



**Forest
Practices
Board**

Management of Habitat for Species at Risk under the Forest and Range Practices Act

Special Investigation | August 2023 | FPB SR 55

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COMMENTARY

This special investigation looked at how habitat is managed for species at risk in British Columbia under the *Forest and Range Practices Act* (FRPA). Northern Goshawk was used as a case study because the subspecies on the coast is protected under FRPA and the subspecies in the interior is not, although both are ranked at-risk by the Province.

Northern Goshawk habitat management in BC includes both legal requirements and voluntary practices, which has resulted in a wide range of effort among licensees and across areas of the province. The Board commends those licensees on Vancouver Island, the East Kootenays, and the Skeena region for their voluntary efforts to conserve Northern Goshawk breeding habitat consistent with best management practices.

It is the Board's opinion that the legal tools are available in FRPA for effective management of species at risk habitat, however, government needs to make full use of them. Further, the process to address stewardship of species at risk is complicated and slow, while habitat conditions are quickly changing on the land base, especially with increasing climate-related events like wildfire.

Government needs to update its policy framework for managing habitat of species at risk – this includes setting clear objectives for habitat management and intended outcomes for species recovery. An updated policy should:

- provide direction on which tools should be implemented and when;
- support an integrated approach to habitat supply that considers multiple species and emerging threats;
- promote the use of best management practices and innovative practices whenever possible; and
- integrate with the forest landscape planning process.

Modernizing species at risk management in BC should be a key part of the forest landscape planning process, which lends itself to an integrated forest management approach. Innovation, supported by monitoring the effectiveness of forest practices, should be encouraged to help solve complex, multi-species, habitat supply needs.

Recommendations

Under section 131 of FRPA, the Board is making the following recommendations:

1. Update the policy framework for managing habitat of species at risk.
2. Provide a transparent process for how and when government makes decisions to balance timber supply and habitat protection.

Under section 132 of FRPA, the Board requests that the ministry responds to these recommendation by February 29, 2024, indicating for each that they:

- a) accept the recommendation and describe how they will address or have addressed them;
or,
- b) partially accept the recommendation and provide reasons why, and describe how they will address or have addressed them; or,
- c) do not accept the recommendation and provide reasons why.

GLOSSARY OF TERMS

Best Management Practices (BMP) – BMPs are science-based guidelines that help resource managers meet legislation, regulations, policies, or non-regulated practices that promote responsible stewardship. For example, for Northern Goshawk the BMP recommends practical methods to prevent or mitigate potential impacts. The science used to develop BMPs has included testing the methods for effectiveness, including—in the case of Northern Goshawk—degrees of effectiveness, which can give resource managers options for a measured outcome that may consider economic values.

Biodiversity – all living things and the connections between them.

Breeding Area – the specific area within a Northern Goshawk reserve, either legally required or voluntary, that can be referred to as the “core”. It contains the nest tree, alternate nest trees (those used in previous years that may be used again in future), and the post-fledging area. The Breeding Area is the area government biologists have identified for protection within Wildlife Habitat Areas.

Breeding Habitat – a general reference to Northern Goshawk breeding habitat that may contain both the Breeding Area and surrounding foraging habitat that adult birds use to hunt prey during the breeding season.

Category of Species at Risk – under the *Forest and Range Practices Act*, this category of species represents those that may be affected by forest or range management on public land and are listed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The 85 species included in this category of species at risk form the basis for the Identified Wildlife Management Strategy.

COSEWIC – the Committee on the Status of Endangered Wildlife in Canada. This is the federal scientific advisory committee that assesses the national rank status of species at risk in Canada and informs the federal government for the purposes of species legal designations under the *Species at Risk Act*.

Fledgling – young birds that have grown sufficiently in the nest so that their flight muscles and feathers have developed well enough to permit limited flight. Fledglings continue to develop as they learn to fly and hunt, typically inside the post-fledging area within the Breeding Area where they remain close to the nest for their security.

Foraging Area – typically mature, old or old-growth forest with a stand structure suitable for Northern Goshawks to hunt their prey. Suitable stand structure is a tall, closed canopy above

and open below, where hunting birds can swoop between trees and capture prey in the stand and from the understory.

Forest Landscape Planning – the process of establishing clear objectives and outcomes for the management of forest resource values over a defined area.¹

Forest Stewardship Plan (FSP) – a key operational level plan of forest licensees in the *Forest and Range Practices Act* framework and which is subject to government approval. FSPs are required to identify results and/or strategies consistent with government objectives for values such as water, wildlife and soils. These results and strategies must be measurable and once approved are subject to government enforcement.

General Wildlife Measures (GWMs) – specific management practices that may limit forest or range activities entirely or partially within a Wildlife Habitat Area. Limiting forest and range practices, as well as industrial activities, is a strategy used to retain or regenerate key habitat features and mitigate disturbances such as loud noises from vehicles and machines.

Great Bear Rainforest (GBR) – a coastal forest area approximately 6.4 million hectares on the north and central coast of BC that is managed using an Ecosystem-Based Management approach to protect high biodiversity values while maintaining economic opportunities.

Identified Wildlife – categories of species listed as either Species at Risk or Regionally Important Wildlife under the *Forest and Range Practices Act* by the minister responsible for the *Wildlife Act*.

Identified Wildlife Management Strategy (IWMS)² – a provincial government guidance document that provides management strategies for Identified Wildlife. The IWMS is comprised of two guidance documents: 1) *Procedures for Managing Identified Wildlife*, which provides direction for establishing or changing Wildlife Habitat Areas; and 2) *Accounts and Measures for Managing Identified Wildlife*, which provides guidance for Wildlife Habitat Area establishment for individual species.

Implementation Plan – as part of the provincial government's species at risk recovery process, an implementation plan is one type of recovery plan where socio-economic impacts are expected to result from implementation of management actions to conserve habitat.

Mature Forest – stands of trees between 80 and 120 years old.

Old Forest – stands that are older than 120 years, but are not yet old-growth forest.

Old-Growth Forest – forests that are 250 years and older on the coast and in wetter parts of the interior, and forests that are 140 years and older in the dry interior of British Columbia.

¹ <https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/forest-landscape-plans>

² <https://www.env.gov.bc.ca/wld/frpa/species.html>

Old Growth Management Area (OGMA) – forested areas with old-growth attributes managed to conserve old-growth forests in all types of forest ecosystems for biodiversity and wildlife species that rely on them.

Post-fledging Area – within the Breeding Area, the foraging habitat that surrounds Northern Goshawk nest tree and alternate nest trees. After leaving the nest as fledglings, young goshawks are taught by their parents to hunt in this ideal foraging habitat structure; because of this purpose, the post-fledging area is sometimes referred to as the family area. When young are in the nest, this high-quality foraging habitat is not used by the adults so that prey abundance is retained for fledgling use later in the breeding season.

Regionally Important Wildlife – an Identified Wildlife species in the Category of Regionally Important Wildlife established under the *Forest and Range Practices Act*. The Regionally Important Wildlife category includes species that are (a) considered important to a region of British Columbia; (b) rely on habitats that are not otherwise protected under the *Forest and Range Practices Act*; and (c) may be adversely impacted by forest or range practices.

Species at Risk – plant or animal species that are designated in BC by the Conservation Data Centre of the Ministry of Environment and Climate Change to be declining in numbers and threatened by impacts that make them vulnerable to extirpation or extinction. The Conservation Data Centre ranks species into three lists and defines them as the following:

- **Red** - Any species or ecosystem that is at risk of being lost (extirpated, endangered or threatened).
- **Blue** - List of ecological communities, native species and subspecies in BC that are of special concern (formerly vulnerable).
- **Yellow** - List of ecological communities and native species in BC that are considered to be at the least risk of being lost.

