

Ministry of Agriculture and Lands
Sustainable Resource Management Plan
Biodiversity Chapter
for the
Lower Nimpkish Landscape Unit



Prepared by:

John Deal, RPBio, RPF

Manager,
Wildlife and Biodiversity

Forestry and Environment

Canadian Forest Products Ltd.,
Prince George, BC

Stephanie Haight

Principal

Tangent Forestry
and Wildlife Solutions,
Revelstoke, BC

Ian McDougall, RPBio

Senior Forest Planner

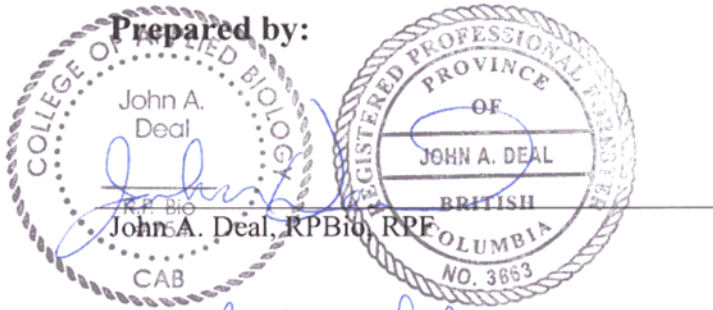
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SUSTAINABLE RESOURCE MANAGEMENT PLAN
Biodiversity Chapter:
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Prepared by:



Manager, Wildlife and Biodiversity
Canadian Forest Products Ltd



Principal
Tangent Forestry and Wildlife Solutions



Senior Forest Planner
BC Ministry of Agriculture and Lands

Executive Summary

The Lower Nimpkish Landscape Unit (LU) is 79,173 ha in size of which approximately 64,000 ha are forested and 39,730 ha are considered Timber Harvesting Land Base (THLB). The Lower Nimpkish Land Use area extends from Beaver Cove in the North to the Kaipit Lakes in the South. The Lower Nimpkish LU encompasses the Lower Nimpkish Park and the Nimpkish Lake Park as well as Nimpkish Lake. The Bonanza LU borders the Lower Nimpkish on the east while the Artlish and Tahsish drainages fall to the west and the Upper Nimpkish LU lies along the southeast border of the Lower Nimpkish LU.

The Lower Nimpkish LU is within the Coast and Mountains ecoprovince, Western Vancouver ecoregion and the Northern Island Mountain ecosection. It includes the Coastal Western Hemlock and Mountain Hemlock zones, and three Natural Disturbance Types: 1, 2 and 5.

Significant resource values in the Lower Nimpkish Landscape Unit include fish, wildlife (Species at Risk, Keen's long-eared myotis and ungulates), biological diversity, First Nations interests, karst and timber resources.

The Lower Nimpkish LU has been assigned a "lower" Biodiversity Emphasis Option (BEO). Old seral forest representation targets are based on a percent retention of productive forest by Biogeoclimatic Ecosystem Classification (BEC) Unit. For the Lower Nimpkish, combining all five BEC units, a total of 7,873 ha are required in the long-term to be retained for old seral forest representation. Since the LU is designated with a lower BEO, the short-term old seral requirements to meet LUP objectives are 2,945 ha (1/3 of the target + VILUP objectives). Old seral representation targets have been achieved through a combination of Old Growth Management Areas (OGMAs) and contribution from Protected Areas.

The Lower Nimpkish LU is mainly comprised of the Nimpkish Resource Management Zone (RMZ 10), Protected Areas, Pinder-Atluck Special Management Zone (SMZ 10) and a portion of the Woss-Zeballos Special management Zone (SMZ 6). The Vancouver Island Land Use Plan (VILUP) Higher Level Plan Order sets specific objectives for CWHxm2 in the Nimpkish RMZ and Pinder-Atluck SMZ in addition to setting mature seral stage targets for all SMZ's.

The CWHxm2 short-term old seral target was 679 ha for RMZ 10 and 36 ha for SMZ 10; the long-term target was 1,186 ha and 1,229 ha of OGMA were delineated. Protected Area contributed an additional 555 ha toward CWHxm2 old seral representation (including recruitment).

The CWHvm1 short-term old seral target was 1,198 ha; the long-term target was 3,594 ha and 2,429 ha of OGMA were delineated. Protected Areas contributed an additional 1,255 ha toward CWHvm1 old seral representation (including recruitment).

The CWHvm2 short-term old seral target was 634 ha; the long-term target was 1,901 and 1,550 ha of OGMA were delineated. Protected Areas contributed an additional 636 ha toward CWHvm2 old seral representation.

The short-term old seral target for MHmm1 was 397 ha; the long-term target was 1,192 ha and 1,162 ha of OGMA were delineated. Protected Areas contributed an additional 222 ha toward MHmm1 old seral representation.

In RMZ 10 (Nimpkish) the CWHxm2 target retention was 1,019 ha of which no more than 1/3 was permitted to be second growth recruitment. A total of 706 ha (69.3% of the target) was classified as old seral and a further 277 ha was mapped in mature first growth (80-250 years old) comprised of old growth characteristics. Second growth recruitment accounted for 12.5% (127 ha) of the total target area. All of the second growth recruitment area has been identified for Queen Charlotte Goshawk management.

The total landscape level retention for CWHxm2 in the Pinder-Atluck SMZ (SMZ 10) is 36 ha (9% of 401 ha). Forty-eight percent of the target (17 ha) was met with old growth and 16% (6 ha) was met with mature first growth (80-250 years). The remainder was second growth, with the majority being ≥ 60 years old.

All Special Management Zones are required to have at least 25% of the forested land base classified as mature (≥ 80 years old in the CWH and/or ≥ 120 years old in the MH). It is not the intent to manage this objective through OGMAs, however; a significant portion of the target is achieved through OGMAs. In SMZ 10, 79% of the target is met through OGMAs. In SMZ 6 (Lower Nimpkish portion only), 86% of the target is met through OGMAs.

The estimated total impact to the timber harvesting land base (THLB) is 1,284 ha as per Canfor's Sustainable Forest Management Plan 9. This represents approximately 3.2% of the total THLB and 6.4% of the 1997 THLB >80 year old within the Lower Nimpkish LU. The impact based on harvestable THLB (>60 years old) is 5.4%. Over 30% of the CWHxm2 OGMAs mapped are located within the THLB. This is primarily due to meeting the VILUP HLP Order. The CWHxm2 within Protected Areas could not be used to contribute to VILUP HLP Order Objective 13 since the objective was for the Nimpkish Resource Management Zone, which does not include parks. Other impacts can be attributed to: expanding non-contributing OGMA polygons to provide larger, more effective marbled murrelet nesting habitat areas (CWHvm2); additional ecosystem representation (CWHvm1); and delineation of OGMAs along logical engineering boundaries such as streams, and terrain breaks.

Potential marbled murrelet nesting habitat was mapped for the entire LU using low-level aerial reconnaissance surveys. A total of 14,816 ha of potential marbled murrelet nesting habitat (Class 1-4) was identified in the Lower Nimpkish LU and 2,632.0 ha (17.8% of 2002 habitat) was conserved in OGMA. Protected Areas added an additional 981 ha or 6.6% of potential 2002 Class 1-4 nesting habitat. A total of 24.4% of the 2002 Class 1-4

potential nesting habitat is conserved through OGMAs and Protected Areas in the Lower Nimpkish LU.

Wildlife Tree Retention (WTR) targets were recalculated in 2005 to: (i) use current data on amount of area harvested without WTR; (ii) use BEC variant based on 1:20,000 Terrestrial Ecosystem Mapping rather than BEC variant data used for the Regional Land Use Planning database at a 1:250,000 scale; and (iii) reflect the Provincial Wildlife Tree Policy (2000).

Achievement of WTR targets will be based on a 5 year rolling average. For the Lower Nimpkish LU, this will be measured by total harvest area (Net Area to be reforested + permanent road area) by BEC variant. Monitoring WTR achievement will be on a calendar year basis. The WTR targets are: CWHxm – 11%; CWHvm – 9%; and MHmm – 1%.

Table of Contents

EXECUTIVE SUMMARY	III
TABLE OF CONTENTS	VI
1.0 BACKGROUND.....	1
2.0 LOWER NIMPKISH LU DESCRIPTION	2
2.1 LOWER NIMPKISH BIOPHYSICAL DESCRIPTION	2
3.0 CANADIAN FOREST PRODUCTS GUIDING DOCUMENTS.....	3
3.1 TFL 37 SUSTAINABLE FOREST MANAGEMENT PLAN (SFMP) (DEAL AND MANNING, 2002)	3
3.2 TFL 37 UNGULATE WINTER RANGE PLAN (DEAL 2001)	4
3.3 QUEEN CHARLOTTE GOSHAWK ADAPTIVE MANAGEMENT STRATEGY (MANNING ET AL 2004).....	4
3.4 MARBLED MURRELET WILDLIFE HABITAT AREAS (WHA) (DEAL AND HARPER 2004).....	5
4.0 VANCOUVER ISLAND LAND USE PLAN (VILUP)	5
4.1 RESOURCE MANAGEMENT ZONE LOCATION AND VALUES.....	5
4.1.1 SMZ 6: Woss - Zeballos	6
4.1.2 SMZ 10: Pinder - Atluck	6
4.1.3 RMZ 10: Nimpkish	6
4.2 LEGALLY BINDING DIRECTION.....	6
4.2.1 SMZ 6 and SMZ 10	7
4.2.2 SMZ 10.....	7
4.2.3 RMZ 10	7
5.0 INTEGRATING OTHER KEY RESOURCE TENURE HOLDERS	8
5.1 PRIVATE LAND	8
5.2 FOREST TENURE HOLDERS	9
5.3 MINING TENURE HOLDERS.....	9
6.0 SIGNIFICANT RESOURCE VALUES	10
6.1 FISH, WILDLIFE, AND BIODIVERSITY.....	10
6.2 TIMBER RESOURCES	11
6.3 RECREATION	12
6.4 KARST	12
7.0 FIRST NATIONS	13
8.0 OGMIA METHODOLOGIES.....	14
8.1 SELECTION OF OLD GROWTH MANAGEMENT AREAS AND BOUNDARY MAPPING	14
8.2 ASSESSMENT AND REVIEW	14
8.3 AMENDMENT POLICY	15
9.0 OLD SERAL FOREST REPRESENTATION	15
9.1 OLD GROWTH MANAGEMENT AREAS	15
9.1.1 Vancouver Island Land Use Plan HLP Order	17
9.1.2 Timber Harvesting Land Base Impacts.....	19
9.2 MARBLED MURRELET	19
9.3 WILDLIFE TREE RETENTION	20
10.0 TIMBER SUPPLY MITIGATION.....	21
11.0 LEGAL OBJECTIVES FOR THE LOWER NIMPKISH LANDSCAPE UNIT	22

LEGAL OBJECTIVES – LOWER NIMPKISH LANDSCAPE UNIT	22
<i>Objective 1 – Old Growth Management Areas</i>	22
<i>Objective 2 – Wildlife Tree Retention</i>	24
<i>Objective 3 – Special Management Zones 6 and 10</i>	25
REFERENCES	26
APPENDICES	28
APPENDIX I: MAP OF RESOURCE MANAGEMENT ZONES WITHIN THE LOWER NIMPKISH LU	29
APPENDIX II: VANCOUVER ISLAND LAND USE PLAN HIGHER LEVEL PLAN ORDER	30
APPENDIX III: LANDSCAPE UNIT PLANNING - AMENDMENTS AND OPERATIONAL PROCEDURES FOR OLD GROWTH MANAGEMENT AREAS	35
APPENDIX IV: MAP OF PROPOSED OGMA'S FOR THE LOWER NIMPKISH LANDSCAPE UNIT	39
APPENDIX V: OGMA CHARACTERISTICS	40
SERAL STAGE DISTRIBUTION	40
TREE SPECIES VOLUME BY OGMA	40
TREE SPECIES SUMMARY	44
SLOPE AND ASPECT CLASS SUMMARY	44
TERRAIN CLASS SUMMARY	45
SITE SERIES REPRESENTATION SUMMARY	46
<i>Primary Site Series Summary</i>	46
<i>Secondary Site Series summary</i>	47
OGMA VALUES	48
APPENDIX VI: PUBLIC CONSULTATION SUMMARY	55

