2018 Updated Financial Analysis
A report to the Board of Natural Resources

presented by

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December 4, 2018
Today’s Outline

• Purpose
• Analysis Area
• Metrics analyzed
• Updates since 2017
• Comparison of the Alternatives
• Next Steps
Purpose of the Financial Analysis

To provide financial projections to help the board understand how each scenario affects DNR’s ability to meet its trust management obligations, including:

• The generation of revenue for trust beneficiaries
• The ability to generate revenue in perpetuity
• Impartiality with respect to current and future beneficiaries
• Maintaining the corpus of the trust
Financial Analysis

Combinations of 3 Key Policy Decisions:
- Marbled murrelet alternatives
- Arrearage harvest
- Riparian thinning
Analysis area

• All DNR-managed lands in Western Washington within 55 miles of marine waters

• ~1.4 million acres

• Includes lands in the following HCP planning units:
  • Columbia
  • North Puget
  • OESF
  • South Coast
  • South Puget
  • Straits
Metrics Analyzed

10 - **Decade Net Present Value (NPV)** - is used in investment planning to analyze the profitability of a project and allows the scenarios to be compared.

*Harvest Volume* - allows comparison of the planning decade and the long-term harvest volume in terms of million board feet (MMBF).

*Long Term Forest Cover (LTFC) Area* – existing and marbled murrelet conservation.
Updated Data and Assumptions

- **Updated Forest Inventory Data** – land transactions, harvest activities, local knowledge database
- **Timber Price Data** – includes prices 2011-2018, and three cover types
- **Management cost data** – management costs 2012-2018
- **Northern Spotted Owl habitat management** – model better reflects the HCP conservation strategy
- **Timber Yields** – better matches actual growth and forest inventory
- **Discount rate** – from 2% to 3% after analysis of Common School Permanent Fund
- **OESF management** – removed outdated data that no longer affects harvest level
New Alternatives and Options Added

New Marbled Murrelet Alternatives – Alternatives G and H

New Riparian Thinning Option – thinning in riparian areas is not counted towards the sustainable harvest level

New Arrearage Option – harvest 382 MMBF from those sustainable harvest units with deficits, over 10 years
Scenarios in 2018 Financial Analysis

• The **36 original combinations** with updated data

• The **2 new combinations:**
  • Marbled Murrelet Alt. G | No Riparian Thinning | Arrearage of harvest of 382 MMBF
  • Marbled Murrelet Alt. H | No Riparian Thinning | Arrearage of harvest of 382 MMBF
  
  *(represents the Board’s Preferred Alternative)*
Harvest Volume over Time

10-decade harvest level under all scenarios
(Scenarios with the maximum, median, and minimum 10-decade NPVs are shown in color*)

*Other scenarios are shown in gray
How data are presented:

Color gradient corresponds to relative relationship between cells

Less than average | Average | Greater than average

Example:

<table>
<thead>
<tr>
<th></th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor A</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Factor B</td>
<td>2</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Factor C</td>
<td>9</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

Cells with the same color = same value
# 10-Decade NPV

(reported in $ billions)

## Updated Scenario Results

<table>
<thead>
<tr>
<th>MARBLED MURRELET STRATEGY ALTERNATIVE</th>
<th>ARREARAGE VOLUME</th>
<th>RIPARIAN THINNING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>702 MMBF</td>
<td>462 MMBF</td>
</tr>
<tr>
<td>Alt. A</td>
<td>3.74 3.74</td>
<td>3.64 3.64</td>
</tr>
<tr>
<td>Alt. B</td>
<td>3.89 3.89</td>
<td>3.79 3.79</td>
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<tr>
<td>Alt. C</td>
<td>3.69 3.69</td>
<td>3.60 3.60</td>
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<tr>
<td>Alt. D</td>
<td>3.69 3.69</td>
<td>3.59 3.59</td>
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<tr>
<td>Alt. E</td>
<td>3.67 3.67</td>
<td>3.57 3.57</td>
</tr>
<tr>
<td>Alt. F</td>
<td>3.18 3.18</td>
<td>3.09 3.09</td>
</tr>
</tbody>
</table>

## New Scenario results

| Alt. G | 382 MMBF Arrearage Volume | Riparian not included | 3.43 |
| Alt. H | 382 MMBF Arrearage Volume | Riparian not included | 3.59 |
Each circle represents one combination of murrelet, arrearage, and riparian options.

Blue dots represent marbled murrelet strategy alternatives A-G.

Red dots represent alternatives analyzed in the SHC DEIS.

Orange dot (H) indicates the Board’s preferred alternative.
## Planning Decade Timber Harvest Volume (MMBF/decade)

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<th>RIPARIAN THINNING</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>702 MMBF</td>
<td>462 MMBF</td>
</tr>
<tr>
<td>Alt. A</td>
<td>5,048</td>
<td>4,879</td>
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<tr>
<td>Alt. B</td>
<td>5,430</td>
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<td>Alt. C</td>
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<td>Alt. D</td>
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<td>4,900</td>
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<tr>
<td>Alt. E</td>
<td>4,986</td>
<td>4,822</td>
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<tr>
<td>Alt. F</td>
<td>4,198</td>
<td>4,077</td>
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</tbody>
</table>

### New Scenario Results

<table>
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<tbody>
<tr>
<td>Alt. G</td>
<td>382 MMBF</td>
<td>Riparian not included</td>
</tr>
<tr>
<td>Alt. H</td>
<td>382 MMBF</td>
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</tr>
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</table>
Each circle represents one combination of murrelet, arrearage, and riparian options.

Blue Dots represent marbled murrelet strategy alternatives A – G

Red Dots represent alternatives analyzed in the SHC DEIS

Orange dot is the Board’s preferred Alternative
Summary

• Marbled murrelet Impacts
  • *Potentially $560 million choice in NPV*
    • 10-decade NPV: 15% difference between Alt. A and Alt. F
    • 1st decade harvest level: 17% difference between Alt. A and Alt. F

• Riparian impacts
  • *Potentially $100 million choice in NPV*
    • 10-decade NPV: 3 % difference between comparable scenarios
    • 1st decade harvest level: 3% difference between comparable scenarios

• Arrearage impacts
  • *Potentially $2 million choice in NPV*
    • 10-decade NPV: <1 % difference between comparable scenarios
    • 1st decade harvest level: 2.5 - 5% difference between comparable scenarios
Summary – Preferred Alternative

Highlights comparing Preferred Alternative with Alternative A
- Alternative A represents a continuation of interim strategy; 2004 SHC riparian assumption and arrearage of 702 MMBF

Preferred Alternative
- Alternative H optimizes habitat to maximize conservation value on 610,000 acres of long-term forest cover (including 43,000 acres of marbled murrelet specific conservation)
- Riparian volume is not included in the sustainable harvest level
- Arrearage is 382 MMBF (excludes the volume sold through Trust Land Transfer last decade)

Preferred Alternative will result in:
- 10 decade NPV reduction of $150 million compared to Alternative A scenario
- Sustainable harvest level of 479 million board feet per year, a reduction of 25 million board feet per year compared to Alternative A.
Next Steps

✓ **September:** Released the MMLTCS RDEIS - beginning of public comment period

✓ **October:** Public Meetings and updated Financial Analysis

**December:** End of MMLTCS public comment period

**Summer 2019:** Release the MMLTCS FEIS and SHC FEIS, including responses to comments for both projects

**Fall 2019:** USFWS ROD, Section 10 Findings, ITP issuance