Subspecies – plant or animal species that may have populations of geographical differences within its range of occupancy that are not sufficient to differentiate as separate species but vary enough either in appearance or genetically to warrant an independent classification. Some species that occupy North America may have multiple subspecies that characterize western from eastern populations or northern from southern, for example.

Timber Harvest Land Base (THLB) – an estimate of the land where timber harvesting is considered both acceptable and economically feasible given the objectives for all relevant forest values, existing timber quality, market values, and applicable technology.

Ungulate Species – herbivores and hooved animals, including deer species, such as mule deer, white-tailed deer, black-tailed deer, elk, moose, and mountain caribou; sheep species, such as big horn and Dall's sheep; and goats, including mountain goats.

Voluntary Reserves – for the purposes of this report, those habitat areas that have no legal designation, but that licensees have set aside and protected from their forest operations.

Wildlife Habitat Area (WHA) – a legally designated mapped area established according to the *Forest and Range Practices Act*.

Wildlife Habitat Feature – a wildlife habitat feature identified under the *Forest and Range Practices Act* to conserve a single habitat structure such as a den, mineral lick, or nest, that is important to or required by a wildlife species typically not already designated under the *Forest and Range Practices Act*. A designated wildlife habitat feature is identified in an order established under the *Government Actions Regulation* for a geographical region of the province.

INTRODUCTION

British Columbia has the richest species diversity in Canada, and many of those wildlife species have become 'at risk' in recent decades. Many factors can threaten wildlife, with human activities having had the most impact in recent habitat declines. Land use activities, such as urbanization, agriculture, and industrial uses, including forest and range practices, can affect habitat for species at risk. Impacts to habitat range from temporary changes to permanent habitat loss. Wildlife rely on habitat for food, security and reproduction.

In BC, protection of species at risk is provided through a complex and sometimes overlapping network of legislative and policy mechanisms that apply to public land. The provincial government has jurisdiction over species and habitat management on provincial land. The federal government may coordinate with the Province on managing some species at risk.

Most habitat for species at risk in BC occurs on provincial public land, including forests and grasslands. The *Forest and Range Practices Act* (FRPA) can therefore have a considerable impact on species at risk habitats through its mechanisms for regulating forest and range practices on provincial public lands. Although forest and range practices can reduce or harm habitat for species at risk, practices that are adapted to wildlife needs can sustain habitat, or even help to recover it. The Board examined the conservation of species at risk under FRPA in 2008 and identified several concerns. Since then, the number of species at risk has continued to outpace the number considered recovered from the threats to their populations.

A species whose habitat is affected by forest practices is the Northern Goshawk (*Accipiter gentilis*). Northern Goshawks occur throughout the province as two separate subspecies and depend on mature and old-growth forests for foraging and breeding. The coastal subspecies differ in their at-risk legal status from the interior subspecies, which inhabit the rest of the province. These differences result in habitat management with both legal and voluntary approaches, making Northern Goshawk an ideal case study of how FRPA can be applied to manage habitat for species at risk in BC.

Purpose

The purpose of this special investigation is to examine:

1. forest licensee compliance with the legal requirements for species at risk under FRPA;
2. the tools that are available to government under FRPA for the management of habitat for a species at risk; and

3. the tools that government has relied upon, including how they are being used and what the management outcomes³ are.

Northern Goshawk is used as a case study to compare management outcomes where there are legal requirements and/or voluntary practices.

Approach

Investigators examined both licensees' compliance with the established legal requirements and their voluntary efforts to protect habitat for Northern Goshawk.

For the legal requirements that applied only to the coastal Northern Goshawk subspecies, investigators examined 8 forest stewardship plans (FSPs) from areas with suitable habitat for Northern Goshawk where nest records were clustered out of the coastal total of 96 FSPs that were current at the time of the investigation. Investigators also undertook a map-based analysis of forest practices around all coastal Northern Goshawk wildlife habitat areas (WHAs), including two that were visited in the field with multiple nest sites. Investigators interviewed government and non-government forest and wildlife professionals across the province and assessed multiple voluntary reserves in the field, both on the coast and in the interior.

Investigators also examined government policies, procedures, and legal orders that apply to the management of habitats for species at risk.

³ The Board's mandate to investigate actions under the *Forest and Range Practices Act* means that, for the purposes of this report, findings are limited to assessing only the presence or absence of forest habitat due to management actions, and cannot include an assessment of the effectiveness of habitat for breeding success of Northern Goshawk, or any wildlife species.

BACKGROUND

Northern Goshawk Biology and Habitat Requirements

The Northern Goshawk occurs throughout BC. It is the top avian predator in mature, old, and old-growth forests and ranges from sea level to sub-alpine forest. There are two recognized subspecies of Northern Goshawk in BC: the interior subspecies (*Accipiter gentilis atricapillus*) and the coastal subspecies (*Accipiter gentilis laingi*). In this report, they are referred to as 'interior Northern Goshawk' and 'coastal Northern Goshawk,' respectively (see **Figure 1**).

The stand structure required by the Northern Goshawk—tall, mature or old trees with closed upper canopies and open spaces below—is usually, but not exclusively, found in mature to old forests. During the breeding season, the Northern Goshawk will occupy a breeding area that can

be close to 200 hectares around a nest site (see **Figure 2**). There are often multiple nest trees in the same breeding area, which are alternately used to raise young in different years. The same pair of adult birds can occupy a breeding area within their home range for more than a decade.

Around nest trees within the breeding area is the post-fledging area, which has some of the best quality foraging habitat where the young learn to hunt. The high-quality foraging habitat inside the breeding area makes it easier for fledglings to learn to hunt and the proximity to the nest gives them security. During the breeding season, the adults use the foraging habitat surrounding the breeding area within the breeding home range (see **Figure 2**).

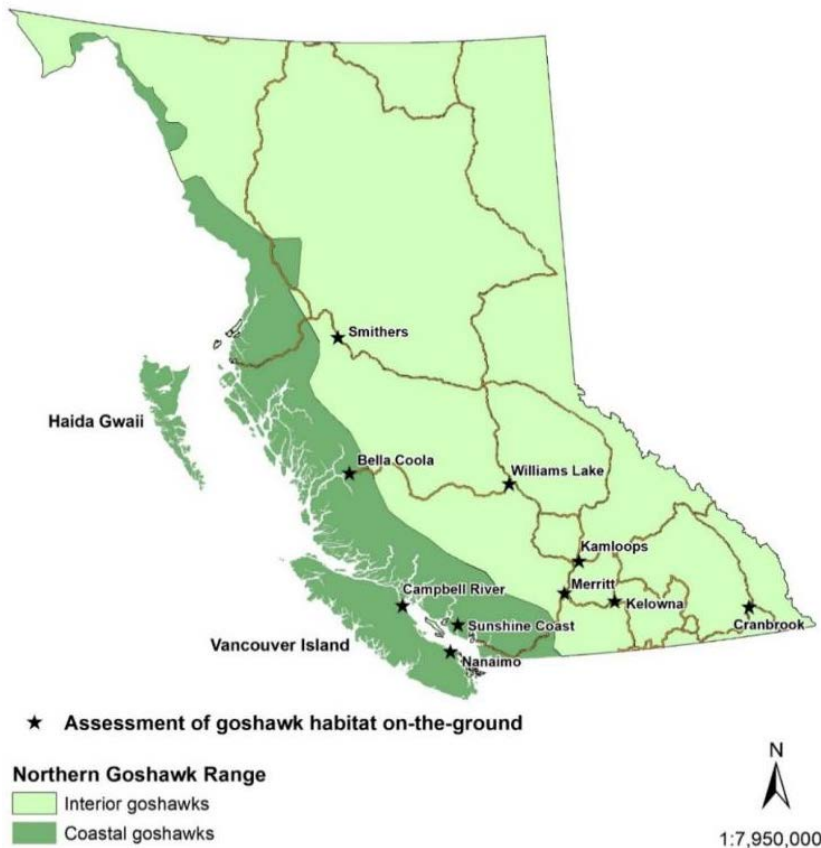


Figure 1. Provincial range of interior and coastal Northern Goshawk and general location of habitat site visits. For reference, major highways are also shown.