LIST OF TABLES

TABLE 1. AREA SUMMARY OF BIOGEOCLIMATIC ECOSYSTEM CLASSIFICATION (BEC) UNITS, BASED ON TERRESTRIAL ECOSYSTEM MAPPING, FOR THE LOWER NIMPKISH LU.	3
TABLE 2. RESOURCE MANAGEMENT ZONES AND ASSOCIATED AREAS FOUND IN THE LOWER NIMPKISH LU.....	6
TABLE 3. TENURE STATUS FOR THE LOWER NIMPKISH LU.....	8
TABLE 4. SPECIES AT RISK (AS DEFINED BY THE PROVINCIAL CATEGORY OF SPECIES AT RISK) WITHIN THE LOWER NIMPKISH LANDSCAPE UNIT.	10
TABLE 5. SUMMARY OF LENGTH OF STRATEGIC-LEVEL STREAMS BY RIPARIAN CLASS AND AREA OF RIPARIAN RESERVE ZONES BY AGE CLASS IN THE LOWER NIMPKISH LU.....	11
TABLE 6. SUMMARY OF LOWER NIMPKISH LANDSCAPE-LEVEL OLD SERAL REPRESENTATION TARGETS BY BEC UNIT.....	16
TABLE 7. SUMMARY OF LOWER NIMPKISH OGMAS AND PROTECTED AREAS BY BEC UNIT.	16
TABLE 8. PATCH SIZE DISTRIBUTION OF OGMAS IN THE LOWER NIMPKISH LU.	17
TABLE 9. COMPLIANCE WITH OBJECTIVES 12 AND 13 OF VANCOUVER ISLAND LAND USE PLAN HIGHER LEVEL PLAN ORDER.	18
TABLE 10. SUMMARY OF SERAL STAGE TARGETS, CURRENT STATE (AS OF MARCH 2002) AND OGMA AREA BY SPECIAL MANAGEMENT ZONE WITHIN THE LOWER NIMPKISH LU.....	18
TABLE 11. TIMBER HARVESTING LAND BASE IMPACTS BY BEC UNIT.....	19
TABLE 12. AREA (HA) OF POTENTIAL MARBLED MURRELET NESTING HABITAT BY CLASS AND BEC UNIT WITHIN MAPPED OGMAS	20
TABLE 13. WILDLIFE TREE RETENTION (WTR) TARGETS BY BEC SUBZONE, BASED ON HARVEST AREA, FOR THE LOWER NIMPKISH LANDSCAPE UNIT.	21

1.0 Background

Landscape unit plans are intended to provide direction on biodiversity, old growth forest retention, wildlife habitat maintenance, and timber harvesting (Landscape Unit Planning Guide). Biodiversity is defined as the diversity of plants, animals, and other living organisms in all their forms and levels of organization, including genes, species, ecosystems, and the evolutionary and functional processes that link them (Landscape Unit Planning Guide). The maintenance of biodiversity in British Columbia occurs at several levels. The Province of British Columbia has established Protected Areas to protect biodiversity at a landscape level. The Vancouver Island Summary Land Use Plan (VISLUP) addresses biodiversity and resource planning at a regional level by dividing the area into Resource Management Zones based mostly on Landscape Units and establishing management priorities.

Planning for Old Growth Management Areas (OGMAs) and Wildlife Tree Patch (WTP) biodiversity is recognized as a high priority for the province. LU Planning is supported by the *Forest Practices Code of BC Act* (FPC) and provides for the legal establishment of objectives to address landscape level biodiversity values.

The Lower Nimpkish Landscape Unit (LU) has been identified by VILUP as having a “lower” Biodiversity Emphasis Option (BEO) and recognizes the Lower Nimpkish LU as a moderate planning priority. Old Growth Management Areas (OGMAs) and wildlife tree retention (WTR) are recognised as a priority in landscape unit planning. This report describes the biodiversity conservation management strategy for the Lower Nimpkish LU and associated OGMA and Wildlife Tree Retention (WTR) objectives. Other resource interests and significant ecological descriptions are also included.

Reference material on government policy, planning processes and biodiversity concepts associated with landscape unit planning include:

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)

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>

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

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>

2.0 Lower Nimpkish LU Description

2.1 Lower Nimpkish Biophysical Description

The Lower Nimpkish Landscape Unit (LU) is 79,173 ha in size of which approximately 64,000 ha are forested and 39,730 ha are considered Timber Harvesting Land Base (THLB). The Lower Nimpkish LU extends from Beaver Cove in the North to the Kaipit Lakes in the South. The Bonanza LU borders the Lower Nimpkish on the east. The Artlish, and Tahsish drainages fall to the west and the Upper Nimpkish LU lies along the south east border of the Lower Nimpkish LU. The Lower Nimpkish LU encompasses Lower Nimpkish and Nimpkish Lake Provincial Parks. Major lakes (L1 classification) in the Lower Nimpkish include Nimpkish Lake, Anutz Lake, Huson Lake, Atluck Lake, and Kaipit Lake.

The Lower Nimpkish LU is within the Coast and Mountains ecoprovince, Western Vancouver ecoregion and the Northern Island Mountain ecosection of B.C. Wide valleys and mountains in the northern portion of Vancouver Island characterize the area. Forest harvesting over large portions of the ecoprovince has resulted in changes to natural habitat conditions (Campbell et al. 1990). Topography and landforms of the valley are typical of the insular mountains physiographic system and elevations range from sea level to approximately 1,800 m. The terrain is characterized by dense coniferous forests on rolling uplands and steep and rugged mountain slopes, often with exposed bedrock (Pojar et al. 1991a). The Nimpkish Valley is found within Coastal Western Hemlock (CWH) and Mountain Hemlock (MH) biogeoclimatic ecosystem classification (BEC) zones. The CWH occurs at low to middle elevations along the entire British Columbia coast (Pojar et al. 1991a). Low elevations are dominated by coniferous forests composed of western hemlock (*Tsuga heterophylla*) and Douglas-fir (*Pseudotsuga menziesii*), especially in the drier variants (Campbell et al. 1990). Other trees include western red cedar (*Thuja plicata*), shore pine (*Pinus contorta* var. *contorta*), western white pine (*Pinus monticola*), yellow cedar (*Chamaecyparis nootkatensis*) and red alder (*Alnus rubra*). Woody shrubs that include blueberries and huckleberries (*Vaccinium* spp.), and salal (*Gaultheria shallon*) dominate the understory. Subzones and variants found along an elevational gradient in the Nimpkish Valley includes (i) very dry maritime coastal western hemlock subzone (CWHxm) at lower elevations, (ii) submontane very wet maritime coastal western hemlock variant subzone (CWHvm1) above the CWHxm to approximately 600m, and (iii) the montane very wet maritime coastal western hemlock variant (CWHvm2) from approximately 450 to 800 m elevation. The windward moist maritime

mountain hemlock variant (MHmm1) occurs between 800-1000 m (Green and Klinka 1994) (Table 1).

The Mountain Hemlock zone represents the subalpine of the coastal mountains. The winter snowpack is slow to melt resulting in a short growing season (Pojar et al. 1991b). Mountain hemlock (*Tsuga mertensiana*), amabilis fir (*Abies amabilis*) and yellow-cedar (*Chamaecyparis nootkatensis*) are predominant trees, while ericaceous shrubs dominate the understory (Pojar et al. 1991b).

Old growth forests in the Lower Nimpkish are typically uneven-aged or multiple-aged forests. They experience rare to infrequent stand-initiating events that generally occur at 250-year intervals in the CWH and 350 years in the MH zones (BC Ministry of Environment and BC Forest Service 1995a). Natural regeneration usually occurs in gaps created by the death of individual or small patches of trees. The infrequent disturbance pattern has left a landscape of irregular edges with small openings created by high winds, fire, avalanche and landslides. A large natural opening in the forest type can exceed 250 ha (BC Ministry of Environment and BC Forest Service 1995a).

Table 1. Area summary of biogeoclimatic ecosystem classification (BEC) units, based on Terrestrial Ecosystem Mapping, for the Lower Nimpkish LU.

BEC Unit	Area (ha) ¹
CWHxm2	17,633.6
CWHvm1	30,091.5
CWHvm2	15,893.4
MHmm1	11,169.9
MHmmp	1,813.7
<i>Total</i>	<i>76,602.1</i>

¹ includes TFL 37, Protected Areas, and Indian Reserves within TFL 37 only.

3.0 Canadian Forest Products Guiding Documents

3.1 TFL 37 Sustainable Forest Management Plan (SFMP) (Deal and Manning, 2002)

In 1999, Canfor's Environmental Management System was registered under ISO 14001. In August, 2000 Canfor's Sustainable Forest Management System (SFMS) for the Englewood Defined Forest Area (DFA) was registered under CAN/CSA-Z809-96. A major component of the SFMS is the development and implementation of a sustainable forest management plan. A public advisory group was formed to help guide the process

by identifying values, goals, indicators and objectives of sustainable forest management. The group identified 53 indicators of sustainable forest management including (i) % old growth cover by Landscape Unit (LU) and Biogeoclimatic Ecosystem Classification (BEC) unit and (ii) percent wildlife tree retention:

<http://www.canfor.com/sustainability/certification/csa.asp>

3.2 TFL 37 Ungulate Winter Range Plan (Deal 2001)

Canfor's Ungulate Winter Range strategy received government approval on September 13, 2001 under Section 69 of the British Columbia Forest Practices Code Act Operational Planning Regulation. The strategy established 79 ungulate winter ranges totalling 6,205.5 ha within TFL 37 boundaries.

Twenty-four of these ranges were established within the Lower Nimpkish Landscape Unit including 3 for elk, and 21 for deer. In total, 2,218.3 ha were approved in the Lower Nimpkish Landscape Unit. The old growth management areas encompass all of the ungulate winter ranges.

3.3 Queen Charlotte Goshawk Adaptive Management Strategy (Manning et al 2004)

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) designated the Queen Charlotte goshawk (*Accipiter gentilis laingi*) as *Vulnerable* in 1995 (Duncan and Kirk 1995), but recently upgraded its status to *Threatened* (Cooper and Chytyk 2000). The British Columbia Conservation Data Centre (CDC) ranked the Queen Charlotte goshawk as S2B, SZN (imperilled in British Columbia due to rarity and perceived threats to habitat). The Queen Charlotte goshawk is currently on the British Columbia "Red List" as a candidate species for Endangered or Threatened status (BC Species and Ecosystems Explorer 2004) and listed as an identified wildlife species within the British Columbia Forest and Range Practices Act. Queen Charlotte goshawk was included in Volume 1 of the Identified Wildlife Management Strategy in 1999 and is also included in Version 2004 (<http://wlapwww.gov.bc.ca/wld/identified/index.htm>).

A goshawk adaptive management strategy (Manning et al 2004), based on local data, was developed for TFL 37 and approved by government on March 13, 2003. The strategy outlines 10 Wildlife Habitat Areas (WHA's) ranging from 135 to 538 hectares in size. Two WHA's are within the Lower Nimpkish LU (Kaipit and Loon) and a third (Toad) is shared with the Upper Nimpkish LU. These WHA's have also been included in the OGMA's to minimize impacts to the THLB.

3.4 Marbled Murrelet Wildlife Habitat Areas (WHA) (Deal and Harper 2004)

The marbled murrelet (*Brachyramphus marmoratus*) is listed as *Threatened* by the COSEWIC (Hull 1999), red-listed by the British Columbia Conservation Data Centre and is an Identified Wildlife species under the Forest and Range Practices Act. For this reason, marbled murrelet nesting habitat is an important consideration in OGMA selection within the Lower Nimpkish Landscape Unit.

