

# Sustainable Resource Management Plan

## Biodiversity Chapter for

### **East Harrison Landscape Unit**

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<b>Table of Contents</b>		<b>Page</b>
<b>1.0</b>	<b>Introduction</b>	<b>1</b>
<b>2.0</b>	<b>East Harrison Landscape Unit Description</b>	<b>2</b>
2.1	Biophysical Description	2
2.2	Summary of Land Status	3
<b>3.0</b>	<b>Key Resource Tenure Holders</b>	<b>4</b>
3.1	Forest Tenure Holders	4
3.2	Mining Tenure Holders	5
<b>4.0</b>	<b>Significant Resource Values</b>	<b>5</b>
4.1	Fish, Wildlife & Biodiversity	5
4.2	Timber Resources	6
4.3	Private Land	7
4.4	Water	7
4.5	Recreation	7
4.6	Sub-surface Resources	8
<b>5.0</b>	<b>Existing Higher Level Plans</b>	<b>8</b>
<b>6.0</b>	<b>First Nations</b>	<b>8</b>
<b>7.0</b>	<b>OGMA Methodology</b>	<b>9</b>
7.1	Existing Planning Processes	9
7.2	Assessment and Review	9
7.3	Boundary Mapping	10
7.4	Amendment Policy	10
7.5	Mitigation of Timber Supply Impacts	10
<b>8.0</b>	<b>Landscape Unit OGMA Analysis</b>	<b>11</b>
<b>9.0</b>	<b>Wildlife Tree Retention</b>	<b>12</b>
<b>10.0</b>	<b>Landscape Unit Objectives</b>	<b>12</b>
<b>11.0</b>	<b>Appendices</b>	<b>13</b>
Appendix 1	OGMA Summary and Rationale	14
Appendix 2	Acronyms	26
Appendix 3	Public Consultation Summary	27

## 1.0 Introduction

This report provides background information used during the preparation of the Sustainable Resource Management Plan and associated proposed legal objectives for the East Harrison Landscape Unit (LU). Specifically, this report will form the biodiversity conservation chapter of the plan. 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 or biodiversity is defined as: *'the diversity of plants, animals and other living organisms in all their forms and levels of organisation, and includes the diversity of genes, species and ecosystems as well as the evolutionary and functional processes that link them'*<sup>1</sup>. 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 endangered<sup>2</sup>. The continuing loss of biological diversity will have a major impact on the health and functions of ecosystems and the quality of life in the province (Resources Inventory Committee, 1998).

Planning for OGMA and Wildlife Tree Patch (WTP) biodiversity values is recognized as a high priority for the province. LU planning is an important component of the *Forest Practices Code of BC Act (FPC)* which allows legal establishment of objectives to address landscape level biodiversity values. Implementation of this 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 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 Chilliwack Forest District has completed draft LU boundaries and assigned draft Biodiversity Emphasis Options (BEO) in accordance with the direction provided by government. There are 24 LUs within the Chilliwack Forest District. Through a ranking process, the East Harrison LU was rated as a Low BEO, which requires that priority biodiversity provisions, including the delineation of Old Growth Management Areas and wildlife tree retention (WTR), be undertaken immediately. This work was completed by the Ministry of Sustainable Resource Management (MSRM), in cooperation with the Fraser TSA Cooperative Association, the BC Timber Sales Program, International Forest Products Ltd. and Northwest Hardwoods. Funding was provided by the Forest Investment Account and MSRM.

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<sup>1</sup> FPC Biodiversity Guidebook, September 1995

<sup>2</sup> BC Species and Ecosystems Explorer. 2003. Victoria, British Columbia. Available at: <http://srmapps.gov.bc.ca/apps/eswp/>

Input from First Nations will be gathered during consultation (prior to public review) between MSRMs and individual First Nations. Comment from the public and other agencies will be sought during the 60 day public review and comment period. Refer to the attached map for location of OGMA's and old growth representation from protected areas.

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

## **2.0 East Harrison Landscape Unit Description**

### **2.1 Biophysical Description**

The East Harrison LU is situated on the east side of Harrison Lake, it extends south to the Fraser River and west to the Harrison River. It's located predominantly north-east of Harrison Hot Springs, most of the south end of the LU has been cleared for housing development or agricultural use. The Landscape Unit covers a total area of 71,019 ha and includes several large stream systems tributary to Harrison Lake. Larger named watersheds within the LU include Cogburn Creek, Bear Creek, Slollicum Creek, Ruby Creek and Garnet Creek, a few other smaller unnamed streams are present. Harrison Lake is a large fresh water lake that eventually joins the Fraser River just west of Chilliwack.

Of the total area, 40,228 ha (57%) are within the Crown forested land base, and 25,541 ha of Crown forest are within the Timber Harvesting Land Base (THLB). The remaining 30,790 ha (43%) are non-forested or non-Crown (rock, alpine tundra, water, private land etc.) and have been excluded from any OGMA contributions and calculations.

The entire LU is located within the Pacific Ranges Ecoregion, which is represented by the Southern Pacific Ranges and Eastern Pacific Ranges (EPR) eco-sections. The majority of the LU is within the SPR eco-section with the Cogburn Creek drainage being located in the EPR eco-section. Climatic conditions vary most prominently north to south and by elevation. The south third of the LU and along Harrison Lake is low elevation with climate characterized by warm, relatively dry summers and moist, mild winters with little snowfall. This combination produces a long growing season. At mid elevations in the central third of the LU climate is wet and humid with cool, short summers and cool winters with featuring substantial snowfall. At higher elevations in the central and northern third of the LU climate is characterized by long, wet, cold winters with high snowfall and short, cool, moist summers. Mid elevations in the north third of the LU are characterized by moist, cool winters with relatively heavy snowfall and cool but relatively dry summers.

The East Harrison LU is quite diverse ecologically. There are eight Biogeoclimatic (BEC) subzones or variants, which fall within three natural disturbance types (NDTs)<sup>3</sup>. The two Mountain Hemlock variants – windward and leeward moist maritime (MHmm1, MHmm2) and the two Coastal Western Hemlock variants – submontane and montane very wet maritime (CWH vm1, CWHvm2) lie within NDT 1. The Coastal Western Hemlock dry maritime (CWHdm), the CWH southern dry subarctic (CWHds1), and the CWH southern moist subarctic variant (CWHms1) fall within NDT2. The landscape unit also has substantial high elevation non-forested areas in NDT5 (Alpine Tundra).

In the lower elevation variants, within NDT1 and 2, the East Harrison LU has sustained substantial levels of disturbance. Forested stands on lower elevation productive sites (typically on slopes with low to moderate gradient) have been disturbed by past timber harvesting or land clearing. The low levels of old seral forest remaining within these BEC variants reflects this disturbance history.

## 2.2 Summary of Land Status

Land status within the East Harrison LU is summarised in Table 1. The Crown forest land base summary is provided in Table 2.

**Table 1. The range and distribution of land ownership status for the East Harrison Landscape Unit.**

Code	Ownership class	Area (ha)	Percent of total area
40	Private and Crown grants	6757	9.5
50	Federal Reserve	25	<0.1
52	Indian reserve	2853	4.0
61	Crown UREP	889	1.3
62	Crown contributing	57884	81.5
63	Parks & Ecological Reserves	1236	1.7
69	Recreation sites and reserves	777	1.1
72	Crown-Schedule A or B Land, TFL	168	0.2
77	Crown-Woodlot licence (Schedule B Land)	357	0.5
99	Crown, Miscellaneous Leases	74	0.1
	<b>Total Area</b>	<b>71020</b>	<b>100.0</b>

<sup>3</sup> NDT1 encompasses those ecosystems with rare stand-initiating events. NDT2 includes ecosystems with infrequent stand initiating events. NDT5 is Alpine Tundra or other parkland ecosystems that are not considered forested. For a more complete description of NDTs see the *Biodiversity Guidebook* (1995).

