

Cortes Landscape Unit

Sustainable Resource Management Plan



Ministry of Forests, Lands and
Natural Resource Operations

South Coast Region

2012

APPROVED

July 10, 2012

Sustainable Resource Management Plan: Cortes Landscape Unit

Acknowledgements

The Ministry of Forests, Lands and Natural Resource Operations recognises the following participants and contributors, without which the completion of this Sustainable Resource Management Plan would not have been possible:

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1. Introduction

This Sustainable Resource Management Plan identifies protection measures for landscape level biodiversity and old growth forests in the Cortes Landscape Unit (LU). A description of the landscape unit, discussion on significant resource values, and an Old Growth Management Area (OGMA) summary and rationale are provided. See Appendix 1 for the OGMA summary and Appendix 2 for a list of acronyms used.

Biological diversity or 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’*¹. British Columbia is the most biologically diverse province in Canada. In British Columbia, 124 species or subspecies of known vertebrates and 309 vascular plants are listed for legal designation as threatened or endangered². The continuing loss of biological diversity will have a major impact on the health and functions of ecosystems and the quality of life in the province (Resources Inventory Committee, 1998).

Planning for OGMA and Wildlife Tree Patch (WTP) biodiversity values is recognized as a high priority for the province. LU Planning through Section 93.4 of the *Land Act* for the purposes of the *Forest and Range Practices Act* (FRPA) allows for the legal establishment of objectives to address landscape level biodiversity values. Managing for biodiversity through retention of old growth forests is important not only for wildlife, but can also provide important benefits to ecosystem management, protection of water quality and preservation of other natural resources. Although not all elements of biodiversity can be, or need be, maintained on every hectare, a broad geographic distribution of old growth ecosystems is intended to help sustain the genetic and functional diversity of native species across their historic ranges.

The Sunshine Coast Forest District completed LU boundaries and assigned Biodiversity Emphasis Options (BEO) in accordance with the direction provided by government. There are 26 LU’s in this district. Through a ranking process the Cortes LU was rated as an intermediate BEO.

Substantial work was completed in 2004-2005 by the Ministry of Agriculture and Lands (MAL), Bill Lasuta and Associates Ltd., and Mosaic Forest Management Ltd. with input provided by BC Timber Sales (BCTS) and Ministry of Environment (MOE) as well as from forest licensees. Funding was provided through the Forest Investment Account (FIA).

¹ Definition of Biodiversity from page 2 of the Forest Practices Code *Biodiversity Guidebook* (September 1995)

² BC Conservation Data Centre 2010. BC Species and Ecosystems Explorer. BC Minist. Of Environ. Victoria, British Columbia. Available: <http://www.env.gov.bc.ca/atrisk/toolintro.html>

Subsequent work was completed in 2010 by Ministry of Forests, Lands and Natural Resource Operations in cooperation with forest licensees.

Public review and comment and First Nations consultation was completed through July and August of 2010 on the proposed OGMA. A summary of comments from the 60 day public review and comment period is included in Appendix III

Supporting documentation regarding government policy, planning processes and biodiversity concepts are provided in the 1995 *Biodiversity Guidebook*, the 1999 *Landscape Planning Guide* (LUPG), the *Vancouver Forest Region Landscape Unit Planning Strategy* (1999), and the *Sustainable Resource Management Planning Framework: A Landscape-level Strategy for Resource Development*.

2. Landscape Unit Description

2.2 Biophysical Description

The Cortes LU covers a total area of 55,659 ha, encompassing the main islands of Maurelle, Read, Raza, Cortes, West Redonda, and East Redonda. Several smaller islands, and groups of islands, such as Marina Island, the Rendezvous Islands, and the Penn Islands, to name a few, lie between the larger ones to make up the landscape unit. Desolation Sound lies to the south of the LU and Pryce Channel to the north (Figure 1).

Of the total LU area, 39,726 ha (72%) is within the Crown forest land base, with 25,125 ha of Crown forest included within the THLB. The remaining 15,933 ha (28%) is non-forested (rock, alpine forests, water) or non-Crown (private land, Indian Reserves) and have been excluded from any OGMA contributions and calculations.

The Cortes LU lies within the Georgia Basin and Southern Pacific Ranges Ecosections. Its climate is best described as warm and dry in the summer, and cool and moist in the winter. The higher elevations of West and East Redonda Islands are cooler and moister with moderate snowfall in the winter months

windward moist maritime (MHmm1). These seven BEC subzones/variants represent two different Natural Disturbance Types (NDT), with CWHvm1, CWHvm2, and MHmm1 in NDT1 (rare stand initiating events), and CWHdm, CWHmm1, CWHxm1, and CWHxm2 in NDT 2 (infrequent stand-initiating events).