In January 2005, Canfor implemented its conservation plan for nesting habitat for the Defined Forest Area (Deal and Harper 2004). This plan was developed using extensive dawn audio/visual surveys, radar monitoring, and low-level aerial reconnaissance habitat mapping. Many old growth management areas provide suitable nesting habitat, but for some drainages the amount and location of habitat may not be adequate. For these drainages, Wildlife Habitat Areas that are not part of the OGMA plan will be pursued as candidates for establishment.

4.0 Vancouver Island Land Use Plan (VILUP)

The Vancouver Island Summary Land Use Plan (Feb 2000) outlines Land Use Zones for Vancouver Island. Designated Land Use Zones include protected areas, agriculture, settlement, and private areas as well as three distinct Resource Management Zones (RMZs): a Special Management Zone (SMZ), a General Management Zone (GMZ) and an Enhanced Forestry Zone (EFZ). VISLUP describes RMZs as areas with a purpose related to the Forest Practices Code (FPC). The three RMZs make up 63% of the VISLUP defined land use area. Section 4.3 of VISLUP describes the management intent and regimes of each RMZ. VISLUP identifies two SMZs, and one EFZ within the Lower Nimpkish LU boundaries ([Appendix I](#)).

4.1 Resource Management Zone Location and Values

A brief description of the Lower Nimpkish Resource Management Zones and associated primary management objectives is provided below ([Table 2](#)). Additional information on the objectives is found in the Vancouver Island Summary Land Use Plan.

Table 2. Resource Management Zones and associated areas found in the Lower Nimpkish LU.

Resource Management Zone	Area (ha)
Agriculture	1,190.8
EMZ 10	63,420.0
Protected	4,162.2
SMZ 6 (Woss - Zeballos)	1,434.0
SMZ 10 (Pinder - Atluck)	8,101.9

4.1.1 SMZ 6: WOSS - ZEBALLOS

SMZ 6 makes up the southern tip of the Lower Nimpkish LU and encompasses the upper portion of the Kaipit watershed. This SMZ is shared with the Upper Nimpkish LU. The primary values associated with the approximately 1,400 ha include old growth biodiversity, visual quality related to recreation sites, and recreation opportunities associated with lakes.

4.1.2 SMZ 10: PINDER - ATLUCK

SMZ 10 is approximately 8,100 ha and encompasses the Pinder Creek drainage as well as the Atluck area with its associated lakes of the south-western corner of the Lower Nimpkish LU. The primary values of SMZ 10 include visual qualities associated with the lakes, Pinder Peak, and along the road corridor, recreation opportunities at the lakes, and fish and wildlife habitat and populations.

4.1.3 RMZ 10: NIMPKISH

RMZ 10 is the largest zone within the Lower Nimpkish LU at approximately 63,000 ha. The zone extends from the northern edge of the Lower Nimpkish LU along Nimpkish Lake to the southern boundary of the LU. RMZ 10 is an Enhanced Forestry Zone suited for enhanced timber harvesting and silviculture integrated with significant fish, wildlife, and biodiversity values.

4.2 Legally Binding Direction

The legally binding objectives outlined in the Higher Level Plan Order (HLPO) that apply to the Lower Nimpkish LU are summarized below. The HLPO is included in [Appendix II](#) for further information

([http://srmwww.gov.bc.ca/rmd/lrmp/vanisle/docs/HLP%20Order%20-%20Final%20October%2017\(2\)%20as%20signed%20with%20logo.pdf](http://srmwww.gov.bc.ca/rmd/lrmp/vanisle/docs/HLP%20Order%20-%20Final%20October%2017(2)%20as%20signed%20with%20logo.pdf))

4.2.1 SMZ 6 AND SMZ 10

- i. **Mature Seral Component**
The target for mature seral forest should range between one quarter and one third of the forested area in each SMZ. The mature seral forest is defined under the Higher Level Plan Order as “80 to 120 year old or older forest, depending on species and site conditions”. Canfor’s interpretation of this definition is all forest in CWH that is ≥ 80 years old and all forest in the MH that is ≥ 120 years old. To further define the requirements, Canfor’s interpretation of this objective is that $\geq 25\%$ of the forest area in CWH must be ≥ 80 years old and ≥ 120 years in the MH.
- ii. **Stand Level Biodiversity**
Retain, within cutblocks, structural forest attributes and elements with important biodiversity functions; and
- iii. **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.
- iv. **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.

4.2.2 SMZ 10

Objective 12: “Retain or recruit old growth in the CWHxm2 in accordance with the full old seral target of 9% for the variant.”

4.2.3 RMZ 10

Objective 13: “Retain or recruit old growth in the CWHxm2 in accordance with the full old seral target of 9% for the variant.”

Objective 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 Strategy; and
- (c) ecologically suitable second growth forest is identified to recruit the shortfall.”

5.0 Integrating Other Key Resource Tenure Holders

A summary of Tenure Status is provided in [Table 3](#) (current to December 2004):

Table 3. Tenure Status for the Lower Nimpkish LU.

Tenure Holder	Tenure Type	Area (ha)
BC Hydro	Crown	96
Canfor	Private	2,749
Canfor	TL	6,552
Canfor	TFL 37	63,844
IR	Crown	43
Highway	Crown	324
River Side Park	Crown	11
SUP	Crown	17
Lower Nimpkish Park	Crown	241
Nimpkish Lake Park	Crown	3,922
TimberWest	Crown	26
Cascadia (BCTS)	Crown	806
Other	Crown	81
Other	Private	461
Total		79,173.0

5.1 Private Land

Canfor is the largest private landowner in the Lower Nimpkish LU with 2,749 ha. Approximately 250 ha or 9% of this area is included in the OGMA plan because of its inoperability.

5.2 Forest Tenure Holders

Canfor's Tree Farm Licence 37 is the largest forest tenure in the Lower Nimpkish LU followed by Canfor's Timber Licences. 5,575 hectares (9% of Canfor's TFL) and 914 ha (or 14% of the TLs) were included in the old growth management areas. Twenty-six hectares of TimberWest Forest Corporation's forest tenure and 805 ha of Cascadia Forest Products (part of BCTS take-back area) TFL 39 is within the Lower Nimpkish LU, but this area was not considered in the OGMA selection process.

5.3 Mining Tenure Holders

Twenty-eight of the Lower Nimpkish LU OGMAs are overlapped by existing mineral tenures. They are as follows: LN-009, LN-015, LN-024, LN-025, LN-026, LN-027, LN-028, LN-033, LN-034, LN-047, LN-048, LN-049, LN-123, LN-127, LN-128, LN-133, LN-134, LN-135, LN-136, LN-146, LN-147, LN-148, LN-150, LN-151, LN-159, LN-160, LN-161, and LN-162. Areas of existing mineral tenure/ OGMA overlaps are within the following watersheds: Tsulton, Noomas, Kinman, Woodengle, Pinder and Kaipit.

Mineral exploration and development are permitted within OGMAs. If the exploration and development are found to negatively influence the old growth values the OGMA status will be removed and another appropriate area will be designated if required.

6.0 Significant Resource Values

6.1 Fish, Wildlife, and Biodiversity

Table 4 lists the 2004 category of species at risk within the Lower Nimpkish Landscape Unit (http://wlapwww.gov.bc.ca/wld/documents/identified/approved_sar_order_list.pdf).

Table 4. Species at Risk (as defined by the Provincial category of species at risk) within the Lower Nimpkish Landscape Unit.

Common Name	Scientific Name	BC List 2004 ¹	COSEWIC ²	IWMS ³ 2004
AMPHIBIANS				
Red-Legged Frog	<i>Rana aurora</i>	Blue	Special Concern	Yes
BIRDS				
Pacific Great Blue Heron	<i>Ardea herodias fannini</i>	Blue	Special Concern	Yes
'Queen Charlotte' Goshawk	<i>Accipiter gentilis laingi</i>	Red	Threatened	Yes
Marbled Murrelet	<i>Brachyramphus marmoratus</i>	Red	Threatened	Yes
MAMMALS				
Keen's Long-eared Myotis	<i>Myotis keenii</i>	Red	Data Deficient	Yes
Wolverine	<i>Gulo gulo vancouverensis</i>	Red	Special Concern	Yes

NOTES:

¹ British Columbia Conservation Data Centre Provincial Vertebrate Animal Tracking List: www.elp.gov.bc.ca/rib/wis/cdc/vertebrates.htm

² Committee on the Status of Endangered Wildlife in Canada: www.speciesatrisk.gc.ca

³ IWMS = Identified Wildlife Management Strategy

As discussed previously, plans are in place to manage Ungulate Winter Range (Deal 2001), Queen Charlotte goshawks (Manning et al 2004), and a plan has been developed for marbled murrelet nesting habitat (Deal and Harper 2004).

Many streams and rivers within the Lower Nimpkish LU are considered high fisheries value for anadromous and resident fish populations. Canfor's SFMP outlines strategies

for riparian management in TFL 37 based upon criteria outlined in the Forest and Range Practices Act. Riparian Management Areas (RMAs) provide additional opportunities for Old Growth retention and in some circumstances were included in OGMAs. Second growth Riparian Reserve Zones provide future old seral retention through the recruitment process (Table 5). In addition, in 2004, Canfor completed reclassification of over 1,000 km of low gradient, low elevation strategic level streams in TFL 37.

Table 5. Summary of length of strategic-level streams by riparian class and area of riparian reserve zones by age class in the Lower Nimpkish LU.

Riparian Class	Stream Length (km)	Riparian Reserve Zone		
		>250 years (ha)	81-250 years old (ha)	< 80 years old (ha)
S1	58.5	181	79	315
S2	156.7	253	91	538
S3	125.4	71	54	348
S4	33.4	0	0	0
<i>Fish bearing</i>				
<i>Stream Subtotal</i>	374	505	224	1,201
S5	167.5	0	0	0
S6	2,413.8	0	0	0
<i>Non-Fish Bearing</i>				
<i>Stream Subtotal</i>	2,581.3	0	0	0
<i>Total</i>	2,955.3	505	224	1,201

6.2 Timber Resources

The Lower Nimpkish LU contains some very productive growing sites that are important to the local forest industry. Commercially valuable tree species in the Lower Nimpkish LU include western and mountain hemlock, amabilis fir, Douglas-fir, yellow cedar and western red cedar. Extensive silvicultural investments have been made throughout the LU through spacing, pruning and aerial fertilization. Extensive road rehabilitation has reduced the risk of old roads failing and causing slides. An extensive road and development infrastructure exists and is maintained as timber is harvested. The current second growth harvest ranges from 11-17% per year in TFL 37 (Deal and Manning 2004).

The THLB is estimated at 39,730 ha. Netdown factors including Protected Areas, physically inoperable terrain, avalanche tracks, riparian reductions, Class IV terrain, karst areas, campsites/recreation areas, ungulate winter range, goshawk WHA's, marbled

murrelet WHA's, wildlife tree patches (WTP's), uneconomic forest, and future WTP's were used to determine the net productive area for each landscape unit.

6.3 Recreation

There are many recreational opportunities within the Lower Nimpkish LU. The Lower Nimpkish parks provide hiking, camping, and wildlife viewing opportunities. Recreational and guided hunting occurs throughout the LU. The most commonly hunted species are deer, bear, cougar, and elk. As well there are a number of trapline tenure holders. Canfor maintains one interpretive trail and one campsite within the Lower Nimpkish LU. The trail and recreation site were approved under Section 6 of the Forest Practices Code of BC Act by the Forest District Manager on September 9, 2002. The many lakes and rivers are regularly visited by recreational anglers and sightseers. The Nimpkish River is used extensively by recreational whitewater kayakers and rafters. Commercial backcountry recreational tenures extending from Vernon Lake to Nimpkish Lake on the Nimpkish River are held by Destiny River Adventures Ltd. and Strathcona Park Lodge for the purpose of guided rafting and kayaking. The tenures include access to the river, activities on the water, and use of 30m on either side of the river for no trace camping. Karst features are common within some parts of the Lower Nimpkish LU and provide excellent recreation opportunities.

