



**Establishment of Conservation Areas for
Old Growth and Wildlife Habitat in the
Squamish and Chilliwack Forest Districts**

Special Investigation Report

FPB/SIR/21

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Executive Summary

The province of BC has set objectives for establishing conservation areas for the protection of species at risk, ungulates and old growth forest. This report presents the findings of a Board investigation into the establishment of these areas in two forest districts in the lower mainland, Squamish and Chilliwack. The Board was particularly interested in investigating the role of the non-contributing land base (NCLB) in establishing conservation areas as well as in determining whether harvesting in the NCLB was an issue. This investigation did not evaluate effectiveness of government objectives for conserving species, though related issues are raised in the report.

The Squamish and Chilliwack Forest Districts were selected as case studies due to the presence of specific wildlife and biodiversity values in these areas as well as the significant amount of harvesting taking place in the NCLB. Overall, the Board found that planning of conservation areas is moving forward in the two districts examined, but, despite considerable work by the responsible agencies, legal establishment of conservation areas has been slow.

When compared, both districts were similar with respect to the establishment of old growth management areas (OGMAs). In each district, OGMAs had been drafted spatially, but were only legally established in 60 percent of the landscape units. Previous provincial completion targets set in 2002 and re-set 2005 had not been met and now ILMB is considering ending the spatial establishment program in 2008 regardless of whether legal establishment has been completed.

Both districts were also similar with respect to the establishment of wildlife habitat areas (WHAs). WHA planning is nearing government target levels established under Section 7 of the *Forest Planning and Practices Regulation* of the *Forest and Range Practices Act* (FRPA) for select species.

Establishment of ungulate winter ranges (UWRs) was completed in the Squamish Forest District, but in the Chilliwack Forest District it stood out as an issue. Chilliwack is the most heavily populated timber supply area in the province, featuring a large urban-forest interface and significant conservation issues (such as spotted owl conservation) which have restricted the area of the land base available for harvest. The continued lack of progress in establishing the UWRs reflects a lack of coordination between the Ministry of Environment (MOE) and the Ministry of Forests and Range (MFR) in supporting proposals; continued concerns about economic impacts expressed by industry; and, an erosion of options due to continued harvesting in ungulate wintering areas.

MOE relies on both the NCLB and the timber harvesting land base (THLB) to provide area in which to manage habitat for species at risk and ungulate winter ranges, however, most habitat in the THLB is unavailable because of policy caps implemented to limit impacts on timber supply. Because of this, MOE typically relies more heavily on the NCLB to address conservation needs. In recent years, up to 30 percent of the harvest in coastal forest districts has been located in the NCLB. The area of economically available timber in the NCLB is limited, but there is likely to be significant overlap between this area and the most suitable habitat for species at risk and

ungulates. There is an increasing potential for conflict over the use of forested land in the NCLB. The longer that harvesting continues without decisions on conservation needs in the NCLB, the more options will be reduced.

While the Board found similar high harvest levels in the NCLB in other forest districts in the province, it is not aware of similar conservation conflicts outside of the southern coastal areas of BC. However, this could change if more species are added to the species at risk list.

The investigation found that the key reasons for delays in establishing WHAs, OGMA's and UWRs were:

- limited staff resources;
- conflicting policies that limited most conservation efforts to the NCLB while continuing to allow harvesting; and
- a requirement that economic impacts in the NCLB be considered.

Board Commentary

This investigation found that staff of the three government agencies (MOE, Integrated Land Management Bureau (ILMB) and MFR) and industry in both forest districts had put considerable effort into addressing planning objectives for the two forest districts, and, in a direct comparison, the level of completion varied only with the ungulate winter ranges in the Squamish Forest District being fully legally established while the Chilliwack ones were not.

Many of the planning objectives, however, are not based on a biological assessment of habitat need but rather on an allowable level set by government's timber supply impact policies. Also, not all species considered 'at risk' are included in the government objectives at this time.

Given that the allowed habitat targets for species at risk in the THLB will be used up in the Chilliwack and Squamish Forest Districts by the current Section 7 notice, the Board is concerned about MOE's ability to address habitat needs for species that may be added to the species at risk list in the future, as well as for species currently listed but excluded from the Section 7 notices. As well, harvesting in the NCLB may further limit conservation options for additional species. Effectiveness evaluations of habitat allocations made for species at risk in either the Identified Wildlife Management Strategy (IWMS) or the Section 7 notices would assist in determining future conservation needs.

The proposal by ILMB to end the spatial establishment of OGMA's (except where a business case has been made) is of concern due to the potential impact on biodiversity planning. The size of individual old growth patches is important, as some should be large enough to provide interior

forest habitat conditions. OGMAs also contribute to habitat connectivity across the landscape. Neither of these can be planned for where old growth targets are met a-spatially.¹

But the most significant problem identified in this investigation is the failure of government to establish deer winter ranges in the Chilliwack Forest District despite a winter range proposal being put forward by MOE in 2001. This is in sharp contrast to the Squamish Forest District.

The process in the Squamish Forest District was facilitated by the district manager's use of the 'made known' mechanism, under the old Forest Practices Code, to defer harvesting in MOE's proposed winter range areas. The Chilliwack district manager used a different tool, the 'adequately manage and conserve' test in Section 41 of the Code, along with the 'habitat considerations' in the timber supply review, to assess harvest proposals. This approach did not have the same facilitation effect because harvesting was approved while the process was ongoing. In any event, under FRPA, these mechanisms are no longer available to decision makers to either defer or not approve harvesting. The remaining mechanism is for the deputy minister of MOE to make a decision on designating the areas.

The ungulate winter range issue highlights two key concerns for the Board: the lack of any safety net mechanism under FRPA such as existed under the previous Code, and the lack of a decision from MOE on this contentious issue, despite being given sole authority to establish ungulate winter ranges in 2004.

Although most of the area of contention is outside the timber harvesting land base, MOE appears to be stalled by the requirement of the *Government Actions Regulation* to consider whether the public benefit is greater than the impact on timber supply and costs to industry before establishing conservation areas in the non-contributing land base.

This highlights an inconsistency between government policy and operational reality. Policy encourages, but also restricts, conservation efforts to the NCLB, while at the same time industry can propose harvesting anywhere in the THLB or NCLB that isn't constrained.

MOE has the authority to establish the ungulate winter ranges and it has conducted considerable consultation with industry, and considered economic impacts. Despite this, the two parties haven't reached an agreement and, five years later, MOE has still not made a decision on deer winter range. Goat winter ranges were approved in March 2008. Continued harvesting removes options and ultimately will make the decision even more difficult.

¹ A-spatial means there is a target amount of habitat that must be conserved, but it is not identified or mapped on the land base. As long as the target amount exists somewhere in the forest district, the target is met.

Recommendations

Under section 131(2) of the *Forest and Range Practices Act*, the Board makes the following recommendations.

1. The Ministry of Environment should promptly establish deer winter range areas in the Chilliwack Forest District or amend the Section 7 notice to include the appropriate non-contributing land base (NCLB) portion before harvesting removes further options.
2. Given the observed harvest levels in the NCLB and the importance of some old growth management areas (OGMAs) in providing old forest areas of adequate size to contain interior forest habitat and support landscape connectivity, the Integrated Land Management Bureau (ILMB) should complete the legal establishment of the (currently) draft OGMAs in these two districts and reconsider its proposed provincial policy for ending spatial establishment of OGMAs in 2008.

Under section 132 of FRPA, the Board requests that each named agency respond to its respective recommendation in writing by June 30, 2008, describing the steps taken to address the recommendation.

Introduction

Context and Issue

In 2004, the Forest Practices Board released its special report on the implementation of biodiversity measures under the *Forest Practices Code of British Columbia Act*.² This study considered a wide range of measures described in the *Biodiversity Guidebook* and the *Landscape Unit Planning Guide*, including landscape-level, spatially-defined conservation areas which include wildlife habitat areas (WHAs), ungulate winter ranges (UWRs) and old growth management areas (OGMAs). At that time, the Board found that progress in establishing these areas varied widely across the province.