Forests in NDT 1 are influenced by rare stand-initiating events and historically were generally uneven-aged or multi-storied uneven aged, with regeneration occurring in gaps created by the death of individual trees or small patches of trees. Approximately 21% of the productive forest area of the Cortes LU is within NDT 1. The remaining productive forest is within NDT 2. These forest ecosystems are influenced by infrequent stand-initiating events and historically were usually even-aged, but extended post-fire regeneration periods produced some stands with uneven-aged characteristics.

Low relief islands (such as Cortes Island) and accessible areas of the remaining islands in the CWHxm1, CWHxm2, CWHmm1, CWHdm and CWHvm1 have sustained substantial levels of harvesting over the years. Many of these areas now support thrifty second growth, and remnant patches of old growth forests are scattered throughout. Old growth representation targets in the CWH vm1, CWH vm2, and MH mm1 BEC variants can be met predominantly from the non-contributing (NC) land base. However, in the lower elevation BEC's, such as the CWH xm1, CWH xm2, and CWH mm1, more of the old seral target is derived from the partially contributing and contributing land base.

2.3 Summary of Land Status

Land status within the Cortes landscape unit is summarised in Table 1. There are various ownership classes that are excluded from the Crown Forest land base and therefore excluded from the OGMA selection process. This includes 9112 hectares of private land, 482 ha of woodlots, and 393 hectares of Indian Reserve. Although suitable forested stands within the parks and ecological reserves in the landscape unit cannot be legally established as OGMAs, 7,436 ha contributes to the Crown Forest Land Base. A portion of that area has been identified as OGMAs and will contribute to the old growth targets.

Of the total area, 39,726.1 hectares (71%) are within the Crown Forested Land Base (CFLB). The remaining 15,932.7 hectares (29%) of the landscape unit are classified as non-forested or non-Crown (rock, alpine tundra, water, private land, etc.) and have been excluded from OGMA contributions and calculations.

Table 1 Land Status of the Cortes Landscape Unit

Ownership Class	Crown Forest Land Base (ha)	Excluded Land Base (ha)	Total Area (ha)	Total of LU %
Private	0.0	9,111.9	9,111.9	16.4
Federal Reserve	0.5	8.0	8.5	0.0
Indian Reserve	0.0	393.0	393.0	0.7
Crown Ecological Reserve	5,261.8	922.1	6,183.9	11.1
Crown UREP	212.3	11.7	224.0	0.4
TSA or PSYU	30,968.2	4,553.2	35,521.3	63.9
Provincial Park	2,112.8	445.4	2,558.2	4.6
Provincial Park or Reserve	17.9	2.6	20.5	0.0
Misc Reserve	0.0	1.2	1.2	0.0
Misc Reserve	43.0	0.5	43.4	0.1
Woodlot License	1,109.6	481.5	1,591.1	2.9
Crown Misc. Reserves	0.0	1.8	1.8	0.0
Total	39,726.1	15,932.7	55,659.4	100.0

Table 2 provides a breakdown of the landbase based on biogeoclimatic ecosystem classification (BEC) variants or subzones, and lists the OGMA target. Old seral representation targets are determined and applied based on the Crown forest area in each BEC variant. Landbase classification information is used in landscape unit planning to minimize timber supply impacts, however, operationally the harvestable area and the Timber Harvesting Land Base (THLB) are not consistent because inventories and assumptions used to identify the THLB area are not always an accurate representation of what timber will be harvested. There is usually some harvesting of forest that did not contribute to timber supply forecast used in the last Allowable Annual Cut (AAC) determination.

Old growth targets are not set for the CMAunp 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.

Table 2. Current Level of Old Growth Forest and Old Growth Targets by Biogeoclimatic Ecosystem Classification Unit

BEC label	Crown Forested Land Base			Excluded Land Base (ha)	Crown Forested Land Base (ha) (C + P + N)	Total Area (ha)	OGMA Target %	
	Contributing	Partial Contributing	Non Contributing	X			%	Ha
CMAunp			1.6	71.2	1.6	72.9	0.00	0.0
CWHdm	8905.4	1871.6	6139.5	2503.1	16916.5	19419.6	0.09	1522.5
CWHmm1	285.3	53.0	41.0	30.2	379.2	409.5	0.09	34.1
CWHvm1	1535.6	828.4	2864.0	359.3	5227.9	5587.2	0.13	679.6
CWHvm2	741.0	403.9	1620.2	307.9	2765.1	3073.0	0.13	359.5
CWHxm1	4209.5	308.8	1886.6	8225.2	6404.9	14630.1	0.09	576.4
CWHxm2	4846.3	1059.6	1053.5	3908.3	6959.4	10867.6	0.09	626.3
MHmm1	41.2	35.0	995.2	527.5	1071.4	1598.9	0.19	203.6
	20564.3	4560.3	14601.5	15932.7	39726.1	55658.8		4002.1

CWHdm: Coastal Western Hemlock biogeoclimatic zone, dry maritime subzone.

