



**Conservation of Species at Risk under
the Forest and Range Practices Act:**

**Marbled Murrelets on the
Sunshine Coast**

Special Investigation Report

FPB/SIR/22

April 2008

Table of Contents

Executive Summary	1
Introduction	3
The Investigation	4
Background	4
Investigation objectives and methods	4
The case for marbled murrelet recovery	5
The provincial marbled murrelet habitat conservation regime	6
Discussion	10
Assessment of interpretation of government objectives	10
Assessment of reliance on resource professionals	10
Assessment of anticipated habitat conservation results	11
Conclusions	14
Board Commentary	15

Executive Summary

The Forest Practices Board investigated how habitat for marbled murrelet, a species at risk, was being managed and conserved under the *Forest and Range Practices Act* (FRPA) by the main licensee operating in the Sunshine Coast Timber Supply Area, on the southern mainland coast of British Columbia. The investigation:

- assessed how government objectives for marbled murrelet conservation were being interpreted;
- assessed the reliance upon, and stewardship role of, professional biologists and foresters in conserving marbled murrelet habitat; and
- identified and assessed the likely results of a licensee's approved marbled murrelet conservation strategy.

The province's management regime for marbled murrelet is complex, involving law, policy, reliance on professionals, social influences and third party certification. In practice, however, government has issued a formal notice requiring licensees to conserve all murrelet nesting habitat in the non-contributing land base (not economically viable to harvest) plus a small area in the timber harvesting land base.

As part of the Board's investigation, the anticipated results of the province's conservation objectives and the licensee's strategy were compared to anticipated results of a draft federal marbled murrelet recovery strategy for expected outcomes. The comparison determined that, on the southern coast of BC, the effect of this government notice will be to conserve 67 percent of remaining suitable murrelet habitat. The draft federal recovery strategy, in contrast, would conserve 85 percent.

The Board investigation found that the licensee has been diligent, making habitat inventory a high priority and monitoring its operations to avoid harvesting in habitat the province wants conserved. However, for the foreseeable future, actual formal conservation of habitat in old growth management or wildlife habitat areas in the Sunshine Coast Timber Supply Area will continue to be dependent upon slow-moving government processes. Timber harvesting on the south coast is increasingly being directed toward second-growth timber, and away from the older forests preferred by murrelets. Nevertheless, unless government formalizes its conservation objectives, other licensees in the same timber supply area could carry out forest practices in the habitat that the main licensee plans to avoid.

In the current legislative climate, there is increasing reliance on forest professionals to soundly manage BC's forests and non-timber resources, such as marbled murrelets. However, while professional associations encourage their members to practice good stewardship, they allow them to defer to public policy that appears to set out the public's choices on stewardship. Where these policies are based on timber supply considerations rather than on sound stewardship of marbled murrelet habitat, this can create difficulties. No recovery strategy has yet been set out by the province, and the federal marbled murrelet recovery plan is still being completed. The

Board is concerned that this leaves resource professionals, licensees and government staff with little guidance around conservation issues.

The Board concludes that, despite the myriad of participants and procedures involved in managing species at risk, the anticipated results of the province's plans will simply reflect the amount of habitat that government requires in its Section 7 notices under FRPA. Locations of conserved habitat are being determined by the licensee and its professional staff, and are not necessarily in the public's best interests. These Section 7 notices are a non-discretionary legal target for amount, distribution and attributes of habitat. The notices will remain in effect until government designates habitat areas through old growth management areas (OGMAs) or wildlife habitat areas (WHAs), a process that is likely to take considerable time due to unrelated delays in land use planning.

In conclusion, the Board found that the professional response of the licensee has been diligent; this licensee's resource professionals are working with government and researchers, taking pains to ensure that the area that can be conserved is as useful to murrelets as possible. However, unless the province sets aside designated areas in a timely manner, this licensee's efforts won't protect habitat from future harvest by other licensees.

Introduction

Forest practices legislation has gone from being highly prescriptive to being objective-based. The shift to this regulatory regime represents a significant change. Formerly, government was solely responsible for ensuring that species at risk, along with other forest resources, were adequately managed and conserved. Now, forest licensees have to interpret general government objectives and design and develop plans and practices that are compatible with them. The effect is that government no longer holds itself solely accountable for ensuring sound stewardship of forest resources. Conceptually, responsibility for stewardship of the public's forest resources has been informally divided and delegated among at least two, and possibly three, groups:

1. Government sets general objectives.
2. Licensees, typically forest companies, can plan and carry out forest practices in any way that is consistent with those objectives.
3. Resource professionals, such as foresters and biologists working for both government and licensees, have resource stewardship responsibilities that can influence management of forest resources.

