

Ministry of Sustainable Resource Management
Coast Region
Biodiversity Chapter
for the
San Josef 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

David Byng, R.P.F.
Manager,
Timber Supply and Planning
Western Forest Products Inc,
Campbell River

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1.0 Introduction

This report describes the biodiversity conservation plan for the San Josef 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) numerical summary and descriptive rationale are provided.

Biological diversity 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, 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 Act (FPC Act)* 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 wildlife, 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, 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 Vancouver Island and established Biodiversity Emphasis Options (BEOs) in accordance with the direction provided by government. Current 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 Western Forest Products Limited in cooperation with the Ministry of Sustainable Resource Management (MSRM).

¹ FPC Biodiversity Guidebook, September 1995

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

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>
- 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 San Josef LU Description

2.1 San Josef LU Biophysical Description

The San Josef LU is situated within the Nahwitti Lowland Ecosection on the northwest end of Vancouver Island. The total landscape unit area is approximately 89,600 ha, of which 95% is forested. In many areas, there are numerous areas of forest with poor to low site productivity. These less productive forest sites are dominated by stands of cedar hemlock and pine, particularly in the western portion of the landscape unit. However, there are also many productive forest sites throughout the landscape unit, particularly along the major river systems. The terrain is low elevation and undulating, with the highest elevation being only 680 m above sea level. The local climate is dominated by maritime influence, with cool, moist summers and stormy, wet winters. Average annual precipitation for the village of Holberg is 425 centimetres.

The location of the San Josef LU on Vancouver Island is shown in figure 1.



Figure 1 San Josef Landscape Unit, Northwest Vancouver Island

The Biogeoclimatic Ecosystem Classification (BEC) covering most of the San Josef landscape unit is the Coastal Western Hemlock (CWH) Zone. Three biogeoclimatic subzone variants are dominant over the San Josef LU. These are the CWH vh1 very wet hypermaritime, the CWH vm1 submontane, very wet maritime and the CWH vm2 montane, very wet maritime. The higher elevation, Mountain Hemlock Zone, classified as the MH mm1 windward, moist maritime variant is limited to 56 ha of forested area. 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 unclassified NDT3 may certainly be present where periodic catastrophic wind disturbances have affected larger stands of trees. At present, the objectives set for this landscape unit plan will not specifically address possible NDT3 areas. This can be achieved at a later time subject to adequate ground-truthing.

2.2 Summary of Land Status

Land status within the San Josef LU is summarized in Table 1.

Table 1

Land Status of the San Josef Landscape Unit

Ownership	Hectares
TFL 6	60482
MF61	2541
FL A19243	11988
Weyerhaeuser	162
Other Private	1660
Cape Scott Park	11607
Quatsino Park	611
Raft Cove Park	423
Marble River Park	149
Grand Total	89623

³ FPC Biodiversity Guidebook, September 1995

3.0 Key Resource Tenure Holders

Key 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 OGMA within existing tenures. As for forest tenures, the management intent is to avoid placement of OGMA over cutblocks and roads that have received approval status.

3.1 Forest Tenure Holders

The LU plan area is covered predominantly by Western Forest Product's Tree Farm License 6, but in addition, there are several other forest tenures within the landscape unit. These include WFP's Forest Licence FL A19243 (11,988 ha) located in the north-western portion of the Kingcome Timber Supply Area (TSA), WFP's Managed Forest Unit 61 (2541 ha) and MF 29 (embedded within TFL 6). Weyerhaeuser manages approximately 162 ha of Forest Licence in the Colony Lake area. Portions of the remaining provincial forest land are available to licensees under the B.C. Timber Sales Program. OGMA were selected do avoid impact to any known approved category "A" cutblocks or roads as approved under an FDP. Although MSRM generally avoids placement of OGMA on private lands, the San Josef LU plan includes 26 ha of OGMA in MF 61 and 95 ha in MF 29, as agreed to with WFP. Extensive iterative review and discussion with WFP staff has taken place to ensure that the intent of this LUP has been conveyed and that impacts on future planned development minimized.

3.2 Mining Tenure Holders

Mineral tenure #388799 is the only current tenure within the San Josef Landscape Unit and occupies a large portion of Glerup Creek which drains northward into Holberg Inlet. Three relatively small OGMA were mapped in the area based on their availability as non-contributing, or constrained forest. Two of the OGMA are immediately adjacent to the inlet with visual quality constraints, while the third is on a small knoll.

Exploration and development activities are permitted in OGMA. The preference is to proceed with exploration and development in a way that would be sensitive to the old growth values of the OGMA. If exploration and development proceed to the point of significantly impacting old growth values, then the OGMA status would be moved and re-designated elsewhere.

4.0 Significant Resource Values

4.1 Fish, Wildlife and Biodiversity

Wildlife resources of primary management concern in the San Josef LU include: black tailed deer, eagles and black bear. Fisheries values are considered high in many of the river systems.

The marbled murrelet, *Branchyrampus marmoratus* (mamu) is the primary species at risk that is recognized as “Identified Wildlife”⁴ in the San Josef LU. Many other species occur in the area including numerous forest birds, raptors, small mammals, amphibians and furbearers, but their habitat requirements are generally managed within a mixture of forested seral stages distributed across the landscape.

The numerous low gradient streams and rivers in the San Josef LU support an abundance of resident and anadromous fish. Riparian Reserve Zones (RRZs) established as per the *FPC* adjacent to these fish streams will help maintain a significant amount of riparian fish and wildlife habitat. These riparian areas also provide additional opportunities to conserve old growth values in the adjacent Riparian Management Zones (RMZs).

4.2 Timber Resources

The timber harvesting land base (THLB) in the San Josef LU is currently estimated to be over 59,600 ha, while the amount of forest in Protected Area, non-contributing or uneconomic/inoperable status is just over 25,800 ha. The high operability factor establishes the importance of the localized timber resource values. Whereas 40% of the THLB has already been harvested, continued access to commercially valuable timber, including future second growth, is a significant economic and social interest. Relatively low-impact, first pass harvesting of accessible old growth timber will continue for the foreseeable future.

Commercially valuable tree species in the San Josef LU are western red cedar, western hemlock and yellow cedar. Based on forest cover information, Table 2 shows the age class distribution of old forest within the productive landbase of the San Josef LU. There are currently over 46,000 ha of productive old growth forest remaining in the San Josef LU.

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 or distributions. Critical habitat is protected within Wildlife Habitat Areas. See the *Identified Wildlife Management Strategy Volume 1 February 1999* for more information.

Table 2 Distribution of Productive Forest Land

Within the San Josef LU

Age Class	Hectares	%
1	14970	18%
2	10307	12%
3	2286	3%
4	3546	4%
5	2252	3%
6	4275	5%
7	121	0%
8	1016	1%
9	46667	55%
Total	85440	100%

Forest management activities occur throughout all phases of forest development. Operational work includes pre-harvest planning, harvesting and stand regeneration, while post harvest activities include planting, brushing, and fertilization.

