Marbled Murrelet Long-Term Conservation Strategy

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September 3, 2019
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| December  | Decision on 🎉 HCP Amendment and 🎉 Sustainable Harvest Level |
Agenda for Today

- Status of the marbled murrelet and the ESA
- Trust responsibilities and the HCP
- Tools to help with decision making

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The ESA and the Marbled Murrelet
The Marbled Murrelet is listed as “Threatened” under the Endangered Species Act (ESA)

DNR needs to comply with the ESA in carrying out trust management responsibilities
The Endangered Species Act of 1973 *(ESA)*

- Conserves imperiled animals and plants that may become extinct
- Classifies species as endangered or threatened
- Designates habitat that is considered critical for persistence of the species
- Prohibits “take” of imperiled species without a permit

“Take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct.
Marbled Murrelet Biology

• A small marine bird that spends most of its life at sea, but nests in mature and old-growth conifer forests.

• Flies inland to seek out nest locations (NW Forest Plan range = 55 mile)

• Feeds primarily on small fishes such as herring, sand lance, and anchovies, but will also feed on marine invertebrates such as krill.

• Once egg has hatched, they take turns feeding the chick, flying in from the sea at dawn and dusk.
Marbled Murrelet Range

- Permanent Resident
- Breeding Resident
- Nonbreeding resident

Range Wide Population Estimates

- Alaska: ~237,500 (66%)
- British Columbia: ~99,100 (28%)
- Washington: ~6,000 (<2%)
- Oregon: ~10,950 (3%)
- California: ~6,100 (<2%)
Marbled Murrelet Status

**WDFW – Endangered (2017)**

Population Trend

**NWFP Area (2001-2016)**
- 0.15% annual rate of change

- 3.9% annual rate of change
  - Zone 1*: -4.9%
  - Zone 2: -3.0%

Habitat Trend (1993 – 2012)

**NWFP Area**
- -12.1%

**Washington State**
- -13.3% (all land ownerships)

30% loss of higher quality habitat on non-federal lands in Washington (mostly from timber harvest)
Occupied site detection

Nest Sites

Falza, And Raphael. 2013

Average density (birds/km²)
- <1
- 1-3
- 3-5
- >10

DNR lands
Federal lands
Tribal Lands
DNR manages 1.4 million acres within the planning area (That’s ~9% of the planning area)

% of WA habitat by ownership

DNR 14%
Federal 65%
Tribal Government 2%
Other Ownerships 19%
What is known

Washington’s **population is declining**, especially in southwest Washington.

Murrelets need **forested habitat** for nesting.

Federal lands are key to recovery, and in **southwest WA**, state lands will play a critical role.
Uncertainties remain

Potential factors causing recent population decline include:

- Loss of nesting habitat
  \[(\text{cumulative effects of habitat losses across the landscape over the past 20+ years})\]

- Changes in the marine environment reducing availability and quality of prey

- Increased densities of nest predators
Principles of Conservation

Key characteristics identified as effective habitat elements

- Strategically located
- Contiguous blocks
- Limited disturbance
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DNR’s Trust Responsibilities and the HCP
Department of Natural Resources

Manages & Protects

Trust Lands
- Forests
- Agriculture
- Renewable energy and other leases

Conservation Lands
- Natural Area Preserves
- Natural Resources Conservation Areas

Aquatic Lands
**State Trust Lands**

*Benefits the state’s public schools, universities and other institutions*

- Common School, Indemnity & Escheat
- Scientific School
- University Original
- University Transferred
- Normal School
- Agricultural School
- Capitol Grant
- Charitable, Educational, Penal & Reformatory Institutions

**State Forest Trust Lands**

*Benefits schools, counties and local services*

- State Forest Transfer Trust
- State Forest Purchased Trust

**Other**

*Benefits Community Colleges and others*

- Community College Reserve and other DNR-managed lands
Proportional Acreage of Major Trusts on the Westside of Washington

1.4 Million Acres of Forested Trust Lands within analysis area

- Common School trust
- State Forest trusts
- University trust
- Normal School trust
- Charitable, Educational, Penal and Reformatory Institutions trust
- Agricultural School trust
- Scientific School trust
- Capitol Building trust
Trust Mandate

As manager of state trust lands, DNR has legal fiduciary responsibilities under the State Constitution to:

• Generate revenue and other benefits for each trust
  • Preserve the corpus of the trust
  • Exercise reasonable care and skill
• Act prudently to reduce the risk of loss for the trusts
  • Maintain undivided loyalty to beneficiaries
  • Act impartially with respect to current and future beneficiaries
DNR’s compliance with the ESA

• Habitat Conservation Plan
• Incidental Take Permit
• Issuance criteria
What is a Habitat Conservation Plan (HCP)?