These conservation areas continue to be a key aspect of the province's biodiversity strategy under the *Forest and Range Practices Act* (FRPA). They serve to protect either representative samples of ecosystems, or elements of particular species' habitats and are generally applied outside of parks and protected areas. As part of the Identified Wildlife Management Strategy (IWMS), WHAs are established to protect critical habitat for species affected by forest and range practices. UWRs are areas necessary for the winter survival of certain ungulate species. OGMAs protect examples of old forest ecosystems and provide the framework for landscape level conservation.

There are 84 species and subspecies of animals, plants and plant communities listed as "Identified Wildlife" under the strategy.

The extent that conservation areas are established is limited by policy that manages the impact of these areas on the provincial timber supply, .e.g., current policy limits the impacts of the IWMS to one percent of short and long term harvest levels per forest district (one percent of the mature and total timber harvesting land base (THLB) area).³ Approximately every five years, the Ministry of Forests and Range (MFR) conducts a timber supply review on each timber supply area.⁴ The purpose of the review is to assist the chief forester in setting the allowable annual cut (AAC) for that unit. As part of the review, the land base is divided into areas that are available for harvesting (timber harvesting land base) and areas that are not available for a variety of reasons (non-timber harvesting land base or non-contributing land base (NCLB)).⁵ However, this division of the land base is for timber planning purposes only and has no legal weight. Licensees' harvesting operations are not restricted by these designations.

Productive forest can be unavailable for harvesting if it is inoperable or reserved for environmental conservation.

² Forest Practices Board, *Implementation of Biodiversity Measures Under the Forest Practices Code - Implications for the Transition to the Forest and Range Practices Act 2004*, a Forest Practices Board Special Report, Victoria, BC, 2004.

³ This can be changed by a cabinet or land use planning decision.

⁴ This period may be extended if the chief forester has reason to believe that the review will not result in a significant change in the allowable annual cut.

⁵ It is called the non-contributing land base because these stands do not contribute to the allowable annual cut determination.

In order to minimize economic impacts, guidance for implementation of spatially-defined conservation areas has been to place them, whenever possible, outside of the THLB and overlapping areas that are already constrained.

Accordingly, the NCLB is considered an important source of land for protecting wildlife and biodiversity. However, as technology and market conditions change, areas previously thought to be inoperable have become attractive to licensees for harvesting. In some places, licensees are turning to the NCLB as logging options are increasingly constrained elsewhere.

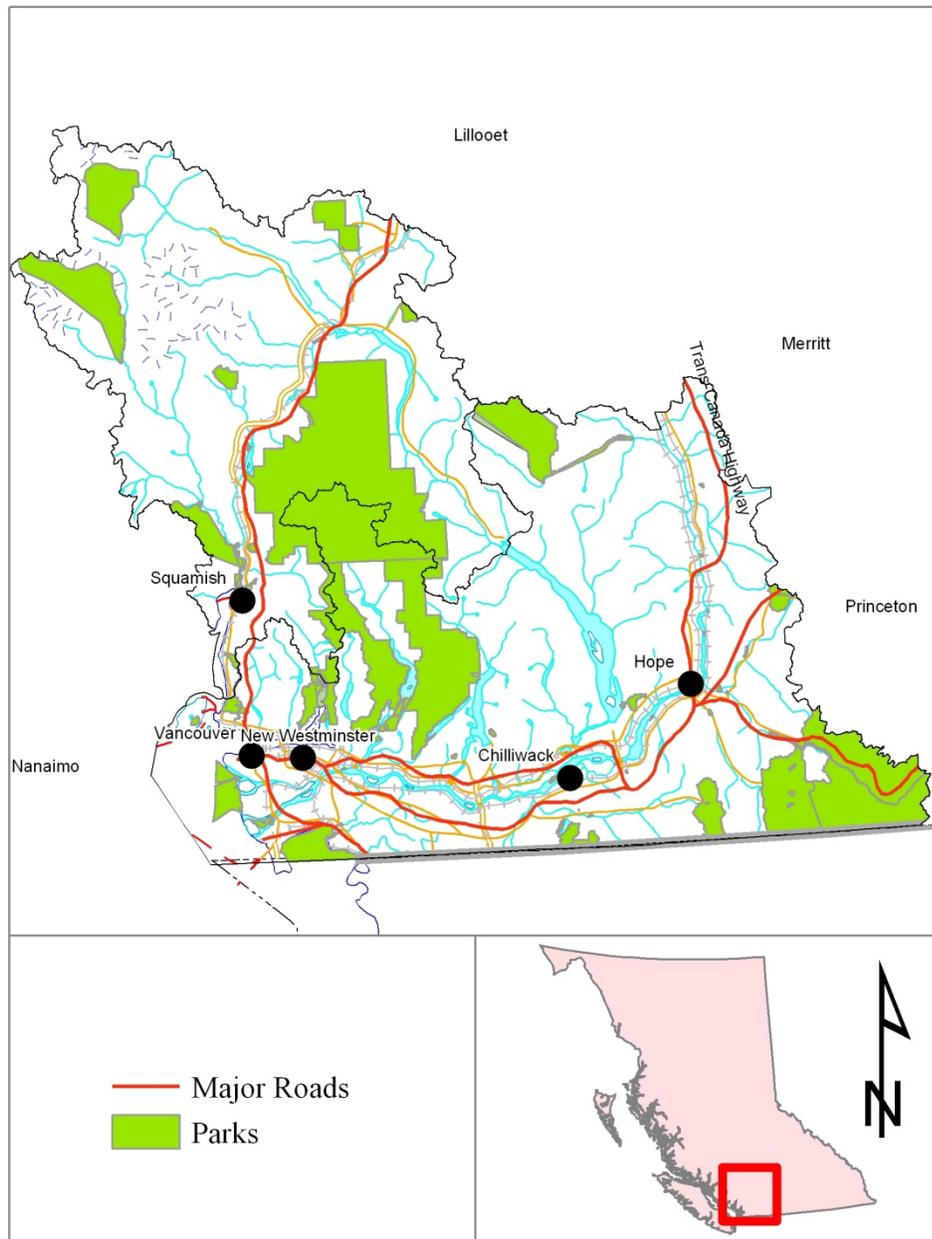
There is now concern among government and the public that logging and conservation interests are increasingly coming into conflict where conservation planning is incomplete, including areas in the NCLB. This issue was brought to the Forest Practice Board's attention through complaints from the public and discussions with agency staff and forest managers. The Board has investigated several complaints regarding harvesting in species habitat where conservation areas have not yet been established.⁶

As a result of the interest in this matter, the Board decided to examine the issues around planning for OGMAs, WHAs and UWRs, and the use of the NCLB more closely and comprehensively through a special investigation. An attempt was made to determine the levels of harvesting in the NCLB for each forest district across the province using forest inventory information provided by MFR. However, problems were encountered with identifying some sources of disturbance. For the interior districts in particular, the database did not allow for harvesting to be separated from large-scale fires. The Board was able to determine that for four districts on the south coast, including Vancouver Island, the level of harvest in the NCLB that occurred between 1999 and 2005 varied from almost 30 percent to about 45 percent of the total harvest. The percentage of NCLB of the total forest land base also varies greatly between districts.

The Chilliwack and Squamish Forest Districts were chosen as case studies for the Board investigation based on high biodiversity and wildlife values, significant areas of forest harvesting, and a history of forest harvesting outside of the THLB.

⁶ For example, the Forest Practices Board's 2005 complaint reports, *Harvesting in the Winslow Goat Winter Range* and *Logging in Marbled Murrelet Habitat on Queen Charlotte Islands / Haida Gwaii*.

Spatially Establishing Conservation Areas Squamish and Chilliwack Forest Districts



Objective of the Investigation

The objective of this investigation was to examine the implementation of spatially defined conservation areas and the degree to which harvesting in the NCLB is a problem.

To do this, the investigation looked at:

1. Current levels of implementation of government's objectives for spatially-defined conservation areas using two case studies.
2. Government's approach to establishing conservation areas within the THLB and the NCLB.
3. Any potential factors hindering or complicating the implementation process.

