

Developing the British Columbia Implementation Plan for Marbled Murrelets (*Brachyramphus marmoratus*)

Background

- Marbled Murrelets (*Brachyramphus marmoratus*) are small seabirds that typically nest in old-growth forests within 30km of the coast including on Vancouver Island, Haida Gwaii, and the mainland coast of B.C. (see figure 1).
- Marbled Murrelets (MAMU) are a species at risk listed as *Threatened* under the federal *Species at Risk Act* (SARA) (COSEWIC 2012) and are provincially Blue listed. Their at-risk status is due mainly to the loss and fragmentation of their old-growth nesting habitat and due to threats in the marine habitats where they feed (e.g. oil spills, fisheries by-catch).

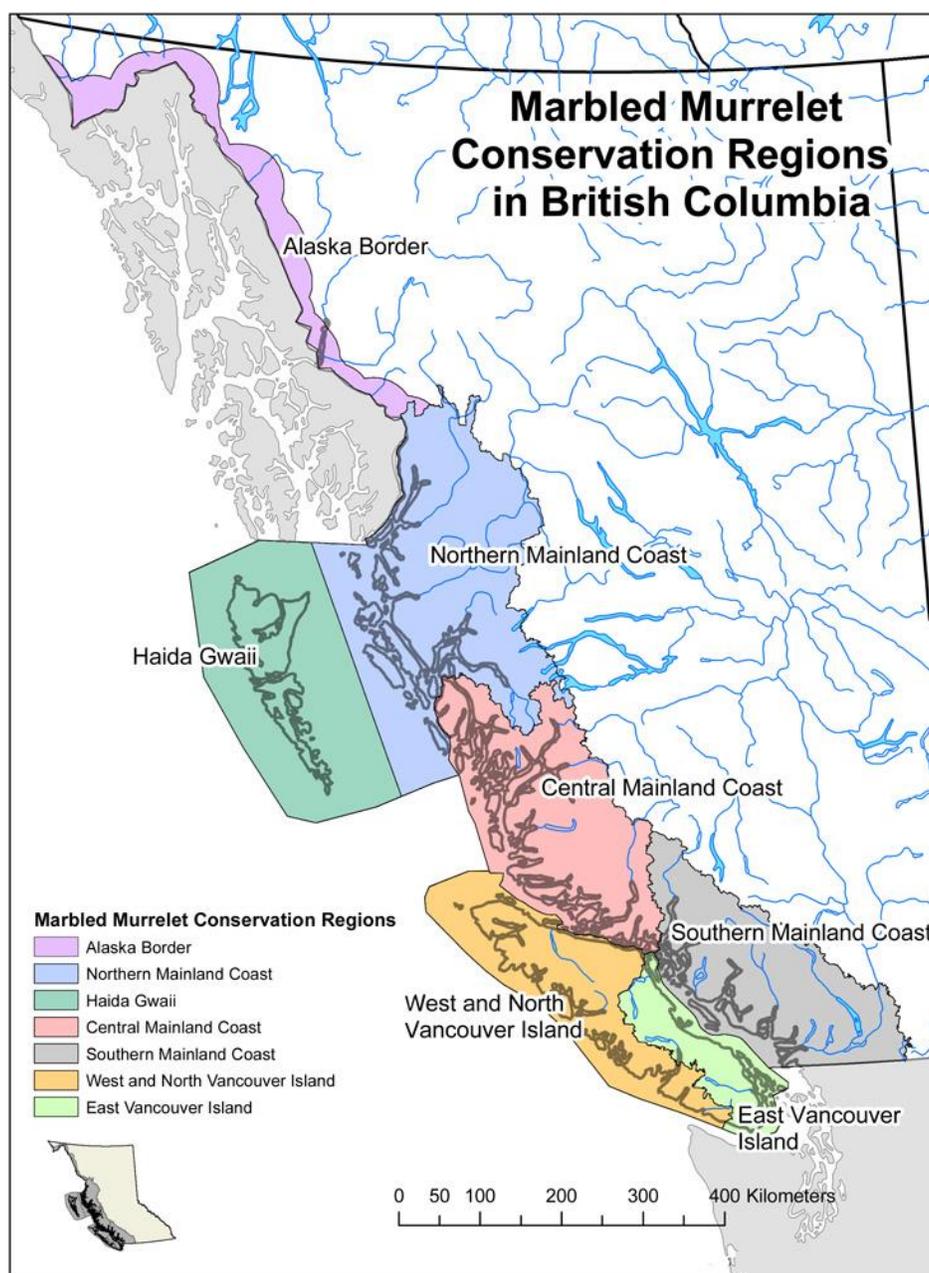


Figure 1. Marbled Murrelet Conservation Regions in British Columbia

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Recovery Planning

- In 2002, the Canadian Marbled Murrelet Recovery Team (CMMRT) released a conservation assessment of MAMU in B.C. (Burger A.E. 2002)
- In 2003, the CMMRT released a scientific advisory document regarding conservation and management of MAMU in B.C. (CMMRT 2003).
- Environment Canada posted a draft recovery strategy for MAMU in Canada on January 7, 2014 and a revised strategy on June 3, 2014. It is anticipated that the federal recovery strategy will be amended in the future.
- The federal recovery strategy sets a short term overall population objective that requires retention of MAMU nesting habitat at 70% or greater of 2002 levels coast-wide, and a long term objective to stabilize MAMU nesting habitat at 70% or greater of 2002 levels.
- The federal recovery strategy identifies potential terrestrial Critical Habitat that is described by biophysical attributes related to nesting habitat and is to be retained as minimum amounts within six Conservation Regions¹. It is recognized these amounts are likely to change as better habitat mapping and other information becomes available.
- Critical Habitat is identified in federal recovery strategies without consideration of socio-economic implications.
- Under *SARA*, the federal government expects the province to demonstrate effective protection of MAMU Critical Habitat.