• Long-term management plan
• Partnership with USFWS
• The analysis of an HCP includes:
  • Effects of taking
  • Minimization and mitigation
  • How the HCP is funded
• An HCP is required to get an incidental take permit (ITP)
Incidental Take Permit Issuance Criteria

A. The taking will be incidental

B. Minimize and mitigate impacts of taking to maximum extent practicable

C. Adequate funding to implement murrelet strategy

D. The taking will not appreciably reduce the survival and recovery of the species in the wild

E. Other measures the USFWS may require
State Trust Lands HCP

4 components

- Northern spotted owl
- Marbled murrelet
- Riparian-dependent species
- Other uncommon habitat
Limited scientific information available in 1997

Interim Conservation Strategy

1. Identify and defer from harvest - suitable habitat
2. Conduct habitat relationship studies
3. Release marginal habitat for harvest
4. Conduct inventory surveys to locate occupied sites
5. Develop a long-term conservation strategy
Interim Strategy

- Temporary
- Complicated and costly
- Uncertain

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A long-term strategy will...

- Better meet murrelet conservation needs
- Bring certainty under ESA, as the HCP intends
- Allow DNR to conduct sustainable forest management program with certainty
Ultimately, the applicant must develop a conservation program that includes both minimization and mitigation measures in a manner that **fully offsets the impacts** of the taking.

- HCP Handbook
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The Tools

Analytical Framework

Population Viability Analysis

Financial Analysis
Development of Analytical Framework

**Biological principles for the marbled murrelet**

**Methodology agreed upon by DNR and USFWS**

- **Objective**
- **Science-based**
- **Repeatable**

estimates of impacts and mitigation to marbled murrelet
How to offset impacts

Minimize our impact

Provide mitigation
If our impact increases, so should our mitigation.
If we keep impact low, mitigation can stay low.
Analytical Framework

- Identify Habitat
- Identify Long-Term Forest Cover
- Calculate Impact and Mitigation
- Evaluate Impacts on the Marbled Murrelet Population
Habitat vs. Non-habitat

P-stage Model

- Developed by the Science Team
- Based on forest inventory data – type, stand origin, stand age
- Result is estimate of location and quality of habitat

P-stage values

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<th>0</th>
<th>0.25</th>
<th>0.36</th>
<th>0.47</th>
<th>0.62 and 0.89</th>
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Non-Habitat | Low Quality MM Habitat | High Quality MM Habitat | Occupied Site
Long-Term Forest Cover

Existing Conservation

*Lands already protected by*
- HCP
- State laws
- DNR policy

Marbled Murrelet-Specific Conservation

*Vary by conservation alternative*
- Location
- Size
- Quality

- Block of DNR-managed land
- Occupied sites, riparian zones, other protected areas
- Areas layered together to form long-term forest cover (*interior forest in darkest green, edges in lighter green*)

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*Draft - subject to change without notification*
Conceptual Steps in Quantifying Impacts and Mitigation

1. Quantify impacts and mitigation
2. Make adjustments based on habitat quality, edge effects, location and time
3. Calculate impacts and mitigation
How do our actions affect the marbled murrelet?

Types of impacts

Habitat Removal

Disturbance

Edge Influenced

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Calculating Mitigation in Areas of Long-Term Forest Cover

Future Habitat

—

Current Habitat

= Mitigation Credit

(growth of habitat over life of HCP)

\[
\text{Future Habitat} - \text{Current Habitat} = \text{Mitigation Credit}
\]

\[
\text{Total acres in areas of long-term forest cover} \times \text{P-stage} \times \text{adjustment factors (edge, disturbance, location, and time)} = \text{Mitigation Credit}
\]

Year: 2067

\[
\text{Future habitat acres} - \text{Current habitat acres} = \text{Acres of Potential Mitigation}
\]

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Project Analysis Area

Within **55-miles** of marine waters

More than **16 million** acres

DNR lands = 1.38 million acres (~9%)
Population Viability Analysis (PVA)

DNR - Enhancement

DNR - Risk
Financial analysis

Decade

MMBF

$"

Acres conserved
In Summary

- The Board needs to decide on the Marbled Murrelet Long-Term Conservation Strategy
- DNR needs to comply with the ESA and the Trust Mandate
- Tools have been developed to help you make the decision
### FALL BNR SCHEDULE
**MARBLED MURRELET AND SUSTAINABLE HARVEST LEVEL**

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