The investigation was not intended to evaluate the effectiveness of government's objectives in conserving species, although related issues are raised in the report. Effectiveness evaluations require knowledge of the amount of habitat and the size of population required for long-term viability of a species, and were beyond the scope of this investigation.

Approach to Investigation

The investigation relied primarily upon interviews with people involved in biodiversity and forest management, in addition to document and policy review. Interviews were conducted with representatives from the Ministry of Environment (MOE), MFR, the Integrated Land Management Bureau (ILMB), and industry.⁷ Questioning focused on policy interpretation and application, the implementation of conservation areas (the delineation process, current status of areas and considerations in approving areas), operational planning and plan approval, and challenges and positive experiences with implementation. Additionally, GIS analysis was undertaken to determine the extent of harvesting in the NCLB and to determine any overlaps between harvesting and proposed areas that may be needed to meet government's wildlife objectives.

Format of Report

The main discussion of the report will focus on the general findings, the implementation issues, the use of the NCLB in policy and practice. A description of the legislation and policy guiding conservation efforts is provided in Appendix 1. Specific results for the two districts examined are presented in Appendix 2.

⁷ ILMB's predecessor was the Ministry of Sustainable Resources Management. For the sake of simplicity, ILMB will be used throughout the document when discussing the government agency responsible for OGMA planning, even when referring to the past.

Government's Objectives

For this investigation, the government objectives were considered to be those objectives or targets identified in Section 7 notices under FRPA, and a non-spatial old growth order⁸ supporting Section 9 of the *Forest Planning and Practices Regulation* (FPPR). The objectives for the three types of conservation areas are based on slightly different management units. The WHA objectives are set by forest district. The ungulate winter ranges are set by timber supply area (TSA), and the targets in the non-spatial old growth order apply to biogeoclimatic zones by landscape units within a forest district. However, as the forest district and the timber supply areas are roughly equal for both the Squamish and Chilliwack districts, and the old growth targets are done for all the landscape units within a district, to reduce confusion the report will refer to the forest district for all three.

Wildlife Habitat Areas (WHAs) and Ungulate Winter Ranges (UWRs)

Section 7 of the FPPR establishes government's objective for wildlife. By issuing a notice under this section, the Minister of Environment can inform licensees of the indicators of the amount of habitat that is required for the survival of species at risk, regionally important species or ungulates. This indicates the amount of habitat that MOE intends to establish in wildlife habitat areas or ungulate winter ranges.

Ungulates are hoofed animals. In these districts this includes mountain goats, black-tailed deer and moose.

Licensees must create a result or strategy to meet these indicators in their forest stewardship plans. The notices are a-spatial, but indicate the amount, attributes and general distribution of wildlife habitat that licensees must create a result or strategy for. In some cases, the amount of habitat is based on what is assumed to be required to improve the status of the species for federal downlisting by the Committee on the Status of Endangered

Wildlife in Canada (COSEWIC). In other cases, it is based on known occurrences, or simply on what is available within the government's timber supply impact policies for species at risk (i.e., a maximum of one percent of the THLB for all WHAs).

In both Squamish and Chilliwack, the Section 7 notices allocate the full amounts permitted under the one percent budget. A portion of the NCLB was assigned to UWR in the previous timber supply review (TSR2) for the Chilliwack Forest District, but this was not included in the Section 7 notice due to concerns raised by industry and uncertainty of economic impacts.

Not all FRPA-listed species at risk are included in the Section 7 Notices for the two districts. For example, in the Chilliwack Forest District, the marbled murrelet, Keen's long-eared myotis, red legged frog, Lewis' woodpecker, great blue heron and badger are not included because of either insufficient occurrence information or insufficient budget.

⁸ Order Establishing Provincial Non-Spatial Old Growth Objectives, 2004.

The Section 7 notices apply to the forest district for species at risk and to the timber supply area (TSA) or tree farm licence for UWRs, because these are the units that the timber supply impact policies have been applied to. The notices only apply to forest stewardship planning and do not limit what conservation areas government can establish under the *Government Actions Regulation* (GAR). That being said, these notices are being used as guides for WHA establishment. Table 1 lists the species and habitat planning requirements included in the Section 7 notices. No amount for ungulates was issued for the Squamish district because mountain goat UWRs had already been approved, and moose and deer UWRs were close to approval (March 2005).

Table 1. Section 7 Notice Amounts for Species at Risk and Ungulates in Chilliwack and Squamish Forest Districts.

Area	Species	NCLB (ha)	Mature THLB (ha)	Area not in Notice* (ha)
Chilliwack				
	Coastal Giant Salamander	300	550	
	Grizzly Bear	NM	445 (amended to 387 in 2007)	6,399
	Pacific Water Shrew	25	25	
	Tall Bugbane	125	75	
	Coastal Tailed Frog	30	30	
	Spotted Owl**	SOMP		
	TOTAL	480	1,125	
	Mountain Goat***	NM	1,500	
	Black Tailed and Mule Deer***	NM	3,500	16,000
Squamish				
	Marbled Murrelet	Total Habitat in NCLB	415	
	Grizzly Bear	6,895	385	
	Coastal Tailed Frog	15	25	
	Spotted Owl	SOMP		
	TOTAL	6,910	825	

NM – No mention of an amount in the notice

* This is area that MOE believes is necessary, but is not included in the Section 7 notice.

** SOMP – Spotted Owl Management Plan – managed by the Species at Risk Co-ordination Office

*** Goat and deer notices were based upon the TSA, but reported by district for convenience.

Old Growth Management Areas (OGMAs)

In June 2004, the non-spatial old growth order was released, establishing legal old-growth objectives for those landscape units that were not yet planned. Licensees creating forest stewardship plans must specify results and strategies consistent with these objectives.

This order adopted the retention targets previously identified in the *Landscape Unit Planning Guide* and the *Biodiversity Guidebook*. For the Squamish and Chilliwack Forest Districts, old forest is considered to be greater than 250 years of age. The retention target varies by biogeoclimatic zone between 9 percent and 28 percent across the two districts.

The tables providing the specific retention targets are too extensive to be included in this report. Refer to the non-spatial old growth order for details.⁹

⁹ http://ilmbwww.gov.bc.ca/lup/policies_guides/oldgrowth/index.html

Discussion

Planning Issues

There were two common issues raised during interviews about the three types of conservation areas.

1. Resources

Levels of staff and resources (funding for inventory and species research, GIS resources, etc.) slowed the responsible ministries' progress with conservation area implementation. In some instances, government asked industry to take the planning lead, and in some of these cases government later redid the work, having found industry's efforts inadequate. Licensees also have finite resources to participate in conservation area negotiations and establishment and have to set their own planning priorities.

During the investigation, one MOE person was responsible for the implementation of WHAs in three areas—the Sunshine Coast, Squamish and Chilliwack Forest Districts—and that person also had other responsibilities under FRPA.

Finally, as MOE has limited funds, all GIS work necessary for WHA planning is done by ILMB.

2. A Perception of Increased Impacts due to a Lack of Concurrent Planning

The implementation policies for all of these conservation areas direct planners to overlap constraints and co-ordinate various processes, but according to some of those interviewed, this did not happen enough on the ground, which was resulting in greater timber supply impacts.

This shared view likely is a result of planning being conducted by different agencies at different times—ILMB has authority for OGMAs; MOE is responsible for WHAs and UWRs; the Species at Risk Co-ordination Office deals with spotted owl areas; and, MFR is responsible for forest stewardship plans.

Many OGMAs were identified prior to the implementation of other conservation areas, so maximizing the overlap with these other areas was not an option at the time. Agencies said that they attempted to overlap constraints as much as was reasonable. It may also not be fair to assume that timber supply impacts would be significantly lessened if all planning occurred concurrently because habitat for species at risk and ungulates is found in specific locations that may not be suitable to meet old growth retention objectives. And there are specific characteristics to be met for OGMAs, which take priority over providing habitat for species at risk.