Existing Protection

- Through various types of conservation designations (e.g., Parks and Protected Areas, Land Act Reserves, legal Old Growth Management Areas (OGMAs), Wildlife Habitat Areas and Ungulate Winter Ranges) B.C. has considerable protection of MAMU habitat already in place.
- Additional MAMU habitat will be maintained in B.C. when existing land use planning is fully implemented (e.g. Landscape Reserves in the Great Bear Rainforest and OGMA planning on the coast) and boundaries of reserves are legalized. The contribution of these future designations to MAMU habitat conservation is included in the existing protection in Figure 2.
- Figure 2 shows in six Conservation Regions: the amount (area in Hectares) of protected MAMU habitat in B.C.; the amount of MAMU habitat on Crown land that does not contribute to timber harvesting; the amount of MAMU habitat on Crown land that is part of the Timber Harvesting Land Base (THLB); and the federal minimum habitat threshold 1) applied to all lands and 2) applied to Crown land only.
- Figure 2 also shows the remaining THLB that is not considered suitable MAMU habitat in the six Conservation Regions.
- MAMU habitat in Figure 2 is represented by several methods of habitat mapping ranging from what is considered to be most accurate to least accurate: low-level aerial survey, air photo interpretation, CMMRT model and baseline thematic mapping.
- In most Conservation Regions, B.C. meets or comes close to meeting the federal minimum habitat threshold applied to provincial Crown land only through existing protection and MAMU habitat on Crown land that is not part of the Timber Harvesting Land Base (THLB).

¹ A habitat suitability model for the Alaska Border Conservation Region has been developed and it is anticipated that recovery objectives will be set for this Conservation Region.

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- It is estimated that an additional 210,000 hectares of MAMU habitat would have to be protected in order to achieve the federal minimum habitat thresholds applied to provincial Crown land only.