CWHmm1: Coastal Western Hemlock, submontane moist maritime variant

CWHvm1: Coastal Western Hemlock biogeoclimatic zone, submontane very wet maritime variant.

CWHvm2: Coastal Western Hemlock biogeoclimatic zone, montane very wet maritime variant.

CWHxm1: Coastal Western Hemlock biogeoclimatic zone, windward very dry maritime variant

CWHxm2: Coastal Western Hemlock biogeoclimatic zone, western very dry maritime variant

MHmm1: Mountain Hemlock biogeoclimatic zone, windward moist maritime variant.

Table 3 outlines the total amount of OGMA required and established in each variant/subzone and from which forest category (e.g. non-contributing or contributing). The OGMAs delineated as part of the Cortes Landscape Unit Plan meet the old growth targets consistent with those targets specified in the Order Establishing Provincial Non-spatial Old Growth Objectives. A rationale for OGMA designations within the Cortes landscape unit is provided in Appendix 1. The location of proposed OGMAs is identified in the map that is part of the landscape unit plan.

Table 3. Non-contributing, Constrained THLB and Unconstrained THLB

BEC label	OGMA Target %		Established OGMA (ha)	OGMA in Non-Contributing (N)		OGMA in Partial Contributing (P)		OGMA in Contributing (C)		OGMA in Excluded (X)		Difference (Established - Target)
	%	Ha		%	ha	%	ha	%	ha	%	ha	
CWHdm	0.09	1522.5	1536.4	62.2	956.1	14.9	228.3	21.2	325.4	1.7	26.6	13.9
CWHmm1	0.09	34.1	40.4	51.3	20.7	11.3	4.6	37.4	15.1	0.0	0.0	6.3
CWHvm1	0.13	679.6	688.0	79.7	548.5	7.1	49.2	12.3	84.8	0.8	5.6	8.4
CWHvm2	0.13	359.5	371.3	88.4	328.2	4.7	17.5	0.2	0.8	6.7	24.8	11.8
CWHxm1	0.09	576.4	599.9	41.0	246.0	4.4	26.6	53.4	320.2	1.2	7.0	23.4
CWHxm2	0.09	626.3	643.8	46.7	300.4	29.7	191.5	19.2	123.5	4.4	28.4	17.5
MHmm1	0.19	203.6	215.4	100	215.3	0.0	0.0	0.0	0.0	0.0	0.0	11.8
		4002.1	4095.2	63.9	2615.2	12.6	517.6	21.2	869.9	2.3	92.4	93.1

3. Key Resource Tenure Holders

The process to select OGMAs included the identification of tenures that are administered by the Ministry of Forests, Lands and Natural Resource Operations, and the Ministry of Energy and Mines. The selection of OGMAs generally avoided placement within existing tenures where permanent forest disturbance could occur (mineral claims, power projects).

3.1 Forest Tenure Holders

The Cortes LU is within the Sunshine Coast Timber Supply Area (TSA). Three forest licensees, three woodlot licensees, and BC Timber Sales operate in the landscape unit. A&A Trading holds a chart area on the northern portion of West Redonda Island, International Forest Products Ltd. hold chart areas over Raza and East Redonda Islands, and BC Timber Sales operates on the southern portion of West Redonda and Maurelle, Islands. Northwest Hardwoods holds an overlapping deciduous licence throughout the

LU. Woodlot Licences 46 and 2062 are located on Read Island. Woodlot Licence 90 is located on Cortes Island.

3.2 Mineral Tenure Holders

At the time of writing, there are twenty one mineral tenures located in the Cortes Landscape Unit, including: 549970, 549376, 549603, 549382, 549597, 549590, 549389, 555987, 555792, 555852, 555854, 804823, 804842, 804862, 804982, 805003, 805042, 631723, 645323, 661943, 661944. The selection of OGMA's followed the intent of avoiding placement over existing tenure holders, where possible.

The establishment of OGMA's will not have an impact on the status of existing aggregate, mineral and gas permits or tenures. Exploration and development activities are permitted in OGMA's but the preference is to proceed with exploration and development in a way that is sensitive to the old growth values of the OGMA. If exploration and development proceeds to the point of significantly impacting old growth values, then the OGMA will be replaced.