The Forest Practices Board, in previous reports, has expressed concern about the ability of the current forest practices regulatory regime to adequately address conservation of some species at risk such as mountain beaver, marbled murrelet, Queen Charlotte goshawk and tall bugbane. The Board's previous reports all concerned practices regulated by the *Forest Practices Code of British Columbia Act* (the Code). However, as the objective-based *Forest and Range Practices Act* (FRPA) regime replaced the Code, much of the Board's previous concern has become speculative. As a result, as the first forest stewardship plans (FSPs) were approved, the Board shifted its focus toward examining how the combination of objective-based legislation, licensee stewardship, and potential reliance on the expertise of forest professionals will actually work in practice for species at risk.

Marbled murrelets are small seabirds that live along the Pacific Coast. They nest in old trees in coastal forests, and so are likely to be adversely affected by coastal forest practices if harvesting causes a lack of suitable nesting habitat and limits their population. The Board has produced two special reports¹ examining habitat conservation for marbled murrelets under the Code (in early 2003 and late 2004), so it was logical to assess the FRPA regime using the same species as an example of a species at risk. Marbled murrelet



Marbled Murrelet

¹ Forest Practices Board, *Marbled Murrelet Habitat Management – Considerations for the New Forest and Range Practices Act*, a Forest Practices Board Special Report, Victoria, BC, 2003; Forest Practices Board, *A Lack of Direction: Improving Marbled Murrelet Habitat Conservation under the Forest and Range Practices Act*, a Forest Practices Board Special Report, Victoria, BC, 2004.

nesting habitat has been particularly depleted on eastern Vancouver Island and the southern mainland coast so, for this report, the Board chose to investigate how the old-growth forests required for marbled murrelet nesting habitat are being conserved in these areas.

The final deciding factor for the scope of this investigation was when a conservation organization asked the Board to appeal the approval of a FSP in the Sunshine Coast Forest District. The Board declined to appeal the approval because the plan appeared to comply with the law, but concluded that there was an opportunity to carry out a special investigation into how murrelet nesting habitat was being managed and conserved in the area of the approved plan under the FRPA legislative regime.

The Investigation

Background

Investigation objectives and methods

In July 2006, the district manager of the Sunshine Coast Forest District approved a FSP submitted by International Forest Products Limited (the licensee), that covered much of the Sunshine Coast Timber Supply Area and included a strategy for conservation of marbled murrelet habitat. With that strategy approved, the Board investigated how FRPA was being applied.

The initial objectives of the special investigation were:

- to assess government's objectives by comparing them with the objectives of a draft federal marbled murrelet recovery strategy;
- to compare the anticipated results of the licensee's forest stewardship plan with what is likely to be recommended for recovery of marbled murrelet populations in the plan area;
- to assess the reliance on, and effectiveness of, resource professionals in the licensee's planning processes around conservation of marbled murrelet nesting habitat; and
- to assess the effectiveness of forest stewardship and sustainable forest management planning processes for informing the public of, and involving the public in, implementing conservation measures for marbled murrelet habitat.

The investigation relied on 14 interviews with staff from three government agencies, a forest company, an environmental organization, a third party certification organization and two organizations that regulate resource professionals. The Board also examined all documents referred to by interviewees. The Board could not, without significantly expanding the number of interviews, adequately assess the effectiveness of plans in informing the public, and so that objective was abandoned.

The case for marbled murrelet recovery

Marbled murrelets are relatively abundant,² but their numbers are believed to be declining at such a rate that the species is designated as threatened by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and is on BC's red list of species that are threatened, endangered or a candidate for such designation.³ The vast majority of the world population of marbled murrelets is in Alaska, but the species also lives and is threatened in Washington, Oregon, California, and Canada.

Marbled murrelets are listed as threatened under the Canadian federal *Species at Risk Act*.⁴ Section 37 of that Act requires that the federal government prepare a recovery strategy, and a Canadian marbled murrelet recovery team is doing so. The team includes representatives of federal and provincial governments, forest licensees and universities.

Marbled murrelets have wide-ranging and secretive nesting habits, so nest locations cannot be used to identify utilized habitat. Instead, habitat is inferred from forest attributes. There are a number of ways to identify probable nesting habitat, including visually inspecting habitat from a helicopter for the mossy platforms that murrelets prefer as their nesting sites. In the area of the forest stewardship plan examined in this report, the licensee identified all habitat by such visual inspection.