Proposed Provincial Management Approach

- The goals of the provincial management approach are to:
 - Maximize conservation benefit and the likelihood of meeting recovery objectives;
 - Minimize socio-economic impacts; and
 - Maximize the likelihood of achieving general expectations under SARA
- The proposed provincial management approach for MAMU is to:
 - Engage with First Nations and stakeholders on the development of a habitat management approach for MAMU that meets the expectations of the federal recovery strategy for provincial Crown land.
 - Complete existing land use planning, including implementing legal landscape reserves in the Great Bear Rainforest and legalization of Old Growth Management Areas and priority Wildlife Habitat Areas on the coast.
 - By 2017, issue a Land Use Objectives Regulation Order under the provincial *Land Act* to protect specified amounts of MAMU habitat in a suitable condition for Crown land for the six Conservation Regions (see Table 1).
 - Employ both spatial and aspatial² management approaches.

Population and Distribution Objectives

- Minimum habitat thresholds for each Conservation Region have been calculated using the methodology in the federal recovery strategy and applied proportionately to all lands and to provincial Crown land only (Table 1).
- Table 1 shows the federal minimum habitat thresholds for MAMU on all lands and applied only to Crown land. These amounts are likely to change as better habitat mapping and other information becomes available.
- The difference between the threshold for all land and for crown land only is due to MAMU habitat on non-crown land (First Nations treaty lands, other government lands and private lands).
- In the East Vancouver Island Conservation Region, the province considers the minimum habitat threshold to be unachievable in the short term due to habitat loss.

Table 1. Federal minimum habitat thresholds (% of 2002 levels and hectares) for MAMU among six provincial Conservation Regions for all lands and applied to provincial Crown land only.

	Northern Mainland Coast (68%)	Haida Gwaii (68%)	Central Mainland Coast (68%)	South Coast (85%)	North & West Vancouver Island (68%)	East Vancouver Island (90%)	Total Area (70%)
All Lands	292,822	153,631	221,500	103,602	184,416	77,728	1,033,700
Crown Land	265,872	151,565	220,984	99,152	179,265	38,013	954,851

² Aspatial habitat management (i.e. targets that are not explicitly mapped) provides increased management flexibility while spatial habitat management (i.e. mapped legal reserves) provides more certainty for conservation by addressing issues of habitat fragmentation, edge effects, patch size and distribution.