4. Significant Resource Values

The Cortes LU supports a range of natural resource values and features, and a diversity of social and cultural values and influences.

4.1 Fish, Wildlife and Biodiversity

Eighteen wildlife species of management concern are known or suspected to be present in the Cortes LU (BC Conservation Data Centre). These include RED-listed, BLUE-listed and regionally important species. Special habitats, which can be protected under FRPA, for species like mountain goats and grizzly bears are not present in the Cortes LU. Conversely, marbled murrelet nesting habitat has been identified and although used for OGMA's, to date none has been proposed for protection within Wildlife Habitat Areas.

The intent of defining OGMA's is not to address the individual needs of all these species, but rather to provide a strong foundation for landscape level biodiversity management. In the Cortes LU, the species of specific concern when identifying OGMA's was Marbled Murrelet. To that end, a total of 28 Good or Superior Marbled Murrelet polygons were identified and OGMA's overlap each one of these.

4.2 Provincial Parks & Protected Areas

There are several small and medium sized parks in the Cortes LU, including: Teakerne Arm Provincial Park (128 ha), Walsh Cove Provincial Park (85 ha), and Roscoe Bay Provincial Park (247 ha) on West Redonda Island, Surge Narrows Provincial Park (488 ha) on Maurelle Island, Ha'thayim Marine Provincial Park (1277 ha), Smelt Bay (16 ha) and Mansons Landing (100 ha) Provincial Park on Cortes Island, Read Island Provincial Park (639 ha), and Rendezvous Island South Provincial Park (163 ha). Covering the entire east half of East Redonda Island is the East Redonda Island Ecological Reserve (6212 ha). Some of the park and ecological reserve area reported above is water.

In combination, the parks offer a variety of activities including: hiking trails, canoeing, sea kayaking, scuba diving, swimming, marine fishing, wildlife viewing, campsite & wilderness camping and picnic areas. The primary role of the ecological reserve is to conserve representative coastal ecosystems in the CWH and MH biogeoclimatic zones.

4.3 Water Quality

There are no established community watersheds within the Cortes LU. However, potable water from ground and surface sources (streams and lakes) is required to support the population living on Cortes, and to a much lesser extent, Maurelle and Read Islands as well.

4.4 Private Land

Most of the private land in the Cortes LU is located on Cortes, Read, Maurelle, Marina, and other small islands. Cortes Island is home to approximately 950 residents, located primarily in the communities of Whaletown, Squirrel Cove, and Manson's Landing. Only small parcels of private land are located on portions of East and West Redonda Islands. Much of the private land has been altered from its natural state for settlement, timber harvesting, agriculture or recreational purposes.

4.5 Forest Resources

Several of the islands within this LU support a substantial timber harvesting land base. Continued access to commercially valuable timber, including future second growth, is a significant concern to forest licensees.

Commercially valuable tree species in the Cortes LU are most easily described by elevation. Low elevation forests are dominated by Douglas-fir, Western Hemlock, and

Western red cedar. Western and Mountain Hemlock, Amabilis Fir, and Yellow cedar are the most common species at mid to high elevations.

4.6 Mineral Resources

Subsurface resources (minerals, coal, oil, and gas) and aggregate resources are valuable to the province, but are difficult to characterise due to their hidden nature.

Ministry of Energy and Mines (MEM) has rated the industrial and metallic mineral potential of this LU as High. This ranking is based on a qualitative analysis which takes into account the values of known resources, past exploration and production as well as the number of known mineral occurrences and a subjective probability estimate of value by industry experts.

4.7 Recreation

The Cortes LU is easily accessible by boat from various population centres on the Sunshine Coast and Vancouver Island. Scheduled ferry service exists between Herriot Bay on Quadra Island and Whaletown on Cortes Island.

Recreational boating and commercial tourism use is heavy during the summer months, especially in and around Cortes Island. The number of people living in this LU likely doubles in the summer. Winter recreational activity is limited due to the remoteness of most of the Landscape Unit to motorized access and poorer weather conditions.

The Cortes LU does not experience the same hunting pressure as areas in closer proximity to larger populations. Any recreational hunting that does occur in this LU would likely be on populated islands with minor incursions onto those islands with road systems in place that can handle ATV's or 4-wheel drive vehicles.

Stream angling and lake fishing opportunities exist but are limited. Trail hiking, berry and mushroom picking and wildlife viewing/sightseeing also occur, but predominantly during the summer months. Overall, recreation use in the Cortes LU would be rated as moderate to high.