**Table 2. Distribution of land area in the East Harrison Landscape Unit on the basis of Biogeoclimatic and Crown Forested Land Base classifications.**

BEC Variant	Total Area (ha)	Crown Forested Land Base <sup>1</sup>			Excluded Land Base <sup>2</sup>
		C (ha)	PC (ha)	NC (ha)	
CWHdm	32165	7575	1617	5826	17146
CWHds1	5103	1537	137	1664	1765
CWHms1	7105	2845	133	1970	2156
CWHvm1	754	532	10	117	95
CWHvm2	10212	6017	2099	1171	924
MHm1	7040	2886	412	1672	2070
MHm2	3808	649	20	904	2234
ATp	4833	88	10	338	4399
<b>TOTAL</b>	<b>71020</b>	<b>22129</b>	<b>4438</b>	<b>13662</b>	<b>30789</b>

<sup>1</sup> The Crown Forested Land Base is comprised of Contributing (C), Partial Contributing (PC), and Non-Contributing (NC) areas of forested land. C and PC forest make up the Timber Harvesting Land Base (THLB) whereas the NC areas of forested lands do not contribute to the Allowable Annual Cut. The NC includes areas of Provincial Crown Forest considered inoperable due to one or more constraints (e.g., steep terrain, low productivity, which are netted down 100% during TSR analysis) and protected areas (e.g., Class A Provincial Parks and Ecological Reserves).

<sup>2</sup> The Excluded land base is comprised of areas of lands that are non-forest (e.g., rock, lakes, streams, non-productive brush, glacier) and areas of land that cannot be presumed to be maintained as forested ecosystems (e.g., private land or in the control of non-resource management agencies [e.g., The Federal Department of National Defense]).

### 3.0 Key Resource Tenure Holders

The general premise applied during the planning process was to identify key resource(s) tenure holdings. This assessment included identification of tenures that are administered by agencies such as the Ministry of Forests (MOF), Ministry of Energy and Mines and Crown corporations such as Land and Water British Columbia. For tenure holders, other than those administered by MOF, the management intent generally is to avoid placement of OGMAs within existing tenures. As for tenures administered by MOF, the management intent is to avoid placement of OGMAs over cutblocks and roads that have received approval status; and to minimize OGMA placement in areas that were identified as future harvest opportunities by licensees.

#### 3.1 Forest Tenure Holders

Within the East Harrison plan area, several licensees operate within volume based tenures which are predominantly forest license with one small timber sale license. The various licensees are: BC Timber Sales Program (administered by MOF), International Forest Products Ltd., Lakeside Pacific Forest Products Ltd., Teal Cedar Products Ltd., Northwest Hardwoods and Abe Logging Ltd. The OGMAs selected do not impact any known approved category “A” cutblocks or roads as identified by licensees during planning meetings. Interfor agreed to remove one Category A block from their plan during plan development.

Forest licensees were involved in the development of the East Harrison LU plan. The plan was developed through Forest Investment Account (FIA) funding with the initial work undertaken by the Fraser TSA Cooperative Association. Further plan development was done in cooperation between MSRM and licensees operating within the LU. Efforts were made to ensure the impacts on future planned development are minimized.

### **3.2 Mineral Tenure Holders**

There are numerous mineral tenures located in Bear, Garnet, Talc and Cogburn drainages with some tenures located in the remaining areas of this LU. Where possible, the selection of OGMA's tried to avoid placement over existing tenure holders. However, due to the wide spread tenure locations within several drainages, overlap was unavoidable..

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

## **4.0 Significant Resource Values**

### **4.1 Fish, Wildlife and Biodiversity**

Wildlife resources of primary management concern in the East Harrison LU include: black-tailed deer, mountain goat, spotted owl (an SRMZ is present but there are no resident owls at this time), fish and some species at risk that are considered "Identified Wildlife"<sup>4</sup>. Many other species occur including forest birds, raptors, small mammals, amphibians and furbearers but their habitat requirements are generally managed within habitat provisions provided for primary species or through access management provisions (e.g. grizzly bear). For example, habitat for spotted owls in the East Harrison LU will be provided over time within a Special Resource Management Zone (SRMZ) which covers approximately 8813 ha of gross forested area (1057 ha of this is in Sasquatch park). Approximately 11% (958 ha) of the gross forested area is currently suitable owl habitat (>100 years old forest), with a requirement to recruit another 4946 ha to reach 67% suitable. The current amount of suitable owl habitat is insufficient to support resident spotted owls but recruitment over the long term will improve this. The habitat maintained for spotted owls would support other forest dependent species.

The East Harrison LU is also an important area for black-tailed deer and mountain goats. Forested winter range habitat for both these species has been identified by MWLAP. All

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<sup>4</sup> 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.

or a portion of the winter habitat areas are being considered for legal establishment as Ungulate Winter Range (UWR) under the FPC according to management plans developed by MWLAP (Jex, 2002; Freeman, 2001 & 2002). Some of the UWR overlaps with Spotted Owl SRMZ and some of each species' habitats have been captured in OGMA. The habitat maintained for ungulates would also benefit other forest dependent species.

Further, all of the named stream systems support anadromous and/or resident salmonid populations. Riparian reserve zones established (as per the FPC) adjacent to these fish streams will help maintain fish and wildlife habitat. Where riparian areas have been logged, habitat will be provided in the future as it re-grows.

Grizzly bears in the East Harrison LU (about the northern one-third only) are part of the threatened Stein-Nahatlatch grizzly bear population unit for which a Recovery Plan has yet to be developed. In general, the Recovery Plan once completed will include objectives and strategies to protect and/or enhance grizzly bear habitat values. Grizzly bears are also an Identified Wildlife species. Provisions exist within the Identified Wildlife Management Strategy to protect some critical foraging or security habitat within Wildlife Habitat Areas (WHA). Designation of WHAs may occur as necessary or as part of the Recovery Plan to protect additional grizzly bear habitat in the East Harrison LU.

Other species of Identified Wildlife (e.g. tailed frog) that may be discovered later may receive habitat protection with WHAs as well. In turn, these WHAs will help provide habitat for species not actively managed for. The Conservation Data Centre has no records for sensitive species in this LU.

#### **4.2 Timber Resources**

The presence of a substantial timber harvesting land base establishes the importance of timber resource values. Continued access to commercially valuable timber, including future second growth, is a significant concern. First pass harvesting of accessible old growth timber is nearing completion.

Commercially valuable tree species in the East Harrison LU by elevation are: Douglas-fir, western hemlock and western red cedar at lower elevations. Mid elevation forests are dominated by western hemlock, amabilis fir and Douglas-fir with smaller amounts of western red cedar. High elevation forests are dominated by amabilis fir and hemlock with some yellow cedar, spruce, western red cedar and sub-alpine fir. Based on forest cover information, Table 3 shows the age composition of forests in the East Harrison LU.



