

Developing the British Columbia Implementation Plan for Coastal Northern Goshawks (*Accipiter gentilis laingi*)

Background

- Northern Goshawks, *laingi* sub-species (NOGO) are raven-sized raptors (birds of prey) that live in mature and old-growth forests in coastal B.C., including on Vancouver Island, Haida Gwaii and the mainland coast (Figure 1).
- A NOGO home range consists of a breeding area where they nest and rear young and a larger surrounding foraging area where they hunt for prey (Figure 2).
- NOGO are a species at risk and are listed as *Threatened* under the federal *Species at Risk Act* (SARA) (COSEWIC 2013), and are provincially Red listed. Their at-risk status is due mainly to their small population size and the loss and fragmentation of their nesting and foraging habitat.

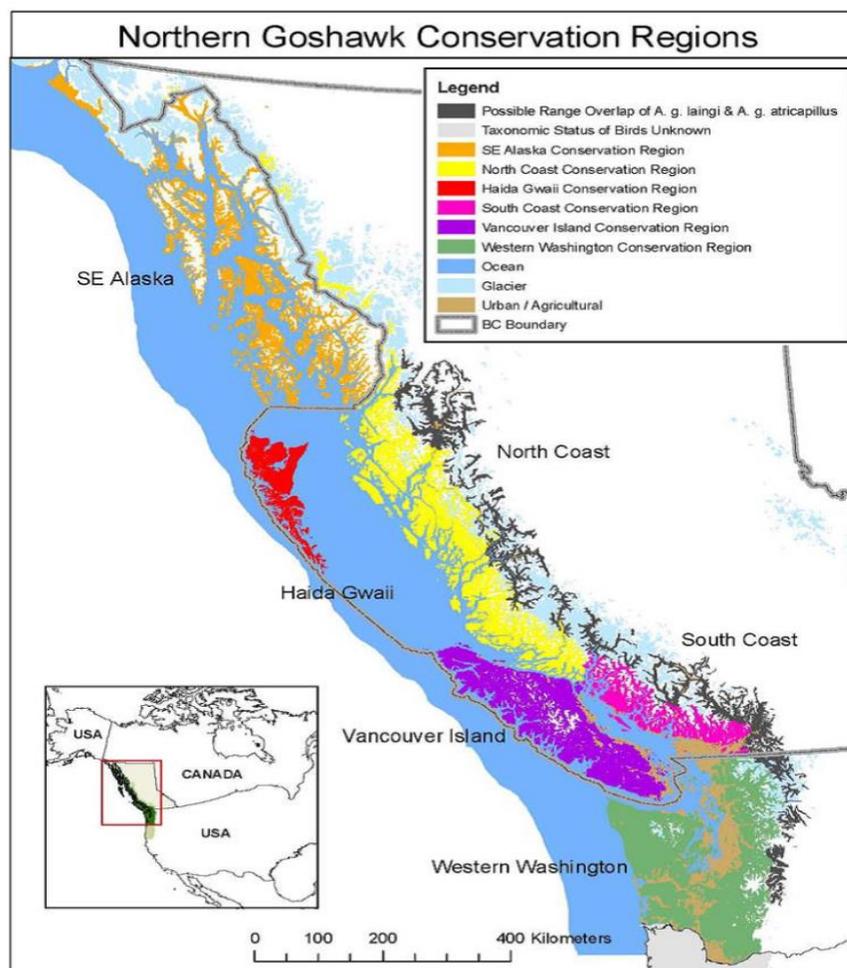


Figure 1. Conservation Region and Range map for Northern Goshawk, *Accipiter gentilis laingi* (Northern Goshawk *Accipiter gentilis laingi* Recovery Strategy 2008)

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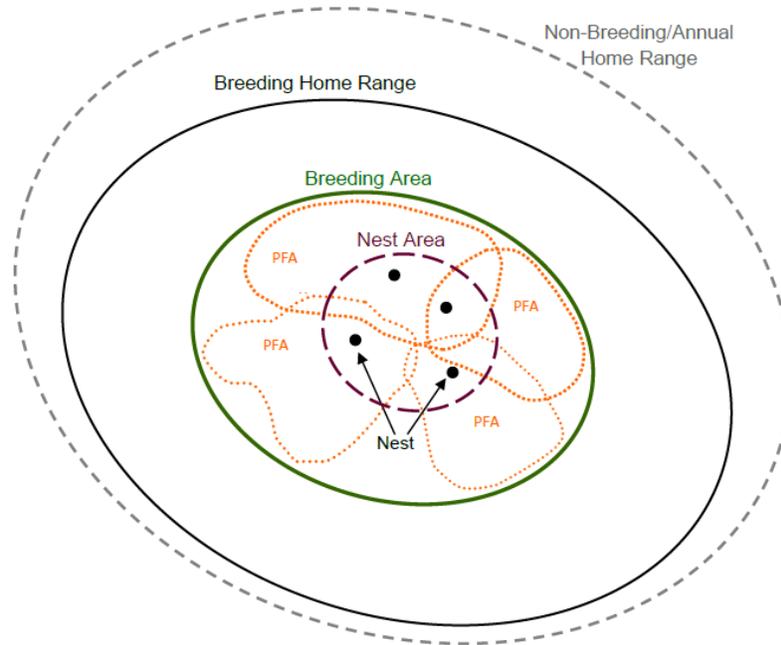