Marbled murrelet nest.

The recovery team's report indicated that the amount of suitable habitat for marbled murrelets had declined significantly since 2002.

In order to slow that decline, the draft recovery strategy recommends conserving 70 percent of the nesting habitat that was available in 2002 over the entire coast. However, in those coastal areas where most nesting habitat has already been depleted, the draft strategy recommends retaining more—at least 85 percent of what remains. That retention level is recommended for the south coast, which includes the area of the stewardship plan considered in this report.⁵

² A recently-updated population estimate for BC is between 50,000 and 90,000 adults, with another 270,000 in Alaska. See Piatt, J.F., K.J. Kuletz, A.E. Burger, S.A. Hatch, V.L. Friesen, T.P. Birt, M.L. Arimitsu, G.S. Drew, A.M.A. Harding and K.S. Bixler, *Status Review of the Marbled Murrelet (Brachyramphus marmoratus) in Alaska and British Columbia*, U.S. Geological Survey, Open-File Report 2006-1387, 2006.

³ Burger, A.E., *Conservation Assessment of Marbled Murrelets in British Columbia: A Review of the Biology, Populations, Habitat Associations, and Conservation*, Canadian Wildlife Service Technical Series Report No. 387, 2002, p. 1, <<http://www.sfu.ca/biology/wildberg/bertram/mamurt/PartA.pdf>>.

⁴ S.C. 2002, c. 29, Schedule 1.

⁵ Canadian Marbled Murrelet Recovery Team, *Marbled Murrelet Conservation Assessment 2003, Part B – Marbled Murrelet Recovery Team Advisory Document on Conservation and Management*, Canadian Wildlife Service, Delta, BC, 2003, p. 15, <<http://www.sfu.ca/biology/wildberg/bertram/mamurt/PartB.pdf>>.

The provincial marbled murrelet habitat conservation regime

The regulatory regime

The recovery team's strategy recommendations will be made to the federal government, but the province, not the federal government, has the authority to decide on the management and use of Crown lands and resources in the province. The federal government could invoke extraordinary powers if it were to conclude that provincial laws do not effectively protect the critical habitat of species at risk; otherwise, only the province can regulate forest practices on the south coast.

The province is not bound by the draft recommendations of the recovery team, and has not adopted them. BC's Species at Risk Coordination Office (SaRCO) provides recommendations to the provincial government on recovery planning for three broad-ranging species, including marbled murrelets. SaRCO does not manage murrelets or habitat, but it brings together information and analysis for a government decision if a change in policy is being considered. SaRCO plans to produce a decision paper for murrelet habitat conservation at some point, but is currently collecting background information, such as the timber supply costs of habitat protection, so at this time there is no provincial policy specifically regarding murrelet habitat conservation.

Nevertheless, there is an implicit provincial government objective for marbled murrelet habitat conservation in the coastal forestry context. FRPA allows government to set objectives for managing forest resources. The province specified a general objective for all species at risk in a FRPA regulation:⁶ "without unduly reducing the supply of timber from BC's forests, to conserve sufficient habitat... for the survival of species at risk."⁷ In 2004, through FRPA's *Government Actions Regulation*, the province designated marbled murrelets as a "species at risk" for forest management purposes. Designation recognized that marbled murrelets could be adversely affected by forest practices on Crown land.

If the Minister of Environment issues a notice pursuant to Section 7 of the *Forest and Range Practices Regulation*, a licensee must have an approved forest stewardship plan (FSP) that contains strategies that are consistent with government's objectives for species at risk.⁸ A Section 7 notice provides indicators of the amount, distribution and attributes of habitat required for species at risk, by forest district. Such a Section 7 notice was issued for the area of the FSP at the end of 2004, along with background material.

However, a Section 7 notice does not actually provide for the conservation of habitat; all it does is require licensees, in FSPs, to include a strategy or a result that is consistent with government objectives. Therefore, the licensee's FSP included a strategy that was consistent with the objective. That strategy was to not construct roads or harvest cutblocks within some marbled murrelet nesting habitats in the FSP area.

⁶ *Forest Planning and Practices Regulation*, B.C. Reg. 14/04, s. 7(1).

⁷ *Forest Planning and Practices Regulation*, section 7(1)(a).