**Table 3. Age distribution of forests within the East Harrison Landscape Unit.**

<b>Age</b>	<b>% of Forested Land base within Provincial Forest</b>
0-60	43%
61-140	28%
141-250	4%
251+	24%

Forest management activities occur throughout all phases of forest development. Operational work includes pre-harvest planning, harvesting and stand regeneration. Post harvest activities include planting, brushing, juvenile spacing, pruning and thinning.

### **4.3 Private Land**

Several substantial parcels of private land occur within the East Harrison LU. Much of the southern end around and in the communities of Agassiz and Harrison Hot Springs is private land. Large areas near the Fraser River and along the main road corridors are also private and have been cleared for housing or agricultural purposes. Several private recreational properties are also present along Harrison Lake and Cascade peninsula.

### **4.4 Water**

There are two community watersheds within the East Harrison Landscape Unit. The Sasquatch and Thunderbird Creek Community Watersheds are located near the southeast end of Harrison Lake and cover approximately 140 hectares. Currently, there is no overlap between the watersheds and OGMAs.

### **4.5 Recreation**

Sasquatch Provincial Park offers campgrounds, boating, fishing, wildlife viewing and hiking. It receives heavy public use through the summer. Overall, the East Harrison LU receives moderate to heavy public recreation use. Spring summer and fall activities include: hiking, lake and river fishing, camping, 4 wheel drive and ATV use, sightseeing, hunting, wildlife viewing, helicopter tours etc. Berry and mushroom picking occur and botanical forest products are also collected. Winter recreational activity (off the main valley road) is normally restricted by seasonal road deactivation and snow accumulation, although snowmobiling could occur.

Stream angling in Cogburn, Bear or Ruby Creeks is quite limited but does occur occasionally. A few of the small lakes provide angling opportunities for resident fish and are popular for family use.

There are three Forest Service Recreation Sites in the East Harrison LU, all are popular and busy through summer months.

### **4.6 Sub-surface Resource Values**

Subsurface resources (minerals, coal, oil, gas and geothermal) and aggregate resources are commodities valuable to the provincial economy. They are, however, difficult to characterise due to their hidden nature. Currently, comprehensive information is available for mineral potential in this area; aggregate potential for this LU has not been rated and no information regarding energy deposits was available to the planning team.

The Ministry of Energy and Mines has rated the metallic mineral potential of this area as moderate to high and the industrial mineral potential as moderate. Mineral Potential classifies the land base based upon the probability of discovering metallic or industrial mineral ore deposits in that area. Resource assessment tracts are based on areas of similar geology when assessed at the 1:250 000 scale. Mineral Potential classification was carried out on each tract with strong input from mineral industry experts and the use of other valuable databases such as MINFILE, exploration assessment reports, regional geochemical survey data, geophysical data, descriptive mineral deposit profiles and deposit models. Techniques used to derive Mineral Potential rankings followed those outlined in the United States Geological Survey Mineral Assessment Methodology<sup>5</sup>, with some modifications. Assessments of estimated undiscovered metallic resources were based on gross in place value (GIPV) and processed through the USGS Mark3B Mineral Resource Assessment Monte Carlo simulator<sup>6</sup>. Undiscovered industrial mineral assessments were based on Relative Deposit Value Score (RDVS). RDVS considers commodity unit value, potential markets, deposit grade and tonnage, transportation costs, infrastructure and extraction costs.

## **5.0 Existing Higher level Plans**

Higher Level Plan objectives are one provision under the FPC that enables specific forest resource management objectives to be made legally binding. Legal objectives established under the Landscape Unit plan will be higher level plan objectives. In part of the East Harrison LU the Spotted Owl Management Plan has been approved and is also being considered for higher level plan status with legal objectives. It is important to note that operational plans must be consistent with higher level plan objectives.

## **6.0 First Nations**

The East Harrison LU is located within the traditional territory of the Sto:lo Nation, Chehalis, and Yale First Nation. A small portion of the northern LU overlaps with Nlaka'pamux First Nation traditional territory.

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

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<sup>5</sup> Singer, D.A., 1993, Basic concepts in three-part quantitative assessments of undiscovered mineral resources: *Nonrenewable Resources*, v. 2, n. 2, p. 69-81.

<sup>6</sup> Root, D.H., Scott, W.A. Jr. and Schruben, P (1998): Mark3B Resource Assessment Program for Macintosh; US Geological Survey, USGS Open File Report 98-356.

model was useful in predicting the location of habitation sites and high elevation campsites in the sub-alpine. Travel routes were also identified.

The maps produced from the model were reviewed to determine the amount of overlap between potential archaeological sites, travel routes and OGMAs. In the East Harrison LU, there is a low to moderate degree of overlap between OGMAs and old forest stands with potential for habitation sites. These sites are located on lower slopes or flat areas near lakeshores or streams. The maps did not indicate any potential travel routes within the Landscape Unit.

## **7.0 OGMA Methodology**

### **7.1 Existing Planning Processes**

Each LU contains varying amounts of mature/old forested habitat provided by existing processes (e.g. some LUs have spotted owl Special Resource Management Zones, some have protected areas) from which to build on for ecosystem management. The FPC ungulate winter range process, once completed, will also help provide a foundation for ecosystem management. In addition, Wildlife Habitat Areas that may be established in future will also improve connectivity; and in the long term, re-establishment of riparian reserve zones to old forest will improve upon ecosystem integrity. The habitat provided by these various processes together with OGMAs provide the fundamental components to achieve a functioning ecosystem.

An important part of the OGMA planning exercise was to ensure that these separate processes complemented each other. For example, OGMAs, where practical, were placed to create larger habitat patches in the vicinity of known spotted owl activity centres. In other cases, OGMAs were placed within or adjacent to ungulate winter range to overlap constraints and to increase patch size. These larger patches then allow greater opportunity to improve connectivity between adjacent patches. The intent is to maintain a series of old forest habitat patches across probable movement corridors to allow wildlife dispersal and gene flow. Species such as deer are particularly susceptible to mortality in winter, connecting or aggregating OGMAs may help facilitate deer movement in addition to benefiting biodiversity. Using this approach with stand level biodiversity measures (e.g. Wildlife Tree Patches) will increase the likelihood of sustaining ecosystems and viable wildlife populations well distributed across their natural range.

### **7.2 Assessment and Review**

OGMAs were selected based on a review of stand attributes in an effort to maximize their value from a biodiversity standpoint while minimizing timber supply impact. Spatial distribution of OGMAs throughout the LU was also a selection criterion. A specific rationale for the selection of each OGMA is shown in Appendix 1. In general, opportunities to recruit larger patches to provide for forest interior habitat conditions (to the recommended target) were favoured over smaller patches, although this was difficult

in this LU. While maximizing patch size, efforts were made to minimize the impact on timber supply by adding into OGMA areas of non-contributing land base adjacent to areas of timber harvesting land base. In addition, a significant number of smaller remnant patches containing old forest were delineated in conformance with the *Landscape Unit Planning Guidebook* (LUPG).

In the East Harrison Landscape Unit it was necessary to designate younger aged immature and mature stands (i.e. mostly age 101-250 years, with some young forest stands) as recruitment OGMA in all BEC variants. The mid to high elevation variants have the majority of OGMA in old forest (greater than 250 years old). Three low elevation variants have a limited amount of old forest available and therefore have a higher percent of OGMA in recruitment stands. Where possible, mature stands that have old forest attributes (e.g. snags, multi-layered canopy) or high resource values (e.g. spotted owl, deer winter range) were chosen as recruitment OGMA.

