

Southgate Landscape Unit Plan
For Old Growth Management Areas



**Ministry of Forests, Lands and
Natural Resource Operations**

South Coast Region

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Executive Summary

The Southgate Landscape Unit is situated northeast of Bute Inlet and southwest of Chilko Lake (see Figure 1). The Landscape Unit covers a total area of 122,155 ha and includes the Southgate River watershed and several smaller stream systems. The Southgate Landscape Unit lies within the Central Chilcotin, Central Pacific Ranges and Johnstone Strait Ecosections¹.

The Southgate Landscape Unit also contains high elevation non-forested areas in the NDT5 (alpine tundra). The Landscape Unit includes the Mountain Hemlock (MH), Coastal Western Hemlock (CWH), and a very minor component of Englemann Spruce Subalpine Fir (ESSF) Biogeoclimatic Ecosystem Classification (BEC) zones occurring within natural disturbance types 1 and 2 (NDT1 and NDT2)².

The Southgate Landscape Unit has been assigned a High Biodiversity Emphasis option (BEO). Old seral forest representation targets are based on a percentage of productive forest by BEC unit. Old seral representation targets have been achieved through the spatial delineation of Old Growth Management Areas (OGMA) that are a combination of old forest and younger aged recruitment forest.

The amount of old forest retained is based on a percentage of the amount of forested area existing in a specified BEC variant in a Landscape Unit.

The old seral forest representation target for the CWH ds1 is 1,256 ha and 1,268 ha have been delineated in OGMA.

The old seral forest representation target for CWH ms1 is 944 ha and 977 ha have been delineated in OGMA.

The old seral forest representation target for ESSF mw is 9 ha and 13 ha have been delineated in OGMA.

The old seral forest representation target for the MH mm2 is 919 ha and 954 ha have been delineated in OGMA.

To mitigate potential negative impacts on the future timber supply, areas with potential future harvest opportunity were identified. Ungulate Winter Ranges (UWR) for mountain goats were established for the Sunshine Coast Timber Supply Area in 2012. An effort was made to reduce the impact on the future timber supply by collocating OGMA with these UWR areas where suitable forest exists. Areas identified as Class 1, 2

¹ Demarchi, D. 1996. An introduction to the ecoregions of British Columbia. Wildlife Branch, Ministry of Environment, Lands and Parks, Victoria. Ministry of Sustainable Resource Management. Update March 2004. British Columbia; Ecoregion Ecosystem Classification Units, Ver. 2.01.

² NDT1 encompasses those ecosystems with rare stand-initiating events. NDT2 includes ecosystems with infrequent stand initiating events. NDT5 is Alpine Tundra or other parkland ecosystems that are not considered forested. For a more complete description of NDTs see the *Biodiversity Guidebook* (1995).

or 3 marbled murrelet habitat, both in the THLB and in the non-contributing (NC) were also given high priority for inclusion as OGMA's.

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1.0 Introduction

Landscape Unit (LU) plans are to provide direction on biodiversity related to old forest retention at both the landscape and stand levels. Biodiversity is defined as: *'the diversity of plants, animals and other living organisms in all their forms and levels of organisation, and includes the diversity of genes, species and ecosystems as well as the evolutionary and functional processes that link them'*³.

Planning for Old Growth Management Areas (OGMAs) is recognized as a high priority for the province. Landscape unit (LU) planning is an important component of the *Forest Range Practices Act* (FRPA) that provides the legal framework for legal establishment of objectives to address landscape and stand level biodiversity values. Implementation of this initiative is intended to help maintain certain biodiversity values. Managing for biodiversity through retention of old growth forests is considered important not only for wildlife, but also provides important benefits including the protection of water quality, soils, and ecosystem processes. Although not all elements of biodiversity can be, or should be managed on every hectare, a broad geographic distribution of old growth ecosystems is necessary to help sustain the genetic and functional diversity of native species across their historic ranges.

The Southgate LU has been assigned a Biodiversity Emphasis Option (BEO) rating of high. This report describes the biodiversity conservation management strategy for the Southgate LU and associated OGMA and WTR objectives consistent with *priority biodiversity* as outlined in the Landscape Unit Planning Guide.

Reference material on government policy, planning processes and biodiversity concepts associated with Landscape Unit planning include:

Ministry of Sustainable Resource Management, Coast Region, Lower Mainland:
Landscape Unit Planning Standards, March 2004

1995 Biodiversity Guidebook

<http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/biodiv/biotoc.htm>

1999 Landscape Unit Planning Guide

http://ilmbwww.gov.bc.ca/lup/srmp/background/lup_landscape.html

Sustainable Resource Management Planning Framework: A Landscape-level Strategy for Resource Development

<http://ilmbwww.gov.bc.ca/lup/srmp/doc/SRMPI-May1-Final-Web1.pdf>

1999 Vancouver Forest Region Landscape Unit Planning Strategy, Vancouver Forest Region Landscape Unit Planning Document, Nanaimo, BC

³ from BC Ministry of Forests and BC Environment. 1995. Biodiversity Guidebook.

