
WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Modeling Overview and Policy Considerations for the Eastern Washington SHC

A Presentation to the Board of Natural Resources

Duane Emmons and Kate McBurney

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Agenda

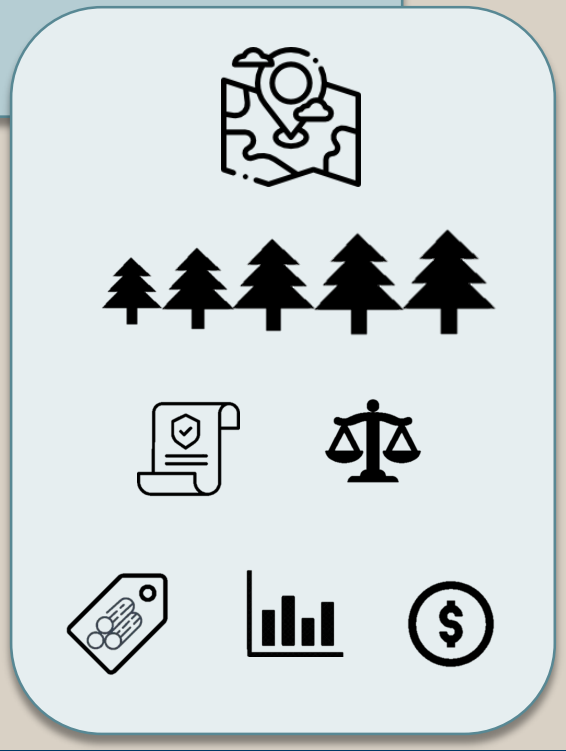
- Forest Estate Model Overview
- Review of Eastern WA Policies
- Changes Since 1996
- Staff Policy Recommendations
- Board Input on New Policies

Forest Estate Model

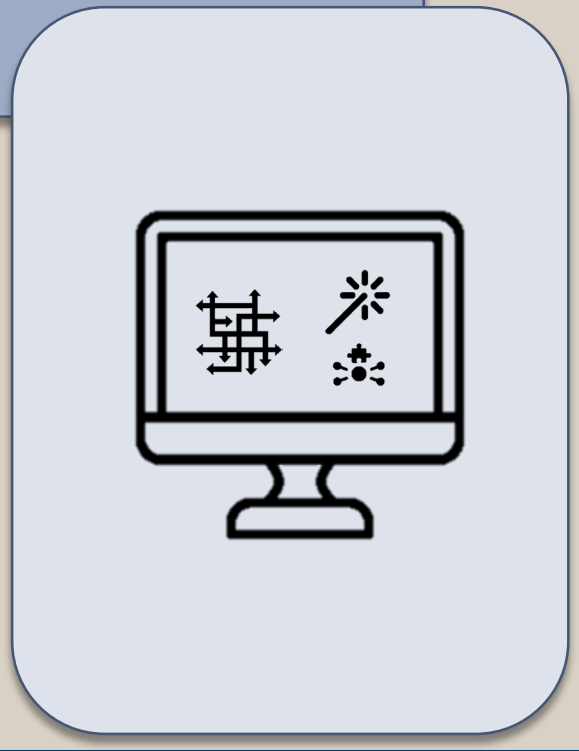
A computer model designed for strategic forest planning that generates long-term forecasts of financial, ecological, and social outcomes from selected courses of action

Building a Forest Estate Model

Input Data



Forest Estate Model



Output Data

Net Present Value

The model maximizes Net Present Value (NPV)

- NPV is a financial term referring to the sum of both current and future cash flow

Discounted cash flow

- Reflects the ‘time value’ of money
  - Accounts for preferences in the timing of costs and revenue and desired return on investments
- Intergenerational equity requires a long-term perspective
- Integrated into the NPV calculation

Constraints

Meet regulatory, policy and procedure requirements

Hard constraints

- Must be met in the model
- Examples include the harvest flow constraint

Soft constraints or Goals

- Incur a cost that is accounted for in NPV if not met
- Examples include Northern spotted owl and Canada lynx habitat goals

What Does the Model Tell Us?