### **7.3 Boundary Mapping**

OGMA boundaries used natural or recognizable features, such as creeks or roads, wherever possible to ensure they could be located on the ground. OGMA were also delineated to include complete forest stands (forest cover polygons) wherever possible to reduce operational uncertainty and increase ease of OGMA mapping. OGMA were mapped using a 1:20000 scale TRIM base, which forms the legal standard for measurement. Procedures for operating within OGMA are discussed in the OGMA Amendment policy.

### **7.4 Amendment Policy**

An MSRM Coast Region policy has been developed and approved to give direction to proponents (forest tenure holders) when applying for amendments to OGMA legal objectives. Amendment procedures cover such things as minor or major amendments for resource development (e.g. roads, bridges, boundary issues, rock quarries & gravel pits) or relocation of OGMA. The policy also discusses acceptable management activities and review procedures, and forms an integral part of this LU plan.

### **7.5 Mitigation of Timber Supply Impacts**

During delineation of OGMA for priority biodiversity provisions an attempt was made to mitigate the short and long-term impacts on timber supply. For example, OGMA were delineated first in the non-contributing forest land base. Since representation must be at the variant level, the non-contributing land base could not always satisfy old forest requirements. Where this occurred, portions of the timber harvesting land base from most constrained to least constrained were assessed and included as OGMA. Generally, more THLB was required in lower elevation variants due to a longer disturbance history and lesser amounts of non-contributing forest land.

OGMAs were chosen in the oldest available age class first, however, old forest stands that were approved or proposed for harvesting on Forest Development Plans (FDP) were excluded from candidate OGMAs following direction outlined in the *Landscape Unit Planning Guide*. Licensees also reviewed the maps and identified future harvesting opportunities so that timber supply impacts could be reduced wherever possible.

## 8.0 Landscape Unit OGMA Analysis for the East Harrison LU

The East Harrison LU was ranked as a Low biodiversity emphasis option through the biodiversity value ranking process completed earlier (see the *Vancouver Forest Region Landscape Unit Planning Strategy*, 1999). This Low designation along with the BEC variant determines the percentage of the Crown forest land base that will be designated as OGMA. Table 4 outlines the total amount of OGMA required and actually established in each variant and from which Crown forest category (i.e. Non Contributing-NC; Timber Harvesting Land Base)<sup>7</sup>. The old growth target figures in Table 4 are derived from Appendix 2 in the *Landscape Unit Planning Guide*. See Appendix 1 for OGMA attributes and a rationale; and the attached map for location of OGMAs.

**Table 4. Old growth management area (OGMA) requirements for the East Harrison Landscape Unit.**

BEC Variant	Full OGMA Target (ha)	Established OGMAs (ha)	Delineated OGMAs							
			Non-Contributing (NC)				Part. Contrib. (PC)		Contributing (C)	
			Protected Areas		Non-PA		%	ha	%	ha
			%	ha	%	ha				
<b>CWHdm</b>	1320	1324.8	15.8	209.3	36.9	489.4	11.9	157.2	35.4	468.9
<b>CWHds1</b>	300	303.7	0.0	0.0	92.0	279.3	1.0	2.9	7.1	21.5
<b>CWHms1</b>	445	446.7	0.0	0.0	85.3	381.2	0.3	1.4	14.4	64.2
<b>CWHvm1</b>	86	88.9	0.0	0.0	5.2	4.6	0.0	0.0	94.9	84.4
<b>CWHvm2</b>	1207	1209.0	0.0	0.0	34.9	421.5	23.6	285.2	41.5	502.2
<b>MHmm1</b>	944	945.8	0.0	0.0	78.5	742.6	6.8	64.1	14.7	139.1
<b>MHmm2</b>	299	301.9	0.0	0.0	82.9	250.3	0.0	0.1	17.1	51.5
<b>Total</b>	<b>4601</b>	<b>4620.9</b>	<b>4.5</b>	<b>209.3</b>	<b>55.7</b>	<b>2568.9</b>	<b>11.1</b>	<b>511.0</b>	<b>28.9</b>	<b>1331.7</b>

NDT 1: CWHvm1, CWHvm2, MHmm1, MHmm2.

NDT 2: CWHdm, CWHds1, CWHms1.

<sup>7</sup> 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.

## **9.0 Wildlife Tree Retention**

Wildlife tree retention is managed at the stand level and maintains structural diversity within managed stands by retaining wildlife trees immediately adjacent to or within cutblocks. The WTR percentage by BEC subzone is described in Table A of the *Legal Objectives*. Retention percentages will meet the targets outlined in the LUPG for each BEC subzone.

The retention percentage does not have to be fully implemented on a cutblock-by-cutblock basis. Instead, the retention target may apply over a larger area (e.g. FDP or equivalent), so long as the retention target is met each 2 year period. The intent is to provide limited flexibility at the cutblock level provided that the legally required percentage is met across the subzone. Since wildlife tree retention is a stand level biodiversity provision, wildlife tree patches are also to be distributed across each subzone and the landscape unit.

## **10.0 Landscape Unit Plan Objectives**

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

OGMA and WTR Landscape Unit objectives apply only to Provincial forest lands. While park and Crown forest lands outside of provincial forest may contribute to old seral representation, LU Objectives do not apply to these areas.

## **11.0 Appendices**

Appendix 1 – OGMA Summary and Rationale – East Harrison LU

Appendix 2 – Acronyms

Appendix 3 – Public Consultation Summary

**APPENDIX 1: OGMA SUMMARY AND RATIONALE – East Harrison LU**

OGMA #	BEC VARIANT	CONTRIB. CLASS	OGMA AREA	THLB AREA	COMMENTS	FDP	WILDLIFE
1	CWH ms 1	N	7.8	0.0			GWR, grizzly bear habitat
2	CWH ms 1	N	4.5	0.0			GWR, grizzly bear habitat
2	MH mm 2	N	2.7	0.0			GWR, grizzly bear habitat
4	CWH ms 1	N	5.5	0.0			GWR, grizzly bear habitat
4	MH mm 2	N	6.8	0.0			GWR, grizzly bear habitat
6	CWH ms 1	N	12.8	0.0			GWR, grizzly bear habitat
7	CWH ms 1	C	0.3	0.3			GWR, grizzly bear habitat
7	CWH ms 1	N	23.0	0.0			GWR, grizzly bear habitat
7	MH mm 2	N	8.4	0.0			GWR, grizzly bear habitat
10	CWH ms 1	N	3.1	0.0			
10	MH mm 2	N	1.2	0.0			
11	CWH ms 1	N	7.4	0.0			
13	CWH ms 1	N	18.9	0.0			Partial SPOW SRMZ
18	CWH ms 1	N	18.2	0.0	Cross-elev linkage		
18	MH mm 2	N	18.1	0.0	Cross-elev linkage		
21	CWH ms 1	N	48.5	0.0			SPOW SRMZ
21	MH mm 2	N	2.6	0.0			SPOW SRMZ
22	CWH ms 1	N	11.5	0.0	large patch		SPOW SRMZ
22	MH mm 2	N	69.2	0.0	large patch		SPOW SRMZ
23	CWH ds 1	C	0.9	0.9		cutblock adjacent	
23	CWH ds 1	N	16.8	0.0			
24	CWH ds 1	N	66.9	0.0	large patch, valley bottom riparian		DWR
24	CWH ms 1	N	3.3	0.0	large patch, valley bottom riparian		DWR
25	CWH ds 1	C	18.6	18.6	valley bottom riparian	agreed to by licensee	
25	CWH ds 1	N	2.7	0.0	valley bottom riparian	agreed to by licensee	
27	CWH ms 1	C	19.5	19.5	Cross-elev linkage, large patch		