2.0 Southgate Landscape Unit Description

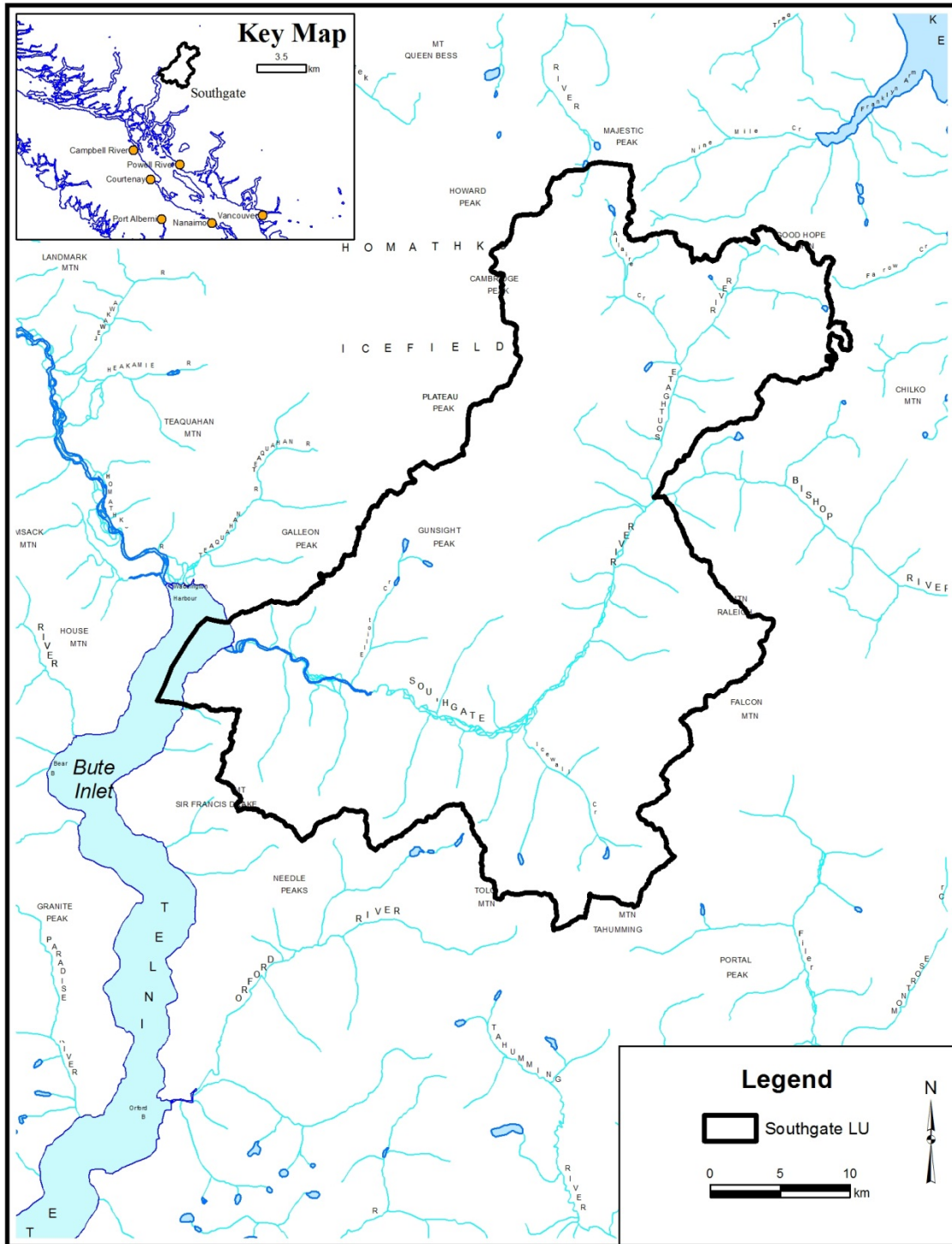
The Southgate LU is situated northeast of Bute Inlet and southwest of Chilko Lake (see Figure 1). The Landscape Unit covers a total area of 122,155 ha and includes the Southgate River watershed and several smaller stream systems. A small portion of the Ts'yl-Os Provincial Park extends into the Southgate Landscape Unit.

The Landscape Unit is characterized by rugged topography with steep mountainous terrain with a wide range of significant natural resource values and features including a large estuary, a wide floodplain, massive rock bluffs, alpine meadows, avalanche tracks, active glaciers and a small amount of marine coastline along Bute Inlet. There is a significant influence on the resources in the northern portions of the Landscape Unit resulting from proximity to the Chilcotin plateau. A large portion of this Landscape Unit is undisturbed due to its steep, rugged terrain while the lower elevations are characterized by early mature stands, created by fire and harvesting history.

Seasonal back-channels of the Southgate River provide important salmonid rearing habitat when inundated with water. River dynamics change seasonally and annually, and extensive erosion of riverside areas can occur subsequent to annual freshets.