⁸ *Forest and Range Practices Act*, S.B.C. 2002, c. 69, s. 5.

While individual licensees can commit not to harvest in certain areas, general habitat conservation is put into effect by land use designations. Options for such designation include protected areas, such as parks; old growth management areas (formerly designated under the *Forest Practices Code of British Columbia Act* (the Code) and now under the *Land Act*); and wildlife habitat areas under FRPA.



Old-growth forest is preferred for marbled murrelet habitat.

In 2004, the government made a provincial non-spatial old-growth order under the Code that established, as an objective, amounts of old forest to be maintained to address biodiversity values across the province, but did not specify locations. However, old growth management areas (OGMAs) can be established in suitable locations under the *Land Act*, and, if large enough,⁹ OGMAs can conserve marbled murrelet nesting habitat along with other values of old forests. Current policy is that coastal OGMAs should overlap suitable murrelet habitat wherever possible.¹⁰

Designation of OGMAs is initiated through landscape unit planning processes. Such planning was to be completed by the end of 2002, but was not, so since 2004, licensees have taken the planning lead in most landscape units. Under this system, licensees propose draft OGMAs and the Ministry of Agriculture and Lands can formally establish them. This OGMA establishment process has, however, continued to be very slow.

Government can also designate wildlife habitat areas (WHAs) for species at risk. Within a WHA, “general wildlife measures” describe appropriate management practices with which forest practices must comply. In WHAs designated for marbled murrelets, licensees must not harvest (except for salvage) and must not construct or widen roads unless government approves and there is no alternative.

⁹ Ministry of Sustainable Resource Management, *Landscape Unit Planning Standards, Coast Region, Lower Mainland*, 2000. These standards noted that OGMAs should be more than 35 hectares in size to provide interior forest conditions, although OGMAs could be as small as two hectares. Habitat conservation for murrelets is believed to require old growth blocks larger than 15 hectares.

¹⁰ Ministry of Forests and Range, Ministry of Environment and Ministry of Agriculture and Lands, *Guidelines to facilitate completion and integration of marbled murrelet wildlife habitat areas and old growth management areas*, memorandum to regional and district directors and managers, Dec. 1, 2005, 6p.

For almost a decade, there has been a significant timber supply constraint on designating WHAs to protect marbled murrelet habitat in some parts of the province. The Ministry of Forests and Range has divided productive forest into two categories for timber supply analysis. The timber harvesting land base (THLB) is assumed to be available for timber harvesting. The non-contributing land base (NCLB) is assumed to be unavailable, at least in the short term, for economic or environmental reasons. However, NCLB can be a misleading term. As technology and market conditions change, harvesting may well occur there. The area under investigation had conflicting indicators. Extrapolating from the harvest between 1999 and 2005,¹¹ one would expect that 30 percent of future harvest is likely to occur in the NCLB. On the other hand, second-growth forest is reaching maturity in the district. Mature second-growth forest is preferred over old forest, having uniform tree size and low waste and breakage. As a result, most of the harvest in the last three years has been in second growth rather than the older forests that are more suited to murrelet nesting.¹² Such contrasting trends make it difficult to predict the extent of future harvesting in the NCLB.

In any event, within the THLB, government has strictly enforced a policy that WHAs cannot constrain more than one percent of the short-term (forest more than 60 years old) timber supply.¹³ This cap on timber supply impact can be very restrictive in places such as the south coast, where little forest in the THLB is more than 60 years old. However, this cap only applies in the THLB; there is no such limitation in the NCLB. Also, the cap does not apply to wildlife habitat in forest that has already been reserved for other purposes, such as OGMAs. Habitat in otherwise-constrained forest in the THLB is not counted against the one percent budget for WHAs.

The one percent cap was policy guidance until late 2004, but the policy was generally used to derive the Section 7 notices issued under FRPA. The Ministry of Forests and Range calculated a timber supply cap for each forest district under the policy by taking the timber supply impact allowance, converting it to an equivalent area and subtracting the area that was in already-established WHAs. The Ministry of Environment then distributed any remaining hectareage among the various species at risk in each district. In the Sunshine Coast Forest District, marbled murrelets had to share the one percent impact with the other species at risk in the district—grizzly bears, goshawks, tailed frogs plus two species of stickleback restricted to several lakes on Texada Island. Ultimately, about a quarter of the one percent of the THLB was available for marbled murrelets — a total of 495 hectares.

