

Ministry of Sustainable Resource Management
Coast Region

Biodiversity Chapter for the
Malcolm Island Landscape Unit



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Prepared by:
Ian McDougall, R.P.Bio.
Senior Forest Planner
Strategic Planning and Operations
B.C. Ministry of Sustainable Resource Management
Coast Region

Reviewed by:
Rudi Mayser, R.P.F.
B.C. Ministry of Sustainable Resource
Management
Coast Region

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1.0 Introduction

This report describes the biodiversity conservation plan for the Malcolm Landscape Unit (LU) and includes the associated legal objectives for old growth retention and wildlife tree retention. A description of the planning unit, discussion on significant resource values, and an Old Growth Management Area (OGMA) summary and rationale are provided.

Biological diversity is defined as: *'the diversity of plants, animals and other living organisms in all their forms and levels of organization, 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, 115 species or subspecies of known vertebrates and 364 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 to maintain biodiversity occurs at a variety of levels, all of which are linked hierarchically. The provincial level includes parks and the Protected Area Strategy, while at the regional level, the Vancouver Island Land Use Plan gives guidance and legal direction to finer levels of strategic planning, in this case, landscape and stand level conservation of old growth forests.

Planning for OGMA and wildlife tree patch (WTP) biodiversity values is recognized as a high priority for the province. LU planning is supported by the *Forest Practices Code of BC (FPC)* and provides for the legal establishment of objectives to address landscape level biodiversity values.

Implementation of this strategic planning initiative is intended to help sustain certain biodiversity values. Managing for biodiversity through retention of old growth forests is not only important for a variety of endemic wildlife species, but can also provide important benefits to ecosystem management, protection of water quality and preservation of other natural forest resources. Although not all elements of biodiversity can be, or need to be, maintained on every hectare of land, 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 North Island Central Coast Forest District has completed LU boundaries for the Vancouver Island portion of the forest district and established Biodiversity Emphasis Options (BEOs) in accordance with the direction provided by government. Current

¹ FPC Biodiversity Guidebook, September 1995

² BC Species and Ecosystems Explorer. 2003. Victoria, British Columbia, Canada. Available: <http://srmapps.gov.bc.ca/apps/eswp/> (September 15, 2003).

government direction requires that priority biodiversity provisions, including the delineation of OGMAs and wildlife tree retention (WTR), be undertaken immediately. This work was completed by the Ministry of Sustainable Resource Management (MSRM). Considerable guidance was provided from local residents who demonstrated a keen interest in assisting in the development of a biodiversity conservation strategy for Malcolm Island. BC Timber Sales and woodlot licensees operating in the Malcolm Island landscape unit also provided input.

Supporting documentation regarding government policy, planning processes and biodiversity concepts are provided in the following documents:

- 1995 *Biodiversity Guidebook*,
<http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/biodiv/biotoc.htm>,
- 1999 *Landscape Unit Planning Guide (LUPG)*,
http://srmwww.gov.bc.ca/rmd/srmp/background/lup_landscape.htm),
- *Vancouver Forest Region Landscape Unit Planning Strategy (1999)*,
Vancouver Forest Region Planning Document, Nanaimo, B.C.
- Vancouver Island Summary Land Use Plan (Feb. 2000)
<http://srmwww.gov.bc.ca/rmd/lrmp/vanisle/docs/vislup.pdf>
- the associated VILUP Higher Level Plan Order (Dec. 2000),
<http://srmwww.gov.bc.ca/rmd/lrmp/vanisle/vihlp.htm>
- *Sustainable Resource Management Planning Framework: A Landscape-level Strategy for Resource Development*.
<http://srmwww.gov.bc.ca/rmd/srmp/doc/SRMPI-May1-Final-Web1.pdf>

2.0 Malcolm LU Description

2.1 *Malcolm Island LU Biophysical Description*

Malcolm Island is situated adjacent to the north east coastline of Vancouver Island, British Columbia. Based on provincial ecosystem mapping, Malcolm Island lies in the Queen Charlotte Strait Ecoregion of the Hecate Continental Shelf Ecoregion found within the Coast and Mountains Ecoprovince of British Columbia. The total landscape unit area is approximately 8190 ha, of which approximately 80% is considered Crown productive forest. The terrain is low elevation and undulating, with the highest elevation on the island being 189 metres south of Black Bluffs. There are numerous forested sites with low site productivity. These are usually comprised of hemlock pine and cedar forests, often containing small coastal bog and wetland complexes. Considerable disturbance history exists from forest harvesting and can be viewed as a significant alteration relative to the size of the island. Most of the operable productive forest is under Crown tenure, but there are numerous areas of private forested land, as well as the village of Sointula itself. The local climate is classified as wet maritime, with cool to warm summers and wet, mild winters. Annual precipitation for the Malcolm Island averages 750 – 3500 mm, with the majority of precipitation occurring in the fall and winter.

