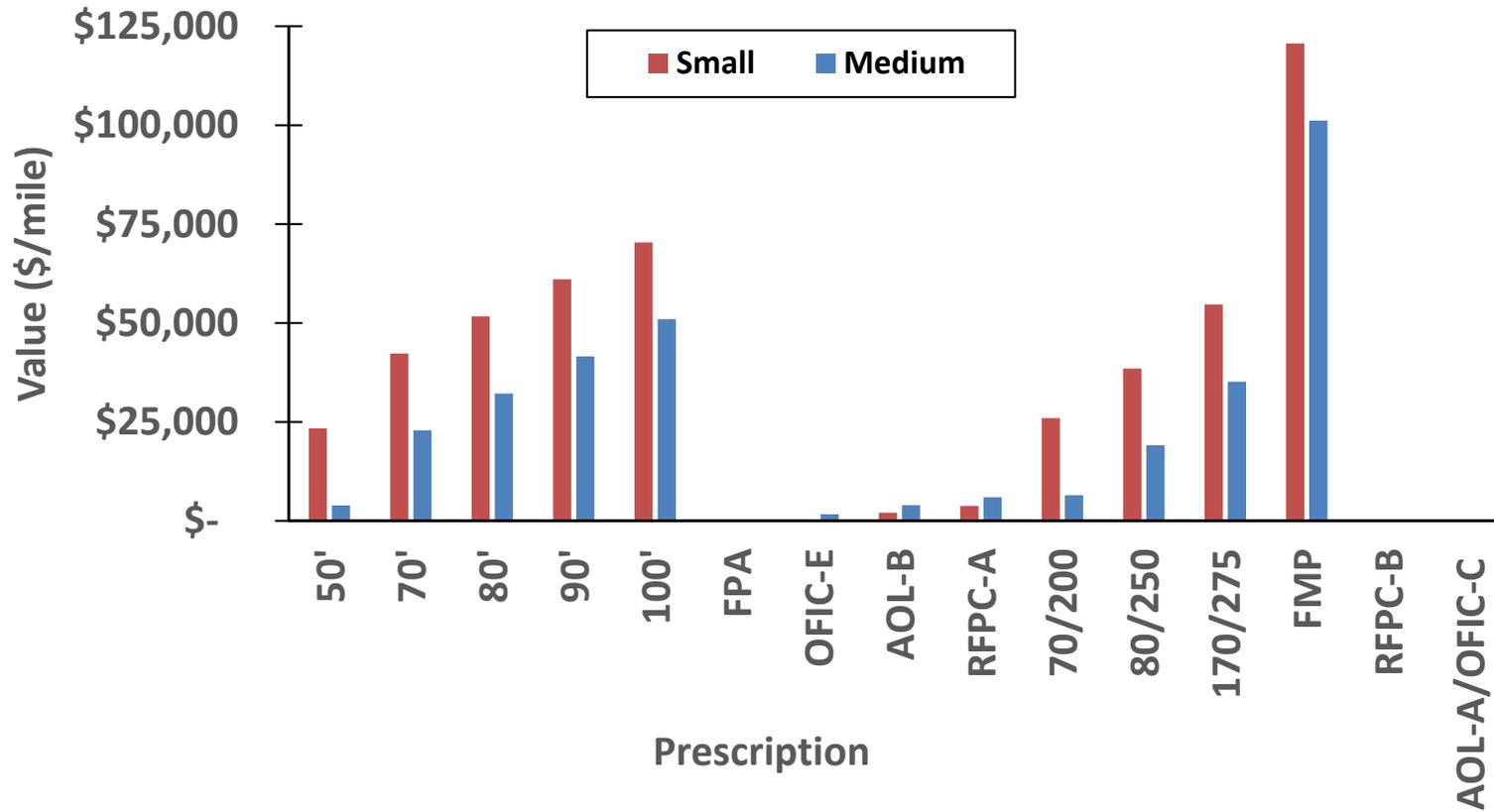


- Calculated based on an average value per acre of \$4,406/acre for industrial forestland and \$6353/acre for non-industrial forestland.
- Represents the average land and timber values (LTV) in western Oregon, using a capitalized net income value approach.
- Weighted by site index and proportion of acres by geographic region.