Long-term sustainable production levels

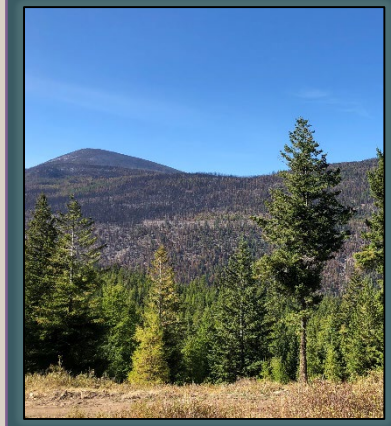
Forecasted long-term value

Projection of future landscape conditions

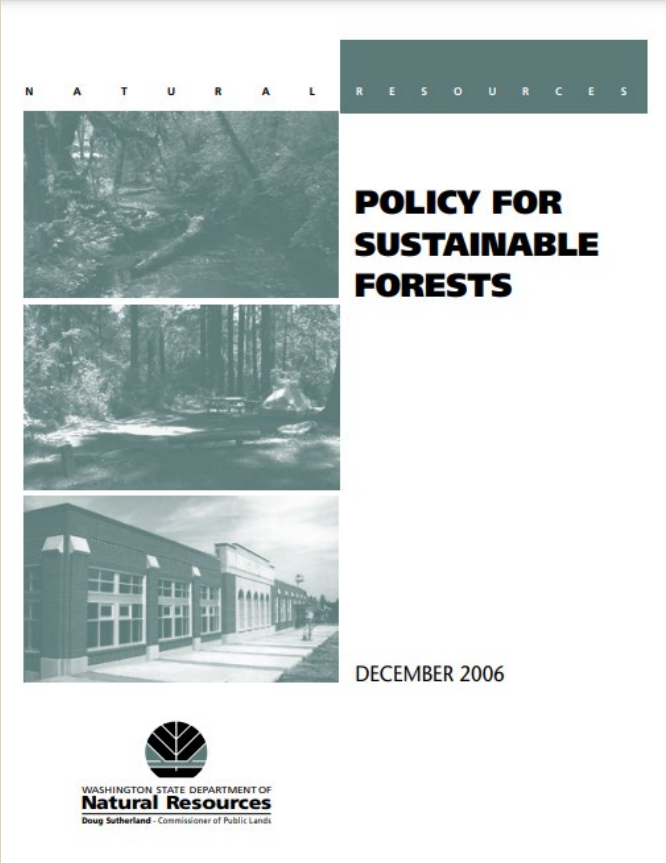
Forest Health and Development

Habitat Conservation Plan and Canadian Lynx habitats

Used to evaluate different management strategies or 'alternatives'