Figure 2. Conceptual diagram (not to scale) of coastal goshawk home range, including alternate nest sites, nest area, post-fledgling area (PFA), breeding area, breeding home range and non-breeding/annual home range (McClaren et al. 2015)

Recovery Planning

- The provincial NOGO recovery strategy was posted in 2008 and the Management Plan was posted in 2013.
- Several drafts of the federal NOGO recovery strategy have been released, but a final version has not yet been posted to the SARA public registry.
- The federal recovery strategy sets an overall population objective to maintain 444 NOGO home ranges across British Columbia and sets home range targets for the four Conservation Regions (see Table 1).
- The federal strategy identifies Critical Habitat for breeding and foraging habitat for 108 known home ranges without consideration of socio-economic implications, and implies additional Critical Habitat will be identified as new home ranges are discovered.
- Federal Critical Habitat for breeding areas is described as an approximately 200 hectare reserve, which includes all known nests at least 252 m away from (potential) edges.
- Federal Critical Habitat for foraging habitat is described as maintaining between 45% and 61% suitable foraging habitat within a home range (depending on the Conservation Region).
- Under SARA, the federal government expects the province to demonstrate effective protection of NOGO Critical Habitat.

Existing Protection

- There are currently an estimated 680 - 780 potential Northern goshawk *laingi* subspecies home ranges in B.C.
- Although not all specific nesting locations are known, existing protection for NOGO in British Columbia (Figure 3) was determined by estimating the number of home ranges that are likely to be protected under the following circumstances: 1) in existing Parks and Protected Areas and other conservation designations and, 2) when existing land use planning is fully implemented (e.g. Landscape Reserves in the Great Bear Rainforest).
- A NOGO territory model developed by the provincial Northern Goshawk Recovery Team that projects theoretical home ranges consisting of both breeding and foraging habitat was overlaid with protected areas to estimate existing protection.