Only one biogeoclimatic zone and variant covers the Malcolm LU. The particular Biogeoclimatic Ecosystem Classification (BEC) is the Coastal Western Hemlock (CWH) Zone, wet maritime (vm1) variant. One natural disturbance type (NDT 1)³ is dominant, representing mixed conifer, old growth forest ecosystems with uneven-aged stands. Natural regeneration typically occurs after the death of individual trees, or small patches of trees. Some as yet unclassified NDT3 may likely be present where periodic catastrophic wind disturbances affect larger stands of trees.

A map showing the location of the Malcolm Island LU in relation to the neighbouring landscape units on northern Vancouver Island is shown in Figure 1.

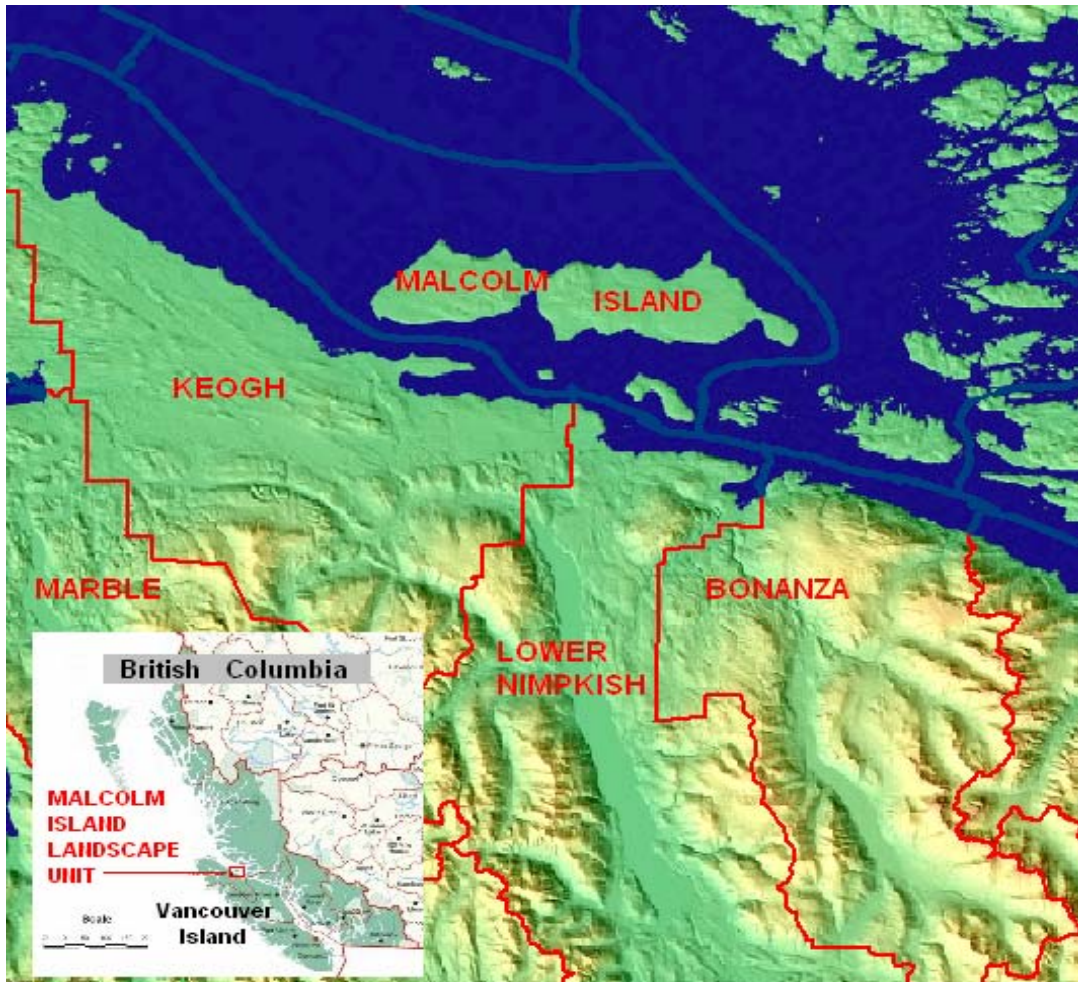


Figure 1 Malcolm Island Landscape Unit, British Columbia

³ FPC Biodiversity Guidebook, September 1995

2.2 Summary of Land Status

Malcolm Island is approximately 8190 ha in size with a forested area of approximately 6112 ha, excluding the private land and woodlots. At present, the two currently designated woodlots contribute another 809 ha of mostly forested land (788 ha Crown and 21 ha private). The productive Timber Harvesting Land Base is considered to be 4238 ha. Malcolm Island has significant parcels of private land (18% of the island) including the village of Sointula itself, various other private lots and residential and commercial properties at Mitchell Bay.

Land status within the Malcolm LU is summarized in Table 1.

Table 1. Land Status of the Malcolm Island Landscape Unit

Code	Ownership Class	%
40	Private	18
52	Indian reserve	3
62	Crown contributing	79
69	Rec. sites and reserves	0
	Total area	100

3.0 Key Resource Tenure Holders

Resource tenure holdings were identified in the planning process. This assessment included identification of forest tenures that are administered by the Ministry of Forests (MoF), and mineral tenures administered by the Ministry of Energy and Mines. Resource tenures also include crown corporations such as B.C. Timber Sales (BCTS) and Land and Water BC (LWBC). In the case with tenure holders, other than forestry, the planning strategy generally aims to avoid placement of OGMAs within existing tenures. As for forest tenures, the management intent is to avoid placement of OGMAs over cutblocks and roads that have received approval status.