Of the total area, 20,784 ha (17%) are within the Crown Forested Land Base (CFLB) with 5,380 ha in the Timber Harvesting Land Base (THLB) and 15,404 ha in the Non-Contributing Land Base (NCLB). The remaining 101,371 ha (83%) of the LU are classified as non-forested or non-Crown (rock, alpine tundra, water, private land, etc.) and have been excluded from OGMA target calculations.

FIGURE 1. Location of the Southgate Landscape Unit



SOUTHGATE LANDSCAPE UNIT

2.1 Biophysical

The Southgate Landscape Unit lies within the Central Chilcotin, Central Pacific Ranges and Johnstone Strait Ecoregions⁴.

The climate of this LU climate is predominately maritime, with the majority of precipitation occurring in the fall and winter, which at higher elevations creates a snow pack that feeds the Landscape Unit stream network.

There are four forested biogeoclimatic subzones or variants present in the Southgate Landscape Unit, occurring within two natural disturbance types (NDTs). The Mountain Hemlock Zone leeward moist maritime variant (MHmm2) and the moist warm Engelmann Spruce-Subalpine Fir Subzone (ESSF mw) occur within NDT1. The Coastal Western Hemlock subzones present in the Landscape Units southern dry subarctic variant (CWHds1), and the southern moist subarctic variant (CWHms1) occur within NDT 2⁵.

The Southgate Landscape Unit also contains Coast Mountain-heather Alpine (CMA) and Interior Mountain-heather Alpine (IMA) that is typically non forested or forested with stands generally considered unproductive.

Forested stands on lower elevation productive sites (typically on slopes with low to moderate gradient) have been historically disturbed by forest fires and past timber harvesting. A significant portion, 46%, of the forest within the LU is comprised of stands that are greater than 250 years old. Approximately 16% of the forest in the LU is less than 80 years old while 38% of the forest is between 81 and 250 years old.

⁴ Demarchi, D. 1996. An introduction to the ecoregions of British Columbia. Wildlife Branch, Ministry of Environment, Lands and Parks, Victoria. Ministry of Sustainable Resource Management. Update March 2004. British Columbia; Ecoregion Ecosystem Classification Units, Ver. 2.01.

⁵ NDT1 encompasses those ecosystems with rare stand-initiating events. NDT2 includes ecosystems with infrequent stand initiating events. NDT5 is Alpine Tundra or other parkland ecosystems that are not considered forested. For a more complete description of NDTs see the *Biodiversity Guidebook* (1995).

2.2 Summary of Land Status

Land status within the Southgate Landscape Unit is summarised in Table 1. There are 227 hectares of private land and 1,341 hectares in the Ts'yl-Os Provincial Park within the Southgate LU which has been excluded from the OGMA selection process.

TABLE 1. Land Status of the Southgate Landscape Unit

Code	Ownership Class	Total Area (ha)	Total of LU (%)	Crown Forested Land Base (ha)
40N	Private	227	0.2	0
62C	TSA or PSYU	120,587	98.7	20,784
63N	Provincial Park	1,341	1.1	0
Totals		122,155	100%	20,784

Table 1 includes area that is not reported on in subsequent tables because it does not contribute to OGMA targets. This excluded land base primarily consists of land classified as either non-Crown, non-forest, and non-productive forest.

TABLE 2. Land Status using Crown Forest Land Base Classification within the Southgate Landscape Unit

BEC Unit	Total Area (ha)	Crown Forested Land Base (ha)	Timber Harvesting Land base (Ha)	Non-Contributing Land base (Ha)	Excluded Land Base (ha)
CWH ds 1	13,725	9,661	4,440	5,221	4,064
CWH ms 1	13,883	7,260	841	6,419	6,622
ESSFmw	349	66	0	66	283
MH mm 2	14,992	3,282	99	3,183	11,711
CMA unp	77,840	515	0	515	77,325
IMA unp	1,366	0	0	0	1,366
Totals	122,155	20,784	5,380	15,404	101,371

note: differences in totals (≤ 1 ha) are due to rounding

Table 2 provides a summary based on biogeoclimatic ecosystem classification (BEC) variant. Old seral representation targets (which are the basis of OGMA's) described later in this report (Table 3) are applied by BEC variant to ensure the OGMA's are distributed across each BEC variant thereby ensuring adequate protection of each variant. Targets are determined and applied based on the crown forest area in each BEC variant.

Table 2 also describes land base classification used in Timber Supply Review 3. These classifications attempt to estimate the amount of forest area that is expected to contribute to this is the area frequently referred to as the THLB. THLB information is used in

Landscape Unit planning and OGMA delineation to avoid impacts on timber supply. However, operationally the harvestable area does not correlate one-to-one with the THLB. Ideally the THLB and the harvestable area would be the same. The reality is that the inventories and assumptions used to identify the THLB area are not always accurate and/or correct operationally. This problem is further complicated by the economics of timber harvesting which change often and can vary significantly from one year to the next. This makes the process of identifying old growth management areas that have the least impact on timber supply very difficult. There is usually some harvesting of forest that did not contribute to timber supply forecast used in the last AAC determination. As a result it is possible that OGMA delineation can have an impact on timber supply greater than that anticipated based on a “THLB impact” assessment.

