



WASHINGTON STATE DEPARTMENT OF
Natural Resources



Proposed Alternatives Summary for the Marbled Murrelet Long-Term Conservation Strategy

The Washington State Department of Natural Resources (DNR) and the U.S. Fish and Wildlife Service (Joint Agencies) are currently developing a draft environmental impact statement (DEIS) for the Marbled Murrelet Long-Term Conservation Strategy (Strategy). This Strategy will apply to DNR-managed lands within 55 miles of marine waters, incorporating six of the planning units established by the [1997 Habitat Conservation Plan \(HCP\)](#). The DEIS will consider six alternative approaches to marbled murrelet conservation. The alternatives are designed to address the following questions:

- **Does the alternative address the Need, Purpose, and Objectives?** Each proposed alternative was developed under the guidance of the [Need, Purpose, and Objectives](#) statement adopted for the project by the Board of Natural Resources and U.S. Fish and Wildlife Service. The alternatives maintain and enhance marbled murrelet habitat in strategic locations, while allowing continued forest management to meet DNR's fiduciary responsibilities on state trust lands. Harvest and non-harvest land uses are allowed under each alternative, although to varying degrees. Potential alternatives that clearly did not meet the need, purpose, and objectives of this project were considered and rejected by the Joint Agencies. These included managing murrelet habitat under state forest practices rules only (eliminating HCP coverage); this approach would likely not make a significant contribution to maintaining and protecting the murrelet population nor provide certainty to DNR for managing state [trust lands](#). The Joint Agencies also rejected a potential alternative that would cease timber harvest within the analysis area; such an alternative would violate DNR's trust responsibilities.
- **Does the alternative address the [Endangered Species Act Section 10](#) issuance criteria?** DNR intends to request an

Each alternative builds a conservation strategy around *long-term forest cover*, including these components (which may overlap):

1. Natural Area Preserves and Natural Resources Conservation Areas
2. Riparian and wetland management zones per the [Riparian Forest Restoration Strategy](#) and the OESF riparian conservation strategy
3. Existing, mapped high quality habitat in HCP-designated northern spotted owl conservation areas (NRF, dispersal and OESF)
4. Conservation commitments made in the [Policy for Sustainable Forests](#)
5. Sites previously delineated as "occupied" by murrelets
6. Areas designed to enhance or secure murrelet habitat (except Alternative B, which only protects occupied sites).

amendment to their existing Incidental Take Permit with a long-term conservation strategy. For USFWS to amend the Incidental Take Permit, specific criteria must be satisfied. The criteria are: 1) the taking will be incidental, 2) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; 3) the applicant will ensure that adequate funding for the plan will be provided; 4) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and 5) such other measures, if any, that the Secretary may require as being necessary for the purposes of the plan.

- **What habitat will be conserved?** Maintaining and protecting marbled murrelet populations requires inland forest stands that provide secure nesting opportunities, both now and through the life of the HCP. Within DNR-managed lands, some areas of *long-term forest cover* (LTFC) may currently or within the term of the HCP provide this habitat. Each alternative is built around LTFC that includes areas of existing DNR conservation commitments made under the HCP (e.g., northern spotted owl habitat, riparian management zones), the Policy for Sustainable Forests (gene pool reserves, old growth) and state law ([natural areas](#)). The alternatives then add areas of conservation to further secure occupied sites and identify other needed habitat for murrelets (see box). The configuration and location of LTFC differs among alternatives, reflecting a range of conservation approaches. All alternatives provide for new habitat growth through the life of the HCP.
- **How will the forest be managed?** Sustainable forest management of trust lands will continue under all of the alternatives. Harvest activities on forest lands *not* identified as long-term forest cover will continue under existing laws and policies. This includes harvest of some potential (not known to be occupied) murrelet habitat outside conserved areas; this harvest will be mitigated by the growth of new habitat in conserved areas. Within LTFC, harvests that would create large openings, such as clear cuts or variable retention harvests, would not be allowed under any alternative. Thinnings and other silvicultural treatments outside of murrelet habitat are allowed in LTFC under the alternatives, although where such treatments may occur varies by alternative. Management of other infrastructure (roads, campgrounds, trails, etc.) will continue under existing laws and policies, with mitigation for ongoing disturbance to nesting birds built into the alternatives.
- **How will potential impacts be mitigated?** Harvest, and some non-harvest activities, can potentially impact murrelets by removing habitat, degrading habitat conditions, or disturbing nesting birds. Under each alternative, LTFC is identified and configured with the intent of minimizing and mitigating these potential impacts to the murrelet. Mitigation for habitat impacts comes from the growth of new habitat and improvement of habitat conditions in areas of LTFC over time; all alternatives provide for this habitat development.
- **How will the alternatives affect the murrelet population?** The marbled murrelet population is in decline throughout its listed range, which includes Washington, Oregon and California. Population ecologists suspect this overall decline could continue for at least the near term, but many factors influence this trend. Habitat loss and fragmentation, as well as ocean conditions and other factors, are contributing to population decline.¹ Providing nesting habitat that increases in quality and quantity through 2067 is expected to have a positive impact at a local scale, and will support potential recovery over the long-term. However, because DNR-managed lands make up only about 9% of