5. First Nations

The Cortes LU is located within the claimed traditional territories of the Klahoose, Xwémalhkwa (Homalco), Sliammon, We Wai Kai (Cape Mudge) and Wei Wai Kum (Campbell River) First Nations. The Nanwakolas Strategic Engagement Agreement is referenced with respect to consultation (using their consultation process for consultation with the Kwiakah and Wei Wai Kum (Campbell River) FN).

Between 1997 and 1999, an Archaeological Overview Assessment model was developed by Millennia Research to indicate where archaeological sites are most likely located. This was done to minimize potential impacts by forestry operations on culturally important areas.

It is not the province's intention to limit the ability of any parties at the treaty negotiation table to discuss issues of interest in these areas, nor to take administrative or operational action that has the potential to infringe the existing Aboriginal or treaty rights of the First Nations in these areas. These OGMA's do not affect First Nations Aboriginal rights and title, nor do they affect traditional and cultural activities.

6. OGMA Methodology

6.1 Existing Planning Processes

An important part of OGMA planning is to ensure that separate planning processes complement each other. For example, OGMA's are often situated within or adjacent to MAMU habitat in order to overlap constraints and to increase patch size. These larger patches then allow greater opportunity to improve connectivity between adjacent patches.

Efforts are also made to include suitable forested stands adjacent to high value wildlife and recreational features such as wetland, lakes and streams wherever possible to enhance conservation measures for these values. Areas previously identified as Environmentally Sensitive Areas (ESA) are included in OGMA's where they provide mature or old forest representation or are in under-represented types of ecosystem. In addition, some forest stands not classified as "old growth" are included in OGMA's to reflect operational constraints related to management and to increase patch size. The intent is to maintain a series of old forest habitat patches across probable movement corridors to allow wildlife dispersal and gene flow. The use of this approach at the landscape level and conservation of biodiversity at the stand level (e.g. Wildlife Tree

Patches) will increase the likelihood of sustaining ecosystems and wildlife populations well distributed across their natural range.

6.2 *Assessment and Review*

Efforts were made during preparation of this LU plan to ensure OGMA's were generally distributed spatially and not concentrated in a particular area or mapsheet. This is in keeping with the "coarse filter" approach of biodiversity management at the landscape scale, whereby representative "old growth" stands are protected in order to maintain ecosystem processes and specific wildlife habitat requirements that may be poorly understood.

In all cases, a detailed air photo review was performed to confirm the forest cover attributes and suitability of a given stand for OGMA inclusion; as follow up, satellite imagery was used to help locate OGMA boundaries and verify suitability. Numerous stands have also been field checked to verify the presence of desirable old seral characteristics.

OGMA's were selected based on a review of stand attributes in an effort to maximize their value from a biodiversity standpoint while minimizing timber supply impact. In general, opportunities to recruit larger patches to provide for forest interior habitat conditions were favoured over smaller patches. In this search, an effort was extended to minimize the impact on the timber supply by combining areas in the non-contributing (parks, ecological reserves) with areas within the timber harvesting land base. In addition, a significant number of smaller remnant patches containing age class 9 were delineated in conformance with the Landscape Unit Planning Guidebook (LUPG).

6.3 *Boundary Mapping*

OGMA boundaries used natural features (e.g. streams) or man-made features (e.g. roads, cutblock edges) wherever possible to ensure they could be located on the ground. OGMA's were also delineated to include complete forest stands (forest cover polygons) wherever possible to reduce operational uncertainty and increase ease of OGMA mapping. OGMA's were mapped using a 1:20,000 scale TRIM base map which forms the legal standard for measurement. Procedures for operating within OGMA's are discussed in the OGMA Amendment policy.

6.4 Amendment Policy

A MFLNRO 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.

6.5 Mitigation of Timber Supply Impacts

During delineation of OGMAs for priority biodiversity provisions, an attempt was made to mitigate short and long-term impacts on timber supply. For example, OGMAs were delineated first in the non-contributing forest land base, however, since representation is at the subzone/variant level, the non-contributing land base could not always satisfy old forest requirements. Where this occurred, portions of the timber harvesting land base from most constrained to least constrained were assessed and included as OGMAs. Occasionally, a younger aged forest stand from the non-contributing land base was used for OGMA, particularly where patch size of an existing OGMA could be increased. Generally, more THLB was required in lower elevation BEC units due to a longer disturbance history and lower amounts of non-contributing forest land.

OGMAs were not established in forest stands that were in approved Category A blocks in Forest Stewardship Plans (FSP) unless agreed to by the licensee. This follows the direction outlined in the *Landscape Unit Planning Guide*.