CMA and IMA are included in Table 2 to account for all area in the Landscape Unit. Old growth targets are not set for this ecotype as it is predominantly non-forest and does not make up part of the productive forest land base. However, it is possible that small forested areas may be captured in the alpine, and where analysis determines that they are suitable for biodiversity conservation may be selected as OGMAs.

3.0 Key Resource Tenure Holders

The planning process included the identification of other key resource(s) tenure holdings including those administered by agencies such as the Ministry of Forests Lands and Natural Resource Operations (FLNR) and Ministry of Energy and Mines.

3.1 Forest Tenure Holders

The Crown forested land base in the Southgate Landscape Unit is subject to Forest License held by International Forest Products Limited and Northwest Hardwoods.

The OGMAs described in this report were selected to minimize OGMA placement in areas identified as future harvest opportunities by major tenure holders operating within the Landscape Unit.

3.2 Mining Tenure Holders

There are 20 mineral claims in good standing located either partially or wholly within the Southgate Landscape Unit. Exploration and development activities are permitted in OGMAs. The preference is to proceed with exploration and development in a way that is sensitive to the old growth values of the OGMA; however, if exploration and development proceeds to the point of significantly impacting old growth values, then a suitable replacement OGMA will be identified.

4.0 Significant Resource Values

4.1 Wildlife and Fisheries

The Identified Wildlife Management Strategy (2004) includes a list of 85 wildlife species and subspecies that are considered to be at risk. These species require special management of critical habitat to maintain or restore populations or distributions. The primary mechanisms for protecting this habitat are through the designation of Wildlife Habitat Areas (WHA) or Ungulate Winter Ranges (UWR) established under the Government Actions Regulation. Not all 85 of these species have a range that is within the geographic area covered in this plan. Wildlife resources of primary management concern in the Southgate LU include marbled murrelet (*Brachyramphus marmoratus*), mountain goat (*Oreamnos americanus*), grizzly bear (*Ursus arctos*) and Northern Goshawk (*Accipiter gentilis laingi*).

Potential marbled murrelet nesting habitat was mapped within the Southgate Landscape Unit consistent with the *Standard Methods for Identifying Marbled Murrelet Habitat in British Columbia Using Air Photo Interpretation and Low-level Aerial Survey*⁶. Stands suitable for marbled murrelet nesting habitat have attributes that also make them suitable for selection as OGMA's. They are typically old growth stands or mature stands that have old growth attributes. Overlap with wildlife habitat such as marbled murrelet is a coarse filter consideration in OGMA delineations and where appropriate it has occurred.

The Southgate Landscape Unit is also an important area for mountain goats and Columbia black-tailed deer (*Odocoileus hemionus columbianus*). Winter range habitat for mountain goats was legally established as Ungulate Winter Range (UWR) in 2012. Established WHA's or UWRs containing stands suitable for old forest representation were considered for selection as OGMA's to maximise conservation benefits while minimising overall impacts.

No WHAs have been established to date in the Sunshine Coast for Northern Goshawk, however, inventories are underway and candidate areas will be assessed as data becomes available.

The Southgate River and its major tributaries support populations of resident salmonids including coho (*Oncorhynchus kisutch*), chinook (*Oncorhynchus tshawytscha*), pink (*Oncorhynchus gorbuscha*) and chum (*Oncorhynchus keta*) salmon. Cutthroat trout (*Oncorhynchus clarki clarki*), bull trout (*Salvelinus confluentus*), rainbow trout (*Oncorhynchus mykiss*), Dolly Varden char (*Salvelinus malma*) and both summer and winter steelhead (*Oncorhynchus mykiss*) are also present. Current regulations applicable to riparian areas under the Forest Planning and Practices Regulation (FPPR), along with Forest Stewardship Plan (FSP) riparian results and strategies will manage for the effectiveness and function of the riparian values associated with these and other riparian

⁶ Burger, A.E. 2003. Standard methods for identifying and ranking nesting habitat of Marbled Murrelets in British Columbia using air photo interpretation and low-level aerial surveys. Ministry of Water, Land and Air Protection Biodiversity Branch, Victoria B.C.

areas within the Landscape Unit. OGMAs have been delineated in or adjacent to riparian areas where suitable forest stand structure exists.

4.2 Timber Resources

The THLB in the Southgate Landscape Unit is estimated at 5380 ha. Removals from the productive forest land base include various netdowns such as inoperable terrain, avalanche tracks, riparian reductions and WHAs.

There are substantial harvesting opportunities for old growth and second growth in the Landscape Unit.

Tree species in the Southgate Landscape Unit include Douglas-fir (*Pseudotsuga menziesii*), western red cedar (*Thuja plicata*), western hemlock (*Tsuga heterophylla*), lodgepole pine (*Pinus contorta*), amabilis fir (*Abies amabilis*), subalpine fir (*Abies lasiocarpa*), yellow-cedar (*Chamaecyparis nootkatensis*), mountain hemlock (*Tsuga mertensiana*) and deciduous species [such as bigleaf maple (*Acer macrophyllum*) and red alder (*Alnus rubra*)]. There is also a very minor component of stands with Engelmann Spruce (*Picea engelmannii*) present near the upper reaches of the Landscape Unit.