Economic Information



Value of additional encumbered acres/mile - Industrial

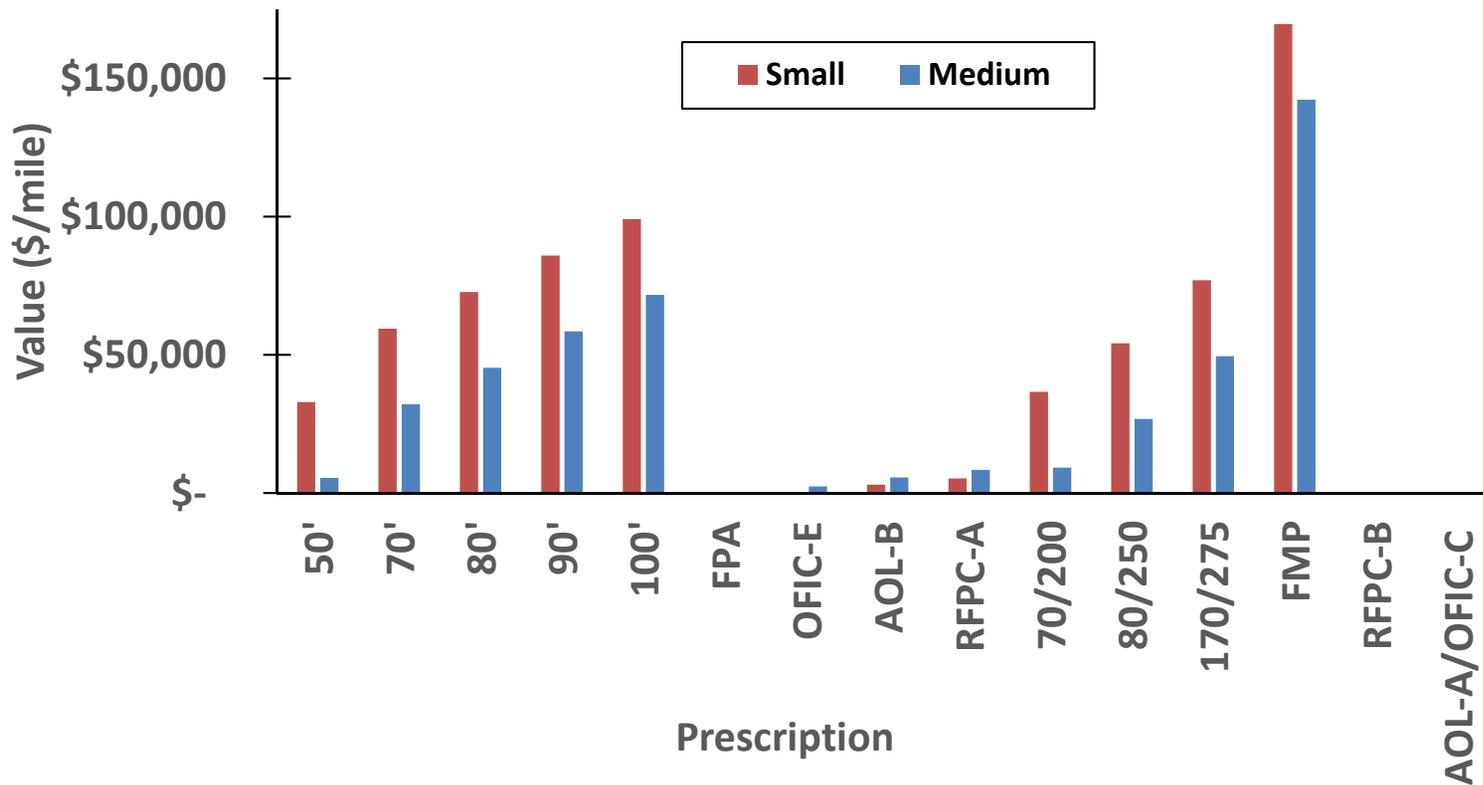


LTV=\$4,406/ac.