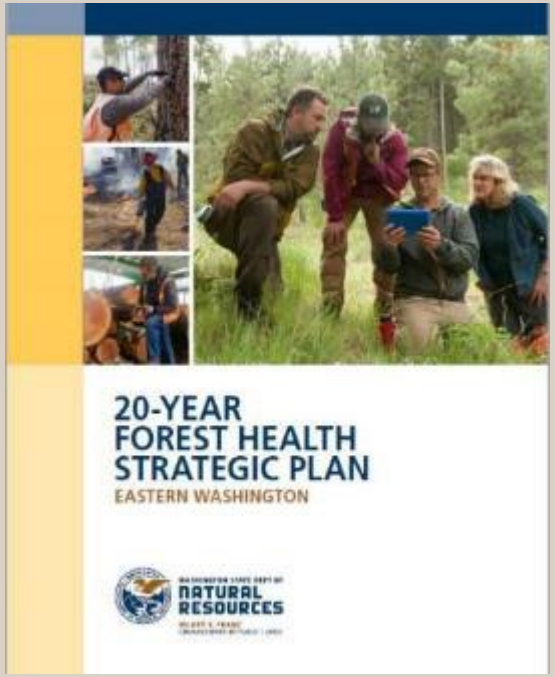


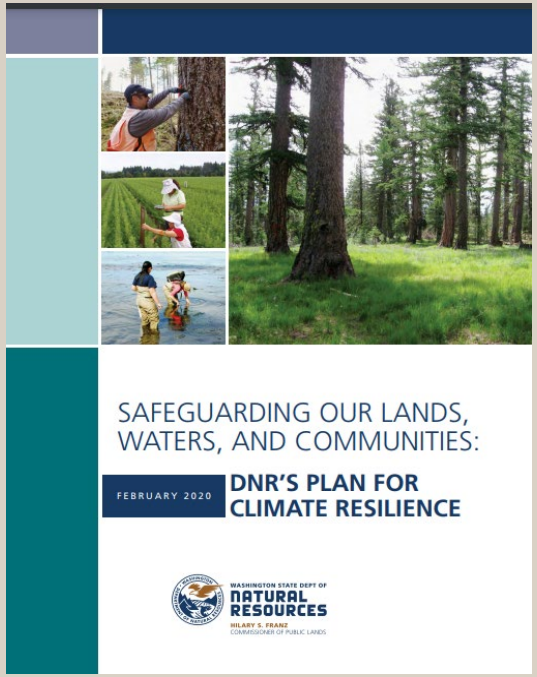
Policy Review

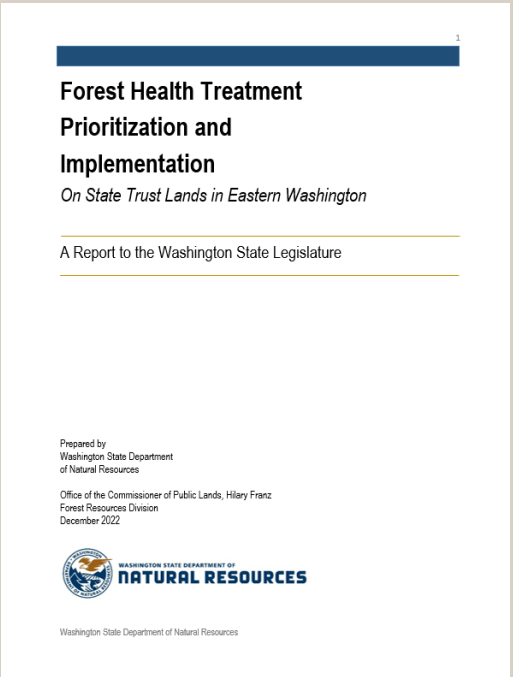


- Policy for Sustainable Forests
- The most impactful topics addressed include:
  - Economic Performance
  - Forest Ecosystem Health and Productivity