OGMA #	BEC VARIANT	CONTRIB. CLASS	OGMA AREA	THLB AREA	COMMENTS	FDP	WILDLIFE
27	CWH ms 1	N	3.7	0.0	Cross-elev linkage, large patch		
27	MH mm 2	C	1.7	1.7	Cross-elev linkage, large patch		
27	MH mm 2	N	5.2	0.0	mapped as ATp, forested		
27	MH mm 2	N	39.8	0.0	Cross-elev linkage, large patch		
29	CWH ms 1	C	32.1	32.1	large patch, interior forest	agreed to by licensee	
29	CWH ms 1	N	14.0	0.0	large patch, interior forest	agreed to by licensee	
29	CWH ms 1	P	0.2	0.0	large patch, interior forest	agreed to by licensee	
29	MH mm 2	C	40.1	40.1	large patch, interior forest	agreed to by licensee	
29	MH mm 2	N	30.6	0.0	large patch, interior forest	agreed to by licensee	
37	CWH ms 1	N	4.2	0.0		cutblock adjacent	
37	MH mm 2	N	19.4	0.0		cutblock adjacent	
38	CWH ms 1	N	7.3	0.0			
39	MH mm 1	C	5.0	5.0			
39	MH mm 1	N	11.7	0.0			
39	MH mm 1	P	0.1	0.0			
41	CWH ms 1	N	5.8	0.0			
41	MH mm 2	N	3.1	0.0			
43	CWH dm	N	5.6	0.0	large patch	cutblock adjacent	
43	CWH vm 2	C	7.8	7.8	large patch	cutblock adjacent	
43	CWH vm 2	N	65.8	0.0	large patch	cutblock adjacent	
43	MH mm 1	N	0.0	0.0			
46	CWH dm	C	28.8	28.8	valley bottom riparian	agreed to by licensee	
46	CWH vm 2	C	31.1	31.1		cutblock adjacent	
47	MH mm 1	N	6.9	0.0			
48	MH mm 1	N	0.8	0.0	mapped as ATp, forested		
48	MH mm 1	N	2.1	0.0			
49	MH mm 1	N	6.2	0.0	mapped as ATp, forested		
49	MH mm 1	N	6.6	0.0			
51	CWH vm 2	C	0.4	0.4	large patch, adjacent to smaller OGMAs		
51	CWH vm 2	N	3.2	0.0	large patch, adjacent to smaller OGMAs		

OGMA #	BEC VARIANT	CONTRIB. CLASS	OGMA AREA	THLB AREA	COMMENTS	FDP	WILDLIFE
51	MH mm 1	C	0.4	0.4	mapped as ATp, forested		
51	MH mm 1	C	4.9	4.9	large patch, adjacent to smaller OGMA		
51	MH mm 1	N	29.4	0.0	mapped as ATp, forested		
51	MH mm 1	N	28.2	0.0	large patch, adjacent to smaller OGMA		
54	MH mm 1	N	3.9	0.0	mapped as ATp, forested, adjacent to large OGMA		
54	MH mm 1	N	5.7	0.0	adjacent to large OGMA		
55	MH mm 1	N	1.2	0.0	mapped as ATp, forested		
55	MH mm 1	N	5.3	0.0	adjacent to large OGMA		
56	CWH vm 2	C	5.1	5.1			
56	CWH vm 2	N	5.5	0.0			
56	CWH vm 2	P	0.2	0.0			
56	MH mm 1	C	1.8	1.8			
56	MH mm 1	N	40.0	0.0			
56	MH mm 1	P	0.0	0.0			
57	CWH dm	C	0.6	0.6	cross-elev linkage, riparian		partial DWR
57	CWH dm	N	7.7	0.0	cross-elev linkage, riparian		partial DWR
57	CWH vm 2	C	0.0	0.0	cross-elev linkage, riparian		partial DWR
57	CWH vm 2	N	26.1	0.0	cross-elev linkage, riparian		partial DWR
57	MH mm 1	C	0.8	0.8	cross-elev linkage, riparian		partial DWR
57	MH mm 1	N	86.5	0.0	cross-elev linkage, riparian		partial DWR
60	CWH vm 2	C	2.2	2.2			
60	CWH vm 2	N	2.7	0.0			
60	CWH vm 2	P	0.7	0.1			
60	MH mm 1	N	1.5	0.0			
61	CWH dm	N	3.9	0.0			
61	CWH vm 2	N	9.6	0.0			
61	MH mm 1	N	15.7	0.0			
62	CWH vm 2	N	1.8	0.0			
62	MH mm 1	N	4.3	0.0			

OGMA #	BEC VARIANT	CONTRIB. CLASS	OGMA AREA	THLB AREA	COMMENTS	FDP	WILDLIFE
63	CWH vm 2	C	6.5	6.5			
63	CWH vm 2	N	1.3	0.0			
63	MH mm 1	C	0.3	0.3			
63	MH mm 1	N	0.1	0.0	mapped as ATp, forested		
63	MH mm 1	N	33.0	0.0			
63	MH mm 1	P	1.1	0.1			
64	MH mm 1	C	17.0	17.0		agreed to by licensee	
64	MH mm 1	N	4.1	0.0		agreed to by licensee	
64	MH mm 1	P	0.1	0.0		agreed to by licensee	
65	CWH vm 2	C	7.0	7.0			
65	CWH vm 2	N	0.2	0.0			
65	MH mm 1	C	0.7	0.7			
65	MH mm 1	N	5.3	0.0			
66	CWH vm 2	N	3.6	0.0			
67	CWH vm 2	C	12.4	12.4		agreed to by licensee	
67	CWH vm 2	N	0.3	0.0		agreed to by licensee	
67	CWH vm 2	P	5.3	0.5		agreed to by licensee	
68	CWH vm 2	N	0.8	0.0			
68	CWH vm 2	P	3.2	0.3			
68	MH mm 1	N	3.0	0.0			
68	MH mm 1	P	2.0	0.2			
69	MH mm 1	N	3.0	0.0			
72	CWH vm 2	C	7.7	7.7			
72	CWH vm 2	N	6.3	0.0			
72	CWH vm 2	P	0.0	0.0			
72	MH mm 1	N	30.5	0.0			
73	CWH ms 1	N	3.6	0.0	links to Yale LU OGMA		
73	MH mm 2	N	11.6	0.0	links to Yale LU OGMA		
74	CWH dm	C	19.6	19.6	valley bottom riparian		
74	CWH dm	N	1.0	0.0	valley bottom riparian		