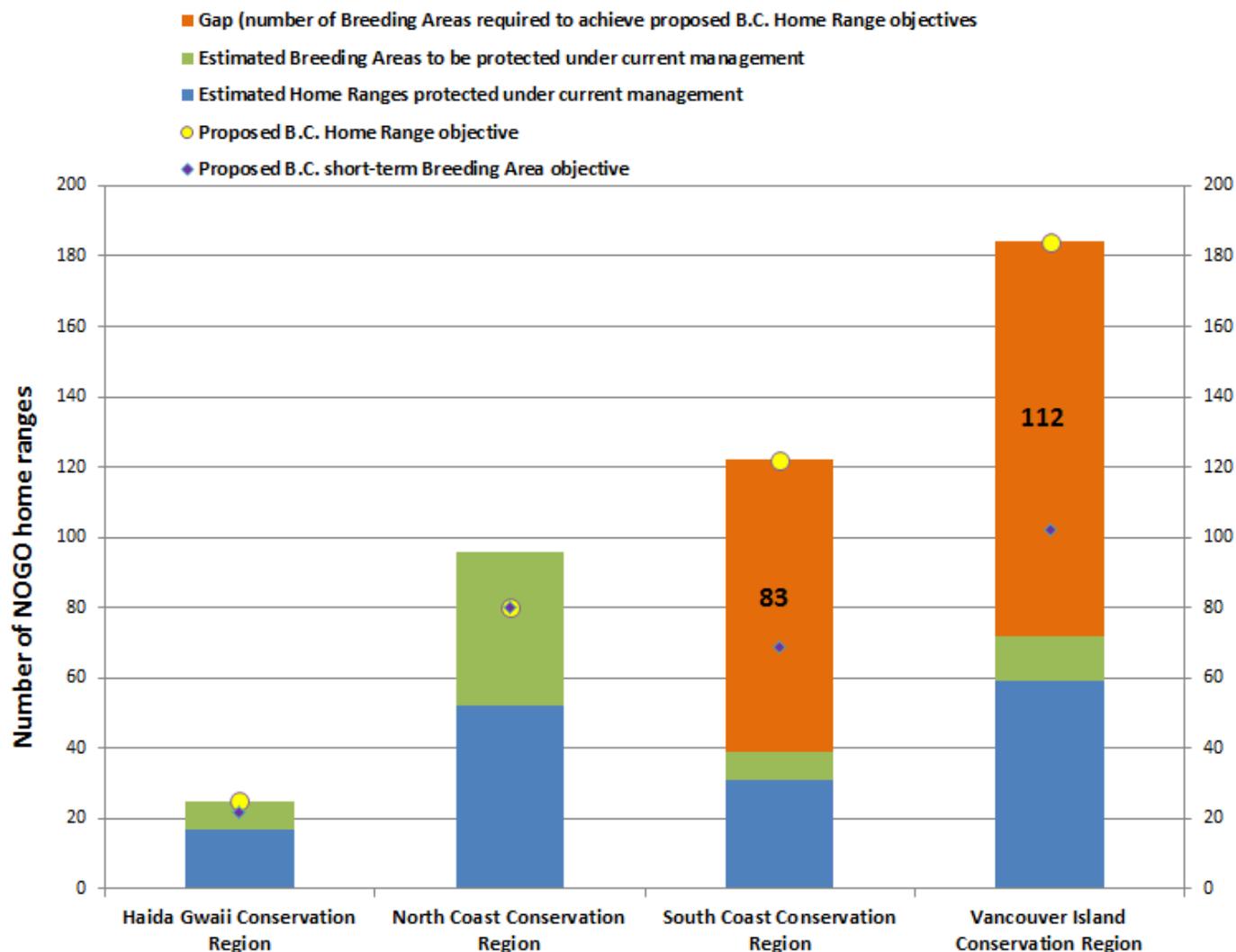


Figure 3. Estimated existing protection of modelled NOGO home ranges in B.C. and additional protection required to meet proposed provincial home range targets.

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Proposed Provincial Management Approach

- The goals of the provincial management approach are to:
 - Maximize conservation benefit and likelihood of meeting recovery objectives;
 - Minimize socio-economic impacts; and
 - Maximize the likelihood of meeting SARA expectations

Population and Distribution Objectives

- Table 1 shows the proposed provincial population and distribution objective for NOGO in British Columbia.
- With the exception of Haida Gwaii, the province is proposing to establish B.C. population and distribution targets that are largely consistent with the federal targets.
- In Haida Gwaii, the province considers the federal target of 58 home ranges to be unrealistic as it exceeds the estimated current number of 19 home ranges in the Conservation Region.

Table 1. Proposed federal and proposed B.C. population and distribution objectives for NOGO home ranges (the proposed B.C. population objective is shown in parentheses where it differs from the federal approach)

Vancouver Island	South Coast	North Coast	Haida Gwaii	Total home ranges in British Columbia
184	122	80	58 (25)	444 (411)

Breeding Area Management

- The proposed B.C. management approach for breeding areas is to, by 2020, protect 95 new NOGO breeding areas around occupied nests:
 - 30 new breeding area Wildlife Habitat Areas in each of the North Coast, South Coast and Vancouver Island Conservation Regions, and 5 new breeding area reserves in Haida Gwaii (95 total).
- The proposed management approach for breeding areas is similar to the current provincial design standards for establishing NOGO wildlife habitat areas under the *Identified Wildlife Management Strategy* (McClaren E.L. 2004).
- Currently in Haida Gwaii, all newly discovered NOGO nests on Crown land receive a 200 ha breeding area reserve under the Haida Gwaii Land Use Objectives Order.
- Longer-term, options will be assessed regarding implementation of measures to achieve the proposed population and distribution objectives outlined in Table 1.

Foraging Habitat Management

- The science to support foraging habitat management requires further investigation.
- NOGO home range size and foraging habitat requirements vary across the species range.
- Foraging habitat management requires maintaining a proportion of a home range in a suitable foraging condition to support NOGO prey species in order to provide adequate hunting opportunities to sustain local populations.
- Managing NOGO foraging habitat may have significant socio-economic implications.
- The proposed provincial approach is to facilitate additional research on NOGO foraging habitat requirements and, by 2020, develop provincial foraging habitat management recommendations.

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Additional Proposed Actions in 2016

- Develop research partnerships to investigate the genetic basis of NOGO sub-species designations and their range.
- Engage with private land holders to encourage shared stewardship of Northern Goshawks on non-Crown land, particularly in the Vancouver Island Conservation Region.

Key work required to develop the Implementation Plan

- The proposed population objective and home range targets are less than the estimated number of home ranges that currently exist (approximately 730 home ranges coast wide). A key aspect of the Implementation Plan will be to determine which home ranges are protected.

References and information links

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- McClaren, E.L., T. Mahon, F.I. Doyle, and W.L. Harrower. 2015. Science-Based Guidelines for Managing Northern Goshawk Breeding Areas in Coastal British Columbia. *Journal of Ecosystems and Management* 15(2):1–91. Published by the Journal of Ecosystems and Management: <http://jem-online.org/index.php/jem/article/viewFile/576/506>
- Northern Goshawk *Accipiter gentilis laingi* Recovery Team. 2008. Recovery strategy for the Northern Goshawk, *laingi* subspecies (*Accipiter gentilis laingi*) in British Columbia. Prepared for the B.C. Ministry of Environment, Victoria, BC. 56 pp. http://www.env.gov.bc.ca/wld/recoveryplans/recovery_doc_table.html