¹ See for example Becker and others 2007; Falxa and others 2015; Falxa and Raphael 2015.

forest lands in Western Washington (and contain approximately 14% of murrelet habitat), the effect of our conservation actions on the scale of the listed range of murrelets may be relatively small.

The Alternatives

Alternative A

Alternative A is the “no-action” alternative. It continues DNR operations as authorized under the 1997 HCP. It conserves habitat identified under the HCP *interim strategy* and also continues implementation of the HCP as described in subsequent joint concurrence letters for marbled murrelet conservation. This alternative includes approximately 620,000 acres of LTFC, with specific murrelet conservation lands including:

- all HCP-surveyed occupied sites, with a 100-meter buffer;
- all reclassified habitat in OESF;
- all reclassified habitat in the Straits, South Coast and Columbia planning units that has not been identified as “released” for harvest under the interim strategy;
- in the North Puget and South Puget planning units, all suitable habitat that has not been identified as “released” for harvest subject to the 2007 concurrence letters, all newly identified habitat, and all potential habitat that has a P-stage value >0 in decade 0.²

Alternative B

Alternative B focuses on protecting the known locations of marbled murrelet occupied sites on forested state trust lands. Under this alternative, LTFC totals approximately 593,000 acres, and includes occupied sites delineated by the 2008 Science Team recommendations, as well as occupied sites identified by DNR staff in the North and South Puget planning units. This is the only alternative that does not provide buffers on occupied sites.

Alternative C

Alternative C is designed to protect occupied sites and current habitat as well as grow new habitat over the life of the HCP. LTFC totals approximately 636,000 acres. This alternative contains both marbled murrelet “emphasis areas” and “special habitat areas.”

Emphasis areas are identified in strategic landscapes for the purpose of protecting occupied sites, reducing fragmentation around occupied sites, and developing future marbled murrelet habitat. Outside of emphasis area boundaries, this alternative will also buffer all other existing occupied sites and will maintain all higher quality habitat (P-stage value .47 and greater).

² “P-stage” is the name of a habitat classification model used to identify and value habitat across the analysis area. For modeling purposes, P-stage was used to approximate the suitable habitat within the pool of acres defined as “potential habitat” in the concurrence letters. Implementation of the interim strategy will continue to identify suitable habitat (2 platforms per acre, ≥ 5 acres) prior to management activities.

Within each emphasis area:

- occupied sites have 100-meter buffers³;
- lands within ½ mile of these occupied sites to be maintained as LTFC-- this is intended to provide habitat or “security forest” conditions that function to reduce the effects of fragmentation;
- current habitat (P-stage value .25 or greater) is conserved as LTFC;
- future habitat (all lands that will reach a P-stage value by the final decade of the HCP) is conserved as LTFC;
- active management, principally variable density thinning, can occur to develop future habitat development, as determined by the habitat capability of the emphasis area;
- active management (including variable retention harvest) can occur on lands that are not designated as future habitat or LTFC.