The current incremental approach to conservation area establishment has delayed the establishment of some areas, as they have been put on hold until other reserves or processes are completed. This approach has also made it more challenging—or at least made the process

much longer—to assess the final, cumulative effects of conservation areas, both in terms of their benefits to biodiversity and wildlife and their timber supply impacts.

Progress Establishing Conservation Areas

Progress is summarized below and the detailed results can be found in Appendix 2.

Wildlife Habitat Areas (WHAs)

The establishment of WHAs in Chilliwack and Squamish is progressing. From the proposal stage, WHAs have taken from one to three years to be approved, although the procedures manual suggests that it only should take around five months. Aside from two grizzly bear WHAs currently on hold, and one northern goshawk WHA, there have not been any major unresolved issues regarding specific WHA location. The total numbers of approved WHAs are 52 in the Chilliwack Forest District and 91 in the Squamish Forest District. The majority of approved WHAs (104 of 143) in the two districts are for grizzly bear.

However, the current policy may not provide for enough habitat. The one percent cap on timber supply impacts may not allow for sufficient area to protect the habitats of most species at risk in the districts. The apportionment between species on the Section 7 notice was constrained by the one percent policy cap. Species at risk recovery teams are currently trying to determine how much habitat is actually needed for many of the species. However, MOE said that the NCLB can still be used to establish WHAs where habitat needs exceeds what is permitted in the notices.

Ungulate Winter Range (UWR)

UWR planning was successfully completed in the Squamish district prior to the investigation. In the Chilliwack district, no UWRs were established, but there is agreement on goat winter ranges. The district managers used different approaches to UWR planning and forest operations. In the Squamish Forest District, the district manager deferred harvesting on draft winter range areas by considering these as “known information” under the Forest Practices Code. In contrast, the Chilliwack district manager assessed each harvest proposal using the Section 41 test for adequately managing and conserving forest resources and approved them if the ungulate winter range habitat objectives established in TSR2 would still be achieved.

Establishment of deer winter ranges in the Chilliwack district remains the most incomplete planning project. Along with these findings, the following issues were raised:

Establishing winter range in the NCLB

Licenses in the Chilliwack district were concerned with MOE plans to establish conservation areas in the NCLB. They believed there were economic impacts that MOE did not adequately consider. However, establishing 16,000 hectares of deer winter range in the NCLB was accounted for by the chief forester in TSR2 when he determined the annual harvest for the district. There has since been another timber supply review (TSR3) that only addresses the THLB target for deer winter range, of 3,500 hectares.

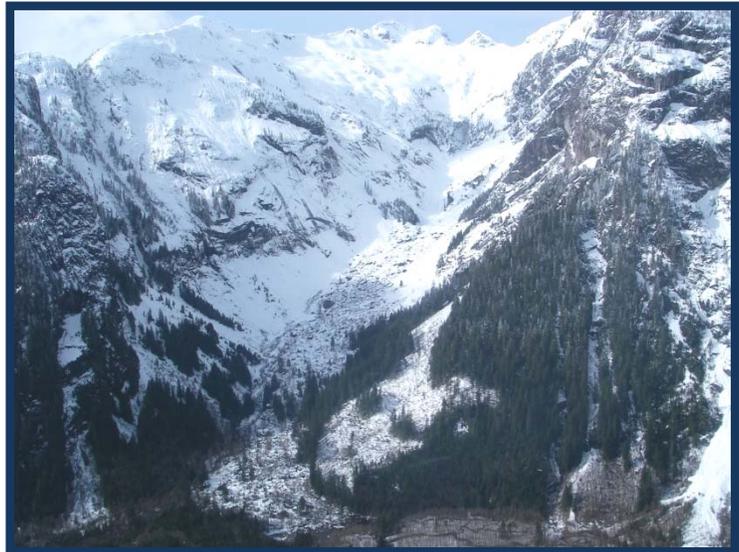
Section 7 notice may not allow for enough habitat

MOE identified that the amount of THLB-based habitat for deer listed in the Section 7 notice for the Chilliwack Forest District may not be sufficient for deer, even if all the amounts it wanted in the NCLB were established. Also, the amount of habitat for each species was partly determined by dividing up the remaining one percent timber supply impact budget. The budget is fully allocated, but not all species at risk were included on the notice.

Early collaboration and maintaining options

The UWR establishment process has been more successful in the Squamish district, where there appears to have been a more collaborative process between the agencies and licensees. The Squamish district manager instructed licensees to respect the draft UWR plans. This direction established a certain understanding in the district that establishing UWR was supported by both MOE and MFR, a fact that many felt influenced the willingness of licensees to support the process. It also maintained options and likely allowed for greater flexibility on the management strategy within the UWRs.

In the Chilliwack district, no deferral was placed on proposed UWRs. Harvest proposals were assessed individually against habitat targets from the timber supply review. It was largely left for MOE and the licensees to resolve their issues. The licensees were concerned with supporting processes that involved additional constraints to the land base. While this process has been underway for the past decade, harvesting has continued in areas identified by MOE as winter range. This has reduced management options.



Goat winter range in the Chilliwack Forest District.

Old Growth Management Areas (OGMAs)

Legal spatial areas have been established in 27 of 44 landscape units across the two districts, or approximately 60 percent of the landscape units in each district. Despite the fact that several plans had to be redone, according to ILMB, the legal establishment of OGMAs in the two districts is relatively far along when compared to other districts in the province. However, completion of OGMA planning has been continuously delayed, missing previous provincial completion targets of 2002 and 2005, set when other ministries were responsible for the planning. Much of the delay can be attributed to available staff resources and transfers of planning responsibility first from MOE to the Ministry of Sustainable Resource Management and then to ILMB.

Now that some OGMA's are established, ILMB has received requests for amendments and licensees said that they may be considering applying for further amendments in the future to better overlap with new conservation areas and reduce impacts to the timber supply.

ILMB's concern regarding amendments is twofold. Firstly, one of the purposes of landscape level planning is to provide more certainty for all parties. However this might not be achieved if boundaries are continually shifting to minimize economic impacts. Secondly, the amendments will mean an additional workload for ILMB beyond the expected amendments for resolving site-specific operational issues.

ILMB has proposed a new policy that after March 2008, OGMA planning will only be done where there is a demonstrated need. This means that planning to spatially define or legally establish OGMA's may still occur, where there is a business case made, but in other areas OGMA's may remain as a-spatial legal targets or spatially-defined but non-legal areas. The maintenance of a-spatial targets is a concern because it will be difficult to ensure that the size and location of the old growth stands that are contributing to the target are adequate. In addition to providing old forest, some of the OGMA's are also intended to provide forest interior habitat for species and to be one of the key building blocks for landscape connectivity.

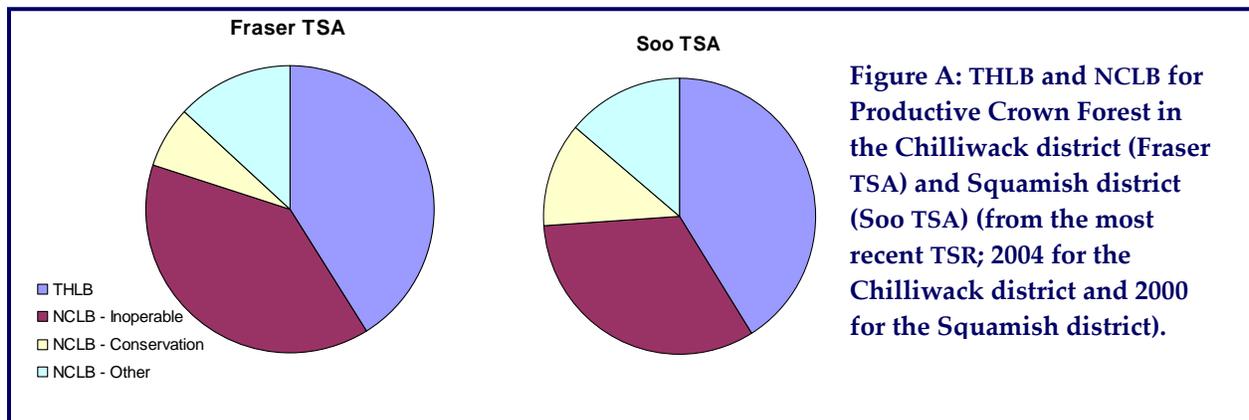
Timber Harvesting Landbase (THLB) and Non-Contributing Landbase (NCLB)

The NCLB is not static; it expands when additional areas are removed from the THLB for conservation purposes (e.g., OGMA's) and shrinks if inoperable areas within it become operable. Some view it as more concept than reality. It is a tool used in the timber supply analysis and may not be well-defined spatially in any given analysis. There may be areas of THLB within the NCLB boundary and areas of NCLB within the THLB boundary used in the timber supply review. Licensees consider the NCLB to be a "snapshot" in time, and they believe that its utility does not extend beyond timber supply analysis modelling.