¹¹ Forest Practices Board, *Establishment of Conservation Areas for Old Growth and Wildlife Habitat in the Squamish and Chilliwack Forest Districts*, a Forest Practices Board Special Investigation Report, Victoria, BC, 2008.

¹² Hemphill, G, personal communication as Sunshine Coast Forest district manager, 2007.

¹³ This policy does not apply if an approved land use plan requires otherwise.

The non-regulatory regime

While there is no requirement in FRPA to involve professionals, the government's murrelet habitat conservation regulatory regime can be influenced by the stewardship initiatives of others, such as resource professionals and forest licensees who are regulated by other statutes, such as the *Foresters Act* and *College of Applied Biology Act*.¹⁴

Each Act sets out bylaws and practice requirements or standards that are enforceable by professional organizations; for example, professional foresters must be members of the Association of BC Forest Professionals (ABCFP).¹⁵ The ABCFP guides its members on stewardship of forest resources,¹⁶ advising members to "demonstrate stewardship by balancing present and future values against the capacity of the land to provide for those values."¹⁷ This suggests that forest professionals would maintain an ecological understanding of marbled murrelets and apply habitat conservation solutions that reflect the diversity and complexity of murrelet nesting habitat.

A similar regulatory regime, and expectation, applies to those engaged in applied biology. Unlike the situation for foresters, where a single association both represents the interests of its members and regulates its members' practices, biologists have one organization, the Association of Professional Biologists of BC, to represent the interests of its members, and another association, the College of Applied Biology (CAB), to regulate its members' practices. Registered professional biologists must be members of CAB.¹⁸ The CAB upholds "principles of stewardship of ... terrestrial ecosystems and biological resources."¹⁹ Again, given this advice, professional biologists would be expected to apply solutions to conserve adequate murrelet nesting habitat.

In summary, marbled murrelet habitat conservation is influenced by many factors, only some of which relate to forest practices laws. The province has inferred an objective for murrelet habitat conservation by issuing timber supply-based notices with limits on the amount of area that can be set aside as habitat for species at risk.

Industry can influence habitat conservation through plan strategies and forest practices. Conservation can also be influenced by stewardship practiced by forest resource professionals.

¹⁴ S.B.C. 2003, c. 19 and S.B.C. 2002, c. 68 respectively.

¹⁵ *Foresters Act*, note 14, s. 20.

¹⁶ *Foresters Act*, note 14, s. 4.

¹⁷ Association of BC Forest Professionals, *Standards of professional practice: Guidelines for interpretation*, Bylaw 12.6.1, 2002, p. 10.

¹⁸ *College of Applied Biology Act*, note 14, s. 11.

¹⁹ *College of Applied Biology Act*, note 14, s. 2.

Discussion

Having described the various factors that can influence murrelet habitat conservation, the Board considered how they are playing out in practice in the licensee's FSP area on the Sunshine Coast.

Assessment of interpretation of government objectives

The Section 7 notice for the Sunshine Coast Forest District sets out indicators of the attributes, distribution and amount of nesting habitat that government requires forest licensees to conserve for the survival of marbled murrelets. The term "indicator" does not suggest a fixed maximum or target level, but the licensee and government interpreted the indicator as a target.

For attributes of suitable nesting habitat, the notice adopted most of what the federal recovery team recommended, which was that habitat should be distributed in a variety of patch sizes of old forests with complex canopy structure, preferably within 30 kilometres of salt water and below 600 metres elevation.

For amount of habitat, both government and the licensee interpreted the Section 7 notice as setting out the precise amount of habitat to be conserved for marbled murrelets. The Ministry of Environment confirmed that the indicated amounts in the Section 7 notice apply the one percent timber supply cap. Accordingly, if the licensee had proposed a strategy to conserve anything more, that could have risked rejection of the FSP by government, because conserving more could be interpreted to unduly influence the supply of timber and thus would be inconsistent with government's FRPA objective for species at risk.

The notice differentiates between the THLB and the NCLB. In the net mature portion of the THLB, 495 hectares are to be conserved. Within the NCLB, all of the currently existing suitable nesting habitat is to be conserved; there is no explicit habitat area set out.

In summary, the Section 7 notice set a non-discretionary legal target for an amount of habitat to be conserved until spatial conservation areas for murrelets (OGMAs and WHAs) are formally designated. The target is based on a timber supply impact policy, not on a murrelet habitat conservation objective.