3.1 Forest Tenure Holders

As stated previously, at present, two woodlot owners have tenure on Malcolm Island. The remaining provincial forest land is available to licensees under the B.C. Timber Sales Program. Designation of additional woodlots and a Community Forest Licence are possibilities. The OGMAs selected do not impact any known approved category “A” cutblocks or roads as approved under a Forest Development Plan (FDP). Furthermore, discussion with local forestry interests has taken place to ensure that the intent of this LUP is conveyed to balance social, environmental and economic interests.

3.2 Mining Tenure Holders

There are no mining tenures within the Malcolm Island Landscape Unit.

Malcolm Island is composed of glaciomarine and marine deposits consisting of lag sediments (sand, gravel, and pockets of fine sediment; in thin to discontinued sediment veneers) deposited from meltwater and floating ice, in marine waters, during deglaciation and subsequent regression.

4.0 Significant Resource Values

4.1 Fish, Wildlife and Biodiversity

Notable wildlife resources of primary management concern in the Malcolm Island LU include: black tailed deer, herons, owls, bats, bald eagles, river otter and mink. Black bear are seen occasionally. Marine waterfowl are abundant in offshore waters. Some important local streams have anadromous fisheries values

Local birds include, but are not limited to the following: Anna's hummingbird, Rufous hummingbird, belted kingfisher, turkey vulture, killdeer, pine grosbeak, American robin, varied thrush, downy woodpecker, hairy woodpecker, northern flicker, winter wren, house wren, ring-necked plover, ruffed grouse, Steller's jay, cedar waxwing, crows, ravens and song swallows.

The presence of marbled murrelets (mamu) *Branchyramphus marmoratus* and northern goshawks (nogo) *Accipiter gentilis laingi*, the two known primary species at risk, and considered “Identified Wildlife”⁴, are not noted in local inventories. Lack of suitable habitat is likely a factor limiting their presence. Many other species occur including

⁴ Volume 1 of the *Identified Wildlife Management Strategy* includes a list of 36 wildlife species and 4 plant communities that are considered to be at risk. These species or plant communities require special management of critical habitat to maintain or restore populations. Critical habitat is protected within Wildlife Habitat Areas. See the *Identified Wildlife Management Strategy Volume 1 February 1999* for more information.

small mammals and amphibians, but their habitat requirements are generally managed within habitat provisions for primary species.

4.2 Timber Resources

The timber harvesting land base in the Malcolm Island LU, was estimated to be 4238 ha in the last Timber Supply Review. This establishes the importance of localized timber resource values. The non-contributing forest, consisting of uneconomic/inoperable status, partially constrained and riparian was estimated to be 2248 ha of which only 470 was classified as old seral forest. The specific factors making the 470 ha non-contributing are not explicitly identified although marginal low site timber types appear to be the obvious likely component. Some current harvest activities occur in forest areas which are of marginal harvest quality. Continued access to commercially valuable timber, including future second growth, is a significant interest to locals. Relatively low-impact, first pass harvesting of accessible old growth timber will continue, but most of the prime old growth forest has been harvested during the last quarter of the twentieth century.

Commercially valuable tree species in the Malcolm Island LU are western red cedar, yellow cedar and western hemlock. Based on forest cover information, Table 2 shows a recent determination of age class distribution of forest within the productive landbase on Malcolm Island, but Woodlot 2 has not yet been excluded (approximately 369 ha forest).

Table 2. Age Class Distribution and Area of Productive Crown Forest Land in the Malcolm Island LU.

Age Class	Forested Landbase within Provincial Forest	
	%	ha
1	23.4	1513.6
2	20.8	1341.8
3	11.9	772.8
4	12.7	823.8
5	2.0	127.7
6	1.7	109.5
7	0.7	45.9
8	5.7	367.4
9	21.1	1363
Total	100	6465.5

Many of the residual old forest ecosystems in the Malcolm Island LU are generally less productive compared to other forests on Vancouver Island. In addition, many of the more productive growing sites have already been harvested. Much of the forest on Malcolm Island has generally poor to medium site productivity, but there are also significant areas

of much lower site productivity as well as a few non-productive forested wetlands and bogs complexes.

4.3 Recreation Resources

Eco-tourism is a growing industry for Malcolm Island. Trail hiking, bike riding, kayaking, scuba-diving, sight seeing, whale watching and other wildlife viewing are recognized as significant recreational values for Malcolm Island and its surrounding waters.