4.3 Water Quality

There are no community watersheds in the Southgate Landscape Unit.

4.4 Recreation

Recreation opportunities within the Southgate Landscape Unit are limited by the remote location, although a small portion of the Ts'yl-Os Provincial Park extends into the back of the Southgate Landscape Unit which provides opportunities for backcountry hiking, camping and horseback riding. Outside of the park there are no legally established recreation sites or recreation trails within the Southgate Landscape Unit.

4.5 Mineral Resource Values

Subsurface resources (minerals, coal, oil, gas and geothermal) and aggregate resources are valuable to the province, but are difficult to characterize. Exploration and development activities related to mineral and gas extraction are permitted in OGMAs and therefore establishment of OGMAs will not impact the status of these permits or tenures.

5.0 Existing Higher Level Plans

Landscape Unit Plan objectives must be consistent with direction in established higher level plans applicable to the plan area. There currently is no designated higher level plan for the Sunshine Coast Forest District that pertains to the Southgate Landscape Unit.

6.0 First Nations

The Southgate Landscape Unit is located within the traditional territory of the Homalco and Klahoose First Nations and the consultation area of the Nanwakolas Council⁷. These First Nations have been consulted with regarding this Landscape Unit Plan and associated Order and OGMA's.

Establishment of OGMA's will not affect First Nations Aboriginal rights and title, or affect traditional cultural activities.

There are no Indian Reserves in the Landscape Unit.

7.0 OGMA Methodologies

7.1 Selection of OGMA's

The Landscape Unit Planning Guide (LUPG), dated March 1999 provides direction for selecting suitable OGMA candidate stands which maximizes their value to biodiversity conservation. Ecological suitability, managing Identified Wildlife species, ungulate winter range and ecosystem representation are priority selection criteria. An important part of the OGMA selection process, is to ensure that separate planning processes complement each other.

Efforts were made to ensure OGMA's were distributed throughout the Landscape Unit.

Recruitment:

An analysis was completed to identify stands that were greater than 200 years old. Although not characterized as old growth by forest inventory criteria, these older stands, tend to have attributes that are consistent with old growth stands. These attributes may be exhibited as veterans (old growth trees that survived past disturbance events), secondary layers or as smaller subunits that are a mosaic of different age classes (B. Smart, 2008). Based on the high biodiversity value of these stands, they were considered to be of equal conservation value to old forest stands for the purposes of OGMA selection. OGMA's 102 and 104 include age class 8 stands that are > 200 years old. OGMA's 102 and 104 also include suitable nesting habitat for marbled murrelets and are located within a potential draft WHA for marbled murrelets (draft WHA b6). OGMA 112 is also a

⁷ The Nanwakolas Council includes the Kwiakah, We Wai Kai and Wei Wai Kum First Nations.

recruitment OGMA that is age class 8 but the age is shown in the forest cover labels as less than 200 years old. This OGMA includes high value marbled murrelet nesting habitat and is within a draft WHA for marbled murrelet (WHA b7) and was determined to be suitable for OGMA selection based on these attributes. Further details regarding selection of these OGMAs are provided as part of the rationale in Appendix 1.

Wildlife:

Certain wildlife species are particularly susceptible to mortality in winter and connecting or aggregating OGMAs may help facilitate movement.

UWRs for Mountain Goat were established for the Sunshine Coast in 2012. In order to reduce the impact on the future timber supply, stands suitable for selection as old forest representation within UWR areas were delineated as OGMAs.

Areas identified as Class 1, 2 or 3 marbled murrelet habitat, both in the THLB and in the non-contributing portion of the landbase were also given high priority for inclusion as OGMAs.

Efforts have been made to co-locate OGMAs with WHAs and UWRs in order to minimize the impact on timber supply while maximizing the conservation value of OGMAs. A total area of 992 ha has been delineated as OGMA within Wildlife constrained area.

Timber Supply Impacts:

To mitigate substantial effects on the future timber supply, timber that is viewed as operationally uneconomical for timber harvesting due to its high accessibility cost or low timber value located within the THLB was targeted for inclusion in OGMAs. OGMAs were selected, where ecologically suitable, to overlap with areas that are otherwise unavailable for timber harvesting such as within or adjacent to established WHAs, proposed ungulate winter range, or high value marbled murrelet habitat. This resulted in larger patches being designated as OGMA, which provides greater opportunity to maintain connectivity between adjacent patches, thereby providing movement corridors to aid wildlife dispersal and minimize the impacts to the timber supply.

Old growth targets were easily achieved in all biogeoclimatic zones in the Landscape Unit. Where suitable and considered operationally viable, OGMAs were delineated to be contiguous across biogeoclimatic zones. This approach increases the biological value of this plan by increasing OGMA patch size, connectivity and distribution over the Landscape Unit.