Operability can be divided into physical and economic operability. The former is dependent on current road building and yarding techniques, while the latter is determined by the difference between timber values and logging costs. When technology improves or markets change, so does operability.

The NCLB can make up a significant portion of the forested land base

Figure A shows the breakdown of the THLB and NCLB for the Chilliwack district and Squamish district from the most recent TSR.¹⁰



The portion of the annual harvest occurring in the NCLB can be significant

The THLB and NCLB are not legal land designations. Licensees and MFR do not necessarily consider these different designations during operational planning and will place cutblocks where the harvesting opportunities exist. Between 1999 and 2005, approximately 3,300 hectares in the Chilliwack district and 3,200 hectares in the Squamish district were harvested in the NCLB. This amounts to approximately 25 percent of the total harvest in Chilliwack and over 40 percent of the total harvest in the Squamish district over that period. Squamish district staff estimate the 2006 harvest in the NCLB at 15 to 25 percent of the total harvest, whereas approximately 30 percent of proposed and approved cutblocks in Chilliwack's consolidated forest development plan at that time were located or partially located in the NCLB.

The 1999-2005 harvests amount to about one percent of the forested NCLB in Chilliwack and about two percent of the forested NCLB in the Squamish district. It is assumed that this harvest is in what was considered in the TSR to be the inoperable portion of the NCLB. What is not known is how significant this is in terms of a conflict with future conservation requirements in the NCLB.

In the Chilliwack district, the portion of the NCLB considered inoperable in the last TSR is approximately 246,700 hectares compared to a THLB of 260,900 hectares. In the Squamish district the inoperable is approximately 99,000 hectares compared to a THLB of 123,400 hectares.

¹⁰ The THLB is approximately 32 percent of the total productive forest area in the Chilliwack Forest District and approximately 38 percent in the Squamish Forest District.

The NCLB is relied upon for further conservation planning

Policies for WHAs, UWRs and OGMAs all state that they should be coordinated (i.e., overlap) to reduce timber supply impacts. The government objectives for WHAs and UWRs in the Section 7 notices indicate an expectation that a significant amount will be retained in the NCLB, and MOE has indicated that it expects to establish WHAs and UWRs beyond the amount set in the notices. For OGMAs, targets are to be met as much as possible in the NCLB.

In practice, approximately 80 percent of established and draft OGMAs in both districts are located in the NCLB, the remainder being in the THLB.

MOE may want to establish WHAs for the marbled murrelet in the Chilliwack Forest District in the future. Murrelets were initially on the draft Section 7 notice, but were removed because of industry concerns about impacts in the NCLB; uncertainty on how to determine the economic impacts in the NCLB; and concerns about the available murrelet inventory information. MOE advised the Board that not including the murrelet in the notice did not preclude MOE from establishing WHAs for murrelets if suitable areas were found.¹¹ The federal marbled murrelet recovery team has a draft strategy of conserving 85 percent of the currently suitable murrelet habitat. Therefore, in addition to the Squamish Forest District, the Chilliwack Forest District may be important in meeting the recovery team's habitat conservation objective for the lower coast. The option of meeting the recovery team target may be compromised with continued NCLB harvesting before WHAs for murrelets are established.

MOE also intends to establish UWR in the NCLB of the Chilliwack Forest District, potentially up to the 16,000 hectares accounted for by the chief forester in that district's timber supply review. Continued harvesting of proposed areas in the NCLB will likely reduce options and exacerbate the current conflict that is happening on the THLB portion of the landbase.

Harvesting in the NCLB is also an issue for the future management of any new species that may be added to the list of species at risk under the IWMS or a listed species not currently in a notice (e.g., marbled murrelet in Chilliwack), and not just for the Chilliwack and Squamish Forest Districts. Most of the Section 7 notices in the province identified enough habitat to use up the one percent budget which applied to each forest district. Without an increase in the one percent cap, WHAs for any new species listed, or additional WHAs for existing listed species, will have to either be placed in the NCLB or take habitat away through cancelling an existing WHA.

Policy based on NCLB concept creates confusion and conflict

The use of the THLB and NCLB in government policy has created some confusion and conflict during conservation area and strategic level planning. For all of the conservation areas examined, there were reports of negotiations over reserve placement in the NCLB as licensees identified economic opportunities in this land base. In Chilliwack, there is no agreement from licensees for planning UWRs in the NCLB (although there is general agreement on about

¹¹ Director, Biodiversity Branch to Executive Director FPB, August 19, 2005.

60 percent of the area proposed by MOE). There were also indications, at least in the case of OGMAs, that amendments to conservation areas may be proposed in the future, as areas that were previously inoperable become more attractive to licensees.

MOE activity is tied to the NCLB by policy but other agencies and licensees are not

In recent years, government policy and communications have explicitly recognized the existence of economic opportunities in the NCLB and clarified that agencies do not have a 'carte blanche' to implement conservation areas without regard for these opportunities. Although operability is dynamic and the location of harvest opportunities changes, the establishment of conservation areas is limited by a static definition of the NCLB as it was classified in TSR2. This is because MOE requires a consistent foundation against which to apply the timber supply impact policies.

Conclusions

Old growth management areas, wildlife habitat areas in both the Chilliwack and Squamish districts, and ungulate winter range areas in the Squamish district have been identified and exist, at least in draft form, up to the government target levels. However, despite considerable time and effort by agencies and licensees, legal establishment of these conservation areas has been slow. There have been significant problems with ungulate winter range planning within the timber harvesting land base (THLB) and the non-contributing land base (NCLB) in the Chilliwack Forest District. Industry's proposal, and MFR's approval, of harvesting in MOE's proposed ungulate winter ranges appears to have contributed to the current situation by reducing habitat options and not showing unified government support for the planning process.

To date, harvesting within the NCLB has not been a significant impediment to meeting government's objectives, except for UWR planning in the Chilliwack Forest District. However, government's policy on use of the NCLB has created confusion with respect to how economic opportunities should be considered relative to conservation needs. MOE expects to continue to establish conservation areas in the NCLB and so further conflicts can be expected in areas where harvest opportunities and habitat for species at risk overlap.

Factors which have hindered or complicated the implementation process include:

- Resources;
- the one percent policy cap;
- the NCLB approach used in government policy;
- planning responsibility spread amongst three ministries with different mandates; and
- reduced habitat conservation options due to the continued harvesting in areas proposed as UWR.

Appendix 1

Legislation and Policy Guidance

Wildlife Habitat Areas (WHAs) and Identified Wildlife Management Strategy (IWMS)

Government's strategy for species at risk affected by forest and range practices is described in the IWMS. The goal of the IWMS is to "minimize the effects of forest and range practices on Identified Wildlife situated on Crown land."¹² This strategy is implemented under the *Forest and Range Practices Act* (FRPA) for those species and plant communities included on a list of 'species at risk.' WHAs may be created for species on the list.

Current government policy has limited the impacts of the IWMS to one percent of short- and long-term harvest levels for each forest district. This is measured as one percent of the mature and total timber harvesting land base (THLB) area, according to the THLB definition used in the second timber supply review (TSR2).