Recent Plans for Forest Health and Resiliency

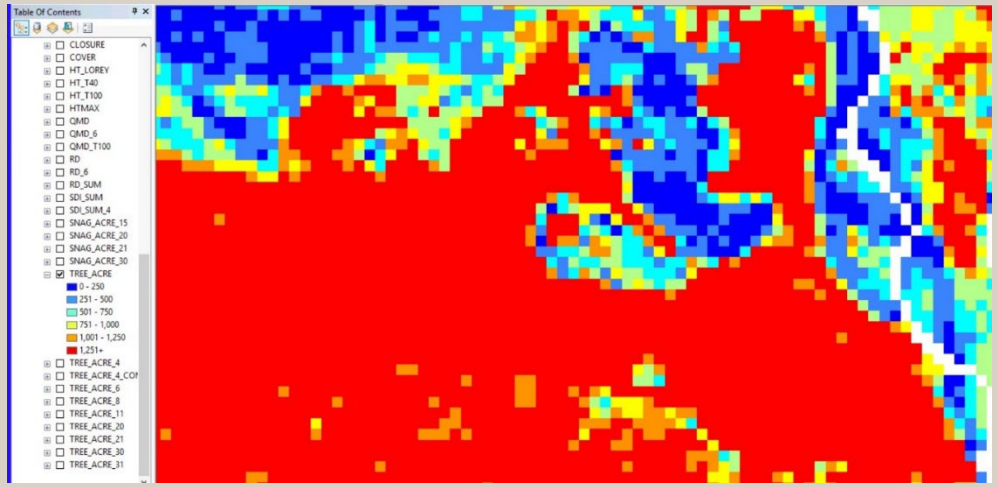


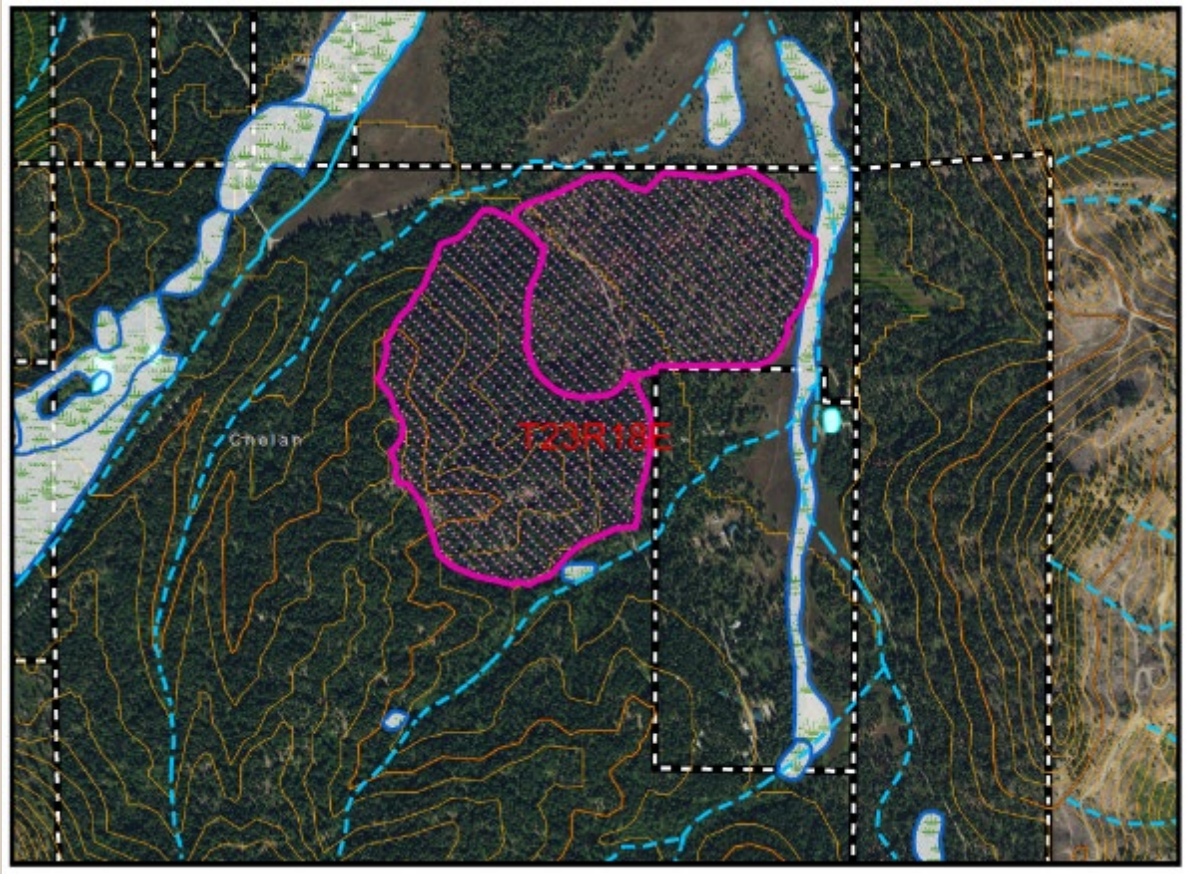




What has Changed Since 1996

- Inventory
- GIS data
- Forest Estate Modeling Software





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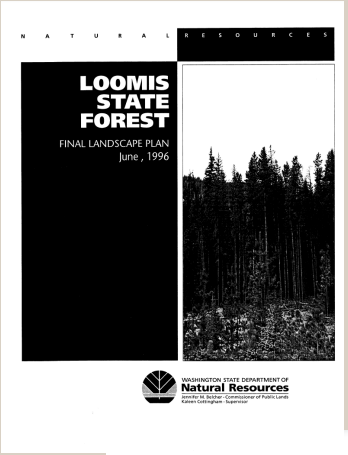
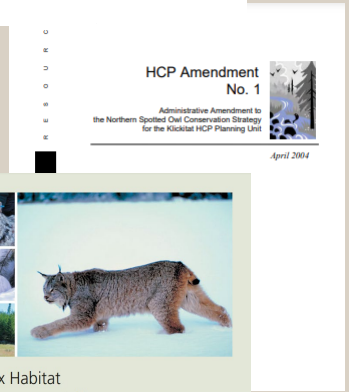
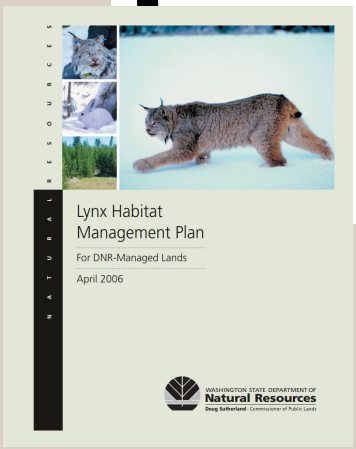
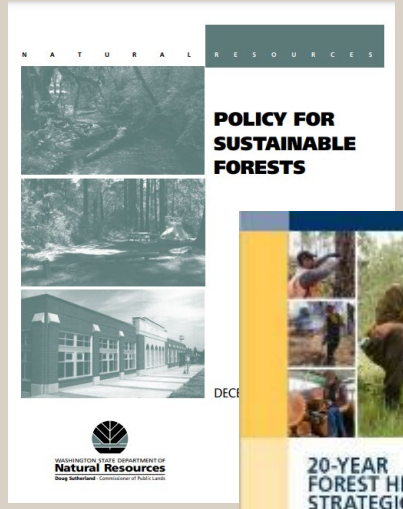
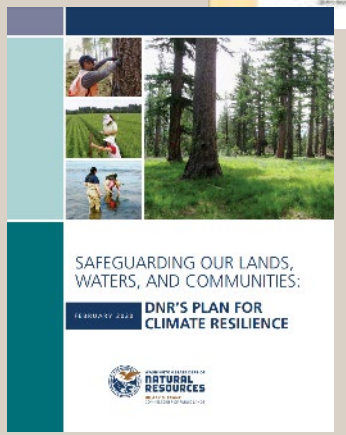