7.2 Boundary Mapping

OGMA boundaries were delineated using a combination of forest cover, ortho imagery, satellite imagery and TRIM-based mapping. OGMA boundaries were mapped to natural features (i.e. streams, slides, etc.) as well as edges of forest stands wherever possible to ensure these boundaries could be located on the ground. OGMAs were also delineated to

include complete forest stands wherever possible to reduce operational uncertainty and increase ease of OGMA mapping.

7.3 Assessment and Review

OGMAs were selected in the Southgate Landscape Unit based on a review of stand attributes in an effort to maximize their value from a biodiversity standpoint while minimizing timber supply impact. Spatial distribution throughout the Landscape Unit was also a selection criterion. Satellite images, aerial photography and input from field staff with local knowledge were used to designate OGMAs to verify the presence of desirable old seral characteristics. Previous OGMA selections made by consultants were also utilised as these selections had been flown to assess suitability. Structural attributes of the stand were used to determine its sufficiency as OGMA rather than relying solely on forest cover information. Specific rationale for the selection of each OGMA is in Appendix 1.

7.4 Amendment Policy

A FLNR Coast Region policy provides direction to forest tenure agreement holders when applying for amendments to OGMA legal objectives. Amendment procedures cover such things as minor or major amendments for resource development (e.g. roads, bridges, boundary issues, rock quarries and gravel pits), or relocation of OGMAs. The policy also discusses acceptable management activities and review procedures. The amendment policy forms an integral part of this plan.

In general, most OGMA boundaries are not ‘permanently fixed’, they can be moved over time so long as biodiversity objectives are maintained. Replacement OGMAs are required to be equivalent or better than the original. As stand succession proceeds, some currently unsuitable forests may become good OGMA candidates and as such periodic assessment or revision to the OGMAs may occur.

8.0 OGMA Mitigation of Timber Supply Impacts

During delineation of OGMAs it was a priority to avoid short and long-term impacts on timber supply. OGMAs were delineated first in the forest least likely to be harvested due to operational constraints. Where this component of the forest did not satisfy the OGMA retention requirements, portions of the harvestable land base which includes THLB were assessed and included as OGMAs. Generally, more harvestable land base was required in the lower elevation variants due to greater disturbance history. In some circumstances younger stands were selected over older stands where the conservation value was assessed and determined to be equal or greater than that of the older stands. This recruitment strategy was instrumental in mitigating the future impacts to the timber supply while meeting the biodiversity objectives in the Southgate Landscape Unit.

During the Landscape Unit planning process, careful consideration was made to mitigate loss of future timber supply. Access corridors were left out of OGMA and OGMA boundaries were delineated to simplify adjacent resource management.

9.0 OGMA Analysis

The Southgate Landscape Unit was ranked as a high biodiversity emphasis through the biodiversity value ranking process completed⁸. This designation along with the BEC variant determines the percentage of the Crown forest land base that will be designated as OGMA.

A rationale for OGMA designation for the Southgate Landscape Unit is provided in Appendix 1. The location of proposed OGMA is identified in the maps that are a part of this plan.

Table 3 outlines the total amount of OGMA required in each variant and from which biogeoclimatic zone. The OGMA delineated as part of the Southgate Landscape Unit Plan meet the old growth targets consistent with those targets specified in the Landscape Unit Planning Guide.

Table 3 indicates that only 1.4% of the OGMA delineated in the plan are located in the THLB. Part of the reason for this apparent low impact is that Table 3 is derived from the most recent Timber Supply Review (TSR3) data which excluded the draft OGMA from the THLB. The OGMA delineated in this LUP are very similar to the draft OGMA used in TSR3.

TABLE 3. Old Growth Management Areas: Targets and Established

BEC	Old Growth Target (%)	Old Growth Target (ha)	Established OGMA (ha)	OGMA in THLB		OGMA in NCLB & Excluded	
				(ha)	(%)	(ha)	(%)
CWH ds	13	1,256	1,268	45	3.5	1223	96.5
CWH ms1	13	944	977	1	0.1	976	99.9
ESSF mw	13	9	13	-	0	13	100
MH mm2	28	919	954	-	0	954	100
CMA unsp	0	-	-	-	-	-	-
IMA unsp	0	-	-	-	-	-	-
Total		3127	3212	46	1.4	3166	98.6

Note: Differences in totals (1 ha) are due to rounding.