Special habitat areas are smaller than emphasis areas, and are designed to increase murrelet productivity by reducing edge and fragmentation around more isolated occupied sites that are not within an emphasis area. Within these special habitat areas, active management is generally prohibited. All acreage within the special habitat area is designated as LTFC.

Alternative D

Alternative D does not include emphasis areas as under Alternative C, and instead concentrates conservation into special habitat areas. LTFC totals approximately 634,000 acres. All acreage within the special habitat area is designated as LTFC. The boundaries of the special habitat areas were identified based on existing landscape conditions (management history, watershed boundaries, natural breaks or openings). These special habitat areas are designed to increase the productivity of existing occupied sites by reducing edge and fragmentation effects. They are generally smaller, but more numerous, than emphasis areas, and reduce fragmentation and edge effects by prohibiting variable retention harvest and other commercial forest management within special habitat area boundaries. These areas include:

- strategically located occupied sites with 100-meter buffers (see footnote #3);
- adjacent P-stage habitat (both existing and expected to develop through 2067);
- adjacent, non-habitat areas intended to provide security to existing and future habitat (security forests).

Because of its focus on reducing fragmentation around existing, occupied sites, Alternative D would allow more acres of potential habitat (habitat that has or will develop a P-stage value) to be harvested throughout the analysis area than Alternative C. However, the overall amount of LTFC is similar under Alternatives C and D.

³ A 100-meter buffer is applied to all occupied sites under Alternative C and D, except in OESF, where this buffer is 50 meters for occupied sites greater than 200 acres.

Alternative E⁴

Alternative E combines the conservation approaches of Alternatives C and D, for a total of approximately 640,000 acres of long-term forest cover. This alternative includes the following murrelet conservation lands (in addition to the LTFC that all alternatives share):

- Occupied sites, with 100 meter buffers;
- All habitat with a P-stage value of .47 and greater throughout the analysis area;
- Emphasis areas as designated under Alternative C;
- Special habitat areas as designated under Alternative D (where emphasis areas and special habitat areas overlap, emphasis area will be the designation).

Alternative F

Alternative F proposes to protect approximately 734,000 acres of marbled murrelet habitat by applying the conservation recommendations presented in the [2008 Science Team report](#), which recommends the establishment of marbled murrelet management areas. It also establishes conservation areas in the North and South Puget planning units. All occupied sites would be protected with a 100-meter buffer. Additionally, all Old Forest in the OESF would receive a 100-meter buffer. Existing, mapped low quality northern spotted owl habitat in designated owl conservation areas (nesting/roosting/foraging, dispersal and OESF) is included as LTFC (Alternatives A through E only include high quality owl habitat as LTFC).⁵

Forest management within marbled murrelet management areas would be consistent with the Science Team recommendations to protect and restore habitat within designated areas. All occupied sites would be protected across the DNR ownership. The remaining areas of LTFC would be managed similar to the other alternatives, with no variable retention harvests planned in LTFC, and silviculture treatments (including thinning) allowed to improve habitat.

⁴ The Board of Natural Resources requested that this alternative be added to the range of alternatives at their November 3rd, 2015 meeting.

⁵ Note that “settlement” northern spotted owl habitat would not be included as LTFC.

Literature Cited

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Comparison of the Proposed Alternatives for the Marbled Murrelet Conservation Strategy DEIS

Contributing components of the Marbled Murrelet Habitat Conservation Strategy		A	B	C	D	E	F	
Analysis Area		All DNR-managed land within 55 miles of marine waters						
Approximate acres of Long-Term Forest Cover		620,000	593,000	636,000	634,000	640,000	734,000	
Components of Long Term Forest Cover	Existing habitat conservation that provides marbled murrelet conservation benefits	Natural Areas ⁱ	✓ ⁱⁱ	✓	✓	✓	✓	✓
		Riparian Management Zones ⁱⁱⁱ	✓	✓	✓	✓	✓	✓
		Conservation commitments made in the Policy for Sustainable Forests (e.g., gene pool reserves, old growth)	✓	✓	✓	✓	✓	✓
		Existing Northern Spotted Owl habitat – high quality ^{iv}	✓	✓	✓	✓	✓	✓
		Existing Northern Spotted Owl habitat – low quality ^v						✓
	Marbled murrelet habitat conservation areas	Occupied sites – HCP surveyed ^{vi}	✓					
		Occupied sites – Science team mapped ^{vii}		✓	✓	✓	✓	✓
		Buffers on Occupied sites	✓ 100m	0	✓ 100m on all, except in OESF where sites greater than or equal to 200 acres have 50m			✓ 100m