Economic Information



Value of additional encumbered acres/mile - Non-Industrial



LTV=\$6,353/ac.

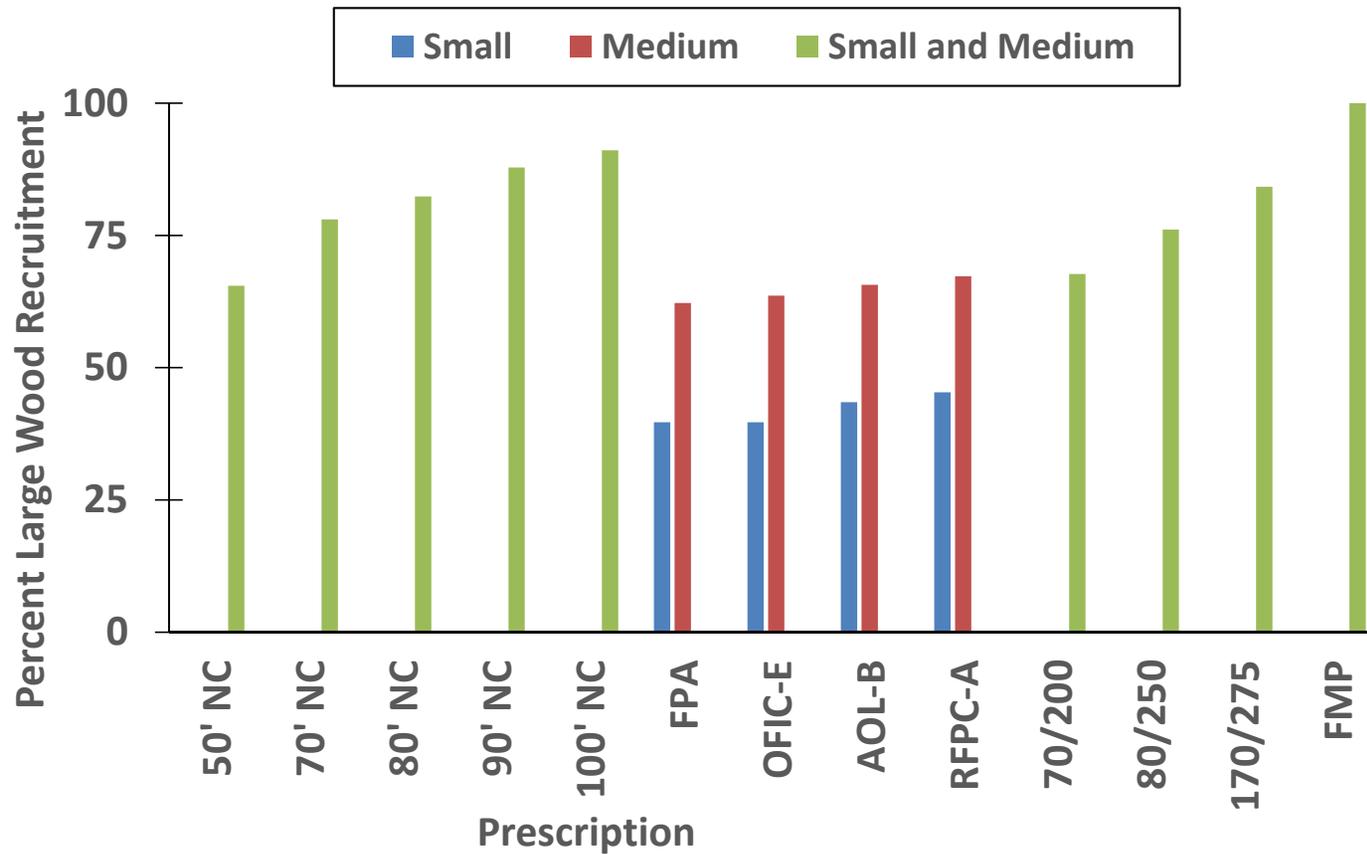
Ecological Information



- Large Wood
 - Percentage of large wood recruitment as a function of the non-harvested scenario, based on equivalent horizontal width.
 - Linear interpolation of large wood recruitment values from mature conifer forests from two publication curves presented in April.
- Decrease in Shade
 - Change in percent shade for equivalent horizontal width compared with unharvested sites.
 - Data from RipStream field-based shade model.