In order to reduce the economic impacts of implementing conservation areas, government policy is to encourage their co-location. In December 2005, the Joint Steering Committee released a memo clarifying this principle with respect to the IWMS. The memo said that timber supply impacts resulting from the establishment of WHAs were to be additive to impacts resulting from other constraints already existing in the THLB.¹³ This means that if a WHA overlaps another constrained area, such as an old growth management area (OGMA), the impact assigned to that WHA would only be the amount that is in addition to the OGMA's impact. The memo also says that when planning WHAs in the non-contributing land base (NCLB), planners must be sensitive to future harvesting opportunities. When planning WHAs in the THLB, areas that are most constrained should be considered before locating WHAs in the unconstrained THLB.

Ungulate Winter Ranges (UWRs)

In 1998, changes to the Forest Practices Code provided an opportunity for UWRs to be grandparented into the Code for the purposes of operational planning and to be legally established as conservation areas. Legal establishment of UWRs and associated objectives continues under FRPA.

¹² BC Ministry of Water, Land and Air Protection, *IWMS—Procedures for Managing Identified Wildlife*, Version 2004.

¹³ Joint Steering Committee, "Clarification of the Application of the 1 percent Timber Supply Impact Account for Identified Wildlife / Species at Risk," Memorandum, 2005.

In May 2003, the Joint Steering Committee released a memorandum of understanding to “expedite and facilitate the orderly confirmation and establishment of ungulate winter ranges.”¹⁴ The memorandum established three “types” of UWR:

- **Type 1:** UWR and objectives that have been identified and incorporated in TSR1 and/or TSR2. These UWRs should receive the highest priority for establishment. UWRs that were previously considered part of the NCLB at the time of TSR1 or TSR2 that now have timber supply or significant operational impacts due to changes in operability are to be addressed as Type 3 UWRs.
- **Type 2:** UWR and objectives identified in Cabinet-approved strategic land use plans.
- **Type 3:** New UWR and objectives that are identified as necessary for the winter survival of ungulates, but that exceed the amounts permitted in Type 1 or 2 UWRs.

The memorandum states that the establishment of UWR should be coordinated and integrated with the establishment of other legal objectives, such as OGMAs and WHAs.

However, if it is decided that UWR should precede the establishment of other conservation areas, there is always the possibility of amending UWR boundaries in the future to integrate them with other land designations.

Government Actions Regulation (GAR)

The establishment of these areas under GAR is subject to a suite of “tests” set out in the regulation. Before establishing WHAs and UWRs the minister must be satisfied that, at a minimum:

(GAR s. 2(1))

- (a) the order is consistent with objectives already established in the area,
- (b) the order would not unduly reduce the supply of timber from British Columbia's forests, and
- (c) the benefits to the public derived from the order would outweigh any
 - (i) material adverse impact of the order on the delivered wood costs of a holder of any agreement under the *Forest Act* that would be affected by the order, and
 - (ii) undue constraint on the ability of a holder of an agreement under the *Forest Act* or the *Range Act* that would be affected by the order to exercise the holder's rights under the agreement.

¹⁴ Joint Steering Committee, “Memorandum of Understanding on Establishment of Ungulate Winter Ranges and Related Objectives,” 2003.

While FRPA does not contain an explicit definition of what it means to “unduly reduce the supply of timber,” implementation of the legislation is being guided by government’s existing timber supply impact policies for WHAs and UWRs.

The intent of GAR sections 2(1)(c)(i) and 2(1)(c)(ii) is to capture localized operational impacts and to prevent possible impacts on tenure holders’ rights to harvest the volume of timber in their forest tenure agreement. In addition to these tests, the Minister must also be satisfied that the proposed area requires special management that is not otherwise provided for under the regulation or by another enactment (GAR s. 10(2) and 12(2)).

Old Growth Management Areas (OGMAs)

The Landscape Unit Planning Guide (LUPG), released in 1999, established retention of old growth as one of two priority objectives for landscape unit planning. The guide includes both targets for old growth retention, at the biogeoclimatic ecosystem classification (BEC) variant level, and direction on how old forests should be retained.

If the full OGMA target cannot be met due to a lack of old growth in the landscape unit (as a result of past harvesting or other disturbances), a strategy must be developed whereby younger forests are established as “recruitment” OGMAs. These areas should use the oldest forests available.

In landscape units with low biodiversity emphasis options (BEOs), policy says that the old growth target should be drawn down to one third of the target, unless the remaining two thirds of the target can be met without impacting the timber supply. If the full target is not met, a recruitment strategy must be created that outlines how the total amount will be achieved by the end of the third rotation (240 years).

The LUPG notes that when it is necessary to delineate OGMAs in the THLB, older mature forest (as opposed to “old” forest) may be considered for establishment as OGMAs if:

- older mature forest provides important old growth attributes that are equal to or better than those provided in stands that meet the old forest definition; and
- older mature forest is better suited for biodiversity conservation (e.g., it may be possible to obtain a larger patch of older forest or better representation).

In order to minimize impacts to the timber supply, the LUPG directs planners to meet as much of the old growth retention target as possible in the NCLB. Where this cannot be completely achieved, OGMAs should be placed in the partially constrained land base before moving into the THLB.

Regional OGMA policy was developed in the Lower Mainland and further clarifies that in low biodiversity emphasis option (BEO) landscape units, one third of the target should be met immediately using the oldest available forest. The remaining two thirds of the target should be met if this can be done in the NCLB, but can be met with recruitment OGMA from younger ages. Additionally, this policy recognizes “the THLB/NCLB breakdown was not intended to be accurate at the stand level.”¹⁵

Old growth planning continues under FRPA, with the authority to establish legal landscape unit objectives granted to the Minister of Agriculture and Lands (or his/her delegate) under the *Land Amendment Act* (s.93.3). ILMB, which is part of the Ministry of Agriculture and Lands, is currently responsible for landscape unit planning, (i.e., OGMA planning).

¹⁵ Ministry of Sustainable Resource Management Coast Region, “Lower Mainland Landscape Unit Planning Standards,” 2004.

Appendix 2

Results - Progress Towards Meeting Government's Objectives

Wildlife Habitat Area (WHA) and Ungulate Winter Range (UWR) Implementation

This section reports on the status of WHAs and UWRs for all species in the Section 7 notices in the two districts and discusses progress towards meeting government's objectives for wildlife.

The Ministry of Environment (MOE) released Section 7 notices for both species at risk and ungulate winter ranges in December 2004. The Chilliwack district WHA and Fraser Timber Supply Area UWR notices underwent some significant changes from the time the drafts were created in region to the final notice produced by MOE headquarters. While the original draft notices included total conservation area amounts for each species, the final notices did not include the non-contributing land base (NCLB) portion (only the timber harvesting land base (THLB) portion) for grizzly bears, mountain goat and deer. Additionally, draft provisions to preserve marbled murrelet habitat in the NCLB were removed entirely. In comparison, the Squamish notice did not undergo any substantial changes, with the total habitat and THLB amounts remaining in the final notice.

One of the main reasons provided for the changes in the Chilliwack notices was that licensees had expressed concerns about the possible loss of economic opportunities that could result from including more conservation areas in the NCLB. All of the species that could be affected when NCLB components were removed have extensive amounts of habitat in the NCLB (e.g., the smallest was about 1,050 hectares for grizzly bear). MOE did not have a clear idea of what the impacts on tenure holders would be if they were to mandate the protection of large amounts of conservation area in the NCLB, but knew that some amount of NCLB would be needed to establish WHAs or UWRs in the future. Therefore, the ministry chose to leave this issue to be addressed by future conservation planning.

Concerning marbled murrelet habitat, in addition to uncertainty about the potential economic impacts in the NCLB, MOE said that there was insufficient habitat information about murrelets in the Chilliwack district to include this species in the notice. Unless the ministry had a clear idea of where an amount of conservation area could be spatially identified on the ground, it was not included in the notice. Radar studies to detect murrelets had been conducted in the Chilliwack district but, according to MOE, the habitat inventory information was not as complete as for murrelets in Squamish.