The 3.2 km Mateoja Trail starts behind Sointula and links with nearby Big Lake. It features the heritage Mateoja farm, forestry artefacts, scenic Melvin's Bog, mature and old growth forests and a regenerating forest resulting from the 1923 forest fire. On the north side of Malcolm Island, the 5 km Beautiful Bay Trail extends between Bere Point and Malcolm Point and provides scenic view points, beach access, wildlife viewing and forest experiences including the 64.6 m tall (212 ft) Sitka Spruce. Other north shore recreational opportunities include Sam's Beach, Black Bluff, Trinity Bay, Lizard Point and the locally named coastal forest "Jurassic Park" which hosts a shipwreck in the clam-filled bay and huge veteran cedars in the coastal forest.

Mitchell Bay harbours a small rural community about 20 km from Sointula and provides a place for kayak launching to access the nearby Broughton Archipelago. Mitchell Bay also provides excellent viewing opportunity for sea lions, porpoises, and orca's which frequent the local kelp beds. It is also known as a local deer refuge on Malcolm Island where deer are often seen along the roadway.

At the far west end of Malcolm Island, the Pulteney Point Lighthouse is accessible by trail to the beach and offers commanding views up and down Queen Charlotte Strait.

4.4 Visual Resources

Queen Charlotte Strait serves as the primary travel corridor for the coastal cruise ship industry. As such, the shoreline viewsapes of the Malcolm Island Landscape Unit with the mainland Coast Mountains Range as backdrop provides a significant visual resource feature in the area.

5.0 Higher Level Plan Direction

5.1 Legally Binding Direction

Malcolm Island is recognized as a “General” Management Zone (RMZ 12) under the Vancouver Island Land Use Plan (VILUP), but no legally binding VILUP objectives are in place for the zone.

5.2 VILUP Policy Direction

The Vancouver Island Summary Land Use Plan (VISLUP) includes limited direction for the Malcolm Island LU (RMZ 12). Most management direction recognizes “general” values for biodiversity conservation, access, cultural heritage, fish, recreation and timber. The exceptions emphasize a high potential for marine and heritage tourism with further recognition of a visually sensitive shoreline.

6.0 First Nations

The Malcolm LU is located within the traditional territories of the Kwakiutl, Namgis, and Mamalilikula First Nations.

Lizard Point is one location of known traditional use as indicated by rock petroglyphs on the shoreline.



Figure 2 Shoreline Rock Petroglyph near Lizard Point

Kwakiutl First Nation has one 196 ha reserve on Malcolm near the west end of the island.

Namgis First Nation historically had a small village site in the Nimpkish valley and a much larger settlement at the Nimpkish estuary, but also utilized resources from nearby Cormorant Island and Malcolm Island including intertidal and sub-tidal marine resources.

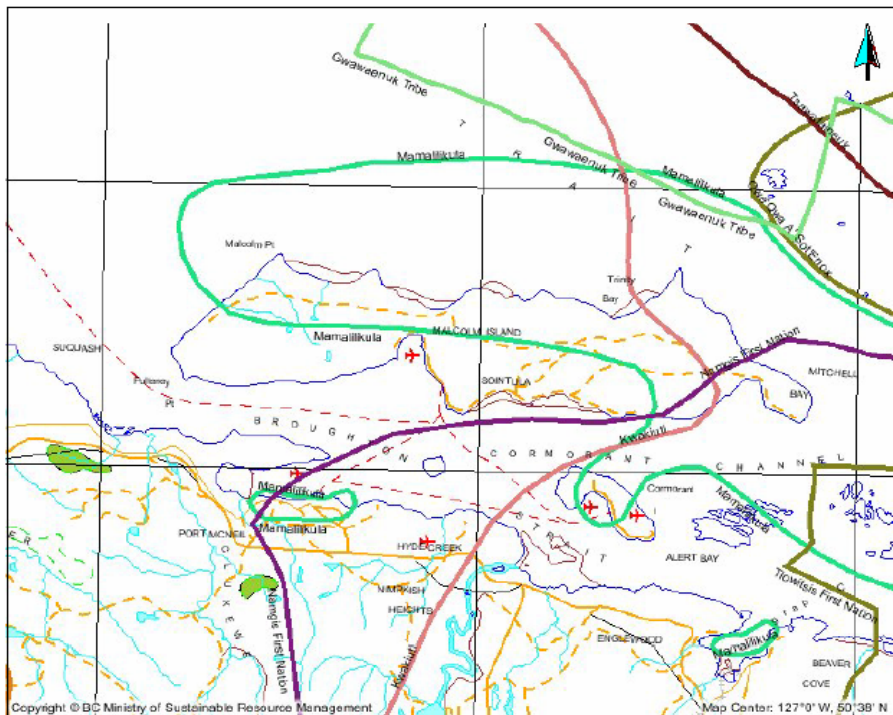


Figure 3: Namgis, Kwakiutl and Mamalilikula First Nations traditional territory, Malcolm Is.

7.0 OGMA Methodology

7.1 *Integrating other values in OGMA Selection*

The Malcolm Island LU contains limited amounts of remaining, non-tenured and non-private old seral forest habitat from which to build on for ecosystem management. These include some areas of inoperable, uneconomic and inaccessible forest as well as riparian reserve zones required under the Forest Practices Code. Neither Ungulate Winter Range nor Wildlife Habitat Areas have been established on Malcolm Island. However, significant black-tailed deer use throughout Malcolm Island has been noted. The structural forest attributes required for marbled murrelet nesting, namely large, moss-covered coniferous limbs do not appear to be a dominant feature on Malcolm Island due to the harvest history and climate effects. As such, the OGMA's do not capture significant marbled murrelet nesting habitat.