4.3 Private Land

There are several classifications of private land within the San Josef LU. WFP's managed Forest Unit 61 shows the largest coverage consisting of 2541 ha. Weyerhaeuser has significantly reduced their private holdings to only a small residual portion of Timber Licence. The remaining 1660 ha of private land is held by other interests.

4.4 Recreation

The development of an extensive forest road network into the southwest and northeast corners of the San Josef LU has increased recreational opportunities for public access. Stream and lake angling opportunities offer good fishing potential in the area and recreational hunting serves as an important annual activity for many outdoor enthusiasts. Most hunters target black bears, deer and cougars. Winter recreational activity is normally restricted by seasonal road deactivation and inclement weather. Trail hiking to Cape Scott and Raft Cove provincial parks are significant attractions. Wildlife viewing and sight seeing opportunities are highest along the coastal fringes and tend to be less in the interior part of the LU where the terrain is generally more subdued and second growth forests more dominant. The western end of Cape Scott Provincial Park lies at the north end of the San Josef LU. The proposed North Island Trail will eventually link eastward to the lower Shushartie River and back to Georgie Lake and Port Hardy. The recent creation of Quatsino Park and Marble River Park provide new areas for recreation and wildlife viewing.

5.0 Vancouver Island Land Use Plan

5.1 Resource Management Zones

Following the Vancouver Island Land Use Decision in 1994, the Vancouver Island Resource Targets Project was initiated in 1995 to complete a strategic zoning plan for the island. The project had two main objectives. The first was to complete the delineation of Resource Management Zones (RMZs) based on resource and environmental values, local geographic criteria and public input. The second was to develop primary and secondary management objectives for each zone, with accompanying strategies to guide implementation. The zonation process was designed to address different applications of harvest intensity on forest lands outside of the new and existing protected areas. The three zone classifications, as supported by the *Forest Practices Code of B.C. Act*, were mapped as Special Management Zones, General Management Zones and Enhanced Forestry Zones.

5.2 Resource Management Zone Location and Values

5.2.1 SMZ 2 West Coast Nahwitti Lowlands

The West Coast Nahwitti Lowlands SMZ extends along the coastline southeast of Cape Scott Park starting at the San Josef River. It surrounds Raft Cove Park and then continues south along the coast to the beginning of SMZ 4 at Winter Harbour and the Koprino River estuary. The area covered by SMZ 2 is approximately 15,100 ha.

Primary values are recognized as scenic, cultural/heritage, coastal fish, wildlife and habitat, plus riparian values in the Macjack and Ronning Rivers and Topknot and Leeson Lakes as well as coastal recreational values and opportunities.

5.2.2 SMZ 4 Koprino

The Koprino SMZ extends southward from Jules Bay in Holberg Inlet to the Koprino harbour and links with the West Coast Nahwitti Lowlands SMZ. On the east side of Koprino Harbour, Quatsino Park wraps further along the coastline to the east. The area covered by SMZ 4 is approximately 6,100 ha.

Primary values are recognized as old growth biodiversity and connectivity functions and upland wildlife habitat. Further details regarding primary and secondary management objectives are provided in the Vancouver Island Summary Land Use Plan

5.2.3 EFZ 4

The remainder of the San Josef landscape unit, excluding the provincial parks and private land, is Resource Management Zone 4, also designated as an Enhanced Forestry Zone under the VILUP HLP Order. The size of this Enhanced Forestry Zone is approximately 56,000 ha and the overall management direction recognizes the opportunity for increased timber production while maintaining fisheries values and watershed integrity. Further

details regarding primary and secondary management objectives are provided in the Vancouver Island Summary Land Use Plan

5.3 Legally Binding Direction

Legally binding Higher Level Plan (HLP) objectives for the Vancouver Island Land Use Plan (VILUP) are one provision that enables specific forest resource management objectives to direct operational planning. Hierarchically, landscape unit objectives must be consistent with established Higher Level Plan Resource Management Zone (RMZ) objectives.

5.3.1 HLP Objectives

The HLP objectives which apply to the West Coast Nahwitti Lowlands Special Management Zone (SMZ 2), the Koprino Special Management Zone (SMZ 4) and the San Josef-Koprino Enhanced Forestry Zone (EFZ 4) are summarized below. Details of the December 2000 HLP order are provided in Appendix 1:

5.3.1.1 SMZ 2 and SMZ 4 Mature Seral Component:

- The target for mature seral forest should range between one quarter and one third of the forested area in each SMZ.

5.3.1.2 SMZ 2 and SMZ 4 Stand Level Biodiversity

- Retain, within cutblocks, structural forest attributes and elements with important biodiversity functions; and
-

5.3.1.3 SMZ 2 and SMZ 4 Silvicultural Systems and Patch Sizes

- Apply a variety of silvicultural systems, patch sizes and shapes across the zone in block sizes no greater than 5 ha if clearcut, clearcut with reserves or seed tree reserves and no greater than 40 ha if shelterwood, selection or retention systems are applied.

5.3.1.4 SMZ 2 Visual Resources

- Maintain the visual quality of known scenic areas in accordance with the recommended visual quality classes in the visual landscape inventory, until the district manager establishes visual quality objectives for the areas.

5.3.1.5 EFZ 4

- Increase the short term availability of timber by the application of larger cut block sizes, and modified green-up requirements
- Apply modified silvicultural stocking practices where appropriate

5.3.2 Analysis of Mature Seral Component for SMZ 2 and 4

The target HLP objective for mature seral forest requires retention of between one quarter to one third of the forested area of each SMZ in the age of 80-120 years, or older. The structure of mature seral forest is expected to be more complex than younger, mid-seral

forests and exhibit tree canopy complexity that varies vertically, or horizontally, or both. Although mature forests are precursors to becoming old growth forests, the specific age at which a mature seral forest stand changes to old, cannot truly be tied to one specific age, and is recognized as being dependent on local site features influenced by climate, soils and terrain. Consequently, the mature seral target may include a contribution of old seral forest, particularly from those stands captured in OGMAs, or from other constrained areas. In Special Management Zones with a low supply of old seral forest, the requirements will be greater to retain more mature seral forest.

The mature plus old component of SMZs 2 and 4 is currently 68% and 62 % respectively and additional details are provided in Appendix 3.

5.4 Non-binding HLP Direction

The Vancouver Island Summary Land Use Plan (VISLUP) includes additional direction for the San Josef LU. Recommended objectives are provided which recognize both timber and non-timber resource values.