OGMA #	BEC VARIANT	CONTRIB. CLASS	OGMA AREA	THLB AREA	COMMENTS	FDP	WILDLIFE
74	CWH dm	P	22.5	2.3	valley bottom riparian		
76	CWH ms 1	N	18.7	0.0			
76	CWH ms 1	P	0.1	0.0			
76	CWH vm 2	N	6.9	0.0			
76	CWH vm 2	P	0.3	0.0			
78	CWH vm 2	C	2.6	2.6			
78	CWH vm 2	N	7.6	0.0			
78	MH mm 1	C	6.7	6.7			
78	MH mm 1	N	38.7	0.0			
78	MH mm 1	P	0.1	0.0			
79	CWH vm 2	C	18.0	18.0	large patch		
79	CWH vm 2	N	12.0	0.0	large patch		
79	CWH vm 2	P	13.8	1.4	large patch		
79	MH mm 1	C	10.3	10.3	large patch		
79	MH mm 1	N	18.1	0.0	large patch		
79	MH mm 1	P	0.4	0.0	large patch		
80	CWH dm	C	0.4	0.4			
80	CWH vm 2	C	35.2	35.2			
80	MH mm 1	C	5.1	5.1			
81	CWH vm 2	C	30.6	30.6	large patch	agreed to by licensee	
81	CWH vm 2	N	5.7	0.0	large patch	agreed to by licensee	
81	CWH vm 2	P	1.3	0.1	large patch	agreed to by licensee	
81	MH mm 1	C	0.4	0.4	large patch	agreed to by licensee	
81	MH mm 1	N	62.8	0.0	large patch	agreed to by licensee	
81	MH mm 1	P	1.3	0.1	large patch	agreed to by licensee	
85	CWH vm 2	C	12.3	12.3	large patch, cross-elev linkage, adjacent to 86		
85	CWH vm 2	N	3.8	0.0	large patch, cross-elev linkage		
85	MH mm 1	C	53.2	53.2	large patch, cross-elev linkage		
85	MH mm 1	N	11.6	0.0	large patch, cross-elev linkage		
86	CWH vm 2	C	18.4	18.4	valley bottom riparian		

OGMA #	BEC VARIANT	CONTRIB. CLASS	OGMA AREA	THLB AREA	COMMENTS	FDP	WILDLIFE
89	CWH vm 2	C	3.0	3.0			
89	CWH vm 2	P	2.6	0.3			
90	CWH vm 2	C	5.2	5.2			
92	CWH vm 2	C	0.1	0.1			
92	CWH vm 2	P	3.2	0.3			
93	CWH vm 2	C	7.8	7.8			
93	CWH vm 2	N	0.0	0.0			
93	CWH vm 2	P	8.8	0.9			
93	MH mm 1	C	1.1	1.1			
93	MH mm 1	N	0.7	0.0			
93	MH mm 1	P	6.7	0.7			
94	CWH dm	C	52.4	52.4	lakeshore riparian	cutblock adjacent	DWR
94	CWH dm	N	14.8	0.0	lakeshore riparian	cutblock adjacent	DWR
95	MH mm 1	N	38.8	0.0			
99	CWH vm 2	N	14.6	0.0			
99	CWH vm 2	P	0.6	0.1			
99	MH mm 1	N	28.0	0.0			
100	CWH vm 2	N	10.5	0.0			
100	MH mm 1	N	26.4	0.0			
106	CWH vm 2	C	13.2	13.2			partial SPOW SRMZ
106	CWH vm 2	N	10.4	0.0			partial SPOW SRMZ
106	CWH vm 2	P	4.4	4.4			partial SPOW SRMZ
107	CWH vm 2	N	2.8	0.0			
107	CWH vm 2	P	0.0	0.0			
107	MH mm 1	N	3.0	0.0			
109	CWH ms 1	N	56.6	0.0	links to Yale LU OGMA		
109	CWH ms 1	P	0.0	0.0			
110	CWH ds 1	N	1.3	0.0			
110	CWH ms 1	N	7.3	0.0			
113	CWH vm 2	C	60.3	60.3	Cross-elev linkage, large patch, riparian		

OGMA #	BEC VARIANT	CONTRIB. CLASS	OGMA AREA	THLB AREA	COMMENTS	FDP	WILDLIFE
113	CWH vm 2	N	6.3	0.0	Cross-elev linkage, large patch, riparian		
113	CWH vm 2	P	4.9	0.5	Cross-elev linkage, large patch, riparian		
113	MH mm 1	C	22.3	22.3	Cross-elev linkage, large patch, riparian		
113	MH mm 1	N	21.1	0.0	Cross-elev linkage, large patch, riparian		
113	MH mm 1	P	14.0	1.4	Cross-elev linkage, large patch, riparian		
115	CWH vm 2	N	0.3	0.0			SRMZ
115	CWH vm 2	P	4.9	4.9			SRMZ
119	CWH ds 1	N	47.9	0.0	Cross-elev linkage, riparian		
122	CWH ms 1	N	40.7	0.0	large patch		
122	CWH ms 1	P	0.5	0.1	large patch		
122	CWH vm 2	C	8.6	8.6	large patch		
122	CWH vm 2	N	3.4	0.0	large patch		
122	MH mm 1	C	8.9	8.9	large patch		
122	MH mm 1	N	32.7	0.0	large patch		
122	MH mm 1	P	0.0	0.0	large patch		
130	CWH vm 2	N	7.6	0.0			SPOW SRMZ
130	CWH vm 2	P	21.3	21.3			SPOW SRMZ
130	MH mm 1	N	4.2	0.0			SPOW SRMZ
130	MH mm 1	P	3.6	3.6			SPOW SRMZ
133	MH mm 1	N	26.7	0.0			SPOW SRMZ
133	MH mm 1	P	10.3	10.3			SPOW SRMZ
135	CWH dm	C	4.7	4.7			
135	CWH vm 1	C	25.0	25.0			
135	CWH vm 2	C	0.1	0.1			
137	CWH vm 2	N	4.8	0.0			SPOW SRMZ
137	CWH vm 2	P	7.3	6.7			SPOW SRMZ
137	MH mm 1	N	4.9	0.0			SPOW SRMZ
137	MH mm 1	P	8.7	0.9			SPOW SRMZ
138	CWH ds 1	N	23.0	0.0			
139	CWH dm	C	18.0	18.0			

OGMA #	BEC VARIANT	CONTRIB. CLASS	OGMA AREA	THLB AREA	COMMENTS	FDP	WILDLIFE
139	CWH dm	N	10.3	0.0			
140	CWH ds 1	C	0.0	0.0	cross-elev linkage		
140	CWH ds 1	N	48.2	0.0			
140	CWH ds 1	P	0.3	0.0			
140	CWH ms 1	C	0.0	0.0			
140	CWH ms 1	N	11.7	0.0			
140	CWH ms 1	P	0.2	0.0			
144	CWH ds 1	N	3.6	0.0			
144	CWH ds 1	P	2.6	0.3			
145	MH mm 1	N	30.1	0.0			partial SPOW SRMZ
145	MH mm 1	P	15.6	1.6			partial SPOW SRMZ
146	CWH dm	C	0.3	0.3			
146	CWH vm 2	C	1.5	1.5			GWR, SPOW SRMZ
146	CWH vm 2	N	1.3	0.0			GWR, SPOW SRMZ
146	CWH vm 2	P	41.7	26.8			GWR, SPOW SRMZ
146	MH mm 1	N	4.0	0.0			GWR, SPOW SRMZ
148	CWH vm 2	P	5.1	0.6			GWR, SPOW SRMZ
151	CWH dm	N	36.4	0.0	partial in park, limited low elev old forest		SPOW SRMZ
151	CWH dm	P	15.2	15.2	partial in park, limited low elev old forest		SPOW SRMZ
162	CWH vm 2	C	0.5	0.5			
162	CWH vm 2	N	60.7	0.0			
163	CWH dm	N	53.8	0.0	partial in park, lakeshore riparian		SPOW SRMZ
163	CWH dm	P	8.4	8.4	partial in park, lakeshore riparian		SPOW SRMZ
164	CWH dm	N	35.1	0.0	complex of old & young forest		DWR, SPOW SRMZ
164	CWH dm	P	7.2	7.2	complex of old & young forest		DWR, SPOW SRMZ
168	CWH dm	N	2.8	0.0			SPOW SRMZ
168	CWH dm	P	0.3	0.3			SPOW SRMZ
168	CWH vm 2	N	11.6	0.0			SPOW SRMZ
168	CWH vm 2	P	3.7	3.7			SPOW SRMZ
170	CWH dm	C	15.9	15.9			DWR, SPOW SRMZ