Throughout the year, the Northern Goshawk can occupy large annual home ranges – up to 2400 hectares in the interior,ⁱ 3700 hectares on Vancouver Island, and 8500 hectares on Haida Gwaii.ⁱⁱ Foraging habitat in annual home ranges is important for the adult birds to feed themselves throughout the year (see **Figure 2**). In their foraging habitat, Northern Goshawks hunt under the canopy in the spaces between large trees—called flyways—for squirrels, mid-sized forest birds such as grouse, jays, and woodpeckers, and snowshoe hare.

The primary threat to Northern Goshawk is the loss and fragmentation of nesting and foraging habitats provided by the breeding area, breeding home range, and annual home range (**Figure 2**).^{i, iii}

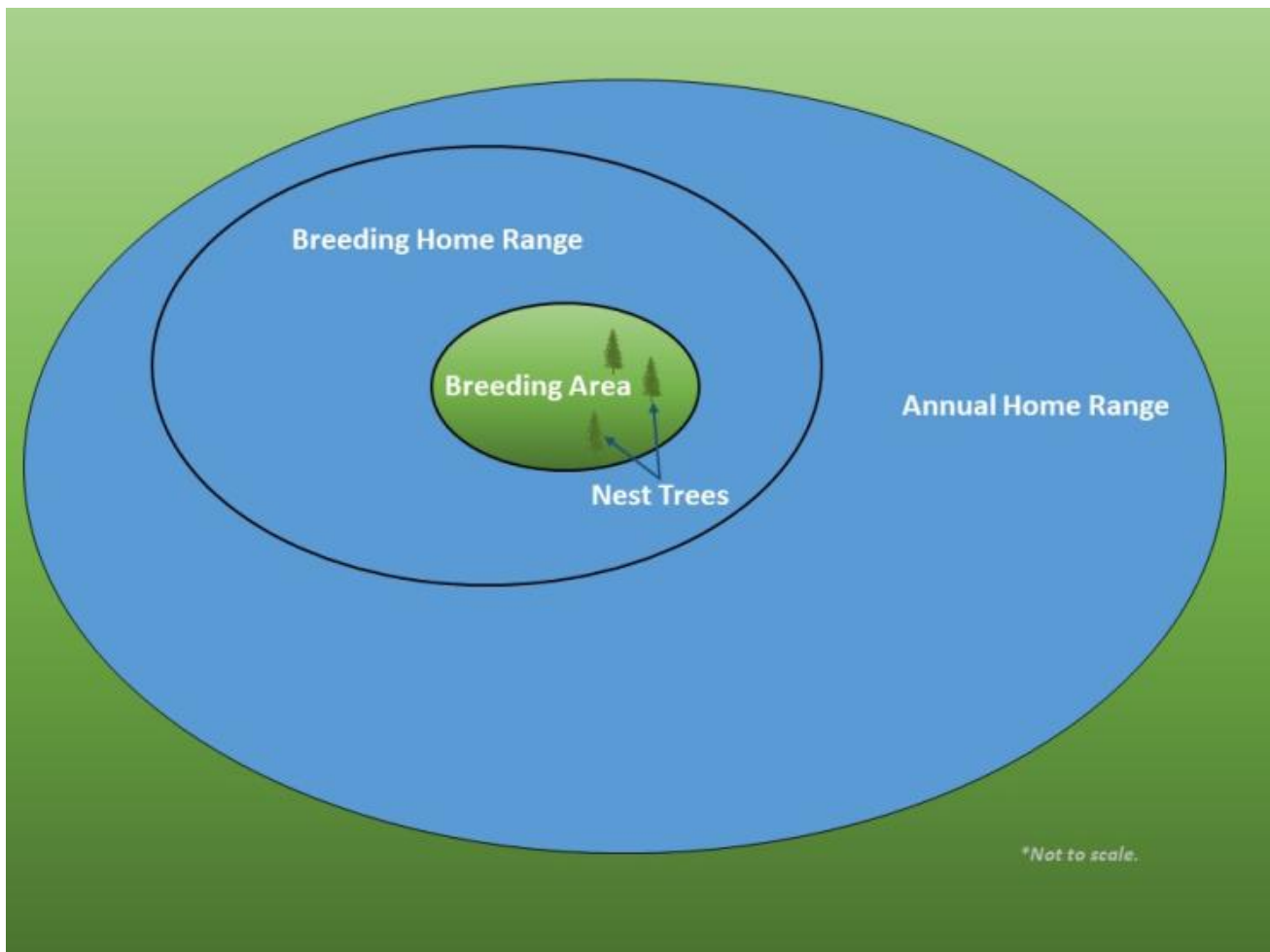


Figure 2. A relative comparison (not to scale) of habitat use for Northern Goshawk including nest trees and the post-fledging area within the breeding area (green); the surrounding foraging landscape (blue) for a breeding pair during the breeding season.

Legislation, Policy, and Management Framework for Northern Goshawk

British Columbia does not have a single piece of legislation that comprehensively addresses species at risk. Instead, the Province manages species at risk under multiple statutes and regulations. These are supported by policies and guidance to assist both government and practitioners on the ground. The provincial framework for species at risk includes a complex federal-provincial relationship with the federal *Species at Risk Act* (SARA). The provincial government’s approach is intended to address species at risk by managing important habitats on public lands using its own legislation, policy and guidance.

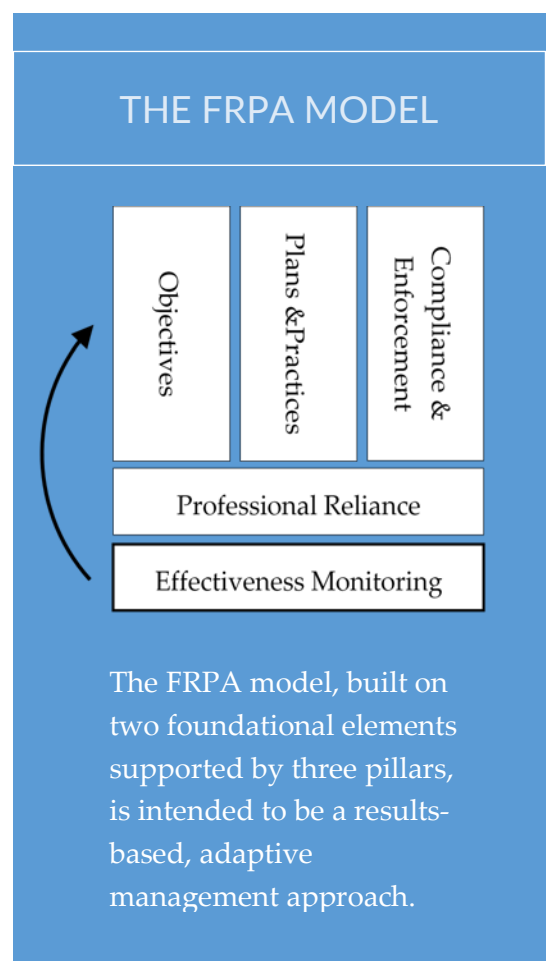
Under the professional reliance model, which is foundational to FRPA, there is an expectation that biology and forest professional registrants meet standards of practice. Registered professionals are held accountable under the *Professional Governance Act* and by their professional regulatory body.^{iv} The professional regulatory body may provide guidance documents applicable to an area of practice to direct these standards of practice; although these are not legally required, professional registrants engaged in resource management activities affecting important values are expected to follow them in BC.