7. Landscape Unit Plan Objectives

Landscape Unit Objectives will be legally established within the framework of FRPA and as such will become Higher Level Plan objectives. Other Operational Plans must be consistent with these objectives.

Appendix I: OGMA Summary and Rationale

OGMA Number	OGMA BEC	Total Area (ha)	Comments
1	CWHxm2	29.0	Old forest representation, shoreline, May Lake
2	CWHdm	15.4	Old forest representation, Homfray Channel shoreline, East Redonda Ecological Reserve
3	CWHxm2	4.5	Recruitment
4	CWHmm1	34.9	Old forest representation
4	CWHxm2	17.6	
6	CWHdm	7.9	Old forest representation, adjacent to Pryce Channel
6	CWHvm1	21.8	
6	CWHvm2	8.8	
7	CWHxm2	20.0	Old forest representation, shoreline, Caroline Lake
8	CWHdm	19.5	Old forest representation, Pendrell Sound shoreline, East Redonda Ecological Reserve
11	CWHdm	0.3	Recruitment, adjacent to Pryce Channel
11	CWHvm1	7.1	
11	CWHvm2	11.2	
13	CWHdm	10.6	Old forest representation, Waddington Channel shoreline
14	CWHdm	23.0	Recruitment, East Redonda Ecological Reserve
14	CWHvm1	1.3	
15	CWHdm	2.6	Old forest representation, adjacent to Pryce Channel
15	CWHvm1	17.8	
15	CWHvm2	12.9	
16	CWHvm1	4.9	Old forest representation
17	CWHdm	11.1	Old forest representation
17	CWHvm1	20.4	
17	CWHvm2	12.9	
18	CWHdm	24.0	Old forest representation, adjacent to Pryce Channel
18	CWHvm1	64.2	
18	CWHvm2	33.5	
19	CWHdm	14.5	Old forest representation, Pryce Channel shoreline
20	CWHdm	49.7	Old forest representation, recruitment, shoreline Waddington Channel
21	CWHdm	8.3	Old forest representation, shoreline, Calm Channel
21	CWHvm1	1.7	
22	CWHdm	18.1	Old forest representation, East Redonda Ecological Reserve
22	CWHvm1	12.1	
23	CWHxm2	64.6	Old forest representation, recruitment, shoreline, White Rock Passage
24	CWHdm	25.0	Old forest representation, shoreline, Deer Passage
26	CWHdm	21.5	Adjacent to Pryce Channel
27	CWHdm	42.5	Old forest representation
28	CWHdm	22.2	Old forest representation, adjacent to Walsh Cove Park
29	CWHdm	3.0	Old forest representation, East Redonda Ecological Reserve
29	CWHvm1	12.3	
32	CWHdm	3.8	Old forest representation, adjacent to Waddington Channel
32	CWHvm1	3.5	
33	CWHdm	8.3	Old forest representation
33	CWHvm1	15.3	

OGMA Number	OGMA BEC	Total Area (ha)	Comments
33	CWHvm2	28.7	
33	MHmm1	14.4	
34	CWHxm2	36.5	Old forest representation, recruitment, Elephant Mountain
36	CWHdm	13.9	Recruitment, Walsh Cove Park
38	CWHdm	5.9	Old forest representation, East Redonda Ecological Reserve
41	CWHvm1	6.5	Old forest representation, East Redonda Ecological Reserve
42	CWHdm	19.6	Recruitment, Adjacent to Walsh Cove Park
44	CWHdm	34.8	Old forest representation, Waddington Channel shoreline
44	CWHvm1	8.1	
46	CWHvm1	12.8	Old forest representation, East Redonda Ecological Reserve
46	CWHvm2	3.5	
47	CWHxm2	36.9	Recruitment, shoreline, White Rock Passage
48	CWHdm	35.0	Old forest representation, recruitment, East Redonda Ecological Reserve
48	CWHvm1	53.4	
48	CWHvm2	61.8	
48	MHmm1	34.7	
51	CWHxm2	42.7	Old forest representation, Drew Passage shoreline
55	CWHdm	14.0	Recruitment
57	CWHxm2	4.7	Old forest representation
58	CWHxm2	56.6	Old forest representation
61	CWHvm1	25.9	Old forest representation, Cloud Lake shoreline
62	CWHvm1	19.8	Old forest representation
64	CWHdm	4.5	Old forest representation
65	CWHdm	3.2	Old forest representation
65	CWHvm1	29.3	
66	CWHdm	6.3	Old forest representation, recruitment
66	CWHvm1	5.1	
67	CWHdm	10.4	Old forest representation
68	CWHvm1	2.8	Old forest representation, East Redonda Ecological Reserve
68	CWHvm2	9.3	
68	MHmm1	2.8	
70	CWHvm2	8.6	Old forest representation, East Redonda Ecological Reserve
71	CWHdm	164.2	Old forest representation, East Redonda Ecological Reserve
71	CWHvm1	73.0	
71	CWHvm2	80.5	
71	MHmm1	75.1	
72	CWHdm	38.6	Old forest representation, adjacent to Waddington Channel
73	CWHdm	30.5	Old forest representation
75	CWHdm	3.0	Old forest representation, recruitment
75	CWHvm1	18.8	
79	CWHdm	2.9	Old forest representation
81	CWHdm	15.7	Old forest representation
83	CWHdm	21.2	Old forest representation
84	CWHdm	4.7	Old forest representation, East Redonda Ecological Reserve
84	CWHvm1	88.6	
84	CWHvm2	89.9	
84	MHmm1	53.8	