Assessment of reliance on resource professionals

Even though registered professionals, such as foresters and biologists, working for the licensee and government, have professional stewardship responsibilities, the professional associations saw a limited role for their members in resource stewardship. The ABCFP recognized that members are "often called upon to determine the appropriate balance of economic, ecological and social benefits."²⁰ However, the ABCFP does not set forest management standards, which it views as government's role. If legislation or government policy reflects government's stewardship choices and a particular balance of public interests, the ABCFP feels that forest

²⁰ Association of BC Forest Professionals, *Interpreting the public's interests*, 2002, p. 3.

professionals can rely on that. In their estimation, it is not a forester's job to decide how much murrelet habitat should be conserved. The Association provides guidance to its members, but does not require members to independently assess stewardship.

A similar situation applies to professional biologists. The Association of Professional Biologists (APB) provides guidance by way of advisory bulletins, and provides situation-specific guidance to individuals upon request through its standards committee. However, determining public interest in balancing resource values is up to government. As with the ABCFP situation, the APB asserts that it is not a biologist's job to decide how much murrelet habitat is to be conserved.

In the licensee's FSP area, professional foresters and biologists in both government and industry have accepted government's timber supply-based objective for murrelet habitat conservation, and they set out to conserve the amounts set out in the Section 7 notice—495 hectares of habitat in the THLB and all habitat in the NCLB. It remains speculative whether that solution, based as it was on timber supply considerations, adequately reflects sound stewardship of marbled murrelet habitat.

Having adopted government objectives with regard to amount of habitat, the licensee decided to set a high priority on murrelet habitat inventory. As a result, all of the potential marbled murrelet nesting habitat in the licensee's FSP area was surveyed from low-level helicopter for the presence or absence of suitable nest platforms.

In summary, resource professionals, and their regulatory organizations, did not independently assess the soundness of resource stewardship or balance resource values in the public interest, as it is their opinion that these decisions are a government responsibility. However, the licensee carried out an inventory to ensure that the area to be conserved for marbled murrelets was likely to be suitable for murrelet nesting.

Assessment of anticipated habitat conservation results

It is too early to measure the actual results of murrelet habitat conservation in the licensee's FSP area; the results are expected to be evident after the implementation of future harvesting plans. However, one can compare the results anticipated in the FSP with what is being proposed by the federal marbled murrelet recovery team. Such a comparison is of interest because the FRPA objective and FSP strategy are based on timber supply impact, whereas the recovery team proposal is based on murrelet biology.

Interfor's approved FSP in the Sunshine Coast Timber Supply Area covers an estimated 80 percent of the Sunshine Coast Forest District. The FSP lists already-established WHAs in the FSP area, including 19 areas that had been set aside specifically for murrelets in 2001 and 2003. The combined area was some 2,700 hectares, including 360 hectares in the mature THLB. The Section 7 notice required that another 495 hectares be conserved in the THLB, for a total of 850 hectares. The Section 7 Notice was applicable to the entire forest district rather than just the FSP area, but the licensee chose to conserve all of that in its FSP area.

The Section 7 notice also required conservation of all suitable habitat in the NCLB. But how many hectares of suitable habitat were there in the NCLB? The licensee's helicopter inventory determined that there were about 35,000 hectares of suitable habitat in its operating area — 23,000 hectares in the NCLB portion and 12,000 hectares in the THLB.

The FSP strategy was to avoid harvesting cutblocks or constructing roads in all suitable habitat in the NCLB but, if such harvesting or construction was done, the licensee indicated that it would compensate for that by conserving equivalent additional habitat in the THLB. The strategy also included provisions not to harvest or construct roads in up to 495 hectares of such habitat in the THLB, which should result in the conservation of some 500 hectares of inventoried murrelet habitat in the THLB plus all 23,000 hectares of inventoried habitat in the NCLB.

How does that compare with what the recovery team would recommend as required to de-list the species? Given the extensive historic loss of habitat on the south mainland coast, the draft federal recovery plan would conserve 85 percent of all 35,000 hectares of inventoried remaining habitat in the licensee's plan area, regardless of whether it is in or out of the THLB. That would amount to slightly less than 30,000 hectares.

This simple mathematical comparison probably overstates the result under FRPA, because almost none of the habitat to be conserved under the FRPA regime is in the THLB, whereas a third of the habitat that would be conserved by the recovery team would be there. Studies measuring nesting activity have indicated that murrelets select for, and apparently prefer, the lower elevation forests that characterize much of the THLB.²¹

While the Board's analysis to this point has examined the potential results of the licensee's FSP strategy, it is necessary to reiterate that the licensee cannot actually conserve habitat; all it can do is avoid carrying out forest practices in identified conservation areas. It is up to government to formally conserve the 23,500 hectares of habitat identified by the licensee, which can only be done through designation of protected areas, OGMAs or WHAs.