Determining Species at Risk Status

In British Columbia, the Conservation Data Centre (CDC) assesses the conservation status of species, ranking them by risk categories using red, blue, and yellow listing criteria, to help set conservation priorities. Coastal Northern Goshawk has been red-listed since the 1990s, a ranking last reviewed by the CDC in 2010.^v

Table 1 summarizes the differences between provincial and federal species ranking and status.

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) advises the federal government on species conservation status. While the CDC ranks species at the provincial level according to the international conservation ranking standards,^{vi} COSEWIC ranks species at the



national level,^{vii} considering the species' relevant territorial and provincial status. COSEWIC first assessed coastal Northern Goshawk as 'Special Concern' in 1995, then 'Threatened' in 2000.^{4 viii}

Table 1. Provincial and Federal Status of Northern Goshawk in BC

JURISDICTION	AGENCY OR LEGISLATION	INTERIOR NORTHERN GOSHAWK	COASTAL NORTHERN GOSHAWK
Provincial	Conservation Data Centre ⁵	Blue list (upgraded from yellow list in 2017)	Red list
	<i>Wildlife Act</i>	Nests of all bird species in BC protected, regardless of conservation status	
	<i>Forest and Range Practices Act (FRPA)</i> : Category of species at risk ⁶	No	Yes
Federal	Committee on the Status of Endangered Wildlife in Canada (COSEWIC)	Not at risk (1995)	Threatened (2000)
	<i>Species at Risk Act (SARA)</i> (applies to federal lands within BC)	Not listed	Schedule 1 (meaning it receives protection)

Provincial Recovery Planning

BC and Canada may cooperate on recovery planning for species at risk under a commitment agreement.⁷ The purposes of SARA are to prevent the loss of species in Canada and to identify the necessary actions for the recovery of those at risk.⁸ However, SARA requirements for habitat management only apply to federal lands unless Canada takes specific measures to apply federal authority on provincial lands.

In 2018,^{ix} the Province prepared an implementation plan (a type of recovery plan on provincial public lands) for coastal Northern Goshawk. The coastal Northern Goshawk implementation plan considers the potential for socio-economic impacts resulting from the loss of timber harvest if habitat is protected, and sets objectives to protect 408 home ranges distributed across

⁴ The federal government listed the coastal Northern Goshawk as a Schedule 1 species under *Canada's Species at Risk Act (SARA)* in 2003.

⁵ <https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre>

⁶ Government is considering whether interior Northern Goshawk in the Skeena Region should have status in the Category of Regionally Important Wildlife under FRPA.

⁷ *Accord for the Protection of Species at Risk in Canada* and the *Canada-BC Agreement on Species at Risk*

https://www.sararegistry.gc.ca/virtual_sara/files/agreements/aa_Canada-British_Columbia_agreement_on_species_at_risk_0805_e.pdf

⁸ <https://www.canada.ca/en/environment-climate-change/services/environmental-enforcement/acts-regulations/about-species-at-risk-act.html>

designated conservation regions in coastal BC.⁹ The plan uses provisions under FRPA to conserve habitat that is critical for the survival of Northern Goshawk. The plan focuses on maintaining the breeding area while the Province conducts research to better understand the quantity, quality, and spatial arrangement of the surrounding foraging habitat required to support a viable home range.¹⁰ The implementation plan does not apply to interior Northern Goshawk.

Provincial Options Under Legislation

FRPA contains legal tools that government can use to conserve habitat for the survival of species if the minister responsible for the *Wildlife Act* is satisfied the species is either endangered, threatened or vulnerable.¹¹ Legal options for habitat conservation are:

- establishing one or more categories identifying species of wildlife as species at risk;
- establishing practice requirements through general wildlife measures; and
- setting legal objectives for carrying out forest practices under an operational plan like a forest stewardship plan (FSP).

Before establishing a general wildlife measure or setting a legal objective, the initial step is for the minister to establish the species on a FRPA Category of Species at Risk.

In 2004, the Province issued a Ministerial Order under the *Government Actions Regulation* (GAR) to include coastal Northern Goshawk on the FRPA Category of Species at Risk. The interior Northern Goshawk subspecies is not a listed species by Canada and is

CATEGORIES OF SPECIES AND THE FOREST AND RANGE PRACTICES ACT

“The Minister responsible for the Wildlife Act may establish one or more categories identifying species of wildlife as **species at risk**, or **regionally important wildlife**, and one or more categories identifying **ungulate species for which an ungulate winter range** is required. The authority to take this action is enabled by section 13 of the *Government Actions Regulation*. The establishment of categories of species enables several other provisions under the *Forest and Range Practices Act* to be used to manage these wildlife species including wildlife habitat areas, ungulate winter ranges, and associated general wildlife measures and objectives.”
<https://www.env.gov.bc.ca/wld/frpa/species.html>

The CDC, on the other hand, ranks species at risk based on scientific assessment which may inform a legal designation. In a similar role to CDC, COSEWIC *informs* the federal government about national species listings under SARA.

⁹ The provincial home range target is based upon population viability analysis for Northern Goshawk as the threshold estimate that should remove it threatened status.

¹⁰ Implementation Plan for the Recovery of Northern Goshawk, 2018, page 14.

¹¹ The terms endangered, threatened and vulnerable are understood nationally and internationally, but they are not defined in provincial legislation.

ranked as blue-listed by CDC. The interior Northern Goshawk is not on the FRPA Category of Species at Risk.

Once a species is on the FRPA Category of Species at Risk, the legal tools under FRPA can be applied to provide specific management direction (**Table 2**). Where legal objectives are established under FRPA or the *Land Act*¹² for habitat protection of a species, a forest licensee’s FSP must address it. FSPs form a licensee’s legal commitments under FRPA to achieve government objectives on the ground. Government objectives may be legally established with:

- orders made under the *Government Action Regulation (GAR)*;
- land use orders made under the *Land Act*; and
- Section 7 notices issued under the *Forest Planning and Practices Regulation (FPPR)*.

Additional habitat protection measures are available under FRPA, such as old-growth management areas, ungulate winter ranges and wildlife tree retention areas, all of which restrict forest practices in the relevant area. It is important to note that these areas may also provide habitat attributes that benefit species at risk.