6.4 Karst

Karst refers to a three-dimensional soluble rock landscape that consists of a distinctive surface and subsurface ecosystem. Karst ecosystems are fragile, interconnected, and dependent upon the activities of rainwater, runoff, soils, bedrock and vegetation. Karst landscape is largely shaped by the dissolving action of water on carbonate bedrock (limestone, dolomite or marble). This geological process, occurring over many thousands of years, results in unusual surface and subsurface features such as sinkholes, vertical shafts, caves, disappearing streams, subsurface springs and complex underground drainage systems. Karst ecosystems are a non-renewable resource with important geological, biological, hydrological, cultural, educational and recreational values.

Karst ecosystems are further described in the following Ministry of Forests Forest Practices Branch publication: <http://www.for.gov.bc.ca/hfp/fordev/karst/>.

In the Lower Nimpkish Landscape Unit, karst features are most notably located on the east side of Nimpkish Lake Canfor's Sustainable Forest Management Plan recognizes the intrinsic value of water and the need to maintain naturally clean and clear water. Canfor's goal is to minimize the effects of industrial activities on water quality and quantity flowing to and through karst features. As karst areas are located operationally, they are handled through a best management practices approach involving inventory, mapping, and development of appropriate protective measures.

7.0 FIRST NATIONS

The Lower Nimpkish LU is located within the traditional territory of the 'N̓amgis, First Nations. The 'N̓amgis First Nation is located at Alert Bay on Cormorant Island. The 'N̓amgis are part of the Kwakwaka'wakw, or Pacific Northwest First Nations, and belong to the Kwakiutl linguistic group. The 'N̓amgis traditional territory encompasses the Nimpkish River and all of its tributaries as well as adjacent lands to the north and east.

8.0 OGMA Methodologies

8.1 Selection of Old Growth Management Areas and Boundary Mapping

The OGMA selection follows a strict procedure as outlined in the FPC Landscape Unit Planning Guide and in the former Ministry of Sustainable Resource Management Landscape Unit Planning Methodology, May 2002.

Managing Species at Risk habitat (Queen Charlotte goshawk and marbled murrelet), ungulate winter range, ecosystem representation and meeting the VILUP higher-level plan order objectives were the priority selection criteria. Other considerations included known cultural sites, Keen's long-eared myotis hibernacula, significant cave systems, bald eagle nest locations, known sites of biological significance, sites series where a red or blue-listed plant community may be present, stand structure, patch size, and landscape spatial distribution. In general, denser, taller stands and larger, more productive areas within the non-contributing land base were selected.

The key building blocks used to identify and map OGMA's, as referred to above, include: established ungulate winter ranges, established wildlife habitat areas, low-level aerial habitat classification for marbled murrelet, physically inoperable forest, terrain class V, riparian reserve zones, low productivity sites, and colluvium sites.

OGMA's were mapped using a 1:20,000 scale TRIM base. OGMA boundaries were mapped to logical engineering boundaries such as streams, natural features, and major forest type changes, wherever possible, without unduly impacting the THLB.

The BEC Unit was determined based on 1:20,000 Terrestrial Ecosystem Mapping Data (Green 2000).

8.2 Assessment and Review

All OGMA's within the Lower Nimpkish were selected by Canfor based on the criteria listed above. The Ministry of Sustainable Resource Management (MSRM) reviewed all OGMA's in January 2003 using aerial photograph interpretation. Habitat features and timber harvest constraints were considered in the review to maximize the stand structure and biodiversity components while mitigating timber supply impacts. Revisions were made to the OGMA's as per MSRM's recommendations.

8.3 Amendment Policy

The Ministry of Agriculture and Lands Coast Region amendment policy (formerly MSRM Coast Region) provides direction for allowing certain OGMA modifications. Amendment procedures involve minor or major amendments for significant resource development (e.g. roads, bridges, boundary issues, rock quarries & gravel pits) or relocation of OGMAs as well as acceptable management activities and review procedures. The amendment procedures can be viewed at <http://srmwww.gov.bc.ca/cr/srmp/amendments.htm> or in [Appendix III](#).

Permissible activities that allow for some small modifications to OGMAs are provided in the legal objectives.

9.0 Old Seral Forest Representation

9.1 Old Growth Management Areas

The Lower Nimpkish LU was ranked as a lower Biodiversity Emphasis Option (BEO) through the biodiversity value ranking process completed earlier (see the *Vancouver Forest Region Landscape Unit Planning Strategy*, 1999). This BEO designation along with the BEC variant determines the percentage of the Crown forest land base that should be designated as OGMA ([Table 6](#)). Unless a Higher Level Plan Objective is established under a Regional Land Use Plan, the short-term old seral representation target may be drawn down by as much as 2/3 of the full long term target as outlined in the Landscape Unit Planning Guide. For example, the old seral target in the CWHxm is 9% but only 3% will be required in the short-term unless establishing more than 1/3 of the target has no incremental timber supply impact because of additional non-contributing timber availability. In Lower Nimpkish, Canfor met the full old seral target on all BEC units except for MHmm1.

Meeting the VILUP HLP objectives for CWH xm2 representation was the primary consideration for OGMA selection in the Lower Nimpkish. Species at Risk within the Lower Nimpkish LU, especially Queen Charlotte goshawk and marbled murrelet, and recognition of established Ungulate Winter Ranges, were the secondary considerations for OGMA selection. Tertiary consideration included ecosystem representation, potential red and blue listed plant communities, bald eagle nesting areas, karst, and cultural features. In most BEC units, the OGMAs and Protected Areas combined exceed the maximum old seral representation target set in the LUPG ([Tables 6 and 7](#); and [Appendix IV \(map\) and V](#)).

Table 6. Summary of Lower Nimpkish landscape-level old seral representation targets by BEC Unit.

BEC Unit	Productive Forest ¹			Short-term	Long-term
	TFL 37 (ha)	Protected Area (ha)	Total (ha)	Target (ha)	Target (ha)
CWHxm2	12,606.4	576.2	13,182.6	715.4 ³	1,186.4
CWHvm1	26,329.6	1,316.9	27,646.5	1,197.8	3,594.0
CWHvm2	13,844.3	779.4	14,623.7	633.7	1,901.1
MHmm1 ²	6,040.8	232.1	6,272.9	397.3	1,191.9
Total	58,821.1	2,904.6	61,725.7	2,944.2	7,873.4

¹ Area of non-productive forest has been removed, i.e. rock, ice, water, and alpine forest.

² Due to the abundance of low volume, productive forest stands in the MHmm1 that are unsuitable for OGMA designation, all stands <200m³/ha were removed from the target calculations.

³ Calculated using RMZ 10 target of 6% (679.3 ha) and SMZ10 target of 9% (36.1 ha)

Table 7. Summary of Lower Nimpkish OGMA and Protected Areas by BEC unit.

BEC Unit	OGMA	OGMA	PA (old)	PA (recruit)	Total	Short-term	Long-term	Short-term	Long-term
	Old (ha)	Recruitment ¹	(ha) ²	(ha) ³	Area (ha)	Target (ha)	Target (ha)	Surplus (ha)	Surplus (ha)
CWHxm2	789.2	439.7	100.8	454.0	1,783.7	715.4	1,186.4	1,068.3	597.3
CWHvm1	1,889.0	539.5	827.5	427.8	3,683.8	1,197.8	3,594.0	2,486.0	89.8
CWHvm2	1,411.7	138.4	549.2	86.6	2,185.9	633.7	1,901.1	1,552.2	284.8
MHmm1	1,066.0	96.4	155.2	66.3	1,383.9	397.3	1,191.9	986.6	192.0
Total	5,155.9	1,214.0	1,632.7	1,034.7	9,037.3	2,944.2	7,873.4	6,092.4	1,163.9

¹ defined as productive forest within an OGMA that is mapped as <250 years old within the primary and secondary canopy layers. The majority of the identified recruitment is within previously unharvested mature forest resulting from natural disturbance events.

² defined as productive forest, ≥300m³/ha in old growth, in all Goal 1 VILUP Protected Areas.

³ defined as productive forest in all Goal 1 VILUP Protected Areas between 50 and 249 years old

Utilization of the non-contributing land base allowed short-term targets to be exceeded in all BEC variants. Small portions of the THLB were captured in OGMA for significant cultural features in the CWHxm2 and CWHvm1. In addition, conserving habitat for marbled murrelet and Keen's long-eared myotis resulted in some THLB impacts in the CWHvm1 and CWHvm2.

An effort was made to include OGMA's of variable size throughout the Lower Nimpkish LU (Table 8). A total of 168 polygons have been mapped varying in size from 4 hectares to 296 hectares. The average size is 39.8 ha.

Table 8. Patch Size Distribution of OGMA's in the Lower Nimpkish LU.

Area Class	Area (ha)	Percent of total area
<50 ha	4,584.8	27.9
50.1-100 ha	3,455.0	21.0
100.1-200 ha	5,751.7	35.0
>200 ha	2,652.8	16.1
Total	16,444.3	100.0

9.1.1 VANCOUVER ISLAND LAND USE PLAN HLP ORDER

Two SMZ's and 1 EMZ are nested within the Lower Nimpkish Landscape Unit. RMZ 10 and SMZ 10 have specific targets for CWHxm2 retention.

9.1.1.1 RMZ 10 (Nimpkish RMZ)

Objective 13 (as stated above) required full target of the CWHxm2 to be met and objective 13.1 allowed for up to 1/3 to be recruited from second growth. The intent of the order is that the targets “*will be achieved through the establishment of old growth management areas as part of landscape unit planning.*”

The total area of productive forest in the CWHxm2 in RMZ 10 is 11,322 ha. The target retention area is 1,019 ha (9% of 11,322 ha) (Table 9). Since the target is only for the RMZ, the CWHxm2 that is within Nimpkish Lake Park does not contribute toward the target. A total of 1,110.1 ha of productive CWHxm2 forest was mapped as OGMA to meet Objective 13.1 and includes a small surplus over the target of 91 ha.

A total of 705.9 ha (69.3% of the target) are classified as old seral and a further 277.1 ha was mapped in mature first growth (80-250 years old) comprised of old growth characteristics. Second growth recruitment (previously harvested) accounted for 12.5% (127.1 ha) of the total target area. The recruitment selected is greater than 50 years old. All of the second growth area is being used to manage for Queen Charlotte Goshawk. A combined total of 120 ha are located in the Kaipit and Loon post fledgling areas (existing WHAs) and a 27 ha OGMA was mapped within second growth to manage 2 nest areas for Queen Charlotte goshawk in the Tlakwa area (Table 9).

Table 9. Compliance with Objectives 12 and 13 of Vancouver Island Land Use Plan Higher Level Plan Order.

Resource Management Zone	BEC Unit	Target Area (ha)	Old Seral Area (ha)	Mature First Growth ¹ (ha)	Second Growth Area ² (ha)	Total Area (ha)
Pinder - Atluck SMZ	CWHxm2	36.1	17.3	5.7	14.0	37.0
RMZ 10	CWHxm2	1,019.0	705.9	277.1	127.1	1,110.1

¹ 80-250 years old with old characteristics

² for the purposes of this report, second growth is defined as harvested since 1908.

9.1.1.2 SMZ 10 (Pinder – Atluck SMZ)

Objective 12 states “retain or recruit old growth forest in CWHxm2 in accordance with the full old seral target of 9 per cent for the variant.” According to the Terrestrial Ecosystem Mapping (Green 2000) data, only 401.1 ha of productive CWHxm2 forest are located within SMZ 10 (Pinder - Atluck). The total landscape level retention is 36.1 ha (9% of 401 ha). Forty-eight percent of the target (17.3 ha) was met with old growth and 15.8% (5.7 ha) was met with mature first growth (80-250 years) (Table 9). The remainder was second growth, with the majority being ≥ 60 years old.