There are few parks or protected areas in the licensee's FSP area, so they won't be discussed further in this report. The licensee has voluntarily taken the lead for landscape unit planning in all areas where its operations cover more than 80 percent of the plan area and it has proposed draft OGMAs in many of those units. However, government's Integrated Land Management Bureau has not actually designated OGMAs in most of these areas. Of the 16 landscape units identified in the FSP, OGMAs have been established in only three. In another five landscape units OGMAs have been proposed by the licensee, but not designated, and in the remaining eight not even draft OGMAs have been proposed. In part, this paucity reflects agreement by the province and First Nations to establish processes and institutions for shared decision-

²¹ Waterhouse, F.L.; A.E. Burger; A. Cober; A. Donaldson and P.K. Ott., *Assessing habitat quality of marbled murrelet nest sites on the Queen Charlotte Islands/Haida Gwaii, by algorithm, airphoto interpretation, and aerial survey methods*. Research Section, Coast Forest Region, BC Ministry of Forests and Range, Technical report TR-035, Nanaimo, BC, 2007, p. 11.

making about the land and resources.²² This has added to an already-significant historical delay in government designation of OGMAs, so government is not likely to establish OGMAs for quite some time. Instead, there is an interim “certification” process for draft OGMAs. Government can send a letter to a licensee stating that, if a licensee avoids draft OGMAs (as shown in a map that accompanies the letter), the licensee meets the intent of the FRPA objective for landscape biodiversity.²³ OGMAs in four landscape units in the licensee’s plan area are likely to be only “Section 8 certified” instead of formally established; government has no plans for either certification or designation in the remaining nine units. The licensee plans to carry out its forest practices to avoid proposed draft OGMAs, but those draft areas have no formal conservation status and could be harvested by other licensees operating in the same timber supply area.

WHA designation also remains uncertain because it is affected by what occurs with OGMA designations. WHAs are, where possible, to overlap OGMAs, and if OGMA designation is significantly delayed, as appears to be likely in this case, WHA designation delays may follow. On the other hand, it may be comparatively non-contentious to designate WHAs in the NCLB (as opposed to in the THLB), as almost all of the habitat to be conserved under the FRPA strategy is in the NCLB.

Notwithstanding lack of formal designation of habitat to be conserved, it does not necessarily follow that all suitable habitat not formally conserved will be harvested in the near future. Application of the FRPA strategy will leave more than 11,000 hectares of unprotected murrelet habitat in the THLB portion of the FSP area. Over the past five years, there has been an average of slightly less than 1,700 hectares harvested (in both NCLB and THLB) in the district per year,²⁴ and only a small portion of that would likely have occurred in murrelet habitat in the THLB. The licensee estimates that it could take twenty years before the remaining habitat in the THLB decreases to the limit set out in the Section 7 Notice.

In summary, the province’s FRPA requirement and licensee’s FSP strategy will conserve 23,500 hectares (67 percent) of the remaining murrelet habitat in the FSP area, almost all in the NCLB. The recovery team’s draft approach would conserve 30,000 hectares (85 percent), including over 10,000 hectares in the THLB. Formal habitat conservation by designation of OGMAs and WHAs is unlikely during the term of the FSP.

²² The paper outlining the “New Relationship with First Nations and Aboriginal People” can be found at: http://www.gov.bc.ca/arr/newrelationship/down/new_relationship.pdf.

²³ Specifically, the Integrated Land Management Bureau sends a letter to a MFR district manager stating that licensees in specific landscape units have, by identifying draft OGMAs, met the intent of “section 8 of the Order Establishing Provincial Non-Spatial Old Growth Objectives.”

²⁴ Based on data in the MFR’s RESULTS database for the Sunshine Coast Forest District.