Table 2. Provincial Legislation in Use That May Protect Northern Goshawk Habitat

LEGISLATION		INTERIOR NORTHERN GOSHAWK	COASTAL NORTHERN GOSHAWK
<i>Wildlife Act – BC</i>		Active nests of all bird species in BC protected, regardless of conservation status ¹³	
<i>Forest and Range Practices Act - BC</i>	Category of Species at Risk	×	✓
	Category of Regionally Important Wildlife	×	×
	<i>Forest Planning and Practices Regulation</i>	×	Section 7 notices
	<i>Government Actions Regulation</i>	×	Species listing, wildlife habitat areas, general wildlife measures
<i>Haida Gwaii Reconciliation Act - BC</i>		N/A	<i>Haida Gwaii Land Use Objectives Order Consolidated Version, September 2017</i>
<i>Land Act - BC</i>		<i>Cranberry South^x Sustainable Resource Management Plan Order</i> <i>Nass South^{xi} Sustainable Resource Management Plan Orders</i>	<i>Great Bear Rainforest Order^{xii}</i>

¹² Land use orders are prepared under the *Land Act* to provide legal planning and practices direction, based on local land use plans.

¹³ Some exceptions apply: see section 34 of the *Wildlife Act*.

Government Actions Regulation (GAR) Orders for Northern Goshawk

Once a species is identified and established on the FRPA Category of Species at Risk or other category,¹⁴ government may issue protection orders that includes establishing WHAs, general wildlife measures (GWMs) and legal objectives (**Table 3**). In designing these legal orders, government considers guidance from a recovery plan (if one is in place), the Identified Wildlife Management Strategy (IWMS) or other more recent information. The IWMS was developed in 2004 to provide direction, policy and procedures for government staff for managing “identified wildlife,” or species identified as being at risk, regionally important, or an ungulate species.¹⁵

Table 3. FRPA Legal Tools Available for Habitat Protections for Designated Species

FRPA TOOL	DESCRIPTION	AUTHORITY
Wildlife Habitat Area (WHA)	An established area intended to meet the habitat requirements at the forest stand level of a species at risk and address the identified threats in the planning process. The purpose of WHAs is to conserve critical habitats considered most limiting to a given species.	GAR s.10(1)
Objectives	Objectives may be established for WHAs when special management is required.	GAR s.10(2)
General Wildlife Measures	General wildlife measures may limit, direct, or restrict forest or range management practices within a WHA at the stand level or specified area at the landscape level.	GAR s.9
Wildlife Habitat Feature	Protection of specific habitat features, such as a den, mineral lick, or specific nest, among others, that are limited on the landscape but required by species not necessarily listed under FRPA.	GAR s.11(1)

Government uses GAR orders to legally establish WHAs as a means to address threats and provide habitat at a forest stand or cutblock scale for a species at risk. GWMs may specify direction and limits for harvesting activities, and other forest and range practices, within WHAs or a specified area.¹⁶ GWMs may be used, for example, to maintain the conditions and habitat features required for the foraging, security, and breeding of a species. Occasionally, further recommendations may be added in an appendix to a WHA. These are not part of the legal order but are considered guidance; for example, recommendations to mitigate noise disturbance during the Northern Goshawk nesting period.

¹⁴ It could be listed or designated in the Category of Species at Risk, Regionally Important Wildlife or specified Ungulate Winter Range.

¹⁵ The strategy provided species accounts and guidance for establishing WHAs, including GWMs for access (roads), harvesting, silviculture and other forest and range practices. The IWMS was updated in 2004. The update re-affirmed a government policy that limited the impact of implementing the strategy to one percent of the timber harvesting land base.

¹⁶ A Wildlife Habitat Area may be referred to as a Specified Area in some cases, such as the *Cranberry Sustainable Resource Management Plan*, where “Specified Areas” replaced “Wildlife Habitat Areas” for grizzly bear management.

At the time of publication, government had established a total of 95 WHAs¹⁷ for coastal Northern Goshawk. All WHAs established under the implementation plan include GWMs¹⁸ to reserve mature and old forest within breeding areas. Only the first eight WHAs established had additional provisions for foraging habitat outside of the reserved breeding areas where GWMs allowed conditional harvest.

Land Use Orders with Provisions for Northern Goshawk Habitat

Land use orders established under the *Land Act* can include objectives and requirements for species at risk habitat. Land use orders are particularly suitable for wide-ranging species that require landscape-level habitat consideration. Land use orders have established land use objectives for Northern Goshawk based on the direction provided in some of the Province's strategic land use plans. Forest licensees must include results and strategies in their FSPs to address the land use objectives, where relevant to their operations.

The *Great Bear Rainforest Order* requires licensees to commit in an FSP to prepare landscape reserve designs with landscape-level targets to protect a diversity of ecosystem types in a network for the conservation of biodiversity. The landscape reserves are intended to contribute to the protection and stewardship of other values, including Northern Goshawk habitat.¹⁹ In that way, the reserve network design can consider best management practices (BMPs) for Northern Goshawk. The *Great Bear Rainforest Order* does not specifically require reporting of known nests or protection of breeding areas for Northern Goshawk.

The Nass South Sustainable Resource Management Plan (SRMP) and the Cranberry SRMP land use orders in the Skeena Region include land use objectives for interior Northern Goshawk. At the time of the investigation, five breeding areas had been reported and protected in the Cranberry SRMP, none in the Nass South SRMP, with requirements to maintain a level of foraging habitat around them.^{xiii} The orders also restrict the timing of operations in these areas to minimize disturbance to breeding.

The *Haida Gwaii Land Use Objectives Order* (HGLUOO) includes land use objectives for Northern Goshawk habitat. The HGLUOO requires licensees to commit in their FSP to report all Northern Goshawk nests found during forest development and operations so that all breeding areas can be considered for reserves. These reserves are similar in design to WHAs in that they consist of a 200-hectare breeding area. Since the HGLUOO was established in 2010, 29 breeding areas have been identified on Haida Gwaii, with 2 located in established WHAs and 6 located in protected areas. There are 14 breeding areas protected in mapped reserves under the HGLUOO, while another 7 are protected under default HGLUOO provisions.

¹⁷ Total includes 28 WHAs established before the Implementation Plan, and since 2018, 67 WHAs approved under the plan.

¹⁸ The GWMs included in GAR orders for most of these WHAs typically prescribe no harvesting, silviculture treatments or new roadbuilding.

¹⁹ The Landscape Reserve Design Methodology for Ecosystem Based Management Implementation in the Great Bear Rainforest (July 18, 2016) explicitly directs designers to include non-WHA areas identified as Northern Goshawk habitat in the reserve network.

Section 7 Notices for Northern Goshawk

Section 7(1) of the FPPR establishes an objective for the survival of species at risk that may apply to forest licensees developing forest stewardship plans. A person required to prepare an FSP must address this objective in their FSP if the minister responsible for the *Wildlife Act* gives notice under section 7(2) of the FPPR, commonly referred to as 'Section 7 notice'. A Section 7 notice can only be made for a species identified in a FRPA Category of Species at Risk, Regionally Important Wildlife, or ungulate species. Typically, Section 7 notices are used as an interim until a WHA or UWR is established.

For coastal Northern Goshawk, the government issued Section 7 notices in five of the seven forest districts on Vancouver Island and the mainland west coast in 2004. At the time of the investigation, WHAs had been established in three of the five districts, replacing the Section 7 notices; Section 7 notices remained in effect in two districts (North Island-Central Coast and North Coast).