The implementation results are summarized in table 2.

Table 2. Status of WHA and UWRs for Chilliwack and Squamish

Area	Species	Status (October 2007)
Chilliwack		
	Coastal Giant Salamander	20 WHAs
	Grizzly Bear	18 WHAs 15 draft WHAs
	Pacific Water Shrew	3 WHAs
	Tall Bugbane	7 WHAs
	Coastal Tailed Frog	0 WHAs
	Spotted Owl*	6 WHAs
Squamish		
	Marbled Murrelet	5 WHAs 4 Draft WHAs
	Grizzly Bear	86 WHAs
	Coastal Tailed Frog	0 WHAs
	Spotted Owl*	N/A
Fraser		
	Mountain Goat	Draft UWRs
	Black Tailed and Mule Deer	Draft UWRs

*Spotted owl areas do not count against the one percent budget.

Chilliwack Forest District

Grizzly Bear

There are currently 18 grizzly bear WHAs in Chilliwack, established in March 2005. Their total area is 3,024 hectares, with a 58 hectare mature THLB impact. There remain 387 hectares of mature THLB in the grizzly bear “account” for Chilliwack that licensees have to plan for in FSPs. The mature THLB component of the notice was based on an estimate of 31 WHAs; the supporting information to the notice states that 15 other habitat areas warrant protection but were not included in the notice due to incomplete mapping and insufficient timber supply budget. Since the notice was issued, MOE has determined that the impacts from these WHAs would mostly be within immature forest.

Originally there were 20 grizzly bear WHAs proposed by MOE in the fall of 2002 and the fall of 2003. During the review and comment process, the ministry found that most parties did not have any serious issues with the proposed WHAs. However, there were two WHAs on hold because licensees were concerned about their economic impacts. MOE is not moving forward with an additional set of 11 grizzly bear WHAs until a decision is made about the WHAs on hold and the remaining THLB budget is known.

Coastal Giant Salamander, Pacific Water Shrew and Tall Bugbane

There are 20 WHAs now established for coastal giant salamander, 3 for Pacific water shrew and 7 for tall bugbane. It is expected that these WHAs will include an amount near to the “budget” for these species, identified in the Section 7 notice.¹⁶ Industry representatives on the species’ recovery teams started mapping the WHAs in December 2004, with a set of broad-scale “guiding principles” provided by the recovery teams. Planning continued throughout 2005 and MOE mapped an additional 15 WHAs. MOE began consultations for these WHAs in September 2006.

Planning WHAs for the Pacific water shrew and tall bugbane was relatively straightforward, as the goal was to protect all known occurrences, of which there are very few. The goal for coastal giant salamander WHAs was to protect half of the stream channels known to support the species (approximately 85 linear kilometres from a known 153 kilometres of habitat) in addition to some isolated forest between the streams. MOE reported that it accomplished the goals for these three species with the current WHAs. Most licensees operating in areas with the three species stated that they were respecting the WHAs when they were still in draft status and including them in their forest stewardship plans as results for species at risk.

Coastal Tailed Frogs

Coastal tailed frogs are in the Section 7 notices for both Chilliwack and Squamish, but WHA planning has not yet begun for this species. MOE does not feel that it is a wildlife conservation priority at the moment and therefore it has not been putting resources towards establishing WHAs.

Mountain Goat and Deer

MOE produced draft plans for mountain goat UWR and deer UWR in 2001-2002. For deer, the amounts included in the Section 7 notices are far less than the amounts in these plans (3,500 hectares vs. 13,000 hectares) due to the accounting approach used to assess impacts in TSR2. MOE believes that deer need at least the amount identified in its plan in addition to approximately 16,000 hectares in the NCLB. This amount was accounted for in the second timber supply review (TSR2).

From 2002 to 2004, MOE engaged in negotiations with the licensees in the area regarding UWR establishment, with an emphasis on the goat plan. There was disagreement about where to place the UWR in the THLB and how much should be established in the NCLB, with MOE wanting at least the amount accounted for in TSR2 and licensees wanting less. In the fall of 2004, MOE staff wanted to take the goat plan forward to the deputy minister for approval, but did not have support from the forest district or the licensees.

During the fall of 2005, the MOE deputy minister advised the Board that he directed regional MOE staff to complete ungulate winter range planning in the area by early 2006. The deputy

¹⁶ However, the Ministry intends to save about 50 ha in the account for Coast Giant Salamander, just in case they need it in the future.

instructed the region to address a number of issues when preparing the plans, including the following:

- include the THLB amount available from the timber supply review;
- balance conservation needs and economic opportunities in the NCLB; and
- to the fullest extent possible, overlap UWR with other constraints.

Licensees expressed discontent with a perceived “protectionist” approach to deer UWR planning in the Chilliwack district, arguing that deer would be better served if rotation zones that allowed some harvesting were included. MOE staff said that an alternative plan that included some harvesting options was available to licensees in the early 2000s, but they were not in favour of it because of the constraints associated with management.

Since the MOE released its draft deer and goat winter range plans in 2001/2002 there have been proposals and harvesting in the areas identified in these plans in both the THLB and NCLB, including in some of what MOE feels is the best habitat. In approving forest development plans, the district manager has allowed harvesting in ungulate winter range when there is alternate winter range in a neighbouring area. Through GIS analysis, the Board determined that, between MOE’s proposed plans and the approved and proposed cutblocks in the consolidated FDP, there was an overlap of 250 hectares in goat winter range and 1,648 hectares in deer winter range (Types 1 and 3). For forest stewardship plans, the licensees in the Fraser TSA co-operative decided to use their most recent proposed deer winter range plans as results and strategies for UWR. Although their polygons do not all correspond with the MOE’s priority areas for deer conservation, they meet the requirements for deer UWR established in the Section 7 notices.

Between June 2005 and April 2006, licensees and MOE worked together in an attempt to develop mutually agreeable UWR plans. This cooperative approach was reasonably successful and agreement was reached on about 78 percent of the goat winter range and about 65 percent of the deer winter range areas.

In May 2006, negotiations came to a halt due to differences over deer UWR. The MOE wanted to take its deer UWR plan forward to the deputy minister and had an additional NCLB deer UWR plan that it wanted to implement in the future. Licensees were not in support of MOE’s current plan, nor of the idea of establishing more deer UWR in the NCLB in the future. The various parties were in agreement over mountain goat UWRs. In June 2006, regional staff were instructed by the deputy minister to put the UWRs “on hold” pending finalization of adjustments to northern spotted owl conservation areas. Then, in early August 2006, the deputy minister gave the licensees and MOE staff 90 days to agree on a deer UWR plan. A licensee plan for deer winter range was submitted to the deputy minister in November 2006 but no agreement was reached. Discussions between MOE and the licensees and revisions of the licensee plan continued through 2007. As of March 2008, the mountain goat plan is approved but there is still disagreement between MOE staff and licensees and no decision on the deer plan.

Squamish District

Grizzly Bear

Between May 2006 and October 2007, 86 WHAs were approved for grizzly bears. This will turn off the Section 7 notice for bears.

MOE first proposed 39 WHAs in October 2004. Licensees were concerned that they were not more involved. A meeting was held between the licensees and MOE, during which the details of a collaborative “partnership” between the two parties were developed. The ministry agreed to withdraw the grizzly bear WHA proposals and worked with licensees and their consultant biologist throughout 2005 to draft a set of WHAs that were satisfactory to all parties. Both MOE and licensees stated that once they decided to work together, planning progressed smoothly. In general, the MOE remarked that it was not difficult to find sufficient land for grizzly bear WHAs, as they are largely established in the NCLB and the species does not need huge tracts of forested habitat.

Marbled Murrelet

There are currently five WHAs and four candidate WHAs for marbled murrelets in Squamish.¹⁷ Once all WHAs are approved, they will turn off the marbled murrelet component of the Squamish notice. In the summer of 2005, a MOE consultant conducted a low level aerial inventory of suitable marbled murrelet habitat in six priority landscape units: East Howe, Lower Squamish, Indian, Mamquam, Upper Squamish, and Elaho. The contractor indicated the best areas of habitat without regard for land base designation or management implications. From that habitat, he drafted a set of candidate WHAs that were consistent with the amounts established in the Section 7 notice for this species.