An important part of the OGMA planning exercise was to ensure that the separate non-timber resource components complemented each other. For example, the proposed OGMA's have been placed throughout different sections of Malcolm Island, and not concentrated in one area. Some OGMA's are located in the central portion of the island and capture ecosystem representation of several notable small lakes, wetlands and streams. Other OGMA's are located along coastal shore lines and address recreational values, wildlife values and visual quality from marine viewpoints. Further, one large OGMA is located between the outer coast and the central portion of the LU and captures a locally significant riparian complex as well as the remains of a heritage homestead. Some OGMA's are of sufficient size to provide undisturbed interior forest conditions, but many clearly have significant exposure to coastal winds which blow up and down Queen Charlotte Strait. Using this approach to capture a variety of OGMA's, in addition to stand level biodiversity measures, will increase the likelihood of sustaining ecosystems and viable wildlife populations well distributed across their natural range.

7.2 *Criteria for OGMA Selection*

In general, OGMA's were selected on the basis of providing diverse ecological representation with additional emphasis on protecting recreational features and opportunities, shoreline vistas and coastal wildlife habitat. Specifically, OGMA's were selected based on recommendations provided from a variety of local interests. Air photo interpretation and ground truthing were also used in the selection process. Effort were made to maximize biodiversity conservation while minimizing timber supply impacts, often by incorporating important second growth stands while leaving some residual old growth forest for other local development interests. Specific rationale for the selection of each OGMA is presented in Appendix 2. Some riparian patches were specifically selected in order to capture areas likely constrained to routine harvest opportunity while also being important for resident fish and wildlife. Further efforts were made to minimize the impact on the timber supply by capturing the ecological values associated with the regional district's municipal park areas.

7.3 Boundary Mapping

Wherever possible, OGMA boundaries were mapped to follow the most recent forest cover polygon boundaries, or obvious natural terrain features such as creek edges to ensure they could be easily mapped and readily located on the ground. OGMAs were mapped using a 1:20,000 scale TRIM base that forms the legal standard for measurement. Procedures for operating within OGMAs are discussed in the OGMA objectives and amendment policy.

7.4 Amendment Policy

The MSRM Coast Region amendment policy gives direction to proponents (forest tenure holders) when modifications to OGMA objectives are required. This Regional policy describes procedures for amending legally established Old Growth Management Areas (OGMA); and serves to guide operations when working in or adjacent to OGMAs. The amendment portion is consistent with Section 4 of the *Forest Practices Code of British Columbia Act*, which allows for the Delegated Decision Maker (DDM) to vary a Landscape Unit objective (i.e. amending the location of an OGMA). This policy applies to the Coast Region, MSRM and may be updated from time to time.

Amendment procedures cover such things as minor or major amendments for resource development (e.g. roads, bridges, boundary issues, rock quarries & gravel pits) or relocation of OGMAs. The policy also discusses acceptable management activities and review procedures. Where specified under a legal landscape unit objective, some commonly occurring forestry operations can be exempted from referral to MSRM. Major and minor amendment requests, however, cannot be exempted. The MSRM web site for both the amendment policy and the objectives template are located through the link below:

<http://srmwww.gov.bc.ca/cr/srmp/amendments.htm>

7.5 Mitigation of Timber Supply Impacts

During delineation of OGMAs for priority biodiversity provisions, an attempt was made to mitigate the short and long-term impacts on timber supply. Although the potential placement of all OGMAs were considered in the non-contributing forest land base, the non-contributing land base did not always satisfy all requirements to address suitable, representative old forest attributes or the specific recreational and cultural values of local interests. When this occurred, portions of the timber harvesting land base from most constrained to least constrained were assessed and included as OGMAs. Further, the OGMAs were not always chosen in old growth forest as a first priority. Several stands of mature forest, often 180 years old or older, and younger forests, aged 60-140 years were incorporated into some OGMAs. Any forest stands that were approved or proposed for harvesting on Forest Development Plans (FDP) were excluded from candidate OGMAs. Local forestry interests also provided input and identified future harvesting opportunities so that timber supply impacts could be reduced wherever reasonable and possible to do so.

8.0 OGMA Analysis

8.1 Malcolm Island Landscape Unit

The Malcolm Island LU was ranked with a “lower” Biodiversity Emphasis Option (BEO) through the biodiversity value ranking process completed earlier (see the *Vancouver Forest Region Landscape Unit Planning Strategy*, 1999). This BEO designation along with the BEC variant determines the percentage of the Crown forest land base that should be designated as OGMA. Table 3 outlines the total amount of OGMA required in the CWH vm1 variant and tallies the available types of Crown forest (i.e. Non Contributing-NC forest versus Timber Harvesting Land Base)⁵. The old growth target figures in Table 3 are derived from Appendix 2 in the *Landscape Unit Planning Guide*.