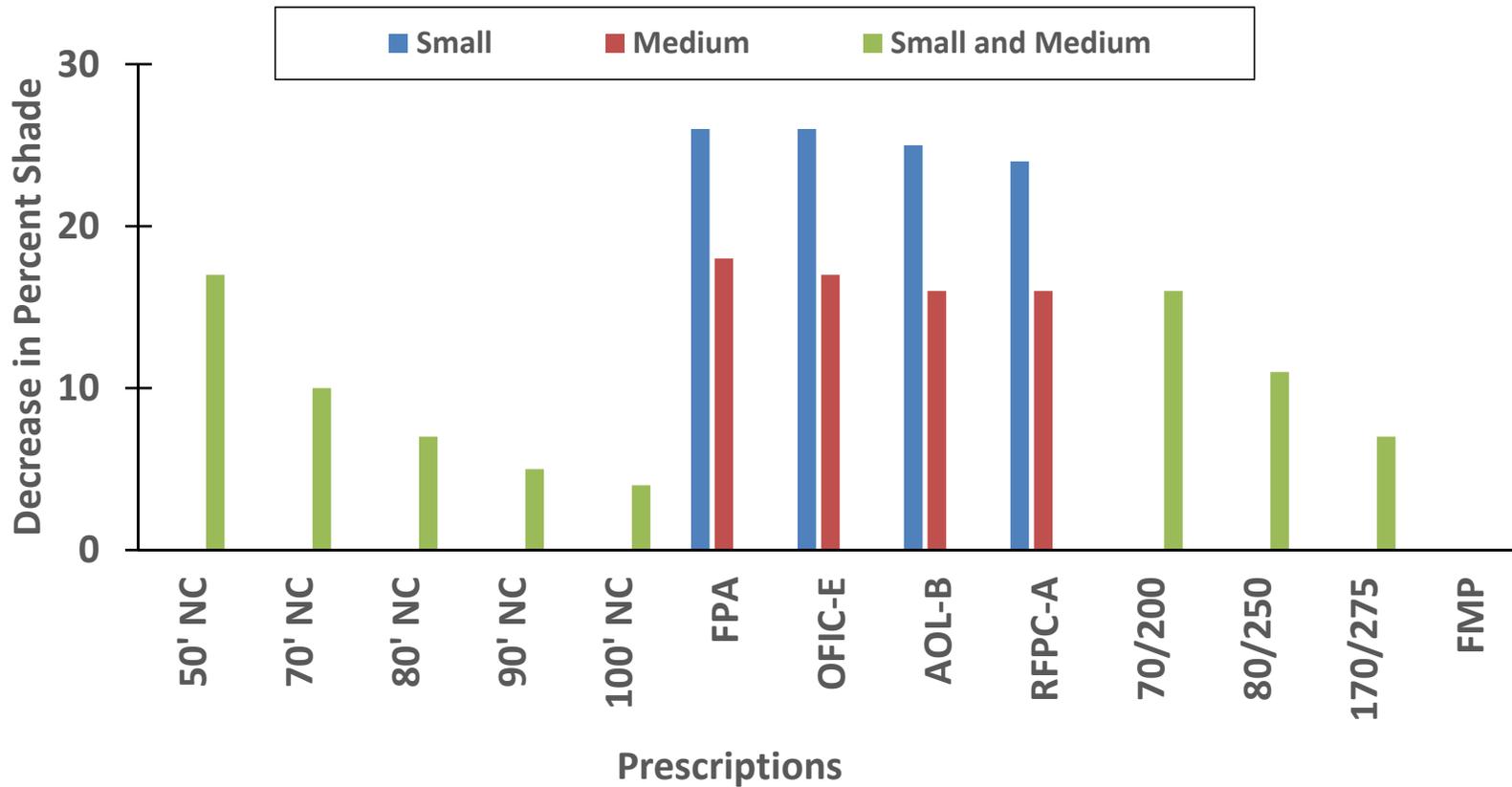


Large Wood Recruitment for each Prescription