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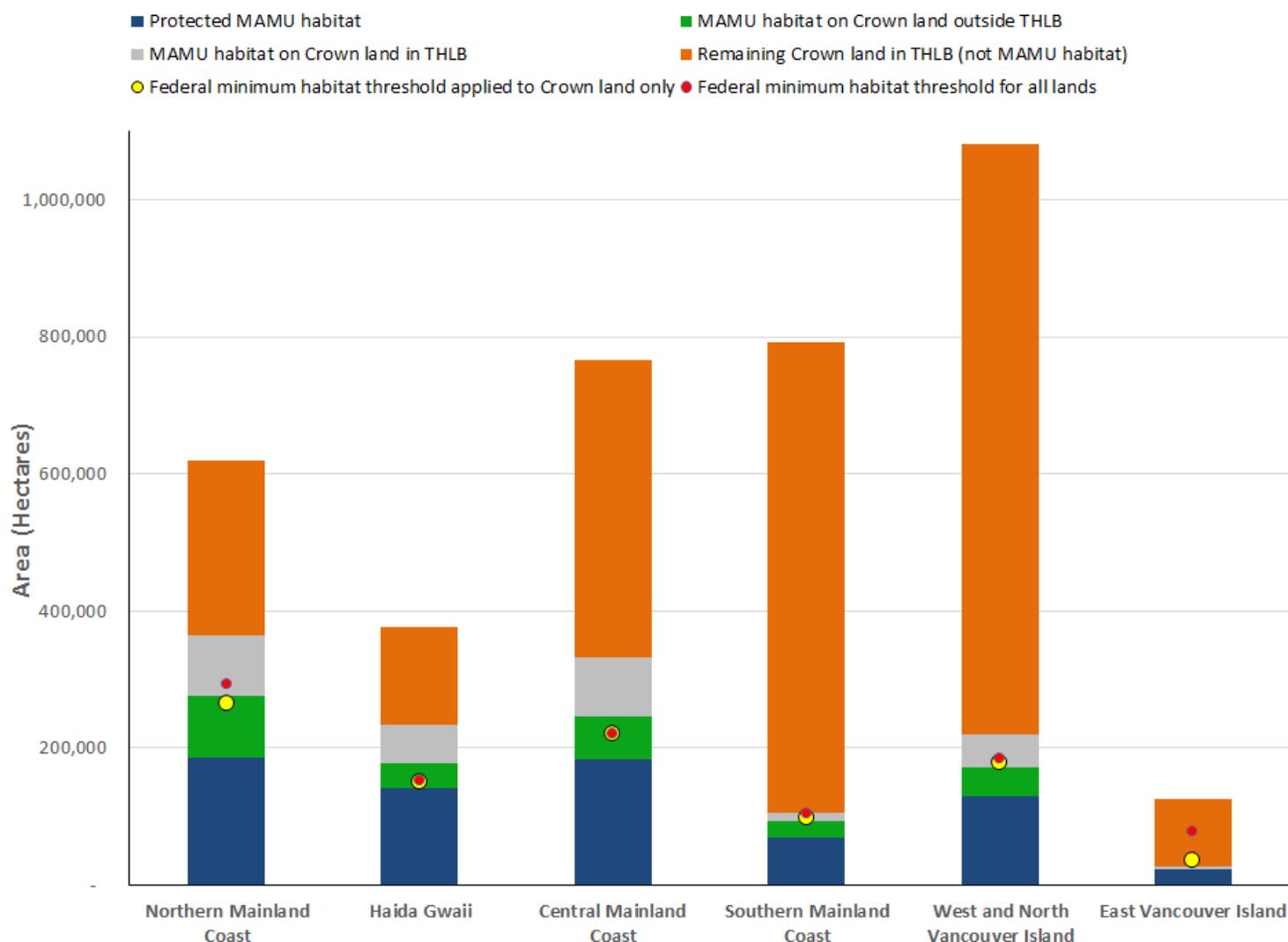


Figure 2. Hectares of Marbled Murrelet habitat in six Conservation Regions: 1) protected under existing management (blue); 2) on Crown land that doesn't contribute to timber harvesting (green); 3) on Crown land that is part of the Timber Harvesting Land Base (THLB) (grey); remaining THLB that is not MAMU habitat (orange); the federal minimum habitat thresholds for all lands (red dot) and the federal minimum habitat thresholds applied to Crown land only (yellow dot).

Additional Proposed Actions in 2016

- Improve habitat mapping in areas where MAMU habitat is characterized using the CMMRT model or baseline thematic mapping. This will affect total habitat amounts, the location of habitat and regional minimum habitat thresholds.
- Conduct inventories to confirm MAMU nesting in the Interior Cedar Hemlock (ICH) biogeoclimatic zone in the Northern Mainland Coast Conservation Region.
- Engage with private land holders to encourage shared stewardship of Marbled Murrelet habitat on non-Crown land, particularly in the East Vancouver Island Conservation Region.

Developing the British Columbia Implementation Plan for Marbled Murrelets (*Brachyramphus marmoratus*)

Key work required to develop the Implementation Plan

- Collate results of First Nations and stakeholder engagement sessions to inform the provincial management approaches.
- Clarify to what extent, and at what scale, mapped spatial reserves will be defined in the Implementation Plan.
- Determine how to manage and track habitat targets that apply across large areas (such as a resource district or Conservation Region).
- Clarify how recruitment of MAMU habitat will contribute to meeting long-term recovery objectives, especially in the East Vancouver Island Conservation Region.

References and links to information

- Burger, A. E. 2002. Conservation assessment of Marbled Murrelets in British Columbia: a review of the biology, populations, habitat associations, and conservation.
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- COSEWIC. 2012. COSEWIC assessment and status report on the Marbled Murrelet *Brachyramphus marmoratus* in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xii + 82 pp.
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