5.4.1 SMZ 2

Primary management objectives are listed which are considered as policy guidance to address the following values in the West Coast Nahwitti Lowlands SMZ: visual resources, recreation, tourism, cultural-heritage and fisheries. Secondary objectives are for biodiversity, timber and karst features. Although biodiversity conservation in SMZ 2 is considered a secondary priority because of the abundance of old seral CWH vh1 forest in Cape Scott and Raft Cove provincial parks, as well as in inaccessible coastal areas and less productive forest types, VISLUP direction recommends a focus on expanded riparian habitats and selection of marbled murrelet nesting habitat.

5.4.2 SMZ 4.

Primary management objectives for the Koprino SMZ are listed to address wildlife resources (predominately deer, black bear and marbled murrelets), fisheries resources in the Hathaway and Koprino rivers; biodiversity conservation in the CWH vm1 and localized hydrological sensitivity in steep terrain. Secondary objectives are for timber production; visual resource management; cultural heritage resources; karst, and access management

5.4.3 EFZ 4

Primary management objectives for the Enhanced Forestry Zone recommend that the following values be addressed in EFZ 4: timber productivity, fisheries values, notably in the San Josef River, and biodiversity conservation in riparian reserves. Secondary forest objectives are given to address harvest rates and hydrology; visually sensitive areas of local significance in the Coal Harbour area, Quatsino, Jules Bay and along the access route to Cape Scott Park; river based recreation; stand level protection of black bear denning habitat; and, recognition of tourism; heritage and cultural values.

6.0 First Nations

The San Josef LU is located within the traditional territories of the Quatsino and Tlatlasikwala First Nations.



Figure 2: Quatsino and Tlatlasikwala First Nations Traditional Territories

6.1 Quatsino

Five aboriginal tribal groups represented by the Quatsino First Nation are the Hoyalas, the Quatsinox, the Klaskinox, the Giopinox and the Koskimox. Although the Hoyalas tribe is considered extinct, the integration with the other tribes through shared territories and inter-tribal potlatches would likely mean that some blood relationships still exist within the Quatsino community.

The various tribes frequently over-wintered in large village sites near Hecate Cove and Quatsino Narrows, but dispersed throughout the rest of the year to specific traditional use areas. Quatsino and Winter Harbour have been important population centres, but Coal Harbour is the current location of many of the Quatsino First Nation.

6.2 Tlatlasikwala

The Tlatlasikwala traditional territory extends from Triangle Island off the west coast of Vancouver Island southeast to Sea Otter Cove near San Josef Bay, then extends in an easterly direction, inclusive of the rivers, head-waters and lakes across the land and ocean from east to west, extending to Pine Island which lies to the north east of Hope Island, and then southward to the Gordon Islands.

Although the Tlatlasikwala traditionally shared the Cape Scott area with the Yutlinuk of the Scott Islands and the Nakumgilisala, after the die off of the Yutlinuk, the remaining two small tribes joined and moved east to occupy Hope Island up until the mid 1950's. The Tlatlisikwala have recently reoccupied Hope Island.

7.0 OGMA Methodology

7.1 Integrating other values in OGMA selection

The San Josef LU contains a broad distribution of old seral forest habitat from which to build on for old growth representation. This includes a variety of forest types such as

- ecologically suitable old growth forest habitats in Cape Scott, Raft Cove, Quatsino and Marble provincial parks,
- areas within the two Special Management Zones subject to harvest constraints which accommodate other resource values,
- other forested areas managed under Tree Farm Licence and Forest Licence tenure including riparian reserve zones and gully complexes,
- areas historically recognized as ungulate wintering areas, and
- numerous areas of inoperable, uneconomic and inaccessible forest

Specific ungulate winter ranges and Wildlife Habitat Areas have not been previously established through legal mechanisms, but both structural and topographic features for deer and marbled murrelet habitat have been included as OGMAs and are reported through habitat capability analysis in Appendix 4. In general, the selection of OGMAs has captured a good variety of the different habitat types beneficial to each species, while also securing increased coarse filter ecological representation

An important part of the OGMA planning exercise was to ensure that these separate components complemented each other. For example, the proposed OGMAs have been placed throughout different sections of the San Josef LU, and not concentrated in one area. Both large and small OGMAs have been located along coastal drainages, and provide suitable habitat for potential marbled murrelet nesting. Other OGMAs are located inland within the LU to capture drier ecosystems with such features as rock outcrops and southerly aspects. Other larger patches provide interior forest conditions. Using this approach to selectively designate OGMAs across the landscape, in conjunction with stand level biodiversity measures will increase the likelihood of sustaining ecosystems and viable wildlife populations well distributed across their natural range.

7.2 Assessment and Review

In general, OGMAs were selected on the basis of providing ecological representation with additional emphasis in providing an opportunity for maintaining marbled murrelet nesting habitat where likely suitable nest tree attributes could be identified on air photos. Specifically, OGMAs were selected based on a review of stand attributes and harvest constraints in an effort to maximize their value for habitat diversity while minimizing timber supply impacts. Specific riparian patches, particularly gully complexes, were selected in order to capture known constrained areas with likely good potential for marbled murrelet nesting. Further efforts were made to minimize the impact on the timber supply by considering the ecological contribution of old growth areas in Cape Scott Park and are discussed further in Section 7.5 below.

The patch size distribution for all OGMA's in the San Josef LU is presented in Appendix 5 and demonstrates that a variety of OGMA sizes have been designated. At the small patch size range of 2-10 ha, 96 OGMA's have been mapped, totalling 540 ha. For the much larger patch sizes, greater than 100 ha, a total of 24 OGMA's have been mapped constituting 6153 ha.

7.3 Boundary Mapping

OGMA boundaries used natural features 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 that forms the legal standard for measurement. Procedures for operating within OGMA's 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 OGMA's. 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 OGMA's. 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 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/resourcemgmt/srmp/amendments.htm>

7.5 Mitigation of Timber Supply Impacts

During delineation of OGMA's for priority biodiversity provisions, an attempt was made to mitigate the short and long-term impacts on timber supply. Although OGMA's were considered first in the non-contributing forest land base, the non-contributing land base did not always satisfy all requirements to address suitable, representation of old forest attributes. Where this occurred, portions of the timber harvesting land base from most constrained to least constrained were assessed and included as OGMA's.

OGMA's were chosen in the oldest available age class first, however, old forest stands that were approved or proposed for harvesting on Forest Development Plans (FDPs) were excluded from candidate OGMA's. WFP staff reviewed the draft OGMA maps, and identified harvesting opportunities in concert with areas of greater harvest constraint so

that timber supply impacts could be reduced wherever possible. Concentrating all OGMA's into the two Special Management Zones was not considered a viable option to either MSRM or WFP.