OGMA #	BEC VARIANT	CONTRIB. CLASS	OGMA AREA	THLB AREA	COMMENTS	FDP	WILDLIFE
170	CWH dm	P	20.1	20.1			DWR, SPOW SRMZ
170	CWH vm 2	P	7.0	7.0			DWR, SPOW SRMZ
174	CWH dm	P	6.9	3.5	large patch		SPOW SRMZ
174	CWH vm 2	C	4.2	4.2	large patch		SPOW SRMZ
174	CWH vm 2	P	99.7	92.7	large patch		SPOW SRMZ, patial DWR
177	CWH dm	N	63.2	0.0	large patch		SPOW SRMZ
177	CWH dm	P	29.0	29.0	large patch		SPOW SRMZ
182	CWH vm 2	P	3.2	3.2			SPOW SRMZ
183	CWH dm	N	4.4	0.0			
184	CWH dm	C	79.2	79.2	large patch, riparian, limited low elev old forest, cross-elev linkage		
184	CWH dm	N	129.2	0.0	large patch, riparian, limited low elev old forest, cross-elev linkage		
188	CWH dm	N	12.2	0.0			
195	CWH dm	N	29.0	0.0	riparian		
197	CWH dm	N	21.8	0.0	riparian		
198	CWH dm	N	15.3	0.0	riparian		
199	CWH dm	C	1.6	1.6			
199	CWH dm	N	2.4	0.0			
199	CWH dm	P	7.6	0.8			
199	CWH vm 2	C	36.9	36.9			
199	CWH vm 2	N	6.4	0.0			
199	CWH vm 2	P	9.6	1.0			
201	CWH vm 2	C	17.8	17.8	small wetlands, some lakeshore riparian	cutblock adjacent	
205	CWH dm	C	56.1	56.1	small wetlands, some lakeshore riparian	cutblock adjacent	
205	CWH dm	N	6.3	0.0	interior forest, small wetlands, limited low elev old forest		SRMZ
205	CWH dm	P	10.1	1.0	interior forest, small wetlands, limited low elev old forest		SRMZ
205	CWH vm 2	C	18.2	18.2	interior forest, small wetlands, limited low elev old forest		SRMZ



OGMA #	BEC VARIANT	CONTRIB. CLASS	OGMA AREA	THLB AREA	COMMENTS	FDP	WILDLIFE
205	CWH vm 2	N	4.6	0.0	interior forest, small wetlands, limited low elev old forest		SRMZ
207	CWH dm	C	98.5	98.5	large patch, cross-elev linkage		DWR, SPOW SRMZ
207	CWH dm	N	1.0	0.0	large patch, cross-elev linkage		DWR, SPOW SRMZ
214	CWH ms 1	C	7.9	7.9	valley bottom riparian		
214	CWH ms 1	N	0.2	0.0	valley bottom riparian		
217	CWH vm 2	C	28.7	28.7			DWR
217	CWH vm 2	N	1.0	0.0			DWR
217	MH mm 1	C	0.2	0.2			DWR
217	MH mm 1	N	5.7	0.0			DWR
218	CWH vm 2	N	28.0	0.0	riparian		
218	MH mm 1	N	9.6	0.0	riparian		
219	CWH ms 1	N	20.0	0.0			
219	CWH ms 1	P	0.0	0.0			
219	MH mm 2	N	8.0	0.0			GWR
221	CWH ms 1	N	5.7	0.0			
221	MH mm 2	N	0.5	0.0	mapped as ATp, forested		GWR
221	MH mm 2	N	6.5	0.0			GWR
223	MH mm 2	C	0.9	0.9	mapped as ATp, forested		Grizzly bear habitat
223	MH mm 2	C	7.5	7.5			Grizzly bear habitat
223	MH mm 2	N	9.0	0.0	mapped as ATp, forested		Grizzly bear habitat
223	MH mm 2	N	5.6	0.0			Grizzly bear habitat
224	CWH ms 1	C	4.3	4.3			
224	CWH ms 1	N	5.6	0.0			
224	CWH ms 1	P	0.2	0.0			
224	MH mm 2	C	1.3	1.3			
224	MH mm 2	N	1.9	0.0			
224	MH mm 2	P	0.1	0.0			
225	CWH vm 2	C	4.8	4.8			
225	CWH vm 2	N	20.4	0.0			
225	MH mm 1	N	0.2	0.0			

OGMA #	BEC VARIANT	CONTRIB. CLASS	OGMA AREA	THLB AREA	COMMENTS	FDP	WILDLIFE
226	MH mm 1	N	14.5	0.0			
232	CWH vm 2	C	29.8	29.8	valley bottom riparian	agreed to by licensee	
232	CWH vm 2	N	14.8	0.0	valley bottom riparian	agreed to by licensee	
232	MH mm 1	C	0.1	0.1	valley bottom riparian	agreed to by licensee	
232	MH mm 1	N	5.1	0.0	valley bottom riparian	agreed to by licensee	
235	CWH ds 1	N	0.4	0.0			
235	CWH ms 1	N	7.9	0.0			
237	CWH ds 1	N	6.0	0.0			
237	CWH ds 1	P	0.0	0.0			
239	CWH ds 1	N	6.0	0.0	limited low elev old forest		
242	CWH dm	C	8.6	8.6			
242	CWH dm	N	4.7	0.0			
242	CWH vm 2	C	16.0	16.0			
242	CWH vm 2	N	0.3	0.0			
243	CWH dm	N	21.4	0.0			SPOW SRMZ
243	CWH vm 2	N	1.2	0.0			SPOW SRMZ
243	CWH vm 2	P	7.3	7.3			SPOW SRMZ
244	CWH dm	N	163.2	0.0	large patch, park, interior forest		SPOW SRMZ
245	CWH ds 1	N	23.8	0.0	partial limited low elev old forest		
245	CWH vm 2	N	25.2	0.0			
246	CWH vm 1	C	6.8	6.8	limited old forest in CWHvm1		
247	CWH dm	C	4.5	4.5			
247	CWH dm	N	0.5	0.0			
247	CWH vm 1	C	31.0	31.0			
247	CWH vm 1	N	4.6	0.0			
247	CWH vm 2	C	0.3	0.3			
248	CWH vm 1	C	21.6	21.6	valley bottom riparian		
248	CWH vm 2	C	2.9	2.9	valley bottom riparian		
248	CWH vm 2	P	0.2	0.0	valley bottom riparian		
249	MH mm 1	N	15.9	0.0			