Table 3: Old Growth Retention Report for the Malcolm Island LU.

1	2	3	4	5	6	7	8	9	10
Malcolm Is Landscape Unit Total Land Area	BEC Variant (Productive Forest Area) CWH vm1	Old Growth Age	1/3 Old Growth Target for Lower BEO	Full Old Growth Target for Lower BEO	Old Growth Mapped	Recruitment OGMA mapped	NC within 60 Yrs of being Old	Old THLB	Old within 60 Yrs. THLB
		250 yrs	4.3%	13%	5.3%	7.7%	5.7%	11.2%	3.9%
8189 ha	6112 ha		265 ha	795 ha	331 ha	489 ha	372 ha	728 ha	252 ha

Note: Column 3 - Old growth age from tables, App. 2, LUPG.
 Column 4 – Minimum old growth target from tables in App. 2, based on BEO.
 Column 5--Full old growth target
 Column 6 – Old growth mapped
 Column 7 --Percent old forest found in non-contributing landbase.
 Column 8 – Percent forest that will be old within 60 years found in non-contributing landbase
 Column 9 – Percent old in THLB.
 Column 10 – Percent THLB that will be old within 60 years

⁵ Non Contributing (NC) forest land does not contribute to the Allowable Annual Cut. The Timber Harvesting Land Base (THLB) is made up of Contributing (C) forests and a portion of the Partially Contributing (PC) forests. Partially Contributing forests are “constrained” due to one of several factors such as unstable soils or wildlife habitat, but are still partially available for harvest. Contributing forest is unconstrained and available for timber harvest.

Table 4. Comparison of Old Growth Targets to Final Mapped OGMA

Land Class	BEC Variant	Target (ha)	Allocation (ha) (Old)	Allocation (ha) (Recruitment)	Mapped OGMA
Provincial Forest	CWH vm1	795	331 mapped	489 mapped	820*

* Total OGMA excludes lake, wetlands and swamps, but includes 18 ha alder-leading and 22 ha pine-leading

Table 4 above compares the full target long term old seral requirement to that which is planned. The planned target is generated from a series of OGMA's which are either old (331 ha) or recruitment (489ha) consisting of a variety of younger age classes, not just mature only.

A map showing the location of the proposed OGMA's is located at Appendix 1.

Table 5. Wildlife Tree Retention Report for the Malcolm Island LU.

Landscape Unit (Total Area) ha	CWH vm1 Variant (Productive Forest Area) ha	THLB ha	% Subzone Avail. For Harvest	%THLB Harvested without WTR	WTP Retention When LU Designated
8189	6481	4238	65.4 %	76.9%	10%

In addition to the initial focus on retention of old growth forests at the landscape level, this plan also proposes to maintain stand structure through retention of wildlife tree patches (WTPs) according to the target defined in Table 5 above. Upon designation of the Malcolm LU by legal order, the WTP target is 10% and is consistent with policy direction and technical application of the Wildlife Tree Tables in Appendix 3 of the Landscape Unit Planning Guide. These attributes and elements can best be determined on site by the prescribing foresters and engineers.

9.0 Legal Objectives for the Malcolm Island Landscape Unit

Preamble

The goal of these objectives is to sustain biological diversity at the landscape level; permissible activities are described to streamline administrative procedures and address operational safety concerns.

First Nations traditional use of forest resources, treaty negotiations or settlements will not be limited by the following objectives.

Legal Objectives – Malcolm Island Landscape Unit

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, the following are the landscape unit objectives for the Malcolm Island Landscape Unit.

Objective 1 – Old Growth Management Areas

1. Maintenance or recruitment of old growth forests

Maintain or recruit old growth forests in established Old Growth Management Areas (OGMAs), as shown on the attached Malcolm Island Landscape Unit map dated December 17, 2004, subject to section 2 below.

2. Permissible activities within OGMAs

(a) Minor OGMA boundary adjustments for operational reasons:

To accommodate minor operational requirements for timber harvesting and road or bridge construction, OGMAs that are 10 ha or greater in size may have boundaries adjusted, provided that

- i) the boundary adjustment does not affect more than 10 per cent of the area of the OGMA,
- ii) road or bridge construction is required to access resource values beyond or adjacent to the OGMA and no other practicable option for road or bridge location exists,
- iii) suitable OGMA replacement forest of equivalent age, structure and area is identified either (in order of priority) directly adjacent to, or elsewhere in the landscape unit as the adjusted OGMA, and

- iv) boundary adjustments and OGMA replacements areas are documented, mapped and submitted to the delegated decision maker at the end of each calendar year for approval.

In the case of ii) above, as an alternative to finding replacement area the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.

(b) Other permissible activities:

- (i) Boundary pruning of trees to improve wind firmness.
- (ii) Timber harvesting to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMA's. Salvage within OGMA's will be done in a manner that retains as many old growth forest attributes as possible.
- ii) Road maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.
- iii) Felling of guyline clearance, tailhold anchor trees, or danger trees along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.
- iv) Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by less than 0.5 ha in total.
- v) Small boundary adjustments for operational reasons, or intrusions, other than those specified above, that result in a net loss to the OGMA by less than or equal to 0.5 hectare in total.