Contributing components of the Marbled Murrelet Habitat Conservation Strategy		A	B	C	D	E	F
	Habitat types identified under interim strategy ^{viii}	✓					
	Marbled murrelet management areas identified in the Science Team report						✓ Plus areas established in North and South Puget
	High quality murrelet habitat (P-stage >= .47) throughout analysis area			✓		✓	
	Emphasis areas ^{ix}			✓		✓	
	Special habitat areas ^x			✓	✓	✓	
Forest management within LTFC	Harvests that create large openings, such as clear cuts and variable retention harvests	No planned harvests allowed.					
	Limited management (includes silvicultural treatments such as commercial thinnings, reforestation)	Treatments are allowed in operable, non- marbled murrelet habitat (outside of special habitat areas) consistent with other land management objectives.					
	Marbled murrelet habitat enhancement treatments	✓	✓	Habitat enhancement treatments are allowed in non-habitat within emphasis areas, with the objective of developing habitat within the life of the HCP.			✓

Contributing components of the Marbled Murrelet Habitat Conservation Strategy		A	B	C	D	E	F
	Salvage		Salvage is allowed, consistent with the HCP and objectives of the conservation strategy.				
	Non-timber harvest land uses (roads, campgrounds, trails, etc.)		Management of existing land uses and related infrastructure will continue per existing law and policy, with ongoing disturbance impacts to LTFC identified and mitigated. <i>Note: rules for managing new infrastructure are still under development.</i>				
Forest management outside LTFC	Harvests that create large openings, such as clear cuts and variable retention harvests		Forest stands managed consistent with the Sustainable Harvest Calculation.				
	Silvicultural treatments		Allowed per existing law and policy.				
	Non-timber land uses		Existing and future land uses will be managed consistent with the Policy for Sustainable Forests and the Multiple Use Act.				

ⁱ Natural areas include Natural Areas Preserves (NAP) and Natural Resource Conservation Areas (NRCA).

ⁱⁱ The “✓” symbol represents the land included in the long-term forest cover definition for the alternative. Notes are added to clarify the inclusion or exclusion of an area.

ⁱⁱⁱ Riparian management zones per the HCP Riparian Forest Restoration Strategy for the five Westside HCP planning units and per the OESF HCP riparian conservation strategy.

^{iv} Existing Northern Spotted Owl high quality habitat refers to the following DNR mapped habitat classes as of 2015: old forest, high quality nesting habitat, and A and B habitat per the definitions in the 1997 HCP I.V. page 12.

^v Existing Northern Spotted Owl low quality habitat refers to the following DNR mapped habitat classes as of 2015: sub-mature, movement roosting and foraging, movement, young forest marginal and dispersal habitat per the definitions in the 1997 HCP I.V. page 12, and the 2008 South Puget Forest Land Plan.

^{vi} Occupied sites as defined by DNR survey boundaries where murrelet breeding behaviors are observed or there is evidence of nesting consistent with the Pacific Seabird Group Survey Protocol.

^{vii} Occupied sites as mapped by the Science Team (Raphael and others 2008).

^{viii} Refers to “reclassified habitat” in step 4 of the interim strategy (1996 HCP IV. page 40) and various marbled murrelet habitat types defined in the 2007 concurrence letters for North and South Puget HCP planning units. LTFC for Alternative A includes all reclassified habitat in the OESF and Straits HCP planning units, as well as all reclassified habitat with a current P-stage value in Southwest Washington.

^{ix} Emphasis areas represent larger blocks of habitat and non-habitat areas that will be managed for both marbled murrelet conservation and harvest.

^x Special habitat areas augment acres of LTFC around certain occupied sites and create blocks of cohesive habitat with reduced fragmentation.