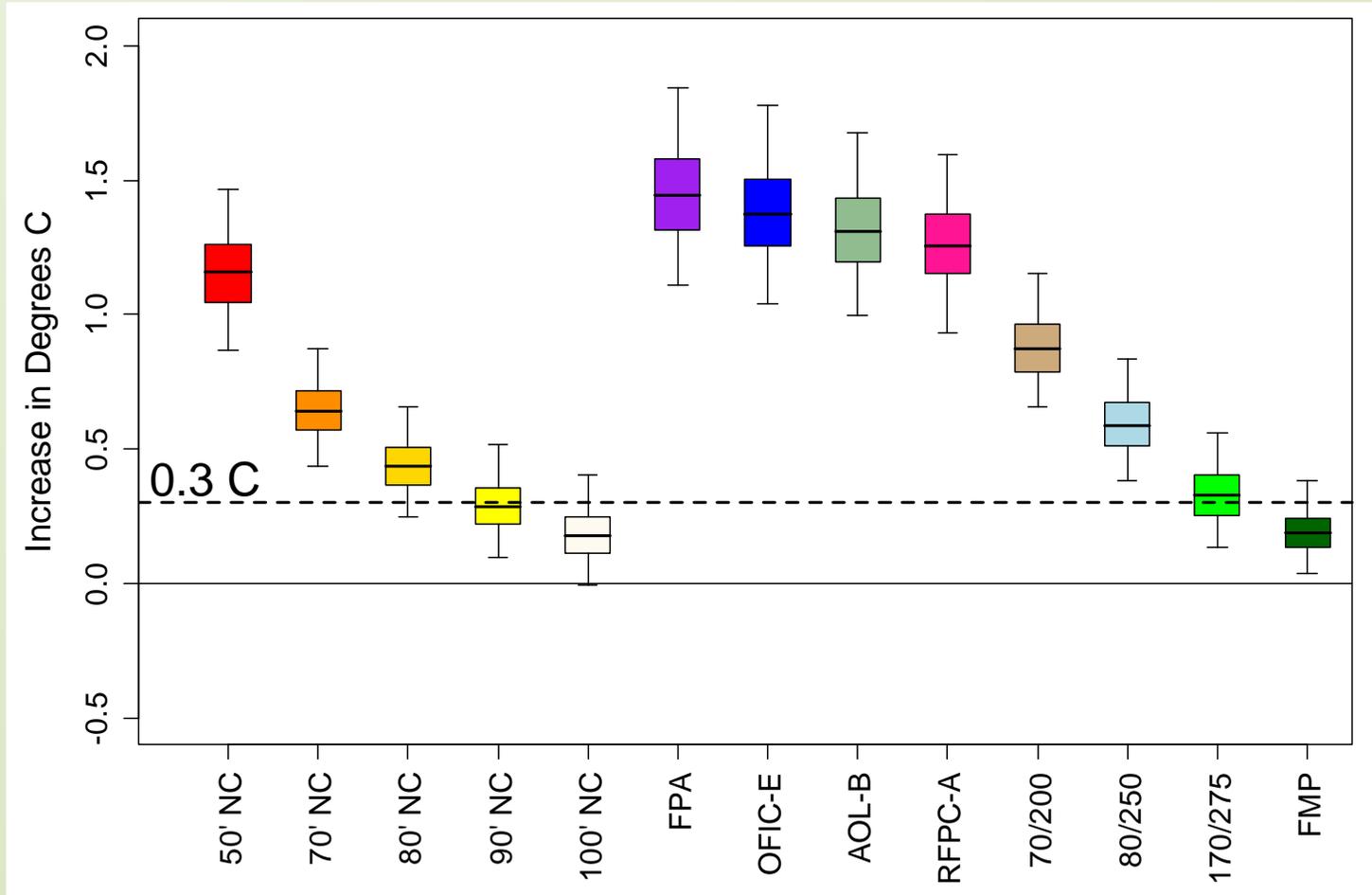
Decrease in Percent Shade for each Prescription