Despite the fact that the Cape Scott Provincial Park portion of the LU represents nearly 11,000 ha of forest (CWH vh1), a large portion is poor quality coastal scrub forest and considered not significant in ecological value to contribute towards meeting biodiversity targets. Air photo assessment, however, indicates approximately 10% of the park has good structural attributes for marbled murrelet nesting potential (estimated to be 1000 ha), while another 8 % is deemed suitable to provide additional old seral representation to contribute towards the CWH vh1 OGMA target. On the other hand, the recently created Raft Cove Provincial Park has higher quality old growth than most of Cape Scott Park. Raft Cove Park does not contribute to timber supply and is therefore considered “non-contributing” forest. Since the old growth forest in Raft Cove Park is more suitable for biodiversity conservation than much of the scrubby non-contributing CWH vh1 forest outside the park, it is reasonable to consider the 494 ha of old growth in Raft Cove as contributing to the landscape level old seral target.

Although the full CWH vh1 old seral target of 5428 ha could theoretically be met entirely from the non-contributing land base, the importance of capturing areas of Timber Harvesting Land Base (THLB) with significant riparian habitat values for fish, black bear and marbled murrelets was accommodated by selecting some THLB to address these biodiversity values. In addition, some areas of THLB were used in the West Coast Nahwitti Special Management Zone OGMA's and in doing so have improved the biological integrity of the OGMA's while also helping to address visual quality values of the coastal views as well as capture marbled murrelet potential nesting habitat as previously mentioned. Many small areas of “classified” THLB in the CWH vh1 are often just marginally productive sites within OGMA's which are otherwise non-contributing forest. The economic opportunity to these small THLB areas within these predominantly non-contributing forests is likely very low, based on cost of accessibility and poor site productivity. The total amount of THLB used in CWH vh1 OGMA's is 775 ha of which 723 is old growth. This use of THLB in the CWH vh1 OGMA's was counterbalanced by under-achieving the full OGMA target in the CWH vm1.

The recent creation of the Quatsino and Marble Provincial Parks has secured two new conservation areas which support the resource values of recreation, biodiversity, cultural heritage, wildlife and scenic viewing. To this end, both parks were considered acceptable to MSRM as valuable in contributing towards meeting the biodiversity targets, both quantitatively and spatially across the landscape unit. Approximately 60% of the areas are in mature and old seral condition with an additional 17% in mid-seral condition. The two parks are considered to contribute 231 ha of old seral and 215 ha of mature seral forest towards meeting the CWH vm1 target of 5239 ha. In addition, the mapping process for OGMA's included an estimated component of 127 ha early seral, 80 ha mid-seral and 207 more ha of mature, all serving as old growth recruitment areas within OGMA's.

Details of balancing OGMA representation between the CWH vh1 and CWH vm1 variants are reported at the end of Appendix 5.

8.0 OGMA and Wildlife Tree Patch Requirements

8.1 OGMA Targets

The San Josef LU was ranked with an “intermediate” 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 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*.

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 3 Old Growth Retention Report for the San Josef LU

San Josef Landscape Unit Summary

August 21, 2002

Total Landscape Unit Area:	89623.4	ha
Forested Area:	85440.0	ha
Timber Harvesting Landbase Area:	59635.0	ha
% of LU Available for Harvest:	67%	
% of THLB Harvested:	40%	

BEC	Total Forest	OLD - Non THLB	OLD - THLB	OG Target	NC Balance	THLB Contribution Required
CWH vh 1	41826.3	18958.1	10462.4	5437.4	13520.7	0.0
CWH vm 1	40302.0	2459.1	12487.5	5239.3	-2780.2	-2780.2
CWH vm 2	3255.6	672.6	1528.5	423.2	249.4	0.0
MH mm 1	56.0	36.9	19.1	7.3	29.6	0.0

BEC	SERAL	Forested Area	Non-Contributing		THLB Area	
			Area	%	Area	%
CWH vh 1	Early	8821.9	445.6	1%	8376.3	20%
	Mid	877.3	324.4	1%	552.9	1%
	Mature	2706.6	567.0	1%	2139.6	5%
	Old	29420.6	18958.2	45%	10462.4	25%
Total Areas		41826.4	20295.2	49%	21531.2	51%
CWH vm 1	Early	16174.6	1344.5	3%	14830.1	37%
	Mid	5311.3	368.2	1%	4943.1	12%
	Mature	3869.5	488.6	1%	3380.9	8%
	Old	14946.6	2459.1	6%	12487.5	31%
Total Areas		40302.0	4660.4	12%	35641.6	88%
CWH vm 2	Early	841.6	124.3	4%	717.3	22%
	Mid	102.3	10.0	0%	92.3	3%
	Mature	110.6	5.5	0%	105.1	3%
	Old	2201.1	672.6	21%	1528.5	47%
Total Areas		3255.6	812.4	25%	2443.2	75%
MH mm 1	Old	56.0	36.9	66%	19.1	34%
Total Areas		56.0	36.9	66%	19.1	34%
Total		85440.0	25804.9	30%	59635.1	70%

Based on revised operability in both TFL 6 and FL A19240

Forest Cover updated to Jan 2001

Includes all Parks and TL's outside of WFP's Tenures

8.2 Wildlife Tree Retention Targets

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 4 below. Upon designation of the San Josef LU biodiversity objectives by legal order, the WTP targets specified below

apply, consistent with policy direction and technical application of the Wildlife Tree Tables in Appendix 3 of the Landscape Unit Planning Guide.

Table 4 Wildlife Tree Retention Report for the San Josef LU
Wildlife Tree Retention Report

Landscape Unit (Total Area)	BEC Subzone	Crown Forested (NC+THLB)	THLB	% Subzone Available for Harvest	% THLB Harvested	% WTP Retention when LU Objectives Established
San Josef 89623.4	CWH vh	41826.3	21531.2	51%	41%	6 - 7
	CWH vm	43557.6	38084.8	87%	45%	10 - 11
	MH mm	56.0	19.1	34%	0%	1

The VILUP HLP objectives for the SMZ portions of the San Josef LU require that within harvest cutblocks, structural forest attributes and elements with important biodiversity functions should be retained. The pattern and distribution of these attributes can best be determined on site by the prescribing foresters and engineers. Flexibility exists across the three Resource Management Zones to address windthrow issues, maximize wildlife tree conservation opportunities and meet landscape level WTR targets.

8.3 Legal Objectives for the San Josef 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 – San Josef Landscape Unit

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, the following are the landscape unit objectives for the San Josef 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 San Josef 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 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 in the same variant and 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.
- iii) 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.
- iv) 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.
- v) 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.
- vi) 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 variant and 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.

⁶ A 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.

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 San Josef Landscape Unit.

Biogeoclimatic Subzone	% WTP requirement
CWH vh (Coastal Western Hemlock, very wet hypermaritime)	6
CWH vm (Coastal Western Hemlock, moist maritime)	10
MH mm (Mountain Hemlock, moist maritime)	1

Objective 3 – Special Management Zones 2 and 4

Sustain forest ecosystem structure and function within Special Management Zones 2 and 4 located in the San Josef Landscape Unit, by retaining mature and old forests (i.e. >80 years of age) on an area covering at least 25 per cent of the total forested area of each SMZ located within the landscape unit.