9.1.1.3 SMZ Seral Stage Objectives

All Special Management Zones are required to have at least 25% of the forested land base classified as mature (≥ 80 years old in the CWH and/or ≥ 120 years old in the MH). Although it is not the intent to manage this objective solely through OGMA, a significant portion of the target is achieved through OGMA. In SMZ 10, 79% of the target is met through OGMA (Table 10). In SMZ 6 (Lower Nimpkish portion only), 86% of the target is met through OGMA (Table 10). For a summary of forest characteristics within OGMA, see Appendix V.

Table 10. Summary of seral stage targets, current state (as of March 2002) and OGMA area by Special Management Zone within the Lower Nimpkish LU.

Special Management Zone	Productive Forest Area (ha)	Mature ² Target (ha)	Current State (ha) ³	OGMA (ha)
SMZ 10 (Pinder- Atluck)	6,432.8	1,616.7	4,056.4	1,280.4
SMZ 6 ¹ (Woss-Zeballos)	1,067.8	267.1	1,065.4	229.6

¹ Lower Nimpkish LU portion only

² $>25\%$ of forested area of each SMZ must be ≥ 80 years old in CWH and/or ≥ 120 years old in MH.

³ Current to March 2002

9.1.2 TIMBER HARVESTING LAND BASE IMPACTS

The total impact to the THLB in the Lower Nimpkish LU is 1,283.6 ha which equates to 3.2% (1,283.6/39,730*100) of the total THLB and 6.4% (1,128/17,739*100) of the 1997 THLB >80 year old (as of Jan 1, 1997) within the Lower Nimpkish LU. The impact based on harvestable THLB (>60 years old) is 5.4% (1,191/21,884*100).

In order to achieve the landscape level targets an estimated 30% of the mapped OGMA area in the CWHxm2 was within the THLB (Table 11). This is primarily due to meeting the VILUP HLP order and the high operability in the CWHxm2. The CWHxm2 within Protected Areas could not be used to contribute to Objective 13.

Table 11. Timber Harvesting Land Base impacts by BEC unit.

BEC	Old Seral Long-term Landscape Level Target (ha)	Estimated THLB Impact (ha)	% of Old Seral Target¹
CWHxm2	1,186.4	357	30.1
CWHvm1	3,595.0	425	11.8
CWHvm2	1,901.1	337	17.7
MHmm1	1,191.9	165	13.8
Total	7,873.4	1,284	16.3

¹ Estimated THLB impact / Old Seral landscape level target*100%

9.2 Marbled Murrelet

Low-level aerial reconnaissance was used to classify marbled murrelet nesting habitat in the Lower Nimpkish Landscape Unit in 2002/2003 and 2003/2004. This classification system uses a 1-6 rating with Class 1 being the best (all favourable marbled murrelet habitat attributes present in abundance including a very high number of visible mossy platforms) to Class 6 (non-forested areas and forest <80 years old) (Deal and Smart 2004).

A total of 14,816 ha of Class 1-4 habitat were identified within the LU in 2002. Of this, 2,632.0 ha (Class 1-4) or 17.8% of the 2002 potential nesting habitat were identified within the OGMAs (Table 12). An additional 981.1 or 6.6% was identified in Protected Areas (Class 1-4). Therefore, the total conserved by Protected Areas and the OGMA plan is 24.4% of the 2002 potential nesting habitat (Class 1-4).

A conservation plan (Deal and Harper 2004) for marbled murrelet nesting habitat has been completed and the plan was fully implemented in January 2005. Surveys conducted on the TFL indicated that some drainages have more murrelet detections than others. These drainages tended to be more topographically diverse. In order to meet population

targets set by the Marbled Murrelet Recovery Team (2002), Canfor felt that additional areas outside OGMAs were needed to capture some key pieces of habitat to minimize the risk to the species. Priority was placed on the drainages with the higher densities. As a result, an additional 735.2 ha of old seral habitat was identified in the Lower Nimpkish LU, outside OGMAs, as conservation areas for marbled murrelet.

Table 12. Area (ha) of potential marbled murrelet nesting habitat by class and BEC unit within mapped OGMAs

BEC Unit	Habitat Class				Total Area (ha)
	1	2	3	4	
CWHxm2	0	77.4	114.5	126.6	318.5
CWHvm1	11.9	431.8	475.5	213.9	1,133.1
CWHvm2	0	189.6	476.2	302.6	968.4
MHmm1	0	2.6	77.3	132.1	212.0
Total	11.9	701.4	1,143.5	775.2	2,632.0

9.3 Wildlife Tree Retention

The Wildlife Tree Committee of British Columbia defines a wildlife tree as “*any standing dead or live tree with special characteristics that provide valuable habitat for the conservation or enhancement of wildlife*”. Wildlife Tree Retention (WTR) is the primary method for managing stand structure and biodiversity at the stand scale. Wildlife trees can be retained in patches or as individual trees.

Canfor currently follows the wildlife tree retention targets outlined in Table 20(b) of the Biodiversity Guidebook (Sept. 1995). This is consistent with Table A3.2 of the LUPG (1999). In February 2000, government released the Provincial Wildlife Tree Policy and Management Recommendations (<http://www.for.gov.bc.ca/hfp/Pubswildlifetrees.htm>).

Wildlife Tree Retention (WTR) targets were recalculated in 2005 to: (i) use current data on amount of area harvested without WTR; (ii) use BEC variant based on 1:20,000 Terrestrial Ecosystem Mapping rather than BEC variant data used for the Regional Land Use Planning database at a 1:250,000 scale; and (iii) reflect the Provincial Wildlife Tree Policy (2000).

Achievement of WTR targets will be based on a 5 year rolling average. For the Lower Nimpkish LU, this will be measured by total harvest area (Net Area to be Reforested + permanent road area) by BEC subzone. Monitoring WTR achievement will be on a calendar year basis. The WTR subzone targets are: CWHxm – 11%; CWHvm – 9%; and MHmm – 1% (Table 13).

Table 13. Wildlife tree retention (WTR) targets by BEC subzone, based on harvest area, for the Lower Nimpkish Landscape Unit.

BEC Unit	WTR Target (%)
CWHxm	11
CWHvm	9
MHmm	1

10.0 Timber Supply Mitigation

During delineation of OGMA for priority biodiversity provisions, an attempt was made to mitigate the short and long-term impacts on timber supply. Although OGMA 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 or Species at Risk habitat. Where this occurred, portions of the timber harvesting land base from most constrained to least constrained were assessed and included as OGMA.

OGMA were chosen in the oldest available age class first, however, OGMA were not considered where Category A cutblocks had been identified in the Forest Development Plan (FDP). Canfor planning staff were involved in the delineation of OGMA boundaries in an attempt to mitigate timber supply impacts within the Lower Nimpkish LU. This consultation verified the accuracy of non-contributing forest land base boundaries.

The recent creation of the Nimpkish Lake and Lower Nimpkish Provincial Parks as part of Goal 1 VILUP Protected Areas has secured two new conservation areas, which support the resource values of recreation, biodiversity, cultural heritage, wildlife and scenic viewing. Both parks were considered acceptable to MSRM as valuable in contributing towards meeting the biodiversity targets, both quantitatively and spatially across the LU. Since the LU was assigned a low Biodiversity Emphasis Option, all productive forest, between 50 and 250 years old, was deemed to be available for old seral recruitment and all productive forest ≥ 250 years old and a minimum volume of $300\text{m}^3/\text{ha}$ was determined to be available to contribute towards old seral representation.

11.0 Legal Objectives for the Lower Nimpkish Landscape Unit

Preamble

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

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

Legal Objectives – Lower Nimpkish Landscape Unit

Pursuant to Section 4 of the *Forest Practices Code of British Columbia Act*, the following are the landscape unit objectives for the Lower Nimpkish 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 Lower Nimpkish Landscape Unit map dated August 5, 2005, 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, or
- 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, and
- 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.

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.

In the case of iii) above, in recognition of surplus suitable old seral forest located in protected areas, riparian reserve zones, or areas required for species at risk management within the Lower Nimpkish Landscape Unit, the requirement to identify OGMA replacement forest will be waived in the CWHxm2, vm1, vm2 and MHmm1 variants, provided that the total area of mature and old seral forest maintained in OGMAs plus the contributing old seral forest area in protected areas meets or exceeds the targets in Table A.

Table A: Lower Nimpkish LU old seral minimum target requirements.

BEC Unit	Short-term target (ha)	Long-term target (ha)
CWHxm2	715	1,186
CWHvm1	1,198	3,594
CWHvm2	634	1,901
MHmm1	397	1,192
Total	2,944	7,873

(b) Other permissible activities

- i) Topping or pruning of trees along the boundary 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 OGMAs. Salvage within OGMAs 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 of less than or equal to 0.5 ha.

OGMA replacement forest is required as a result of the activities in 2 (b) above if the total net change to the OGMA exceeds 0.5 ha in size and the total area of mature and old seral forest maintained in OGMA's plus the contributing old seral forest area in protected areas is reduced below the minimum target area outlined in Table A. 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.

OBJECTIVE 2 – WILDLIFE TREE RETENTION

Maintain stand-level structural diversity, by retaining wildlife tree patches (WTPs). The holder of an agreement under the Forest Act, except a woodlot licence agreement, who completes harvesting in one or more cutblocks, except minor salvage cutblocks¹, located within the LU during any 60 month period beginning on January 1 of any calendar year following the establishment of this objective, must ensure that, at the end of that 60 month period, the total area covered by wildlife tree retention areas that relate to the cutblocks, meets or exceeds the percent of the total harvest area (Net Area to be Reforested + permanent road area) of the cutblocks by subzone presented in Table B.

¹ A minor salvage cutblock is defined as less than 2.0 ha of harvesting and/or less than total volume of 2,000m³ excluding volume from any road clearing width, if the road is required to facilitate the removal of the timber within the minor salvage cutblock.

Table B. Wildlife tree retention (WTR) by BEC unit in the Lower Nimpkish Landscape Unit.

Biogeoclimatic Unit	% WTR requirement of the harvest area
CWHxm	11
CWHvm	9
MHmm	1

In addition:

- (1) WTPs must be well distributed across the BEC subzone.
- (2) When designated at the 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 below:
 - (a) Falling of danger trees;
 - (b) 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 such salvage/harvesting is planned and authorized, suitable replacement WTP of at least equivalent area must be identified to achieve the retention target.
- (4) WTPs should include, if present, remnant old-growth patches and live or dead veteran trees (excluding danger trees).
- (5) WTPs should include representative larger trees (dbh \geq average operational cruise) for the stand and suitable wildlife trees, if available, as well as identified wildlife habitat features, if present (excluding danger trees).
- (6) BEC subzones and variants will be determined by site plan information.
- (7) In WTPs with a high likelihood of windthrow, pruning and/or topping may be carried out to maintain the integrity of the WTP.

OBJECTIVE 3 – SPECIAL MANAGEMENT ZONES 6 AND 10

Sustain forest ecosystem structure and function within the portion of Special Management Zones 6 and 10 located within the Lower Nimpkish Landscape Unit, by retaining mature and old forests (≥ 80 years old) on an area covering at least 25 percent of the total forested area of each Special Management Zone portion located within the Landscape Unit.