Non-legal Guidance for Northern Goshawk Management

In addition to the legal tools described above, non-legal guidance is available to forest professionals to consider for forest planning and development. When government *makes known* the practice guidance it wants licensees to follow, the guidance is referred to as Best Management Practices (BMP). BMPs are available for both the coastal^{xiv} and interiorⁱ Northern Goshawk subspecies, providing management guidance principally around forest retention of breeding areas, and avoiding industrial noise disturbance during the breeding season, with some considerations for foraging habitat. The BMP is based on research from the coast and decades of monitoring nesting birds in the interior.

Government officials, such as district managers and regional executive directors, can issue an 'expectation letter' to encourage forest licensees to carry out forest practices in a certain way. In 2016, the regional executive director for the Skeena region issued an expectation letter for interior Northern Goshawk within that region. This letter was issued in response to monitoring results that showed a rapid rate of decline in occupied Northern Goshawk home ranges that had previously been occupied for decades by breeding birds.

INVESTIGATION FINDINGS

Forest Licensee Compliance with Legal Requirements

Section 7 Notices - Forest Stewardship Plans

Investigators examined a sample of eight FSPs from Vancouver Island and the mid-coast mainland for results and strategies to manage coastal Northern Goshawk breeding habitat. All eight FSPs complied with applicable Section 7 notices for coastal Northern Goshawk and their results and strategies were consistent with those notices.

Investigators found that at least one FSP commitment went beyond the requirement of the Section 7 notice. This FSP required a qualified professional to be consulted if a nest was found. The Board notes that, unless specified in the FSP, there is no legal requirement to identify nests in proposed operating areas, nor to report nests if found.

Wildlife Habitat Areas and General Wildlife Measures

Using a GIS analysis approach, investigators assessed licensee compliance in 63 WHAs established for the protection of coastal Northern Goshawk. Investigators field-checked two of the WHAs. Most WHAs (55 of 63) were established as breeding area reserves only, with GWMs that prohibited timber harvesting within the breeding area. The Board found full compliance with the 'no harvest' breeding area in all 63 WHAs. The first eight WHAs established for Northern Goshawk have additional measures that apply to a broader surrounding area intended to retain foraging habitat in the breeding home range (see **Figure 2**). Investigators assessed compliance in these eight WHAs that allow conditional timber harvesting and road access in the surrounding foraging habitat, and investigators found full compliance. Only the four largest WHAs had harvesting in the surrounding foraging areas—two on Vancouver Island and two on Haida Gwaii—and practices were consistent with the GWM to retain 60 percent of the area as mature and old growth.²⁰

²⁰ The investigators found the structure of the legal text in these orders was complex and lacking defined terms making it challenging to measure compliance. For example, some orders did not define specific stand types to which they applied, and there were discrepancies between the text and appended maps.

Land Use Orders

The Board assessed whether forest practices that licensees carried out were consistent with Northern Goshawk requirements in three of the four land use orders. Investigators made assessments through interviews and using a GIS inventory analysis of harvesting surrounding all reported nest sites in the areas covered by these land use plans. The Board determined that practices were consistent with requirements in the land use orders in all areas assessed.

The Board's analysis found that none of the reported nests within the area of the HGLUOO or the area of the Cranberry SRMP Order had been impacted by logging in a manner contrary to the requirements in each order; at the time of the analysis, no nests had been reported in the Nass SRMP dataset. Two nest sites in the Great Bear Rainforest (GBR) were logged, but no retention was required around those nests, so the logging was consistent with that order. In the GBR, licensees were only required to plan for a proportion of mature and old forest retention and not identify and conserve nests specifically. It is unknown if the nests had been recently used when they were harvested in the fall of 2018.

Voluntary Efforts to Manage for Northern Goshawk

Investigators found that several licensees have been managing for Northern Goshawk on the coast and in the interior of the province without being required by government to do so.

Investigators found that most regions of the province did not have any expectations identified by government for Northern Goshawk. An exception is the Skeena Region, where, in 2016, the regional executive director of the Ministry of Forests sent licensees a letter of expectation for their management of interior Northern Goshawk while a regional strategy was being developed. The letter directed licensees to identify, report, and manage breeding areas consistent with the interior BMPs, because biologists found that the local population had rapidly declined. Although it is not legally binding, the licensees have been following this direction.

Through interviews with licensees operating in different regions of the province, investigators learned that there are a variety of approaches to species at-risk management in general and for Northern Goshawk management in particular. Some licensees have standard operating procedures for Northern Goshawk which typically involve using the BMP, and others reported having procedures in place for species at risk management in general.

Comprehensive Licensee Programs

In conversations with professionals across the province, investigators noted several comprehensive programs that licensees and some BC Timber Sales (BCTS) business areas have voluntarily developed to manage Northern Goshawk habitat. These voluntary programs range in effort among licensees. Some include internal operating procedures to guide staff and contractors on what to do when a nest is found so that appropriate habitat is retained. Other

voluntary stewardship programs go further, including monitoring nest occupancy over successive breeding seasons and using that information to plan road and cutblock locations and the timing of operations to ensure Northern Goshawks are not disturbed during critical breeding periods.

On Vancouver Island, Western Forest Products, Mosaic Forest Management, and BCTS are coordinating monitoring activities to ensure forest practices minimize impacts to nesting Northern Goshawks on more than 130 breeding areas, and to track occupancy of breeding areas they have voluntarily conserved. These licensees collaborate and provide training for goshawk identification and nest detection to their staff and forestry crews. They also share nest locations and some monitoring information with government.

Canfor and BCTS have voluntarily managed Northern Goshawk habitat in the East and West Kootenays, respectively, since about 1999. Canfor continues to monitor more than 80 breeding areas for occupancy. Since the Northern Goshawk may continue to use a breeding area for multiple years, monitoring the occupancy of breeding areas has allowed these licensees to plan their operations more appropriately to retain suitable habitat.

Licensees, government, and First Nations in the Skeena Region are using a unique approach to manage both foraging and breeding habitat for the interior Northern Goshawk. Following a steep decline in occupancy of monitored breeding areas of interior Northern Goshawk in localized areas,^{xv} this group of forest and land managers collaborated to develop a regional management strategy for integrating Northern Goshawk habitat with forest development planning to sustain timber and habitat supply on the landscape. The science-based approach that supports the group's management strategy employs multiple scales of management that range from retaining key stand features—such as large veteran trees for nesting—to the management of landscapes for the supply of foraging habitat. The provision of foraging habitat is considered a key factor in ensuring the successful recovery of this regional interior Northern Goshawk population.

In addition to Northern Goshawk habitat, the Skeena strategy considered management scenarios to retain and recruit overlapping landscape-level habitats (including mature and old forests) for fisher, martin, and moose. Impacts on timber supply were also modelled.

Government is considering whether the interior Northern Goshawk in the Skeena Region should have regionally important wildlife status under FRPA.

Other licensees may be making significant efforts to manage Northern Goshawk habitat that the Board is not aware of.

Northern Goshawk Best Management Practices

Over the past 10 years, professional biologists developed best management practices (BMPs) for both the coast^{xvi} and interiorⁱ Northern Goshawk subspecies to address a lack of current

guidance in BC when goshawk habitat is identified during forest development outside a WHA.²¹ The BMPs provide risk-rated management options for a range of habitat retention in breeding areas.

There are no requirements under FRPA for licensees to apply these BMPs. Rather, the BMPs were designed as stewardship guidance that could assist practitioners with the management of Northern Goshawk habitat under FRPA's professional reliance model. In the course of this investigation, investigators found that some licensees applied the BMPs when they came across Northern Goshawk nests, while others did not. However, investigators visited more than 50 sites of past nest records provided by the Conservation Data Centre, and found most had some impact by forest practices.