OGMA Number	OGMA BEC	Total Area (ha)	Comments
86	CWHdm	63.2	Old forest representation, recruitment, Lewis Channel shoreline
89	CWHdm	104.4	Old forest representation, Lewis Channel shoreline
90	CWHdm	3.0	recruitment
91	CWHxm2	7.0	Old forest representation
92	CWHxm2	5.8	Old forest representation, shoreline, Evans Bay
93	CWHvm1	8.4	Old forest representation, lakeshore
94	CWHdm	4.8	Old forest representation
96	CWHvm1	11.9	Old forest representation
97	MHmm1	28.1	Old forest representation, East Redonda Ecological Reserve
98	CWHdm	18.3	Old forest representation
99	CWHdm	28.9	Old forest representation, recruitment, Teakerne Arm park, Cassel Lake shoreline
100	CWHvm1	29.1	Old forest representation
101	CWHdm	26.0	Old forest representation, East Redonda Ecological Reserve
101	CWHvm1	14.8	
101	CWHvm2	0.6	
102	CWHvm1	5.4	Old forest representation, East Redonda Ecological Reserve
104	CWHdm	4.2	Old forest representation, Teakerne Arm park
105	CWHdm	51.3	Old forest representation, recruitment, Robertson Lake shoreline, Hathayim Marine Park
106	CWHdm	20.8	Old forest representation
107	CWHdm	17.8	Old forest representation, lakeshore
108	CWHdm	13.5	Old forest representation, Teakerne Arm park, shoreline
111	CWHdm	84.8	Old forest representation, East Redonda Ecological Reserve, Homfray Channel shoreline
112	CWHxm2	4.7	Old forest representation, shoreline, Evans Bay
113	CWHdm	0.2	Old forest representation, East Redonda Ecological Reserve
113	CWHvm1	9.7	
113	CWHvm2	7.6	
115	CWHdm	28.9	Old forest representation, East Redonda Ecological Reserve
115	CWHvm1	31.3	
115	CWHvm2	1.6	
117	CWHxm2	6.1	Old forest representation, shoreline, Evans Bay
118	CWHvm1	9.0	Old forest representation
119	CWHdm	15.0	Old forest representation, Hathayim Marine Park
121	CWHxm1	10.4	Old forest representation, shoreline Von Donop Inlet, Hathayim Marine Park
122	CWHdm	3.2	Recruitment, Willey Lake shoreline, Hathayim Marine Park
122	CWHxm1	5.3	
123	CWHxm1	12.4	Old forest representation, Sutil Channel shoreline
124	CWHdm	61.1	Old forest representation
125	CWHdm	9.3	Old forest representation, Von Donop Inlet, Hathayim Marine Park shoreline
125	CWHxm1	14.3	
126	CWHxm1	30.3	Old forest representation, Von Donop Inlet, Hathayim Marine Park shoreline
128	CWHdm	135.7	Old forest representation, recruitment, Black Lake shore line, Roscoe Bay park
129	CWHxm1	33.7	Recruitment, Von Donop Inlet, Hathayim Marine Park shoreline
130	CWHxm1	20.7	Old forest representation
131	CWHxm1	13.5	Old forest representation, recruitment, Sutil Channel shoreline
132	CWHxm2	12.3	Old forest representation, Read Island Park
133	CWHxm2	37.5	Old forest representation, recruitment, Read Island Park, shoreline Hoskyn Channel
134	CWHdm	12.7	Old forest representation, Thompson Lake shoreline