⁸ see the *Vancouver Forest Region Landscape Unit Planning Strategy*, 1999

APPENDIX 1. OGMA Summary and Rationale *Revised Jan 30/15*

OGMA Number	Total Area (ha)	Comments
2	126.3	Old forest representation, riparian (Allaire Creek). OGMA field checked by Keystone Environmental.
3	13.7	Old forest representation. OGMA field checked by Keystone Environmental.
4	29.8	Old forest representation, riparian; headwaters of Southgate River. OGMA field checked by Keystone Environmental.
5	133.2	Old forest representation, riparian (Allaire Creek). Portion of OGMA field checked by Keystone Environmental.
6	38.2	Old forest representation, riparian; headwaters of Southgate River. Portion of OGMA field checked by Keystone Environmental.
7	87.9	Old forest representation, riparian; headwaters of Southgate River. Portion of OGMA field checked by Keystone Environmental.
8	8.4	Old forest representation. OGMA field checked by Keystone Environmental.
9	49.9	Old forest representation. OGMA field checked by Keystone Environmental.
10	12.8	Old forest representation. OGMA field checked by Keystone Environmental.
11	11.2	Old forest representation, UWR (mountain goat)
13	182.7	Old forest representation. Portion of OGMA field checked by Keystone Environmental.
15	9.9	Old forest representation, UWR (mountain goat), overlaps with established marbled murrelet 2-020. Portion of OGMA field checked by Keystone Environmental.
16	21.5	Old forest representation, Southgate River riparian. Portion of OGMA field checked by Keystone Environmental.
17	258.5	Old forest representation, adjacent to UWR (mountain goat). Portion of OGMA field checked by Keystone Environmental.
18	283.3	Old forest representation, UWR (mountain goat), Southgate River riparian, CDC rare ecosystem. Portion of OGMA field checked by Keystone Environmental.
19	10.7	Old forest representation, Southgate River riparian.
21	37.8	Old forest representation, riparian. Portion of OGMA field checked by Keystone Environmental.
23	9.1	Old forest representation, adjacent to UWR (mountain goat). OGMA field checked by Keystone Environmental.
24	58.1	Old forest representation. Portion of OGMA field checked by Keystone Environmental.
25	55.8	Old forest representation, UWR (mountain goat). OGMA field checked by Keystone Environmental.
26	134.3	Old forest representation, riparian, overlaps with established marbled murrelet 2-019. OGMA field checked by Keystone Environmental.
28	13.6	Old forest representation, adjacent to UWR (mountain goat). Portion of OGMA field checked by Keystone Environmental.
29	75.0	Old forest representation
30	51.4	Old forest representation, UWR (mountain goat), riparian (Southgate River). Portion of OGMA field checked by Keystone Environmental.
32	122.8	Old forest representation, UWR (mountain goat), riparian (Southgate River). Portion of OGMA field checked by Keystone Environmental.
35	5.1	Old forest representation, UWR (mountain goat), connects to OGMA 221 in the Homathko LU. OGMA field checked by Keystone Environmental.
36	65.0	Old forest representation, UWR (mountain goat). Portion of OGMA field checked by Keystone Environmental
37	38.7	Old forest representation, UWR (mountain goat), class 3 marbled murrelet habitat. OGMA field checked by Keystone Environmental.
38	2.0	Old forest representation. OGMA field checked by Keystone Environmental.
40	47.0	Old forest representation, UWR (mountain goat). Portion of OGMA field checked by Keystone Environmental.
42	81.5	Old forest representation. OGMA field checked by Keystone Environmental.
43	68.3	Old forest representation, UWR (mountain goat). OGMA field checked by Keystone Environmental.
44	36.6	Old forest representation, UWR (mountain goat). OGMA field checked by Keystone Environmental.
50	114.7	Old forest representation, class 3 marbled murrelet habitat, riparian. Portion of OGMA field checked by Keystone Environmental.
51	12.2	Old forest representation, UWR (mountain goat). OGMA field checked by Keystone Environmental.
52	42.5	Old forest representation, UWR (mountain goat), riparian. Portion of OGMA field checked by Keystone Environmental.
53	9.9	Old forest representation, UWR (mountain goat). Portion of OGMA field checked by Keystone Environmental
54	21.2	Old forest representation, UWR (mountain goat). OGMA field checked by Keystone Environmental.
56	51.5	Class 3 marbled murrelet habitat, estuary forest, spruce flat, high value riparian area (Southgate River), OGMA field checked by Keystone Environmental.