All licensees contacted that were operating in marbled murrelet habitat have said that they are including the candidate WHAs as wildlife results in their forest stewardship plans.

Mountain Goat, Deer and Moose

The Squamish district mountain goat winter range plan was approved in October 2003. It includes 48,474 hectares of goat winter range, with a total THLB impact of 1,188 hectares. The management objectives for these winter ranges preclude harvesting activities, except in rare circumstances.

The deer and moose winter range plan was approved in March 2005. It includes a total of 17,833 hectares, which is divided into several types of zones for the two species that permit varying levels of retention and harvesting.

¹⁷ Fourteen were originally delineated, but five are in parks.

For both goat and deer/moose winter ranges, the district manager recognized the draft UWRs as “known” information under the Forest Practices Code and directed licensees to set the areas aside prior to their final approval. This is a different approach than was taken in the Chilliwack district. MOE worked with licensees and their consultant biologist to refine the draft winter range plans until they concluded upon boundaries and management approaches that met everybody’s satisfaction. Both MOE and members of the forest industry are satisfied with the collaborative establishment process and the resultant ungulate winter ranges for both deer and goat.

Old Growth Management Areas (OGMA) Implementation

In Chilliwack and Squamish, there are a total of 44 landscape units and, as of August 2007, 27 had legal, spatial OGMA objectives (Table 3). The remaining landscape units had OGMAs in some draft stage.¹⁸

Table 3. Status of Landscape Unit Plans in Chilliwack and Squamish (August 2007)

Chilliwack		Squamish	
Landscape Unit	Completion Date	Landscape Unit	Completion Date
Ainslie	January-04	East Howe	August-03
Anderson	January-04	Indian	August-03
Mehatl	January-04	Lower Squamish	August-03
Nahatlatch	January-04	Rogers	March-04
Spuzzum	January-04	Billygoat	July-04
Coquihalla	March-04	Meager	July-04
Manning	March-04	Railroad	July-04
Silverhope	March-04	Ryan	July-04
Yale	March-04	Soo	July-04
Big Silver*	June-05	Upper Lillooet	July-04
Chilliwack*	June-05	Birkenhead*	April-05
East Harrison*	June-05	Gates*	April-05
Tretheway*	June-05	Callaghan	Incomplete
West Harrison*	June-05	Whistler	Incomplete
Chehalis	Mar-06	Elaho	Incomplete
Alouette*	Incomplete	Lizzie	Incomplete
Coquitlam	Incomplete	Upper Squamish	Incomplete
Fraser Valley South*	Draft	Mamquam	Draft
Hatzic*	Draft	Sloquet	Draft
Pitt*	Incomplete	Tuwasus	Draft
Seymour Capilano	Draft		
Similkameen	N/A		
Stave*	Draft		
Widgeon	Incomplete		

* Indicates that OGMA planning was originally done by licensees, but was subsequently redone by government.

¹⁸ Draft OGMAs which have not yet been submitted to ILMB are referred to as pre-draft and the landscape unit status is considered incomplete.

When the Landscape Unit Planning Guide (LUPG) was released in 1999, it was thought that it would take a maximum of three years to complete landscape unit planning for the province. As Table 3 indicates, all of the approved landscape unit objectives in Chilliwack and Squamish were established after mid-2003.

In the initial stages of landscape unit planning, licensees were asked to take the planning lead in the majority of landscape units in order to expedite planning, which was moving slowly due to limited government resources. Forest licensees initially led planning in all but five landscape units in Squamish and all but nine in Chilliwack. Additionally, licensees were not satisfied with initial plans that government produced and argued that their economic impacts were too high. Government thought allowing licensees to delineate OGMAs under a set of planning expectations would result in landscape unit plans that met government standards and minimized economic impacts.

In 12 landscape units across the two TSAs, ILMB rejected the licensee's contractor's initial drafts and redid the plan from scratch because a different approach in planning was used than what ILMB wanted (starred items in Table 3). Of these landscape units that ILMB redid, seven were legally approved and the other five were in draft form. Planning was again slowed down in late 2005 and early 2006 due to resource and staffing issues.

Of the eight remaining landscape units in Squamish, three had draft OGMAs and three others had pre-draft OGMAs. In certain landscape units (Upper Squamish, Elaho, Whistler and Callaghan) landscape unit planning was put on hold because of ongoing negotiations with First Nations groups for the Sea to Sky LRMP process and due to Olympics-related issues. ILMB wanted more certainty about how these will affect landscape unit planning.

In Chilliwack, an ILMB contractor was planning the eight remaining landscape units. Four of these landscape units had draft OGMAs and the others were under discussion.

Now that many of the OGMAs are legally established, ILMB is receiving requests for amendments from licensees. Some amendments have been waiting for ILMB review for over a year, due to limited staff resources. ILMB Coast Region policy is that reviews of major amendments should be done within 120 days, including a 60-day public review and comment period.

To legalize OGMAs, ILMB has to ensure that there has been reasonable consultation with First Nations groups, which can take time. Because of the limitations on staff resources, it sometimes makes more sense for ILMB to put its efforts into developing new draft OGMAs, rather than legally establishing existing draft OGMAs. Finally, resources for GIS are in very high demand and have a bearing on how quickly projects can be completed. The region does not yet have a target date for completion of the remaining landscape units.

Old Growth Management Areas (OGMA) Delineation

Planners used a variety of approaches to implement suitable OGMA in both TSAs that met the representation targets and minimized economic impacts. Old forest was identified using forest cover information and/or aerial photo interpretation and then flown over to confirm attributes where there was uncertainty.

Some planners used the THLB / NCLB line work to initially choose OGMA and followed the policy to place OGMA in the NCLB first. In these cases, licensees reviewed the sites and identified future harvest interests regardless of their land base designation. Other planners ignored the THLB/NCLB boundaries and consulted with industry engineers to place OGMA to minimize operational impacts and harvesting conflicts. This latter technique seemed to work quite well, as the licensees knew the land base intimately and could identify areas in the THLB that actually could not be harvested. Having the support of licensees facilitated getting legal approval of landscape unit plans; this meant mitigating and reducing economic impacts associated with OGMA establishment. The inclusion of old forest stands that were approved or proposed for harvesting was avoided, except in a few instances where the affected licensee agreed to the OGMA. Similarly, known access corridors were usually excluded from OGMA to ensure that timber access was not impeded. Economic impacts were also reduced by using mature forest instead of old forest to meet the BEC variant targets. Such younger stands were used in situations where doing so would create a larger patch size, provide forest interior or would improve the spatial distribution of OGMA across the landscape.

Where options for OGMA placement existed, planners tried to maximize constraints by placing OGMA in conservation areas that were already approved, such as Spotted Owl Special Resource Management Zones. However, it was often the case that at the time of implementation, few such areas were legally established (e.g., wildlife habitat areas or ungulate winter ranges) or habitat mapping was not yet available.

Although it took a long time to get landscape unit plans approved, ILMB overall is reasonably pleased that the plans achieved what it wanted and feels that it retained a large degree of control over the process. Even in those situations when industry led landscape unit planning, ILMB still oversaw the process and was unwilling to accept plans it was not comfortable with.

In all completed landscape units (with both high and low biodiversity emphasis options, or BEOs), OGMA have been specified up to, and in some cases in excess of, the biogeoclimatic ecosystem classification (BEC) variant targets; but, in many cases the forest in OGMA is not old growth. Younger forests were included in OGMA in the following situations:

- When there were deficiencies in old forest caused by past human and natural disturbances.
- In landscape units with low BEOs up to 2/3 of the OGMA targets.
- When they provided equal or better OGMA in terms of biodiversity value.
- When they were used to augment OGMA that have primarily old and mature forest. For example, to join patches in order to make a larger contiguous OGMA.