OGMA #	BEC VARIANT	CONTRIB. CLASS	OGMA AREA	THLB AREA	COMMENTS	FDP	WILDLIFE
250	CWH ds 1	C	1.8	1.8			DWR
250	CWH ds 1	N	18.6	0.0			DWR
250	CWH ms 1	N	1.0	0.0			
251	CWH ds 1	C	0.2	0.2	large patch, cross-elev linkage, valley bottom riparian		partial DWR
251	CWH ds 1	N	14.1	0.0	large patch, cross-elev linkage, valley bottom riparian		partial DWR
251	CWH ms 1	N	2.6	0.0	large patch, cross-elev linkage, valley bottom riparian		partial DWR
253	CWH dm	C	66.7	66.7			
253	CWH dm	N	35.0	0.0			
253	CWH dm	P	5.9	0.6			
253	CWH vm 2	N	14.8	0.0			
253	MH mm 1	N	1.6	0.0			
254	CWH dm	C	6.9	6.9			
256	CWH dm	C	1.0	1.0			
256	CWH vm 2	C	45.0	45.0			
258	CWH vm 2	P	7.6	7.6			GWR, SPOW SRMZ
259	CWH vm 2	N	7.3	0.0			SPOW SRMZ
259	MH mm 1	N	2.8	0.0			
260	CWH vm 2	P	17.2	17.2			
261	CWH dm	P	10.4	10.4	limited low elev old forest, cross elev linkage		DWR, SPOW SRMZ
262	CWH dm	N	18.0	0.0			
262	CWH dm	P	13.4	13.4			
263	CWH dm	C	5.2	5.2	limited low elev old forest		

Abbreviations: ATp = Alpine tundra, elev = elevation,

GWR = mountain goat winter range, DWR = deer winter range, SPOW SRMZ = spotted owl special resource management zone

## Appendix 2: Acronyms

AAC	Allowable Annual Cut
BCTS	BC Timber Sales, administered by MOF
BEC	Biogeoclimatic Ecosystem Classification
BEO	Biodiversity Emphasis Option
C	Contributing
CMT	Culturally Modified Tree
CWS	Community Watershed
DDM	Delegated Decision Maker
FPC	Forest Practices Code of British Columbia Act
GBPU	Grizzly Bear Population Unit
IWMS	Identified Wildlife Management Strategy
LU	Landscape Unit
LUPG	Landscape Unit Planning Guide
MELP	Ministry of Environment, Lands and Parks, now called MWLAP
MEM	Ministry of Energy and Mines
MOF	Ministry of Forests
MSRM	Ministry of Sustainable Resource Management
MWLAP	Ministry of Water, Land and Air Protection
NC	Non-contributing
NDT	Natural Disturbance Type, see Biodiversity Guidebook
OGMA	Old Growth Management Area
PC	Partially Contributing
RRZ	Riparian Reserve Zone
THLB	Timber Harvesting Land Base
UWR	Ungulate Winter Range
WHA	Wildlife Habitat Area
WTP	Wildlife Tree Patch
WTR	Wildlife Tree Retention

### **Appendix 3: Public Consultation Summary**

The 60-day public review and comment period for the East Harrison Landscape Unit extended from 4 January through to 4 March 2005. Prior to the public consultation period, MSRM staff met with local forest licensees to address their concerns and craft a plan that minimised impacts to timber supply (Section 3.1). Ongoing discussions with the Ministries of Forests and Water, Land and Air Protection, regarding the development of the landscape unit objectives and placement of OGMA's for the East Harrison LU, took place throughout the course of plan development. MSRM staff advised mineral tenure holders of OGMA placement and landscape unit objectives (Section 3.2). An overview of the noteworthy aspects of MSRM's consultations and the specific comments received on the draft plan and LU objectives follows.

#### **Consultations with First Nations**

MSRM staff attempted to engage First Nation organisations with traditional territory in the East Harrison Landscape Unit in consultations specific to Landscape Unit planning: the Stó:lô Nation, Nlaka'pamux Tribal Council, Chehalis First Nation, Yale First Nation, Peters Band, and Cheam Indian Band. Some interest in LU planning was conveyed by the Cheam Indian Band and Chehalis First Nation; however, specific comments were only received from Chehalis First Nation. As well, MSRM did not receive any comments pertaining to LU-level planning from the Stó:lô Nation, Nlaka'pamux Tribal Council, Yale First Nation nor the Peters Band during the review and comment periods. MSRM met with Chehalis First Nation's Forest Planner in early May to discuss planning at the LU level and ways for Chehalis and MSRM to engage in resolving issues of common interest within the scope of LU Planning at this time.

#### **Comments regarding maximising the overlap between OGMA's and other constrained areas in the THLB**

As some time has elapsed between the development of the initial plan and its approval, some licensees are now considering development in areas where OGMA placement was once non-contentious. Notably, UWRs and WHAs have since become more defined in their location and extent. MSRM consulted with affected licensees during plan development to agree on OGMA size and placement. Staff used the best information available at the time regarding special management areas within the THLB (e.g., Spotted Owl Special Resource Management Zones, Ungulate Winter Range, and Wildlife Habitat Areas). MSRM has committed to an ongoing process of rationalising OGMA location with other THLB constraints.

#### **Comments regarding amending OGMA locations**

One licensee expressed concern that certain OGMA's appear to be excluded from development as outlined in Landscape Unit Objectives for the East Harrison Landscape Unit—specifically Landscape Unit Objective 1, Section 2(1-4). Obj. 1, S. 2(4) defines specific OGMA's and OGMA classes that are sufficiently critical for the conservation of biodiversity within the East Harrison LU that an elevated degree of oversight by MSRM is necessary prior to approving amendments to the location or extent of, and permissible activities in these particular OGMA's: changes to the boundaries, location, or develop in

any of these OGMA's are not specifically prohibited but review and approval by MSRMM is necessary before on-the-ground changes are implemented. This sets this class of OGMA's apart from those which currently possess less rare habitat attributes wherein licensees are empowered to amend OGMA locations and boundaries without prior approval of MSRMM—i.e., consistent with Objective 1, Section 2(1-3)—subject to the areal limits outlined in Objective 1, Section 2 (1-2). This issue was clarified for the licensee and found to be consistent with the procedure MSRMM had developed in consultation with affected licensees.

#### **Comments from holders of mineral tenures**

The region on the east side of Harrison Lake has an extensive network of mineral claims and each claim holder was duly informed of the scope of LU planning in the East Harrison Landscape Unit when the location of draft OGMA's coincided with mineral claim boundaries. Some concerns regarding the need for this form of planning were voiced by a claim holder in the initial planning stages. No further comments were received during the public review and comment period. Land use policies are clear on the process for resolving conflicts between sub-surface resource development and delineated OGMA's (Section 3.2).

#### **Comments from citizens of Harrison Hot Springs**

Two members of the Harrison Hot Springs community provided comments to MSRMM respecting the need for enhanced biodiversity and viewscape conservation in the East Harrison Landscape Units. The Biodiversity Emphasis Option for this LU (i.e., low) cannot accommodate increased constraints to the THLB in the East Harrison LU beyond the levels imposed by the current LU plan. Government policy is clear on the level of timber supply impact associated with the implementation of Landscape Unit planning and OGMA delineation.

#### **Comments from the Mayor and Council of the Village of Harrison Hot Springs**

Mayor and Council of the Village of Harrison Hot Springs expressed concern with respect to what they perceived as the 'inadequacy' of LU planning when considering the protection of certain non-timber resources values—specifically visual quality as it relates to local tourism. At this time, government policy with respect to Landscape Unit planning is to concentrate on the implementation of 'priority' biodiversity measures—i.e., the establishment of OGMA's and WTPs with their associated legal objectives. As such, the Mayor and Council's concerns fall beyond the scope of LU planning at this time.