Summary of Findings

- **The Board found that licensees complied with planning and practice requirements or objectives where they had been legally established for Northern Goshawk.**
- **The Board noted that some licensees are voluntarily managing hundreds of breeding areas, as well as some foraging habitat, in parts of the province. On Vancouver Island and in the East Kootenay, this includes monitoring the outcomes of management efforts.**
- **The Board found that licensees are not consistently adopting or applying BMPs for Northern Goshawk, and many sites of past nest records show disturbance from forest practices.**

²¹ The results of licensee-directed long-term monitoring helped provide the science-based information used to develop the interior Northern Goshawk BMPs.

DISCUSSION - MANAGEMENT FOR SPECIES AT RISK

The Board learned that the province has a range of legislation and policies that can be used to manage habitat for species at risk. In this section of the report, we discuss how these tools may be applied for habitat management of species at risk.

The FRPA Category of Species at Risk

A FRPA listing of at-risk species allows the provincial government to use FRPA to protect and manage habitat for that species. The FRPA listing may be informed by a federal listing under SARA, which can prompt a provincial recovery plan where recovery may have significant socio-economic implications.²² A recovery plan may be used to establish the Province's approach for management to help guide subsequent government actions. However, a federal listing under SARA, and a recovery plan, are not a requirement for the application of tools under FRPA.

It is the Board's observation that the FRPA listing of species and the development of a recovery plan (in this case study the *Implementation Plan for the Recovery of Northern Goshawk*) is a slow and cumbersome process. The FRPA Category of Species at Risk has not been updated since 2006, and therefore has not kept pace with species' status ranks determined by the province (CDC) or federal government (COSEWIC). Similarly, no species have been listed in the category of regionally important wildlife under FRPA. It is the Board's opinion that, if the listing process under FRPA was efficient and supported by clear guidance for its application—for either the Category of Species at Risk or Regionally Important Wildlife—it could help government drive more timely use of other legislative and policy tools, and provide clear expectations for managing habitat for species at risk.

²² *Implementation Plan for the Recovery of Northern Goshawk, laingi Subspecies (Accipiter gentilis laingi) in British Columbia* page ii.

Legislative and Policy Tools Used for Species Listed Under FRPA

Government uses several important legal instruments when managing habitat for species at risk listed under FRPA: GAR orders with WHAs and GWMs, and FPPR Section 7 notices. The following observations are based on the Board's examination of coastal Northern Goshawk and previous related work with FRPA-listed species at risk.

Use of GAR Orders

To date, the Province continues to rely heavily on a reserve-based approach for the protection of critical habitat, using WHAs established under GAR orders for the management of FRPA-listed species. The Board noted that GWMs have rarely been used to promote or improve habitat in WHAs by limited and directed stand manipulation during timber harvesting. For this reason, most WHAs function as static reserves that may not be resilient nor adaptive to natural disturbance. This approach can be problematic in areas prone to natural disturbances that can quickly alter habitat quality.

Development and approval of WHAs is a lengthy process and, in the Board's opinion, is not meeting the needs for habitat protection of Northern Goshawk in a timely way. Planning new WHAs typically requires an initial examination of candidate areas, wildlife surveys, assessment of impacts on timber supply, and consultation with First Nations and potentially affected stakeholders. In addition, legal orders are drafted and reviewed by government staff before submission for approval, which then considers social and economic impacts along with environmental objectives. The process can take many years. The establishment of WHAs for coastal Northern Goshawk is falling short of government's targets set out in the *Implementation Plan for the Recovery of Northern Goshawk*. The plan called for an additional 95 WHAs by 2020 to the 28 already established, but only 67 were approved by the time of publishing, for a provincial total of 95.

With the exception of the first four WHAs established for Northern Goshawks which conserved both breeding and foraging habitat, only breeding areas are protected from harvesting in WHA reserves. Through this investigation, the Board learned that the limited use of GWMs to manage harvesting impacts to foraging habitat is due to concerns about impacts to the timber supply. The Board noted this in its investigation of foraging habitat on Haida Gwaii, where government limited the establishment of breeding areas for protection due to potential impacts to timber harvesting.^{xvii}

The Board recognizes that maintaining the timber supply to support forestry jobs and the economy is an important government objective. Since 1995, and until recently, government often relied on a general one-percent timber supply impact guideline that was originally outlined in the

FOREST PLANNING AND PRACTICES REGULATION

The *Forest Planning and Practices Regulation* allows government to set objectives for wildlife. Section 7 notices can set clear objectives by providing descriptions of key habitats and their amounts for species at risk, including compatible harvest methods or acceptable retention levels. Section 7 notices can be implemented quickly by government, and must be addressed in a forest stewardship plan with a strategy and expected results that can be measured for compliance.

IWMS. The one-percent guideline has been applied to address the requirement in multiple sections of the FPPR and GAR Section 2 to *not unduly reduce the supply of timber* from the province's forests. This prioritized timber supply over all other forest objectives, including water quality, wildlife habitat, and biodiversity. Government repealed this section in the FPPR as of February 2023 and has publicly announced its intention to also repeal this requirement from GAR. The Board is encouraged by this recent action to repeal this outdated wording in the FPPR and encourages government to complete this important amendment to the legislation. However, the Board remains concerned that government's process of weighing social and economic impacts against ecological risks when considering the establishment of WHAs for species at risk is not transparent. As a result, the public is not able to understand how those decisions are made.

GAR Section 9

The GAR section 9 allows government to set GWMs for FRPA-listed species, as well as Ungulate Winter Range. GWMs can be in place under section 9 for a specified area or a WHA. A GWM applied to a specified area can be more flexible than a WHA, and can also refer to timing windows to avoid disturbance by industrial activity known to impact a species during a sensitive period, for example nesting for Northern Goshawks.

Forest Planning and Practices Regulation – Section 7 Notices

The Board has previously commented on the need for government to set clear objectives and expectations for licensees in order for FRPA to work. Section 7 notices can provide a means to do that. Although Section 7 notices have mainly been used for interim protection of FRPA-listed species, Section 7 notices

could be used longer term to provide direction for both planning and practices of critical habitat. In this way, government could more quickly set expectations (e.g., habitat attributes including abundance and distribution) for an administrative unit that is flexible and which licensees can then build into their FSP results and strategies informed by BMPs.

When combined with BMPs, this legal tool could be timely and adaptive, particularly in landscapes prone to disturbance. For species at risk, where time is of the essence, quickly providing explicit government expectations for licensees to incorporate strategies into their FSPs is critical. Further direction may be required. For example, government may also need to direct reporting and coordination between licensees in volume-based timber supply areas to ensure that the Section 7 objectives for designated areas are achieved over time.

Additional Legislative and Policy Tools Used for all Species Whether Listed under FRPA or Not

The Province may use other legislative and policy instruments to address the needs of all species, whether they are listed under FRPA or not. The following observations are based on the Board's examination of interior Northern Goshawk and previous related work with species not listed under FRPA.

Land Use Orders and Landscape Level Planning

Land use orders can set clear landscape level objectives for specific species at risk. Since land use planning and their associated legal orders considered multiple values and public input, they provided a suitable process for species like Northern Goshawk that need large landscape-level habitats. The land use planning process led to trade-off decisions by government, such as impacts to timber supply. However, the land use plan and legal order process is slow and just a few such orders have been developed; to date, most land use plans are decades old with no schedule in place for their update.