References

- BC Species and Ecosystems Explorer. 2003. Victoria, British Columbia, Canada.
Available: <http://srmapps.gov.bc.ca/apps/eswp/> (September 15, 2003).
- Landscape Unit Planning Guide (1999). BC Forest Practices Branch and BC Ministry of Environment, Lands and Parks. Victoria, BC.
- Resources Inventory Committee. Species inventory fundamentals: standards for components of B.C.'s biodiversity. No. 1, v.2. November, 1998.
- Sustainable Resource Management Planning: A Landscape-level Strategy for Resource Development. Victoria, BC.
- Vancouver Island Summary Land Use Plan. 2000. Land Use Co-ordination Office. Victoria, BC.
- Vancouver Regional Landscape Unit Planning Strategy, 1999 Vancouver Forest Region Planning Document, Nanaimo, B.C.

Appendix 1 Vancouver Island Land Use Plan Higher Level Plan Order

Order Establishing Resource Management Zones and Resource Management Zone Objectives within the area covered by the Vancouver Island Land Use Plan, pursuant to sections 3(1) and 3(2), as well as section 9.1 of the Forest Practices Code of British Columbia Act (the Act)

- I. Pursuant to section 3(1) of the Act, the following zones, as presented on Map 1 (attached), are Resource Management Zones (RMZ):**
 - A. Special Management Zones (SMZ) 1 through 14 and 17 through 22;
 - B. Resource Management Zones 4, 5, 6, 8, 10, 11, 15, 18, 19, 21, 23, 24, 27, 28, 30, 36, 38, 40, 42, 43, 44, and 47; these RMZ are also referred to as Enhanced Forestry Zones (EFZ);
 - C. Resource Management Zones 7 and 14; these two RMZ are also referred to as General Management Zones (GMZ).
- II. Pursuant to section 3(2) of the Act, the following provisions are Resource Management Zone objectives:**

A. for Special Management Zones 1 through 14 and 17 through 22:

1. Sustain forest ecosystem structure and function in SMZs, by:
 - (a) creating or maintaining stand structures and forest attributes associated with mature¹ and old² forests, subject to the following:
 - i. the target for mature seral forest should range between one quarter to one third of the forested area of each SMZ³; and
 - ii. in SMZs where the area of mature forest is currently less than the mature target range referred to in (i) above, the target amount of mature forest must be in place within 50 years;
 - (b) retaining, within cutblocks⁴, structural forest attributes and elements with important biodiversity functions⁵; and
 - (c) applying a variety of silvicultural systems, patch sizes and patch shapes across the zone, subject to a maximum cutblock size of 5 ha if clearcut,

¹ The mature seral forest is defined as generally 80 to 120 years old or older, depending on species and site conditions. The structure of mature seral forests generally includes canopies that vary vertically or horizontally, or both. The age and structure of the mature seral stage will vary significantly by forest type and from one biogeoclimatic zone to another.

² The old seral forest is defined as generally greater than 250 years old, containing live and dead (downed and standing) trees of various sizes, including large diameter trees, and of various tree species, including broad-leaved trees. The structure of old seral forest varies significantly by forest type and from one biogeoclimatic zone to another.

³ Mature seral targets will be established through landscape unit planning. See transition provisions under III.

⁴ Within cutblocks: generally means non-contiguous with cutblock boundaries.

⁵ This includes, but is not limited to snags, wildlife trees, downed logs.

clearcut with reserves or seed tree silvicultural systems are applied, and 40 ha if shelterwood, selection or retention silvicultural systems are applied⁶.

2. Despite subsection 1(c) above, cutblocks larger than 5 or 40 ha, as the case may be, may be approved if harvesting is being carried out to recover timber that was damaged by fire, insects, wind or other similar events and wherever possible, the cutblock incorporates structural characteristics of natural disturbances.
3. Pursuant to section 2(1) of the Operational Planning Regulation (OPR)⁷, the approval of both the district manager, Ministry of Forests and the designated environment official, Ministry of Environment, Lands and Parks is required for all forest development plans, or parts of forest development plans that relate to areas within the following SMZs: 1, 3, 4, 6, 8, 9, 10, 11, 13, 17, 19, 20 and 21.

B. *for Special Management Zones 8, and 13, and parts of Special Management Zones 1, 3 and 11, which are located within landscape units with higher biodiversity emphasis, as shown on Map 2:*

4. Maintain late-successional habitat elements and attributes of biodiversity⁸ in forested ecosystems with emphasis on regionally rare and underrepresented ecosystems, by retaining old seral forest at the site series/surrogate level of representation⁹.
5. Retain late-successional habitat elements and attributes of biodiversity in patches of variable size.

C. *for the following Special Management Zones with primary visual resource values: 1, 2, 3, 5, 6, 7, 10, 11, 12, 13, 14, 18, 19 and 22, as shown on Map 3:*

6. Maintain the visual quality of known scenic areas in accordance with the recommended visual quality classes in the visual landscape inventory, until the district manager establishes visual quality objectives for the areas.

D. *for all Enhanced Forestry Zones, as shown on Map 1, save and except the parts of those zones which are designated as community watersheds as defined in section 41(8) of the Act:*

7. To increase the short-term availability of timber,
 - (a) a cutblock may be larger than 40 ha pursuant to section 11(2)(a) of the OPR; and
 - (b) pursuant to section 68(4) of the OPR, a cutblock is greened-up if it is adequately stocked and the average height of those trees that are

⁶Maximum cutblock sizes refer to net area to be reforested.

⁷ BC Reg. 107/98

O.C. 426/98 -

Effective: June 15, 1998.

⁸ This includes, but is not limited to: large diameter (> 60 cm) live, decaying and dead standing trees (providing nest and cavity sites); downed wood, including large diameter pieces (50 to 150 cm); deciduous broad-leaved trees, both in riparian and upland areas.

⁹ The level of representation of old seral forest will be applied through landscape unit planning.

- (i) the tallest tree in each 0.01 ha plot included in a representative sample, and
- (ii) a commercially valuable species or other species acceptable to the district manager

is at least 1.3 meters;

unless the district manager determines that a cutblock referred to under (a) or (b) would significantly impact specific hydrological, wildlife, biodiversity, scenic or recreation values.

- 8. Avoid or mitigate adverse hydrological impacts, which may result from the practices referred to in objective 7, in watersheds with significant watershed sensitivity and significant fisheries values, as determined by the district manager and designated environment official.
- 9. When proposing the species composition for the purposes of OPR section 39 (3) (o), a person may, pursuant to OPR section 41, select a single species that is ecologically suited to the area, if a mix of species was present on the area before the timber was harvested.
- 9.1 The area that may be subject to selection of a single species pursuant to objective 9 is limited to no more than 20 per cent of the forested area of any variant within a given EFZ.