OGMA Number	Total Area (ha)	Comments
57	11.9	Old forest representation, t UWR (mountain goat), riparian. Portion of OGMA field checked by Keystone Environmental.
59	14.5	Old forest representation, Portion of OGMA field checked by Keystone Environmental.
60	23.9	Old forest representation. OGMA field checked by Keystone Environmental.
63	9.9	Old forest representation. OGMA field checked by Keystone Environmental.
66	8.9	Old forest representation, UWR (mountain goat). OGMA field checked by Keystone Environmental.
68	42.7	Old forest representation, class 2 and 3 marbled murrelet habitat, riparian, OGMA field checked by Keystone Environmental.
69	4.4	Old forest representation, UWR (mountain goat). OGMA field checked by Keystone Environmental.
71	40.6	Old forest representation, UWR (mountain goat), riparian. OGMA field checked by Keystone Environmental.
72	12.2	Old forest representation, t UWR (mountain goat). OGMA field checked by Keystone Environmental.
73	4.9	Old forest representation, UWR (mountain goat). OGMA field checked by Keystone Environmental.
74	7.0	Old forest representation, UWR (mountain goat), riparian (Southgate River). Portion of OGMA field checked by Keystone Environmental.
76	32.5	Old forest representation, adjacent to UWR (mountain goat). OGMA field checked by Keystone Environmental.
77	30.2	Old forest representation, UWR (mountain goat). Portion of OGMA field checked by Keystone Environmental.
79	7.9	Old forest representation, UWR (mountain goat). OGMA field checked by Keystone Environmental.
80	15.9	Old forest representation, UWR (mountain goat). Portion of OGMA field checked by Keystone Environmental.
82	6.6	Old forest representation, UWR (mountain goat). OGMA field checked by Keystone Environmental.
84	17.5	Old forest representation. OGMA field checked by Keystone Environmental.
86	96.2	Old forest representation, UWR (mountain goat). Portion of OGMA field checked by Keystone Environmental.
87	10.9	Old forest representation, UWR (mountain goat)
89	17.7	Old forest representation, UWR (mountain goat), riparian (Southgate River). OGMA field checked by Keystone Environmental.
90	16.8	Old forest representation. Portion of OGMA field checked by Keystone Environmental
91	4.6	Old forest representation, riparian. OGMA field checked by Keystone Environmental.
94	29.3	Old forest representation, UWR (mountain goat), OGMA field checked by Keystone Environmental
97	9.6	Old forest representation. OGMA field checked by Keystone Environmental.
98	30.9	Old forest representation, UWR (mountain goat). Portion of OGMA field checked by Keystone Environmental.
101	16.8	Old forest representation. OGMA field checked by Keystone Environmental.
102	18.2	Recruitment, class 3 marbled murrelet habitat, riparian. OGMA field checked by Keystone Environmental.
103	10.2	Old forest representation, class 3 marbled murrelet habitat, riparian. OGMA field checked by Keystone Environmental.
104	14.6	Recruitment, class 3 marbled murrelet habitat, riparian. Overlaps with draft marbled murrelet WHA b6. OGMA field checked by Keystone Environmental.
106	39.6	Old forest representation, class 3 marbled murrelet habitat, overlaps with draft marbled murrelet WHA 063, riparian. Portion of OGMA field checked by Keystone Environmental.
107	26.0	Old forest representation, class 2 & 3 marbled murrelet habitat, riparian. OGMA field checked by Keystone Environmental.
110	20.4	Old forest representation, class 3 marbled murrelet habitat, overlaps with draft marbled murrelet WHA 062. OGMA field checked by Keystone Environmental.
111	13.8	Old forest representation, class 2 marbled murrelet habitat, riparian, OGMA field checked by Keystone Environmental
112	9.5	Recruitment, riparian, class 2 marbled murrelet habitat, OGMA field checked by Keystone Environmental.
113	7.9	Old forest representation, class 3 marbled murrelet habitat, overlaps with proposed marbled murrelet WHA 64.
116	9.8	Old forest representation, riparian. Portion of OGMA field checked by Keystone Environmental.
118	30.2	Old forest representation, recruitment
119	15.5	Old forest representation
120	32.0	Recruitment <i>Revised Jan 30/15</i>
121	8.3	Recruitment <i>Revised Jan 30/15</i>
Total	3212.4	

APPENDIX 2. Public Consultation Summary

Advertising was placed in the following publications: BC Gazette (December 24, 2013), Campbell River Mirror (December 20, 2013), Powell River Peak (December 20, 2013), Sechelt Reporter (December 20, 2013). The public consultation period was set for December 20, 2013 to February 18, 2014. This period was extended until March 20, 2014 at the request of the Sunshine Coast Conservation Association.

Date	Received From	Comment Summary	Reply
Jan. 16, 2014	Billy Griffith Egmont, BC	Support establishment of OGMA's.	Acknowledgement and thanks.
Feb. 17, 2014	Sunshine Coast Regional District	Recommendation to include overlays of areas designated for harvesting, a summary of OGMA's in Parks and "unharvestable" areas. Plan does not consider Grizzly Bear or Wolf Habitat.	Acknowledgement and thanks.
Feb. 18, 2014	Ken WU Ancient Forest Alliance	Support for expansion of OGMA's on the Sunshine Coast. Encourages establishment of OGMA's in lower elevations. As well as in yellow cedar stands such as Dakota Bowl (not part of these 5 LUs).	Minister's Response Letter: Acknowledgement and thanks. Explanation of OGMA Targets. Informing of recent establishment of 2 new OGMA's in the Dakota Bowl area.
Mar. 3, 2014	Dwight Yochim, RPF Truck Loggers Association	Working Forest already constrained. What is target for OGMA's? Is the OGMA coming from THLB or existing protected areas?	Explanation of the OGMA targets. Advised we have worked very closely with the licensees in order to meet the required targets without unduly reducing the timber supply. Advised OGMA's have been co-located in other constrained areas.
Mar. 20, 2014	Lannie Keller & Eve Flager Discovery Islands Ecosystem Advocacy	Extensive review comments largely on policy and procedures issues. A request to be advised if and when Draft plans will be revised.	Acknowledgement and thanks. Advised that revisions to Draft LUPs as a result of their comments not anticipated.
Mar. 20, 2014	Jason Herz Sunshine Coast Conservation Association	Extensive review comments largely on policy and procedures issues. Some Specific recommendations on Salmon LU.	Acknowledgement and thanks. Advised that revisions to Draft LUPs as a result of their comments not anticipated.