OGMA replacement forest is required as a result of the activities in 2 (b) above when the total net change to the OGMA exceeds 0.5 ha in size. Replacement forest must be biologically suitable, of equivalent age, structure and area and situated (in order of priority), either immediately adjacent to the existing OGMA, or in the same landscape unit as the existing OGMA. Boundary adjustments and OGMA replacement areas must be documented, mapped and submitted to the delegated decision maker at the end of each calendar year for approval.

Objective 2 – Wildlife Tree Retention

Maintain stand-level structural diversity, by retaining wildlife tree patches (WTPs). Over each five year period, commencing on the date the objectives are established, the target percentage of the harvest area as noted in the table below must be achieved, by each licensee and tenure, through retention of adequate amounts of wildlife tree patches on

cutblocks, except minor salvage cutblocks in which harvesting has been completed⁶.

In addition:

- (1) WTPs must be well distributed across the BEC subzone.
- (2) When designated at the operational site plan level, WTPs must be located within or immediately adjacent to a cutblock.
- (3) No timber harvesting, including single tree selection is to occur within WTPs, except as noted in (4) below
- (4) Salvage of windthrown timber is permitted within WTPs where windthrow impacts 25% to 50% of the dominant or co-dominant stems. Salvage of windthrown timber and harvesting of remaining standing stems is permitted within WTPs where windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, suitable replacement WTP of at least equivalent quantity must be identified concurrently to achieve the retention target.
- (5) WTPs should include, if present, remnant old-growth patches and live or dead veteran trees (excluding danger trees).
- (6) WTPs must include representative larger trees for the stand (dbh>average operational cruise) and any moderate to high value wildlife trees if available (excluding danger trees).
- (7) BEC subzones and variants will be determined by operational site plan information.
- (8) In WTPs with a likelihood of windthrow, pruning and/or topping may be carried out to maintain the integrity of the WTP.

Wildlife Tree Retention by BEC subzone in the Malcolm Island Landscape Unit.

Biogeoclimatic Subzone	% WTP requirement
CWH vm (Coastal Western Hemlock, moist maritime)	10

⁶A minor salvage cutblock is defined as less than 2.0 ha of harvesting and/or less than a total volume of 2000 m³ excluding volume harvested from any road clearing width, if the road is required to facilitate the removal of the timber within the minor salvage cutblock.

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Vancouver Regional Landscape Unit Planning Strategy, 1999
Vancouver Forest Region Planning Document, Nanaimo, B.C.

Appendices

Appendix 1. OGMA Map for the Malcolm Island Landscape Unit



■ Old Growth Management Areas

Appendix 2. Malcolm Island OGMA Summary and Rationale

OGMA #	Selection Rationale	Area (ha)
1	<ul style="list-style-type: none"> ➤ Coastal recruitment forest: age 60-100 years. ➤ Various components including some Sitka spruce, some deciduous and small widthrow disturbances ➤ East side of OGMA consists of two old growth stands, one of which is wetland forest 	23.9
2	<ul style="list-style-type: none"> ➤ Cedar, hemlock, pine and cypress old growth forest associated with small gullied streams. 	3.5
3	<ul style="list-style-type: none"> ➤ Two small old forest remnants beside the main road with associated stream, wetland and amphibian habitat 	4.1
4	<ul style="list-style-type: none"> ➤ Small coastal patch of hemlock, spruce and red cedar ➤ Biodiversity complimented by coastal shoreline representation, estimated age is 120-140. 	2.8
5	<ul style="list-style-type: none"> ➤ Beautiful Bay recreation trail ➤ Coastal wildlife and visual quality 	95.7
6	<ul style="list-style-type: none"> ➤ Old growth cedar-hemlock complex with stream and lake features 	21.1
7	<ul style="list-style-type: none"> ➤ Old growth cedar-hemlock complex with stream and wetland features. 	27.6
8	<ul style="list-style-type: none"> ➤ Old growth hemlock, cedar and amabilis fir stand at headwaters of wetland complex ➤ Wetland complex surrounded by various less productive stands of cedar, hemlock, spruce and pine 	39.0
9	<ul style="list-style-type: none"> ➤ Predominantly old growth hemlock associated with small stream system on west end ➤ Octopus trail heritage feature ➤ Black Bluffs coastal shoreline forest is recruitment component aged 60-80 years. 	30.0
10	<ul style="list-style-type: none"> ➤ Predominantly riparian old growth cedar hemlock with stream draining west to Ruff Bay ➤ Large ancient windfalls ➤ Adjacent path/skid trail in second growth 	12.8