E. for Resource Management Zones 7 and 11:

- 10. To avoid severe social and economic consequences, as determined by the district manager and the designated environment official, the full target of 13 per cent for old growth retention in CWHvm1 may be reduced by up to one third provided that ecologically suitable second growth forest is identified to recruit the shortfall¹⁰.

F. for Resource Management Zone 42:

- 11. Retain old seral forest in CWHvm1 in accordance with the full old seral target of 13 per cent for the variant.
- 11.1 Despite objective 11, up to one third of the old seral target may be recruited from second growth provided that
 - (a) such recruitment is necessary to avoid severe social and economic consequences;
 - (b) such recruitment will not impact the ability to conserve suitable habitat of identified wildlife in accordance with the Identified Wildlife Management Strategy¹¹; and
 - (c) ecologically suitable second growth forest is identified to recruit the shortfall.¹²

G. for Special Management Zone 10:

¹⁰The targets for retention or recruitment of old growth forests will be achieved through the establishment of old growth management areas as part of landscape unit planning.

¹¹ See “Managing Identified Wildlife: Procedures and Measures”, Volume 1, February 1999.

¹²The targets for retention or recruitment of old growth forests will be achieved through the establishment of old growth management areas as part of landscape unit planning.

12. Retain or recruit old growth forest in CWHxm2 in accordance with the full old seral target of 9 per cent for the variant.

H. *for Resource Management Zone 10*

13. Retain old seral forest in CWHxm2 in accordance with the full old seral target of 9 per cent for the variant.
- 13.1 Despite objective 13, up to one third of the old seral target may be recruited from second growth provided that
 - (a) such recruitment is necessary to avoid severe social and economic consequences;
 - (b) such recruitment will not impact the ability to conserve suitable habitat of identified wildlife in accordance with the Identified Wildlife Management Strategy¹³; and
 - (c) ecologically suitable second growth forest is identified to recruit the shortfall.¹⁴

I. *for Resource Management Zone 30:*

14. Retain all remaining old growth forest in CWHxm2 until landscape unit objectives for old growth retention or recruitment have been established in accordance with the full old seral target of 9 per cent for the variant.

J. *for Resource Management Zones 8, 14, 28 and 43:*

15. Retain old growth forests to meet old seral targets¹⁵ and marbled murrelet habitat requirements¹⁶ in the non-contributing¹⁷ land base to the fullest extent possible.
16. Beyond retention in the non-contributing land base, retain old forests in the timber harvesting land base, up to the full target amount, if the district manager and the designated environment official determine that such retention is required to maintain critical marbled murrelet habitat¹⁸.

III. Transition

17. Pursuant to section 9.1 of the Act, the following objectives will not be implemented in an area until landscape units and objectives have been established for the area, in accordance with section 4 of the Act:
Objectives 1(a); 4; 5; 10; 11; 11.1; 12; 13; 13.1; 15; and 16.

¹³ See “Managing Identified Wildlife: Procedures and Measures”, Volume 1, February 1999.

¹⁴ The targets for retention or recruitment of old growth forests will be achieved through the establishment of old growth management areas as part of landscape unit planning.

¹⁵ See “Landscape Unit Planning Guide”, March 1999.

¹⁶ See “Managing Identified Wildlife: Procedures and Measures”, Volume 1, February 1999.

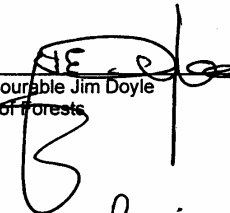
¹⁷ Non-contributing: the crown forested land base that does not contribute to the annual allowable cut, but does contribute to biodiversity objectives and targets.

¹⁸ Retention or recruitment of old growth forests will be achieved through the establishment of old growth management areas as part of landscape unit planning.

18. In the event that landscape units and objectives are not established in an area within 2 years of the date that this order takes effect, the objectives referred to in paragraph 17 will be implemented in the area.

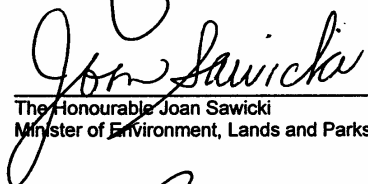
IV. Filing the Order

This order will be filed with the regional manager of the Vancouver Forest Region and will take effect on December 1, 2000.