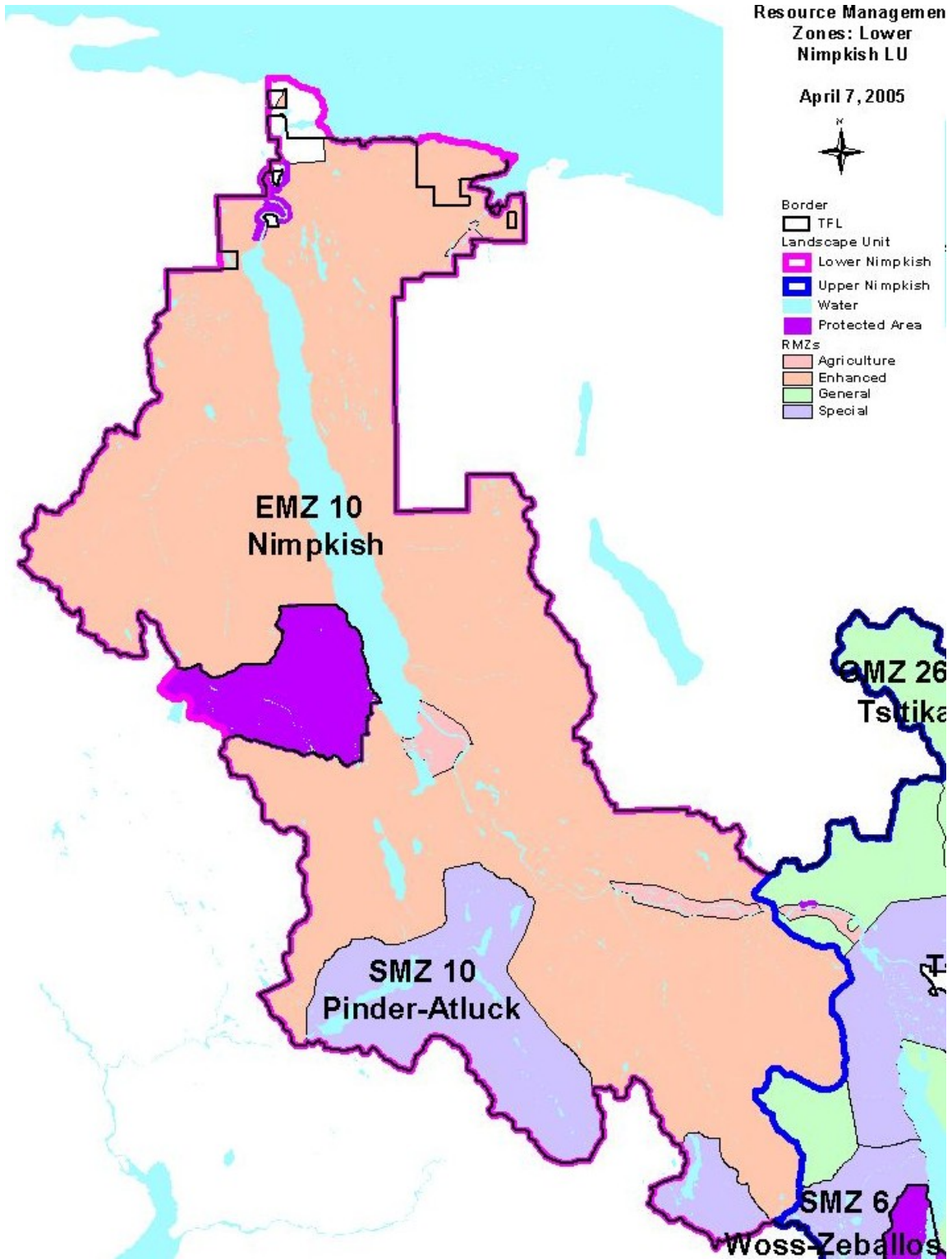
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APPENDICES

APPENDIX I: Map of Resource Management Zones within the Lower Nimpkish LU



APPENDIX II: 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 mature² and old³ 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 SMZ⁴; 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;

² 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.

³ 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.

⁴ Mature seral targets will be established through landscape unit planning. See transition provisions under III.

- (b) retaining, within cutblocks⁵, structural forest attributes and elements with important biodiversity functions⁶; 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, clearcut with reserves or seed tree silvicultural systems are applied, and 40 ha if shelterwood, selection or retention silvicultural systems are applied⁷.
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.

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:

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.

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

⁵ Within cutblocks: generally means non-contiguous with cutblock boundaries.

⁶ This includes, but is not limited to snags, wildlife trees, and downed logs.

⁷ Maximum cutblock sizes refer to net area to be reforested.

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:

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

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.

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
- such recruitment is necessary to avoid severe social and economic consequences;
 - such recruitment will not impact the ability to conserve suitable habitat of identified wildlife in accordance with the Identified Wildlife Management Strategy¹³; and
 - 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.
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

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.



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

APPENDIX III: Landscape Unit Planning - Amendments and Operational Procedures for Old Growth Management Areas

This Regional policy has been developed to: 1) describe Old Growth Management Areas (OGMA) amendment procedures; and 2) 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, Ministry of Agriculture and Lands and may be updated from time to time.

This policy does not authorize violation of any other federal or provincial statute or higher level plan/resource management objective and does not constitute approval on behalf of any other agency with jurisdiction in this matter.

Where specified under a legal landscape unit objective, some commonly occurring forestry operations can be exempted from referral to the Ministry of Agriculture and Lands. Major amendment requests, however, cannot be exempted.

1.0 Major and Minor Amendment General Procedures

Criteria for determining minor or major amendments are provided below. It remains the DDM's discretion to determine if the amendment is minor or major and if the amendment requires advertising.

Normally minor amendments will not require advertising and major amendments will. However, since each Landscape Unit is different and each variant has different amounts of old growth representation, some minor amendments may still require advertising. For example, an amendment request within a variant where only a small amount of old forest remains may be considered a major amendment, while a variant with many opportunities for change that may not significantly affect the public may be processed as a minor amendment without advertising.

Proponents should submit their requests for amendments in a timely manner so that review/approval can occur without delaying operations. Proponents should recognize that OGMA's may overlap with other legal entities and it is their responsibility to ensure compliance with all legal requirements. The Ministry of Agriculture and Lands authority is limited to establishing, varying, or cancelling an objective. Authority for any operations is granted by other agencies.

If a replacement OGMA is necessary, it must be identified by the proponent and submitted with the amendment application. The replacement OGMA should be in the

same biogeoclimatic variant and must have similar or more desirable ecological attributes for conserving biological diversity. These attributes may include: forest interior habitat, patch size, connectivity, suitable tree species, tree height and diameter, stand age, slope, aspect, elevation, stocking, or site index. The replacement area could also be critical habitat for species at risk. The presence of old forest attributes such as multi-layered canopy, vets and moderate to high value wildlife trees in the replacement area will further increase its suitability. Attributes of both the proposed replacement OGMA and original OGMA need to be clearly summarized and submitted with the amendment application (attributes confirmed in the field by the proponent). Complete and accurate submissions will allow faster processing. Incomplete submissions will be returned to the proponent.

Replacement area proposals must be submitted in digital format consistent with the Ministry of Agriculture and Lands OGMA data standards to expedite the review and approval process (e.g. ARC Export file (e00), 1:20000 scale, TRIM base, ALBERS projection, and NAD 83 datum). The web site <http://srmwww.gov.bc.ca/gis/arcdata.html> outlines the ministry's standards for digital data. It is essential that the digital submissions are topologically clean.

No amendment is required for correcting mapping errors. For example, proposed development may show potential OGMA overlap or encroachment at the scale of 1:20000, but is deemed not to occur based on field engineering. The site or operating plan should clearly indicate that there is no overlap between proposed development and OGMA's. In other instances, the intended OGMA boundary (e.g. along a stream) may be shown in the wrong location on the legal map as proven by field engineering. If this occurs the prescribing/planning forester should record the discrepancy. Corrections must be made available to the Ministry of Agriculture and Lands upon request or summarized and submitted annually.

Major and minor amendments will be summarized periodically for auditing purposes and may become public information on the Ministry of Agriculture and Lands web site.

1.1 Minor Amendments:

Where not specified for exemption under a legal objective or where the exemption limit has been used, requests for minor amendments must be submitted to the DDM for the following situations. The Ministry of Agriculture and Lands will make every effort to process minor amendments within 10 working days and no greater than 30 days.

A minor amendment is required when proposing the following changes to an existing

OGMA:

- a) In each of the following situations, replacement OGMA of like or better quality and quantity must be identified (in order of priority)
 - immediately adjacent to the existing OGMA, or

- in the same variant and landscape unit as the existing OGMA such that OGMA ecological attributes (as described in section 1.0 above) are maintained or improved:
 - i) OGMA <10 ha in size where the proposed development affects the OGMA by <2 ha,
 - ii) OGMA ≥10 ha to <50 ha in size where the proposed development affects the OGMA by <5 ha,
 - iii) OGMA ≥50 ha to <100 ha in size where the proposed development affects the OGMA by <10ha,
 - iv) OGMA ≥100 ha in size where the proposed development affects the OGMA by <10%.
 - v) Construction of ≤500m of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may deactivate or rehabilitate a temporary road or bridge site within four years after construction.
 - vi) 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 <0.5 ha.

- b) Felling of danger trees that are high value wildlife trees within an OGMA.

1.2 Major Amendments:

A major amendment is required for any situation that does not fit into the minor amendment category. The Ministry of Agriculture and Lands will make every effort to review major amendments within 120 calendar days. A 60-day public review and comment period will normally be required for major amendments and is included in the 120 day time period.

2.0 OGMA Operational Procedures

The following clarifies how OGMA's will be reviewed when certain events or activities occur. Operational procedures to guide activities adjacent to OGMA's are also described.

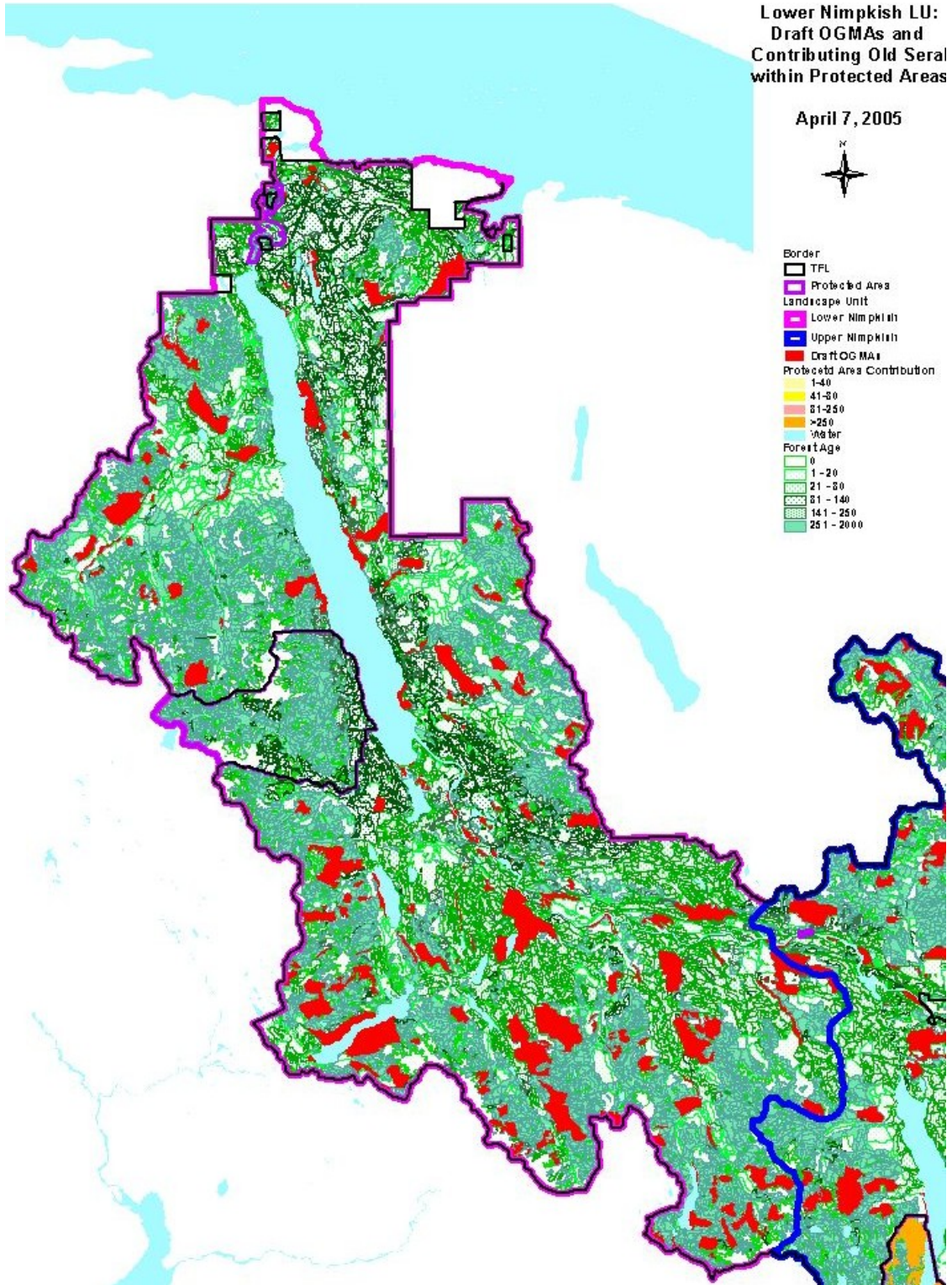
1. The distribution of OGMA's may be reviewed periodically to ensure their ecological suitability through time. This would occur:
 - a) at the DDM's discretion, or
 - b) as the result of a natural disturbance event that significantly altered the OGMA's contribution to old seral forest biodiversity conservation (e.g. fire, windthrow, disease), or
 - c) in the event that the natural disturbance is considered a threat to forested areas outside OGMA's (as determined by a qualified person and brought to the attention of the DDM).