- 1996 Loomis State Forest Landscape Plan
- 2004 HCP amendment
- 2006 Lynx Habitat Management Plan
- 2006 Policy for Sustainable Forests
- 2017 20-Year Forest Health Strategic Plan
- 2020 Climate Resiliency Plan

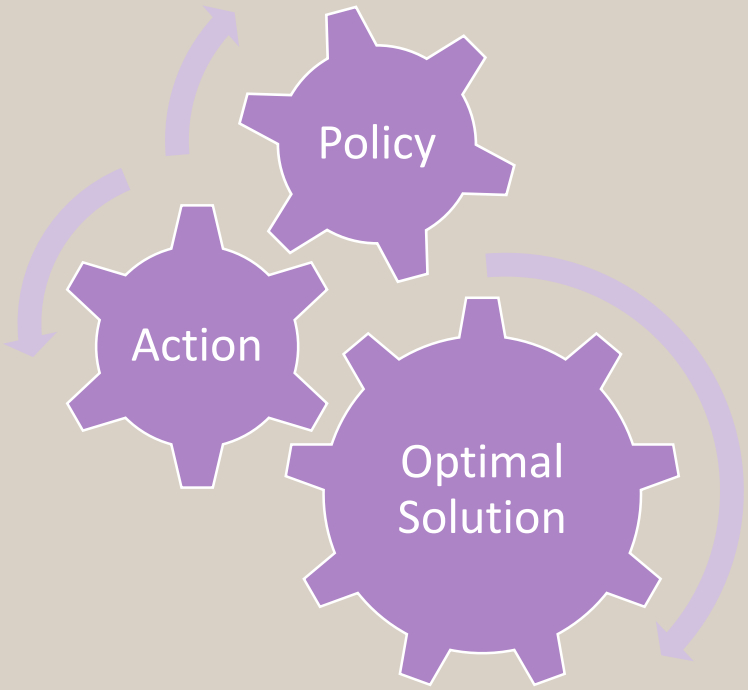




Staff Recommendations

- Future harvest and silviculture informed **by ecotypes shifts.** New strategy for explicitly incorporating climate change impacts in the model.
- **Forest health prioritization** framework could drive where forest health treatments should be conducted.
- Use a **forest resilience metric** to track forest health and resiliency over time. Could be used to drive harvest activities.

Impacts of Policies



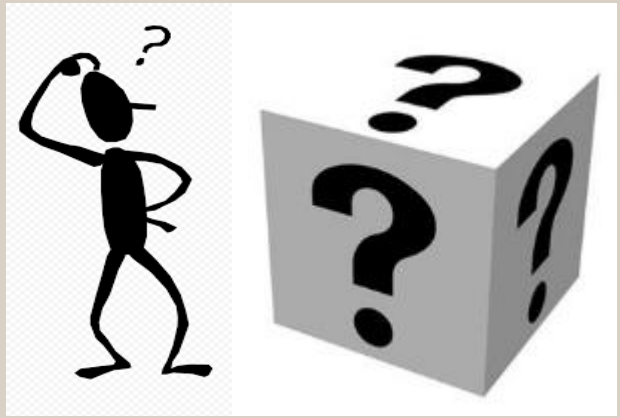
- Determine how the policy impact actions
- Determine how actions can be captured in a strategic model
- Include policy impacts as a component of a EIS alternative
- Assess impact in EIS and financial analysis

Example: Include model goal to harvest in high priority forest health landscapes first