OGMA #	Selection Rationale	Area (ha)
11	<ul style="list-style-type: none"> ➤ Mateoja trail complex from village of Sointula to Big Lake ➤ Predominantly recruitment forest with various age classes including some mature components ➤ One small old growth cedar hemlock stand near west end of OGMA ➤ Connectivity from Duck Lake to Malm's Pond 	83.8
12	<ul style="list-style-type: none"> ➤ Mature and old growth forest complex at highest elevation on Malcolm Island ➤ Small embedded wetlands in mature forest ➤ Racetrack Lake special wetland feature 	28.8
13	<ul style="list-style-type: none"> ➤ Large area of important ecosystem representation with limited coastal harvest operability due to fish streams and riparian system complexity/sensitivity ➤ OGMA includes old homestead site 	72.9
14	<ul style="list-style-type: none"> ➤ Old growth forest adjacent to Mitchell Bay road ➤ Two stream systems drain northwest and northeast to OGMA 13. ➤ Black-tail deer use and variable understorey 	27.1
15	<ul style="list-style-type: none"> ➤ Small cedar-hemlock stand with stream system draining to OGMA 13 	1.8
16	<ul style="list-style-type: none"> ➤ Central, inland recruitment stand with hemlock, cedar, pine, Sitka spruce and Douglas fir 	5.3
17	<ul style="list-style-type: none"> ➤ Coastline forest complex with old growth along west end (Jurassic park) ➤ Stream systems in central portion of OGMA, ➤ Some very young coastline recruitment forest ➤ Old growth hemlock cedar at the east end 	28.6
18	<ul style="list-style-type: none"> ➤ Shoreline patch of old growth 	3.1
19	<ul style="list-style-type: none"> ➤ Hemlock-cedar stand with locally significant fish stream 	37.9
20	<ul style="list-style-type: none"> ➤ Lizard Point recreation area mature forest stand aged 140-250 years ➤ Various old and mature forest surrounding Lizard Point linking west to shorelines 	68.9

21	➤ Small recruitment forest with cedar, hemlock and Douglas fir composition, joined with adjacent old growth cedar, hemlock and pine site.	4.4
22	➤ Hemlock-cedar stand with amabilis fir representation	9.6
23	➤ Small old growth stands surrounding cranberry bog complex	7.6
24	➤ Small old growth stand with hemlock, pine and cedar	3.4
25	<ul style="list-style-type: none"> ➤ West of Mitchell Bay, south coastline representation ➤ Coastal recreation, visual and wildlife values ➤ Predominantly recruitment forest (age 40-80 years) with three old growth components 	138.3
26	<ul style="list-style-type: none"> ➤ Eastern end of Malcolm Island above shoreline on gentle terrain ➤ Old growth cedar-hemlock stand 	20.3
27	<ul style="list-style-type: none"> ➤ Regional District of Mount Waddington acquisition ➤ Predominantly old growth with minor recruitment component. ➤ On-the ground area is 400m x 400 m (16ha) 	17.4
Total		819.9

Appendix 3 Public Consultation Summary

The Malcolm Island Landscape Unit Plan was advertised for public review and comment for 60 days from June 30, 2004 to August 29, 2004. Following a meeting with representatives of the Namgis First Nation on September 28, 2004, an additional two month extension was granted.

Prior to the consultation period, MSRM met with Chief Bob Sewid of the Mamalilikula First Nation on two occasions. Chief Bill Cranmer of the Namgis First Nation was contacted in August 2003 and numerous follow-up communications with staff continued into 2004. No responses from the Kwakiutl First Nation were received at any time during the plan development or review stage.

Considerable discussion and input was provided by the Ministry of Forests prior to the advertising period. The issue collectively worked on was trying to ensure opportunity for more woodlot development on Malcolm Island through suitable placement of OGMA's. This interest had to be balanced with the social, economic and environmental interests of the locals, including First Nations, and the general interest in the potential for obtaining a Community Forest Agreement.

One open house was hosted by MSRM on January 31, 2004 to gain preliminary input to the plan. Over 100 people attended and of the 42 comment sheets received, few offered specific technical comments. Most requests were for the preservation of all remaining old growth, more connectivity, OGMA buffering and protection of the island's natural cranberry bogs. One comment recommended socio-environmental analysis prior to any further harvesting. Three comments recommended merging or enlarging OGMA's at Shiels Bay, Heritage Homestead and Lizard Point. These were later accommodated into the plan (OGMA's 9, 13 and 20) while other areas removed to address timber supply opportunity.

A second open house was held on July 17, 2004 during the public review and comment period. Turnout was much less than at the first open house. Nine comment sheets were received (all in support as at least the OGMA's as a minimum conservation step and numerous concerns about more woodlot allocation), plus two e-mails (regarding woodlot interest and local support for the Mitchell Bay OGMA # 25, respectively) and four public letters of strong support, plus one letter from the Ministry of Forests encouraging continued balanced integration of all interests.

Further input was received in mid-August regarding protection of the Octopus Trail connector to Shiels Bay on the north shore and the potential for expansion of OGMA 11 (which incorporates the Mateoja Trail system behind the village of Sointula). Consequently, OGMA 9 was modified to exclude some of the easily accessible old growth while the shoreline forest strip was added (young and mature age classes) extending east to Black Bluffs. Secondly, a connector strip of forest was added to OGMA 11 to allow future protected trail access from Duck Lake to the heritage site of Malm's Pond.