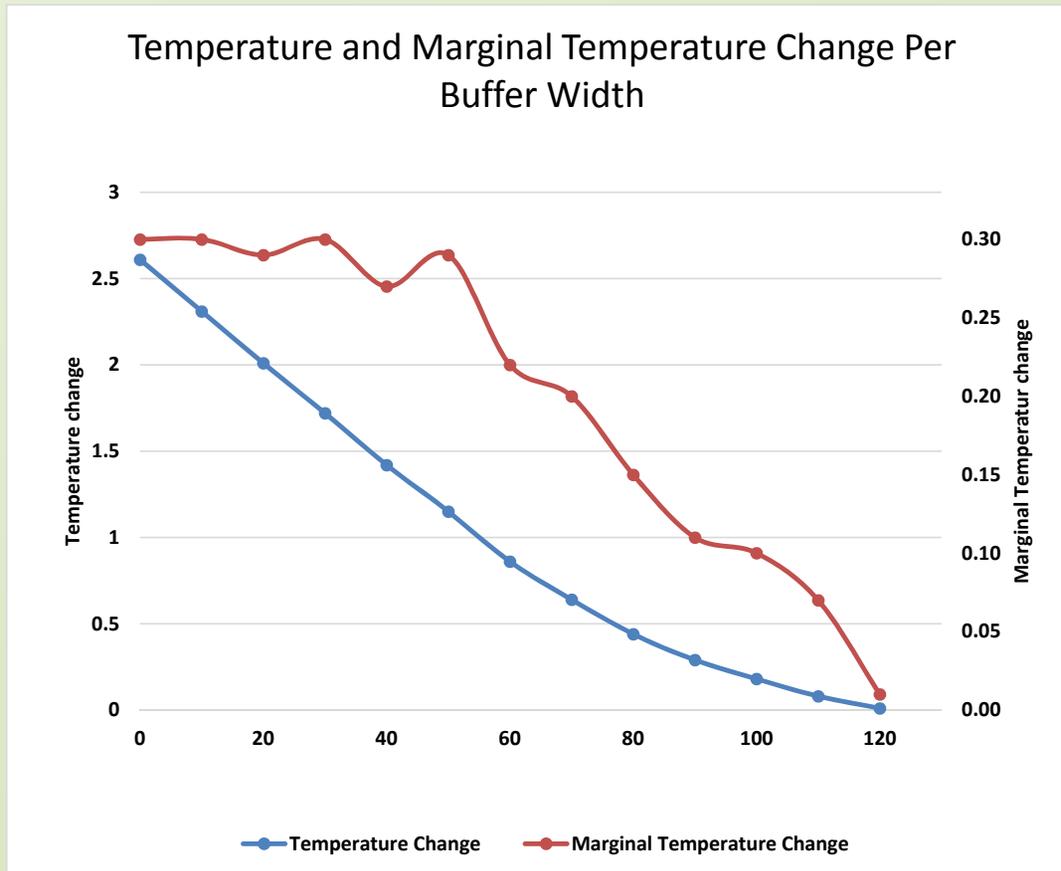


Questions on Matrix

Patterns and Trade-offs



Patterns and Trade-offs





Reports / comments from advisory committees

Public comment

Board Discussion



Next Steps



- The department will continue to work, in conjunction with the Regional Forest Practice Committees and stakeholders, on the riparian rule analysis per the Board's direction in September 2014.
- Prepare additional prescription information for the Board's policy discussion in July 2015.

Next Steps



Additional information for July 2015

- Change in encumbered acres by ownership, stream type, Geographic Region for each Rx
- Change in wood production value by ownership, stream type, Geographic Region for each Rx
- Fish response
- *Litter fall, root strength response*
- Analysis of geographic extent

Next Steps



Board decisions for July 2015:

- Which Prescriptions
- Geographic extent
 - Upstream extent
 - Geographic Regions
- Voluntary, regulatory, hybrid