The Honourable Jim Doyle
Minister of Forests

24/0ct/00
Date



The Honourable Joan Sawicki
Minister of Environment, Lands and Parks

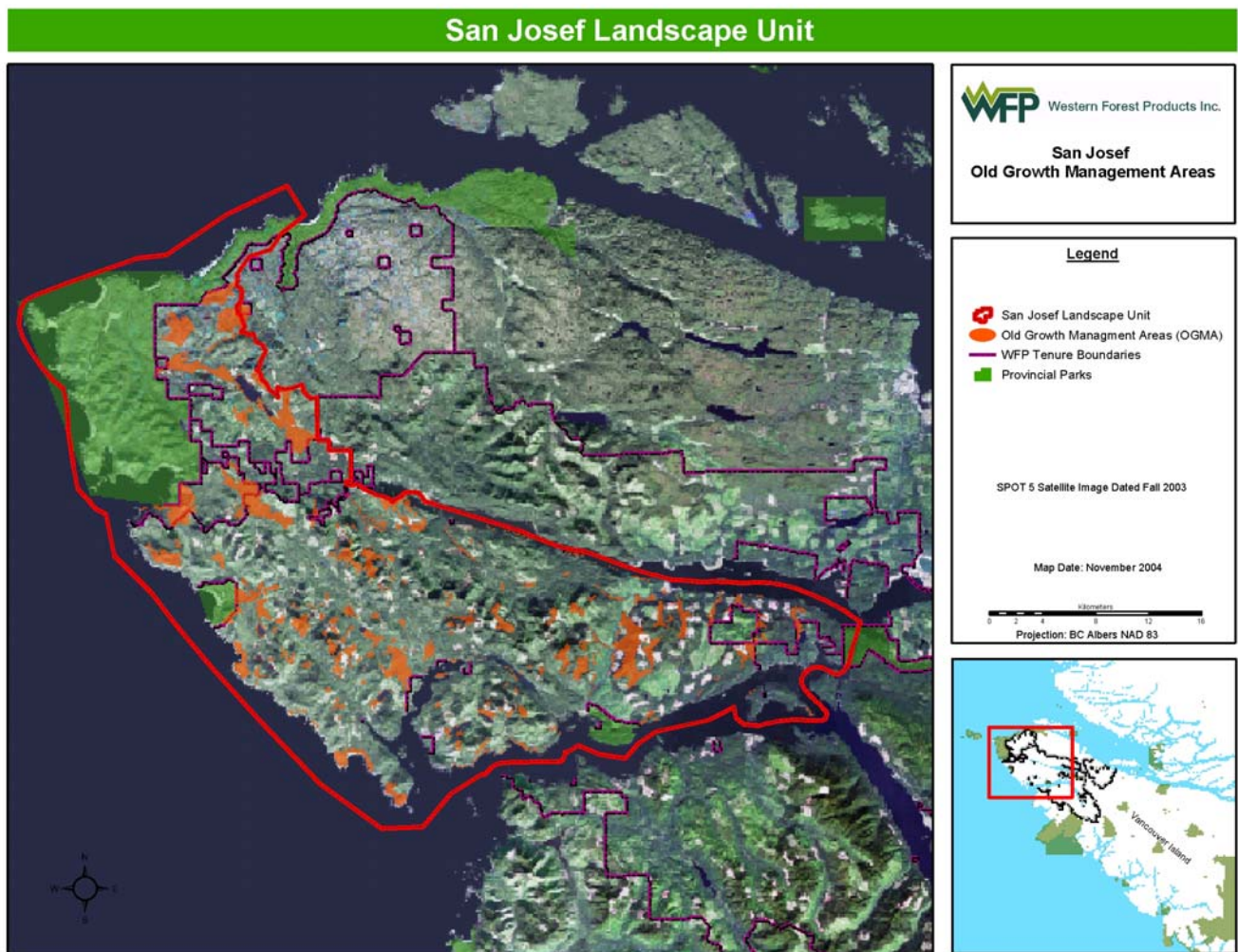
19/10/00
Date



The Honourable Dan Miller
Minister of Energy and Mines

19/10/00
Date

Appendix 2: Map of OGMAs for the San Josef Landscape Unit



Appendix 3 Seral Stage Distribution in SMZs 2 and 4

SMZ 2

Total Forested Area	15,110.5	
Mature + Old	10,218.1	68%
Constrained Mature + Old	3,649.5	24%

Seral Stage	THLB	Non - THLB	Total
Early	2982.6	9.1	2991.7
Mid	1865.6	35.2	1900.7
Mature	1039.1	101.2	1140.3
Old	6309.5	2768.4	9077.8
Grand Total	12196.7	2913.8	15110.5

THLB in OGMA's	
Mature	8.57
Old	771.32
Total	779.89

SMZ 4

Total Forested Area	6,164.4	
Mature + Old	3,819.8	62%
Constrained Mature + Old	1,380.5	22%

Seral Stage	THLB	Non - THLB	Total
Early	1825.3	3.4	1828.7
Mid	502.6	13.3	515.9
Mature	264.7	34.8	299.5
Old	3059.9	460.4	3520.3
Grand Total	5652.6	511.8	6164.4

THLB in OGMA's	
Mature	86.91
Old	798.42
Total	885.33

Appendix 4 San Josef OGMA Wildlife Habitat Capability

San Josef Landscape Unit Summary Information:

Deer Habitat based on Wildlife Model

Total ha in LU		Total ha in OGMAs		% in OGMA
Good	6620	Good	1596.7	24%
Medium	12050	Medium	1649.7	14%
Low	4931	Low	517.1	10%

MAMU Habitat based on Wildlife Model

Total ha in LU		Total ha in OGMAs		
Good	6635	Good	944.8	14%
Medium	19495	Medium	3699.7	19%
Low	32146	Low	1711.2	5%

Appendix 5 Seral Stage Analysis and OGMA Description

5.1 San Josef Land Base Summary by subzone variant

5.1 San Josef Landscape Unit Summary

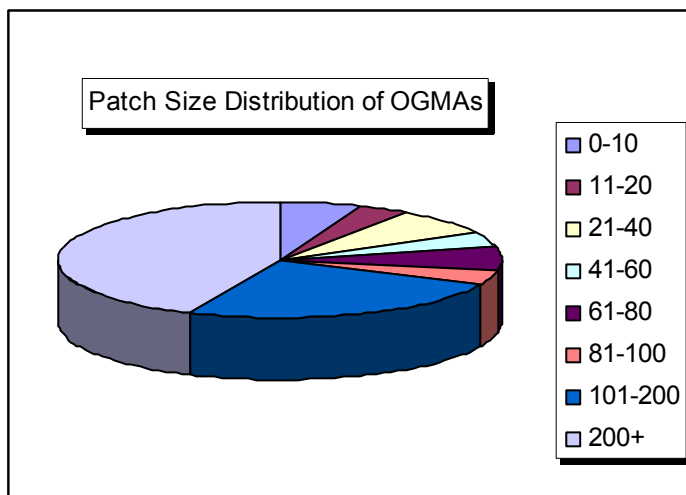
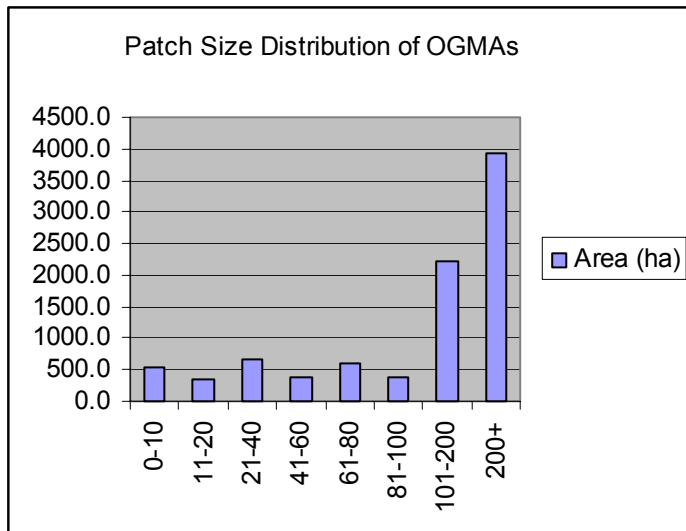
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Timber Harvesting Landbase Area:	59635.0	ha
% of LU Available for Harvest:	67%	
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BEC	SERAL	Forested Area	Non-Contributing		THLB Area	
			Area	%	Area	%
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	Mature	2706.6	567.0	1%	2139.6	5%
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Total Areas		41826.4	20295.2	49%	21531.2	51%
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	Mature	110.6	5.5	0%	105.1	3%
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Total Areas		56.0	36.9	66%	19.1	34%
Total		85440.0	25804.9	30%	59635.1	70%