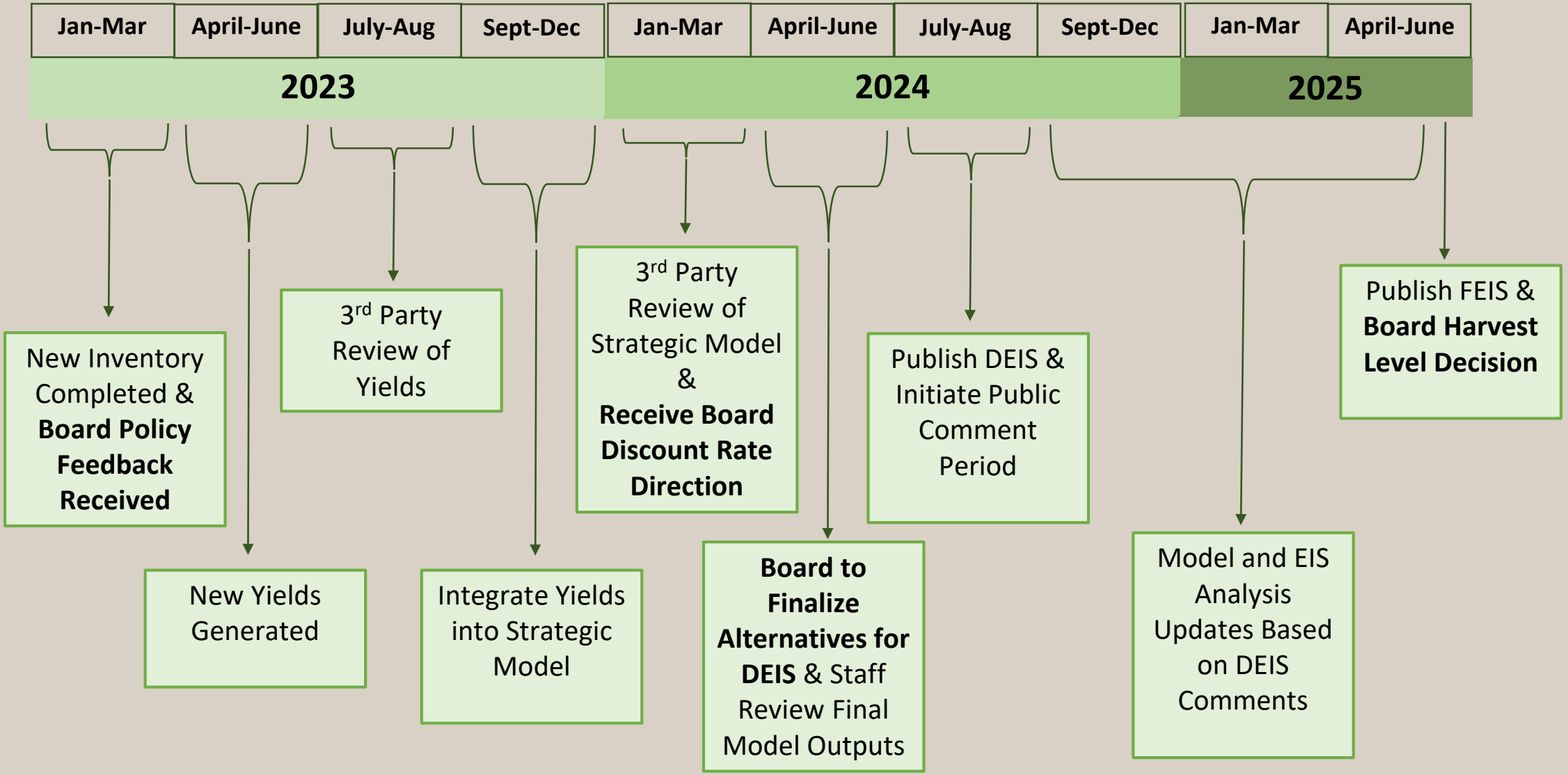

Board of Natural Resources
Propose Concept for Policy
DNR Staff
Transform Concept into Policy Objectives
Incorporate Objectives into Action Alternatives
Analyze for Potential Environmental Impacts
Analyze for Potential Financial Impacts
Board of Natural Resources
Select Final Action Alternative
DNR Staff
Develop DNR Policy Based on Final Action Alternative
Board of Natural Resources
Approves the Final Policy

Board Input

- Other new policy ideas for possible inclusion in the eastern WA SHC?
- Other ideas for representing current policy and plans in the eastern WA SHC?



EWA SHC Timeline – High Level Milestones



Topics to Cover in Future Meetings

- Refining policy concepts received today
- Incorporating climate impacts into the eastern WA model
- How GIS data and growth and yield data is used by the model

- Technical updates as required under Resolution 1591 and feedback received from 3rd party review and TAC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