Conclusions

Once the initial objective of assessing the effectiveness of public information was dropped, three objectives remained. The Board reached the following conclusions on these three objectives:

1. To assess government's objectives by comparing them with the objectives of a draft federal marbled murrelet recovery strategy.
 - a. There is no explicit provincial government objective for conservation of marbled murrelet habitat, although the Species at Risk Coordination Office (SaRCO) is collecting information to advise government on whether existing policy needs to be changed.
 - b. In the absence of an explicit objective, there is an implied objective set out in FRPA Section 7 notices. That objective, derived from a timber supply policy, "caps" the impact of habitat conservation for species at risk, including murrelets, to one percent of timber supply in the timber harvesting land base.
 - c. The FRPA objective of limiting habitat conservation is based on socioeconomics, not on conservation of marbled murrelets.
 - d. The Section 7 notice creates a non-discretionary target that specifies what industry can propose and what a government decision-maker can approve.
2. To compare the anticipated results of FRPA and the licensee's forest stewardship plan strategy with what is likely to be recommended for recovery of marbled murrelet populations in the plan area.
 - a. The Section 7 notice, adopted in the licensee's FSP strategy, is likely to result in conservation of all nesting habitat in the non-contributing land base and very little in the timber harvesting land base. The result will be to conserve 67 percent of the remaining murrelet habitat in the FSP area, somewhat less than the 85 percent that the recovery team is likely to propose as necessary to remove marbled murrelets from "threatened" status.
 - b. The habitat that is to be conserved, being almost exclusively in the NCLB, is likely on average to be somewhat less suitable to murrelets than what is available now — currently a third of the suitable habitat occurs in the THLB.
 - c. Actual conservation of habitat may, for some time, continue to be voluntary because government is proceeding very slowly with establishing OGMAs. It is unclear whether designation of wildlife habitat areas may be delayed as well.

3. To assess the reliance on, and effectiveness of, resource professionals in the conservation of marbled murrelet nesting habitat.
 - a. Stewardship of the habitat for species at risk such as marbled murrelets has been divided between government and forest licensees. There is a limited role for resource professionals and their regulatory associations in stewardship.
 - b. Resource professionals do not have the authority to make stewardship decisions; they tend to follow government indicators of how much murrelet habitat to conserve.

Board Commentary

This investigation has identified a number of concerns about the effectiveness of the provincial government's strategy for survival of one species at risk, the marbled murrelet.

The Board notes that a federal marbled murrelet recovery team has a specific purpose—to create down-listing of the species under the federal *Species at Risk Act*, and that this team's recovery strategy is still being finalized.

While forest practices continue to be approved, work is proceeding quite slowly on establishing a provincial objective for conservation of a viable marbled murrelet population. The province's SaRCO has yet to engage fully in the issue, beyond collecting information, as it is busy with conservation efforts involving other species, and government has not decided what constitutes "survival" of the marbled murrelet. The Board is concerned that this leaves resource professionals, licensees and government staff to infer what the provincial government's murrelet habitat conservation objectives really are.

Consistent with previous reports, the Board remains concerned that the one percent timber supply impact cap in the mature timber harvesting land base, introduced as an interim policy in 1999, has evolved to law in the form of Section 7 notices. These notices are now a non-discretionary legal target for amount of habitat, and forest stewardship plan (FSP) commitments are hemmed in legally by the Section 7 notices, both for what industry can propose and what delegated government decision-makers can approve.

The explicit government promise that the policy would be reviewed for adequacy after two years has been abandoned. Eventual work by SaRCO could lead to a Cabinet decision to revise the one percent timber supply impact limitation, as could a Sunshine Coast Land and Resource Management Plan. In the meantime, however, the Board anticipates that marbled murrelet nesting habitat will likely continue to be reduced and fragmented by continued harvesting of old forests.

The government assumes that it is possible to set aside all suitable habitat in the NCLB as wildlife habitat areas. However, in the Board's view, this assumption is not supporting past harvesting pressured in that NCLB—the "inoperable" forest. The Board recognizes that some of the incentives for this practice appear to have been reduced in recent years. The Board is also concerned that using the allocation for old growth management areas and old forest in protected areas as a part of the marbled murrelet habitat complement is based on an unsubstantiated hope that some of the old growth in such areas represents actual habitat, rather than gross estimates of apparently-suitable habitat. Exacerbating this concern is the fact that effectiveness monitoring is still at a very early stage of development.

The licensee has been actively assessing potential habitat to determine where effective habitat actually lies, in part to ensure that areas selected for conservation are suitable for murrelets as possible. The Board is reassured to conclude that the professional response of the company is diligent, given the legal circumstances. Ultimately, the Board has found that the licensee's resource professionals are taking pains to ensure potential conservation areas are suitable to murrelets as possible. However, these professionals are operating without any firm direction from the province about what is actually necessary to adequately conserve the species.