5.2 Patch size distribution of OGMA's

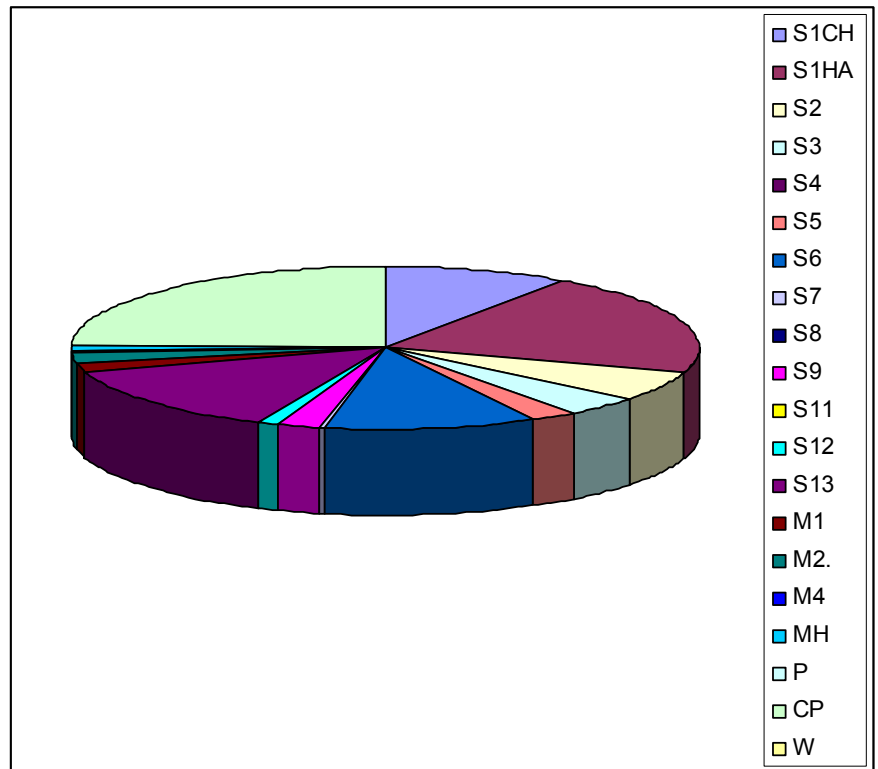
Patch Size	# of OGMA's	Area	% of OGMA Area
0-10	96	539.6	6.0%
11-20	25	369.0	4.1%
21-40	23	635.9	7.0%
41-60	8	388.1	4.3%
61-80	9	608.6	6.7%
81-100	4	365.3	4.0%
101-200	16	2226.2	24.6%
200+	8	3926.5	43.3%
Total	189	9059.2	100.0%



5.3 San Josef OGMA summary by ecosystem type

Ecosystem	Total Area
S1CH cedar hemlock	861.7
S1HA hemlock amabilis	1857.8
S2 salal folisol	515.8
S3 alluvial swordfern foamflower	373.5
S4 alluvial alder-spruce-herb	1.7
S5 spruce-red cedar-skunk cabbage	220.6
S6 red cedar-skunk cabbage swamp	964.9
S7 shore pine red cedar	41.7
S8 shore pine bog	1.7
S9 open bog	187.5
S11 sweetgale-hardhack-sedge	12.8
S12 limestone holly fern	92.7
S13 colluvial swordfern-salmonberry	1242.6
M1 montane vaccinium-moss	134.7
M2. montane salal	221.3
M4 skunk cabbage marsh marigold	29.1
MH mountain hemlock	54.4
P mountain hemlock park	5.3
CP pine red cedar cypress	2239.4
W montane wetland yellow cedar	0.1
Total	9059.2

Negligible, not charted: S4, S7, S8, P, W



5.4 Mapped OGMA summary for entire landscape unit

San Josef Landscape Unit Summary

November 7, 2004

BEC label	Seral Stage	THLB	Non-THLB	Total
CWH vh 1	Early	26.1	111.32	137.42
	Mid	14.27	18.69	32.96
	Mature	12.15	11.36	170.38
	Old	722.89	3509.81	4232.7
CWH vh 1 Total		775.41	3651.18	4426.59
CWH vm 1	Early	95.43	30.98	126.41
	Mid	69.49	10.88	80.37
	Mature	147.31	67.54	206.78
	Old	2075.98	1626.7	3702.68
CWH vm 1 Total		2388.21	1736.1	4124.31
CWH vm 2	Early	3.07	2.88	5.95
	Mid	7.83	4.21	12.04
	Mature	5.33	0.28	17.99
	Old	161.64	312.75	474.39
CWH vm 2 Total		177.87	320.12	497.99
MH mm 1	Old	1.47	8.84	10.31
MH mm 1 Total		1.47	8.84	10.31
Grand Total		3342.96	5716.24	9059.2

OG Target

5427.7

5239.3

423.2

7.3

Total # of OGMA's: 189

Forested Area in Parks

BEC label	Seral Stage	THLB	Non-THLB	Total
CWH vh 1	Early	0	103.9	103.9
	Mid	0	277.3	277.3
	Mature	0	469.9	469.9
	Old	0	9966.8	9966.8
CWH vh 1 Total		0	10817.9	10817.9
CWH vm 1	Early	0	170.2	170.2
	Mid	0	130.3	130.3
	Mature	0	214.8	214.8
	Old	0	230.7	230.7
CWH vm 1 Total		0	746.0	746.0

CWH vh 1

- 10% of vh 1 in Cape Scott Park is good MAMU habitat and an additional 8 % is suitable old seral (total = 18%).
- Recognizing 18 % of OLD in vh 1 in Cape Scott therefore contributes to OGMA: 1760 ha.
- 4233 ha OLD vh 1 in mapped OGMA + 1760 Ha. OLD vh 1 from Cape Scott +494 ha from Raft Cove: 6487 ha.
- Surplus OLD CWH vh 1 = 6487 ha – target 5428 ha: +1059 ha.

CWH vm 1

- Good recruitment candidate areas have been recognized in Early, Mid and Mature seral stages for vm 1.
- Given Marble and Quatsino Parks are integral in this LU consider 100% of Mature and Old vm 1 in Park contributes to OGMA.
- 3703 ha. vm 1 mapped Old in OGMA + 231 ha. OLD + 215 ha. Mature in Parks: 4149 ha.
- Deficit in vm 1 is target 5239 ha – 4149 ha suitable: -1090 ha.
- vh1/vm1 balance= Surplus OLD in vh 1 - deficit vm 1 = 1059 – 1090 : -31 ha.
- **Deficit target of OLD in combination vh 1 and vm1 is 31 ha, but early, mid and mature recruitment contribution in vm1 OGMA is + 414 ha**
- **CWH vm 2 and MH mm 1 OLD targets are met and slightly exceeded.**

Surplus 414-31 + 383 ha

Appendix 6 Public Consultation Summary

The San Josef Landscape Unit Plan was advertised for public review and comment for 60 days from June 30, 2004 to August 29, 2004.

Prior to the public review period, MSRM met with Chief Tom Nelson, Ralph Wallas and Aaron Williams of the Quatsino First Nation. Agreement was reached that the Quatsino First Nation traditional use interests in the Kains Peninsula and Browning Inlet need not be addressed at this time through modification or substitution of OGMA's, but should continue to be identified as an important area for conservation. Chief Tom Wallace of the Tlatlasikwala First Nation was provided with plan details, but made no request for a specific review.

No public comments were received other than one request for viewing in Nanaimo where a copy of the plan and OGMA map was available throughout the summer.

No comments were received from Weyerhaeuser.