In the Board's opinion, government's new approach to forest landscape planning under FRPA could be a positive development for species at risk.^{xviii} Forest landscape planning links strategic and operational direction in an integrated and collaborative manner. For example, the Skeena Recovery Strategy is showing that this type of planning could help improve the recovery of interior Northern Goshawk by integrating habitat management with objectives for other values, including timber harvesting. A move away from a static reserve, single-species approach to an integrated, multi-species landscape-level approach that can adapt to natural disturbance and habitat changes over time may prove more successful in a changing climate. This adaptive approach aligns with the emerging paradigm favouring ecological resilience over optimization for a narrow range of values and addresses the threats to habitat supply.

Professional Reliance Model

An effective professional reliance model requires two elements:

1. Clear objectives set by government of the desired conditions
 - ***the What***
2. Guidance for professionals to achieve the objectives
 - ***the How***

Where there is a rationale to support a variance, professionals may choose to vary from the guidance in response to local conditions or innovative practice.

The third element of the professional reliance model is monitoring to see if ***the how*** achieved ***the what***.

Expectation Letters

Where government has not set formal objectives for species at risk habitat using land use orders, GAR or other legal orders such as Section 7 notices, expectations letters can help fill the gap by providing clear direction, particularly for species with no legal status under FRPA. The regional executive director's expectation letter for interior Northern Goshawk in the Skeena Region is proving to be a timely, flexible tool, providing clear direction to operations until an integrated strategy can be developed. In the Board's complaint investigation report, *Management of Furbearer Habitat near Windy Mountain*,^{xix} the Board noted how expectation letters and district manager conditions for FSP approval can be used to direct licensees to include strategies in their FSPs, which can move a management expectation into a legal requirement. This could provide a stepping stone to forest landscape planning where expectation letters can provide guidance to manage habitat attributes during the transition period from FSPs.

Best Management Practices

BMPs can be helpful for managing species at risk in a professional reliance management regime. For species not-listed under FRPA and with no legal status, these guidelines may form the only operational direction for licensees. The interior Northern Goshawk BMPs were developed to fill a gap in available guidance to address critical habitat needs. But because BMPs are not a legal requirement and there are no clear objectives set by government indicating *what* its habitat expectations are, the BMPs are not consistently applied by licensees. Critically, the interior BMPs only provide technical guidance for *how* to manage Northern Goshawk habitat and do not provide direction on *what* government would like licensees to achieve. It is government's role to establish explicit expectations for licensees – the desired conditions, which in turn

enables professionals to apply the BMPs and determine how to achieve these expectations under the professional reliance model.

Monitoring

The Board has commented previously about the importance of a coherent, coordinated monitoring program on public land.^{xx,xxi} In this investigation, the Board noted the Province has an inconsistent monitoring program for Northern Goshawk as a species at risk. Considerable voluntary monitoring has been done by some licensees, and some of these efforts led to the development of best management practices. Government has not consistently monitored WHAs for effectiveness, so their ability to continue to function as breeding areas remains uncertain. As well, when licensees identify important habitat that requires special management, reporting is unlikely to occur unless government requires it. Even when following the BMP, licensees are unable to record the habitat they have voluntarily retained for Northern Goshawk in government's RESULTS database.²³ Without reporting and tracking, voluntary habitat protection measures in volume-based timber supply areas can go unidentified or may not be considered in future harvest plans, threatening retention over time.

²³ Even if licensees were to record these habitat areas as a wildlife tree retention area, they have no way to identify its particular purpose.

CONCLUSIONS

The Board investigated licensee and BCTS planning and practices for Northern Goshawk, including what was required and what some were doing voluntarily. The Board also investigated what tools government has used under FRPA for species at risk management using Northern Goshawk as a case study, and what legal tools were available.

The coastal subspecies is designated in the Category of Species at Risk under FRPA, and legal requirements have been established. Listing in the FRPA Category of Species at Risk is a common starting point for directed management and protection of habitat under FRPA. The interior subspecies is not designated as a FRPA Category of Species at Risk, and only has legal requirements established under the *Land Act* in the Cranberry and Nass land use plan areas of the Skeena Region.

Forest Licensee Planning and Practices

The Board found the forest planning and practices that were examined were consistent with legal requirements for Northern Goshawk. The Board also found three licensees and one BCTS business area have developed comprehensive voluntary programs for managing and monitoring breeding areas both for coastal and interior Northern Goshawk. The Board commends those licensees and permit holders for their efforts, especially where some are monitoring to assess the outcomes of their own practices and adapting their forest planning accordingly.

Government Use of FRPA Provisions for Species at Risk Habitat

The Board also reviewed legislative and policy tools under FRPA for habitat protection of Northern Goshawk and species at risk in general. Although government has a range of flexible and adaptive tools, its overall approach has not achieved a reduction in the number of species at risk. Instead, many species like the Northern Goshawk have become more imperiled as threats to habitat availability increase. The process to list species under FRPA is slow and cumbersome. Expediting decisions to protect habitat in a more structured and transparent process would help government drive timely use of its legislative tools to manage habitat for species at risk.

Land use plans and their associated legal orders can set clear landscape level objectives which can be directed at species at risk. However, most of these plans are decades old with no clear timeline for revision. GAR has the potential to be a useful tool for managing habitat for FRPA-listed species, however, it has historically only been used to restrict most or all activity, limiting innovative practices for habitat recovery and future habitat supply. Further, the GAR order

process is neither timely nor transparent, and it focuses too heavily on static, single-species reserves. This focus can be problematic in landscapes subject to natural disturbances, which are predicted to become more frequent due to climate change.

For species listed under FRPA, Section 7 notices have only been used for interim protection while WHAs are planned, but could be considered for use more often as a timely, adaptive tool; for example, to incorporate government direction in FSPs. Finally, section 9 of GAR has been rarely used for species at risk but can be used to set GWMs for specified areas and time frames, allowing flexibility for innovative practices.

Government Policy and Species at Risk Stewardship

The Board found that government did not have a clear and transparent process when balancing timber supply and habitat protection. The one-percent policy has limited decision makers in applying the best science to management of species at risk, including implementation of innovative practices. Repealing the regulations in FPPR that prioritized timber supply over other forest objectives, and government's intentions to also repeal this in GAR, is a good first step; however, government must continue to make balancing decisions about competing values, and there is no transparent process to guide those decisions.

The Board is encouraged by government's collaboration with First Nations on resource management and stewardship of species at risk. The new forest landscape planning approach under FRPA may be a positive development for species at risk. The Skeena Recovery Strategy has demonstrated that local, collaborative, and integrated planning may help improve the recovery of species at risk when combined with objectives for other values, including timber harvesting. The transition from a static-reserve, single-species approach to a more dynamic multi-species, landscape-level approach that encourages innovative forest practices may be more effective for protecting habitat in a changing climate.

Species at risk are a key component of the biodiversity legacy in BC. The BC government has a clear mandate to protect wildlife and species at risk. To be successful, government needs to update its policy framework for managing habitat of species at risk; this includes setting clear objectives for habitat management and intended outcomes for species recovery. An updated policy should provide direction on which tools should be implemented and when; support an integrated approach to habitat protection that considers multiple species and emerging threats to habitat supply; promote the use of best management practices and innovative practices whenever possible; and integrate with the forest landscape planning process.

Modernizing species at risk management in BC should be a key part of the forest landscape planning process, which lends itself to an integrated forest management approach. Innovation, supported by monitoring the effectiveness of forest practices, should be encouraged to help solve complex, multi-species habitat supply needs.

ENDNOTES

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