OGMA Number	OGMA BEC	Total Area (ha)	Comments
135	CWHdm	16.2	Old forest representation, Black Lake shoreline, Roscoe Bay Park
137	CWHdm	2.0	Recruitment, Lewis Channel shoreline
137	CWHxm1	8.8	
138	CWHxm1	33.5	Old forest representation, Carrington Bay shoreline
139	CWHxm1	9.9	Old forest representation, Hathayim Marine Park shoreline
140	CHWxm2	5.7	Old forest representation, Rosen Lake shoreline, Read Island Park
141	CWHxm1	6.9	Old forest representation
143	CWHxm1	18.8	Old forest representation
145	CWHxm1	3.7	Old forest representation, Read Island Park
146	CWHxm1	12.4	Old forest representation, Sutil Channel, Read Island Park
147	CWHxm1	16.7	Old forest representation, Squirrel Cove shoreline
148	CWHxm1	16.1	Old forest representation
150	CWHxm1	15.4	Old forest representation, Carrington Bay shoreline
151	CWHxm1	70.1	Old forest representation, shoreline, Hoskyn Channel, Read Island Park
153	CWHxm1	12.6	Old forest representation, Desolation Sound shoreline
155	CWHxm1	8.3	Old forest representation, Carrington Lagoon shoreline
157	CWHxm1	7.4	Old forest representation, Lewis Channel shoreline
160	CWHxm1	10.1	Old forest representation, shoreline , Desolation Sound
162	CWHxm1	29.1	Recruitment, Martin Island
163	CWHxm1	65.1	Old forest representation
166	CWHxm1	18.9	Old forest representation
167	CWHxm1	25.5	Old forest representation
168	CWHxm1	19.5	Old forest representation, shoreline, Hague and Gunflint Lakes
170	CWHxm1	19.9	Recruitment
176	CWHxm1	4.4	Old forest representation, adjacent to Refuge Lagoon
177	CWHxm2	11.9	Old forest representation
178	MHmm1	6.5	Old forest representation, East Redonda Ecological Reserve
179	CWHvm1	8.6	Old forest representation
180	CWHdm	10.9	Old forest representation, Lewis channel shoreline
181	CWHxm1	3.7	Recruitment, Lewis Channel shoreline
182	CWHxm1	13.6	Recruitment, shoreline, Desolation Sound
183	CWHxm2	13.1	Recruitment, Evans Bay shoreline
186	CWHdm	4.7	Old forest representation, Desolation Sound shoreline
186	CWHxm1	9.1	
187	CWHdm	14.5	Old forest representation, Teakerne Arm shoreline
188	CWHdm	18.4	Old forest representation
188	CWHvm1	10.5	
189	CWHxm2	114.3	Recruitment, Surge Narrows Park, shoreline
190	CWHxm2	112.4	Recruitment, small island, Rendezvous Island South Park
192	CWHvm1	18.5	Old forest representation
193	CWHmm1	5.5	Old forest representation
193	CWHxm2	0.1	
194	CWHvm1	4.4	Recruitment
195	CWHdm	3.5	Old forest representation, recruitment

Appendix II: List of Acronyms

AAC	Allowable Annual Cut
BEC	Biogeoclimatic Ecosystem Classification
BEO	Biodiversity Emphasis Option
CFLB	Crown Forest Land Base
FIA	Forest Investment Account
FPC	Forest Practices Code of British Columbia Act
FRPA	Forest and Range Practices Act
ILMB	Integrated Land Management Bureau
LU	Landscape Unit
LUPG	Landscape Unit Planning Guide
MAL	Ministry of Agriculture and Lands
MEM	Ministry of Energy and Mines
MFLNRO	Ministry of Forests, Lands, and Natural Resource Operations
MOE	Ministry of Environment
MFR	Ministry of Forests and Range
NC	Non-Contributing
NDT	Natural Disturbance Type, see Biodiversity Guidebook
OGMA	Old Growth Management Area
THLB	Timber Harvesting Land Base
WTP	Wildlife Tree Patch
WTR	Wildlife Tree Retention

Appendix III Consultation Summary

A notification letter was sent to all First Nations with traditional territory within the Cortes Landscape Unit on October 9, 2009 to inform that the project was being initiated.

Advertising was placed in the following publications: BC Gazette (July 7, 2011), Campbell River Mirror (July 8, 2011), Powell River Peak (July 6, 2011), Sunshine Coast Reporter (July 8, 2011).

The public and First Nations consultation period was set for July 15, 2011 to September 15, 2011.

No comments were received from First Nations on the proposed OGMAs and legal order during the concurrent 60 day public review and comment and First Nation consultation period.

No objections or comments requiring revisions to the plan were received from the public.