If necessary, appropriate actions may be implemented to address disturbances and relocation of the OGMA may occur.

2. OGMA boundaries do not have to be legally surveyed; however the legal standard of measurement for locating OGMA boundaries is 1:20000 scale TRIM base maps.
3. To deal with a discrepancy between an OGMA boundary and actual on-the-ground development, the following may be proposed to accommodate areas that may be left between harvest boundaries and the OGMA. Where approved or proposed developments are located in close proximity (e.g. within 50m) to established OGMAs, and the final development results in a forested leave area (suitable for OGMA) adjacent to the OGMA boundary, the leave area could be added to the OGMA. The proponent should notify the DDM regarding an opportunity to amend the OGMA boundary.
4. The cleared portion of the right-of-way for new road or new bridge construction within an OGMA must be as narrow as possible.
5. When a conflict arises between operational activities and high value wildlife trees in an OGMA, the preference is to retain high value wildlife trees by establishing no work zones or by altering the road/bridge alignment. Any danger trees that are felled as a result of exemptions from the legal objectives or amendments are to be left on the ground to provide a source of coarse woody debris, unless safety dictates otherwise. A qualified faller or Wildlife/Danger Tree Assessor must assess potential danger trees.
6. OGMA modifications that occur as a result of exemptions must be reconciled on an annual basis to the satisfaction of the DDM.

Proponents should document the location and extent of modifications that occur within or adjacent to individual OGMAs. The Ministry of Agriculture and Lands will periodically require a written summary of these minor changes for auditing purposes. Tracking is necessary to determine cumulative impacts within OGMAs and whether replacement areas will be considered.

APPENDIX IV: Map of Proposed OGMAs for the Lower Nimpkish Landscape Unit



APPENDIX V: OGMA Characteristics

Seral Stage Distribution

BEC Unit	Forest Age Class				Total
	1-40	41-80	81-250	>250	
CWHxm2	18.5	122.6	298.5	789.1	1,228.7
CWHvm1	35.3	104.8	434.8	1853.4	2,428.1
CWHvm2	9.9	3.6	124.7	1,411.7	1,549.9
MHvm1	58.2	14.8	23.4	1,064.6	1,161.0
Grand Total	119.2	233.3	861.1	5,066.6	6,280.2

Tree Species Volume by OGMA

OGMA Label	Fd (m ³)	Hw (m ³)	Hm (m ³)	Ba (m ³)	Cw (m ³)	Yc (m ³)	SS (m ³)	Pine (m ³)
LN-001	872	2,451	0	0	1,009	0	0	0
LN-002	34,594	64,033	0	16,809	26,725	0	0	184
LN-003	821	23,871	0	12,515	11,891	0	0	0
LN-004	0	3,134	3,547	1,833	1,066	10,719	16	0
LN-005	4,261	5,858	0	0	529	0	0	0
LN-006	0	3,101	959	1,426	292	10,653	0	0
LN-008	14,173	51,019	0	5,826	942	0	0	0
LN-009	38,908	35,467	136	2,581	23,737	1,584	0	913
LN-010	772	21,961	1,185	4,477	5,868	10,214	0	0
LN-011	0	4,298	758	2,480	0	1,896	0	0
LN-012	36	18,849	290	9,021	1,145	2,449	0	0
LN-013	373	5,527	412	2,446	1,000	2,862	0	0
LN-014	96	3,127	960	1,077	1,688	677	0	0
LN-015	0	4,370	0	7,505	946	96	0	0
LN-016	0	1,877	0	1,002	1,203	193	0	0
LN-017	138	58	3,217	505	469	2,872	0	0
LN-018	0	7,978	0	11,705	2,800	4,618	0	0
LN-019	64	6,161	0	2,387	0	2,684	0	0
LN-020	0	943	109	0	0	772	0	0
LN-021	13	3,931	223	1,441	0	2,259	0	0
LN-022	0	1,302	312	5	11	2,395	0	0
LN-023	0	3,228	2,163	1,447	0	3,324	0	0
LN-024	169	1,981	1,809	1,552	179	4,149	0	0

OGMA								Pine
Label	Fd (m ³)	Hw (m ³)	Hm (m ³)	Ba (m ³)	Cw (m ³)	Yc (m ³)	SS (m ³)	(m ³)
LN-025	95	1,651	0	727	1,167	158	0	0
LN-026	19	22,180	0	9,121	10,102	4,962	91	0
LN-027	51	9,418	37	4,497	4,140	1,959	0	0
LN-028	1,221	2,948	0	732	2,744	0	0	0
LN-029	89	1,883	693	1,875	206	2,631	0	0
LN-030	2,339	2,810	0	0	4,208	0	0	0
LN-031	46	737	0	533	98	175	0	0
LN-032	99	837	0	499	380	82	0	0
LN-033	0	311	0	165	149	170	0	0
LN-034	0	50	883	488	0	1,967	0	0
LN-035	0	3,792	1,533	1,161	41	1,930	0	0
LN-036	462	498	0	0	668	144	0	0
LN-037	0	1,328	0	444	1,032	148	0	0
LN-038	7,813	5,886	0	83	4,301	0	0	0
LN-039	7,837	6,274	0	0	4,017	0	178	129
LN-040	29,620	88,346	0	15,396	28,228	0	45	640
LN-041	2,149	3,603	0	0	1,868	0	0	0
LN-042	357	982	0	0	446	0	0	0
LN-043	448	547	0	6	196	0	0	0
LN-044	1,020	1,310	0	0	580	0	0	0
LN-045	0	23,553	0	7,922	289	0	0	0
LN-046	187	686	0	0	313	62	0	0
LN-047	33,853	52,213	0	14,525	37,644	5,889	0	0
LN-048	0	14,080	3,335	18,373	587	16,928	0	0
LN-049	190	64,158	0	35,953	15,675	7,309	0	0
LN-050	0	1,956	0	0	3,201	0	0	0
LN-051	0	458	0	0	887	238	0	0
LN-052	0	10,657	0	5,428	3,032	1,303	0	0
LN-053	0	0	170	0	0	404	0	0
LN-054	0	3,091	2,100	482	0	4,433	0	0
LN-055	0	4,339	1,308	3,575	222	2,978	0	0
LN-056	0	3,101	0	172	8	2,912	0	0
LN-057	0	489	166	0	306	698	0	0
LN-058	337	4,194	244	2,605	946	2,988	0	0
LN-059	443	4,666	660	1,477	2,286	3,800	0	0
LN-060	0	1,071	359	30	0	769	0	0
LN-061	6,122	64,789	870	11,164	21,696	15,176	0	154
LN-062	233	25,847	546	5,811	4,800	8,454	0	0
LN-063	134	915	0	1,452	673	0	0	0
LN-064	21,529	18,516	0	827	10,248	246	0	775
LN-065	450	31,103	1,011	8,888	1,341	15,129	0	78
LN-066	0	2,443	251	355	7	563	0	0
LN-067	0	2,516	0	717	335	753	0	0
LN-068	122	6,755	0	1,526	381	4,694	0	0
LN-069	1,726	15,170	3,310	2,845	23	7,305	0	11

OGMA Label	Fd (m ³)	Hw (m ³)	Hm (m ³)	Ba (m ³)	Cw (m ³)	Yc (m ³)	SS (m ³)	Pine (m ³)
LN-070	35	719	0	91	88	0	0	0
LN-071	4,166	9,951	0	0	517	0	0	0
LN-072	14,858	14,289	0	112	3,457	0	0	495
LN-073	525	3,935	0	1,684	553	0	0	0
LN-074	5,312	3,974	0	464	7,528	0	0	0
LN-075	280	1,224	0	449	1,610	0	0	0
LN-076	46	1,179	0	1,289	755	0	0	0
LN-077	0	2,900	0	1,368	1,745	98	0	0
LN-078	0	3,223	14	990	121	1,427	0	0
LN-079	0	2,960	3,749	5,156	0	7,151	0	0
LN-081	14,242	23,660	3,132	12,184	27,418	5,076	0	0
LN-082	337	1,842	372	741	1,549	1,513	0	0
LN-083	7,466	8,827	0	0	2,544	0	0	0
LN-084	0	5,681	0	0	8,543	0	2,045	214
LN-085	0	2,569	0	0	6,504	0	661	0
LN-086	0	417	0	0	2,361	0	0	0
LN-087	7,688	16,295	2,000	2,497	17,716	1,359	0	148
LN-088	0	2,266	0	971	0	0	0	0
LN-089	114	9,262	0	3,995	5,967	0	0	0
LN-090	0	1,881	0	1,657	686	4	0	0
LN-091	0	1,251	0	957	188	0	0	0
LN-092	0	2,069	0	2,200	943	0	0	0
LN-093	0	10,319	0	2,236	73	4,711	0	0
LN-094	0	2,827	751	2,178	690	2,410	0	0
LN-095	0	2,663	0	699	1,493	0	0	0
LN-096	0	3,918	1,010	2,637	563	343	0	0
LN-097	0	1,830	0	1,243	717	550	0	0
LN-098	0	7,352	0	4,901	501	0	501	0
LN-099	0	3,276	0	1,796	0	0	0	0
LN-100	10	1,906	73	757	481	258	0	0
LN-101	0	2,588	2,738	842	492	2,475	0	0
LN-102	4,462	11,790	0	4,215	4,654	266	0	0
LN-103	2,121	54,818	329	28,238	23,913	1,382	0	0
LN-104	0	3,553	0	469	0	0	0	0
LN-105	93	2,601	0	1,031	2,319	38	0	0
LN-106	0	259	813	186	459	1,758	0	0
LN-107	111	4,111	0	1,649	2,509	42	0	0
LN-108	0	2,367	0	2,894	0	0	0	0
LN-109	11	1,096	0	386	268	43	0	0
LN-110	13,901	42,091	0	5,030	28,081	0	0	0
LN-112	0	193	1,980	1,006	0	10,042	0	0
LN-113	0	0	149	105	0	1,385	0	0
LN-114	0	0	984	490	23	3,369	0	0

OGMA Label	Fd (m ³)	Hw (m ³)	Hm (m ³)	Ba (m ³)	Cw (m ³)	Yc (m ³)	SS (m ³)	Pine (m ³)
LN-115	18	1,667	0	0	184	0	77	0
LN-116	149	775	0	0	326	0	39	0
LN-117	382	17,982	0	225	0	0	3,300	0
LN-118	0	2,015	0	0	3,744	0	475	402
LN-119	0	3,092	0	0	4,854	0	882	0
LN-120	0	926	0	0	1,318	0	394	0
LN-121	0	423	0	0	1,270	0	0	0
LN-122	0	6,107	0	1,279	0	0	2,440	0
LN-123	2,137	55,543	0	11,528	4,748	0	25,243	0
LN-124	1,106	8,041	0	0	0	0	3,962	0
LN-125	9,747	31,973	0	7,053	8,578	749	0	0
LN-126	1,424	15,103	0	703	8,692	0	0	0
LN-127	101	1,369	0	0	2,071	0	0	79
LN-128	552	3,038	0	0	1,657	0	276	0
LN-129	12,665	36,969	0	0	9,641	0	0	6,602
LN-130	215	59	0	0	0	0	0	118
LN-131	637	1,047	0	0	930	0	0	140
LN-132	1,292	1,005	0	0	574	0	0	0
LN-133	474	1,070	0	0	833	0	0	0
LN-134	1,094	1,384	0	0	1,059	0	0	0
LN-135	37,729	22,908	0	181	10,021	0	0	208
LN-136	16,132	12,920	0	0	11,649	0	0	48
LN-137	470	2,036	0	0	1,381	0	0	0
LN-138	2,300	4,018	0	0	4,513	0	0	0
LN-139	4,622	4,462	0	0	483	43	0	838
LN-140	0	0	544	159	0	1,697	0	0
LN-141	0	0	862	482	0	1,619	0	0
LN-142	0	0	1,986	1,073	0	2,458	0	0
LN-143	0	1,187	1,824	997	0	1,234	0	0
LN-144	0	413	2,967	1,628	0	3,347	0	0
LN-145	4,101	2,512	0	0	2,501	0	0	120
LN-146	17,295	29,869	148	1,002	14,276	4,234	0	315
LN-147	1,011	2,398	0	1,541	1,017	249	0	0
LN-148	0	13,019	0	16,835	0	458	0	0
LN-149	3	12,565	1,074	16,041	363	3,901	0	0
LN-150	0	4,800	1,535	4,367	0	8,663	0	0
LN-151	2,599	2,456	0	0	1,745	0	0	0
LN-152	7,339	8,779	0	0	2,951	0	298	0
LN-153	1,045	711	0	0	324	0	0	109
LN-154	993	133	0	0	303	0	0	0
LN-155	0	148	0	0	492	0	756	0
LN-156	923	4,652	0	0	4,682	0	1,659	0
LN-157	0	839	0	0	2,351	0	70	102
LN-158	0	1,370	0	0	4,006	0	0	0
LN-159	13,966	2,633	0	0	4,528	0	0	5

OGMA Label	Fd (m ³)	Hw (m ³)	Hm (m ³)	Ba (m ³)	Cw (m ³)	Yc (m ³)	SS (m ³)	Pine (m ³)
LN-160	15,248	18,463	0	4,175	9,172	0	0	70
LN-161	1,288	3,816	0	0	6,117	0	0	0
LN-162	3,336	5,469	0	0	4,086	0	296	0
LN-163	986	1,975	0	0	3,617	0	0	0
LN-164	289	1,884	0	0	724	0	0	0
LN-165	0	223	0	0	9	0	816	0
LN-166	2,763	5,815	0	0	2,671	0	0	308
LN-167	1,171	1,197	0	0	1,484	0	0	136
LN-168	9,843	13,508	0	0	3,164	0	0	127
LN-169	22,290	10,780	0	0	7,732	0	0	0
LN-170	44,500	12,285	0	44	14,952	0	0	2,351
TOTAL	534,294	1,466,445	62,590	417,000	580,793	256,125	44,520	15,819

Tree Species Summary

Tree Species	Percent
Douglas-fir	15.8
Hemlock	45.3
Amabilis Fir	12.3
Western red-cedar	17.2
Yellow-cedar	7.6
Other	1.8

Slope and Aspect Class Summary

Slope/Aspect Class	Area (ha)
Gentle Slope (<70%)	2,340.6
Northerly Steep (70-100%)	1,676.2
Northerly Very Steep (>100%)	297.3
Southerly Steep (70-100%)	2,232.0
Southerly Very Steep (>100%)	119.0

Terrain Class Summary

Terrain Class	Area (ha)	% of total
I	759.5	11.4
II	1,309.4	19.6
III	1,590.1	23.8
IV	2,083.1	31.2
V	928.6	13.9
Total	6,670.7	

Site Series Representation Summary

PRIMARY SITE SERIES SUMMARY

Primary Site Series	CWHxm2 (ha)	CWHvm1 (ha)	CWHvm2 (ha)	MHmm1 (ha)
01	522.9	935.5	523.1	200.0
01s	0.0	11.5	0.2	0.0
02	49.0	160.0	11.2	490.7
03	429.6	890.2	820.4	74.6
05	73.6	74.0	2.0	35.1
06	23.3	37.5	47.0	43.9
06s	0.0	7.8	0.0	0.0
07	27.3	122.4	18.9	87.0
08	20.7	0.0	0.0	39.0
09	5.1	77.7	20.9	42.2
10	0.0	0.0	0.4	0.0
11	7.5	0.0	0.0	0.0
12	28.6	0.0	0.0	0.0
13	0.0	0.4	0.0	0.0
14	0.0	29.5	0.0	0.0
20	18.0	67.9	148.2	0.0
21	0.0	0.0	0.0	57.9
22	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0
25	10.8	0.0	0.0	0.0
27	0.0	0.0	0.0	141.2
31	1.5	15.2	3.3	4.3
32	6.3	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0
42	0.0	0.0	0.0	0.0
51	0.0	3.5	9.7	1.0
54	0.0	3.2	30.2	39.0
Exposed soil	0.0	0.4	0.0	0.0
Lake	0.2	0.1	0.0	1.0
Mine spoils	1.3	0.0	0.0	0.0
Pond	1.0	0.0	0.8	1.1
River	0.0	2.7	0.0	0.0
Rock	0.6	2.4	31.2	29.6
Talus	0.0	13.3	4.4	0.5

SECONDARY SITE SERIES SUMMARY

Secondary Site Series	CWHxm2 (ha)	CWHvm1 (ha)	CWHvm2 (ha)	MHmm1 (ha)
01	307.6	511.0	389.7	211.9
01s	0.0	16.2	0.0	0.0
02	80.1	157.6	91.7	151.6
03	171.0	447.6	258.4	0.0
05	151.8	188.9	16.6	20.0
06	73.2	191.5	157.7	0.0
06s	0.0	0.0	0.2	0.0
07	60.0	142.7	24.3	92.5
08	0.3	0.0	0.0	55.3
09	1.6	11.2	18.7	84.3
10	0.0	0.0	2.9	0.0
11	28.3	0.0	16.1	0.0
12	28.9	0.0	0.0	0.0
13	0.0	6.4	0.0	0.0
14	0.0	98.2	0.0	0.0
20	8.0	127.6	246.5	0.0
21	0.0	0.0	0.0	29.1
23	0.0	0.0	0.0	0.0
27	0.0	0.0	0.0	173.5
31	0.5	0.0	0.4	24.5
32	0.4	0.0	0.0	0.0
41	0.0	0.0	0.0	0.0
51	0.0	0.0	21.0	38.8
Clay bank	2.4	0.0	0.0	0.0
Lake	0.0	0.0	0.0	13.1
Pond	0.0	0.0	0.0	1.3
Rock	6.8	16.2	36.3	138.5
Talus	0.0	0.0	0.0	0.0

OGMA Values

OGMA	Area (ha)	UWR*	MAMU*	NOGO*	Keen's bat*	Karst*	Ecol. Rep.*	Rare Plants*	Wildlife*	Primary Value	Comments
LN-001	4.6	N	P	N	N	N	S	N	N	MAMU	minor amount of mamu habitat
LN-002	187.9	P	T	S	N	N	Y	N	N	UWR	
LN-003	50.3	N	N	N	N	N	S	N	P	Non_SAR	Riparian
LN-004	49.1	N	N	N	N	N	P	N	N	Eco Rep	
LN-005	10.6	N	N	N	N	N	P	N	N	VILUP	Riparian, VILUP RMZ 10 objective
LN-006	72.2	N	N	N	N	N	P	N	N	Eco Rep	
LN-008	142.5	N	N	P	N	N	S	N	N	NOGO	
LN-009	184.4	P	S	N	N	N	T	N	N	UWR	THLB Impact = MAMU
LN-010	110.1	P	S	N	N	N	T	N	N	UWR	THLB Impact = MAMU
LN-011	34.1	N	N	N	N	N	P	N	N	Eco Rep	
LN-012	77.0	N	P	N	N	N	S	N	N	MAMU	
LN-013	25.3	N	N	N	N	N	P	N	N	Eco Rep	
LN-014	14.0	N	N	N	N	N	P	N	N	Eco Rep	
LN-015	16.1	N	P	N	N	N	S	N	S	MAMU	fishy
LN-016	5.7	N	N	N	N	N	P	N	N	Eco Rep	
LN-017	22.9	N	N	N	N	N	P	N	N	Eco Rep	
LN-018	42.6	N	P	N	N	N	S	N	N	MAMU	
LN-019	36.6	N	N	N	N	N	P	N	N	Eco Rep	some MAMU Class 3
LN-020	4.6	N	N	N	N	N	P	N	N	VILUP	VILUP Objective 1
LN-021	41.4	N	N	N	N	N	P	N	N	Eco Rep	MAMU Class 4
LN-022	12.2	N	N	N	N	N	P	N	N	Eco Rep	
LN-023	31.0	N	N	N	N	N	P	N	N	Eco Rep	
LN-024	29.2	N	P	N	N	N	S	N	N	MAMU	

* Values: P = primary; S = Secondary; T = Tertiary; Y = additional values; N = No

OGMA	Area (ha)	UWR	MAMU	NOGO	Keen's bat	Karst	Ecol. Rep.	Rare Plants	Wildlife	Primary Value	Comments
LN-025	4.8	N	N	N	N	N	P	N	N	Eco Rep	
LN-026	74.1	P	T	N	N	N	Y	N	S	UWR	THLB Impact = Riparian
LN-027	40.4	N	P	N	N	N	S	N	N	MAMU	
LN-028	9.1	N	N	N	N	N	P	N	N	Eco Rep	
LN-029	20.1	N	N	N	N	N	P	N	N	Eco Rep	
LN-030	11.2	N	N	N	N	N	P	N	N	VILUP	VILUP RMZ 10 xm objective
LN-031	2.6	N	N	N	N	N	P	N	N	Eco Rep	
LN-032	4.0	N	N	N	N	N	P	N	N	Eco Rep	
LN-033	2.2	N	N	N	N	N	P	N	N	Eco Rep	
LN-034	16.6	N	N	N	N	N	P	N	N	Eco Rep	
LN-035	44.8	N	N	N	N	N	P	N	N	Eco Rep	
LN-036	8.0	N	N	N	N	N	P	N	N	Eco Rep	
LN-037	3.6	N	N	N	N	N	P	N	N	Eco Rep	
LN-038	38.5	N	N	N	N	N	S	P	N	Rare Plants	
LN-039	19.4	N	N	N	N	N	S	N	P	VILUP	BAEA, VILUP RMZ 10 objective
LN-040	295.6	N	N	P	N	N	T	N	S	NOGO	BAEA, bear dens
LN-041	12.2	N	N	N	N	N	P	N	N	VILUP	VILUP RMZ 10 objective
LN-042	2.1	N	N	N	N	N	P	N	N	VILUP	VILUP RMZ 10 objective
LN-043	9.6	N	N	N	N	N	P	N	N	VILUP	SMZ 10 xm targets
LN-044	5.0	N	N	N	N	N	P	N	N	VILUP	SMZ 10 xm targets
LN-045	55.4	N	N	P	N	N	S	N	N	NOGO	
LN-046	2.3	N	N	N	N	N	P	N	N	Eco Rep	
LN-047	242.1	P	S	N	N	N	T	N	N	UWR	THLB Impact = MAMU recent harvest added because of very high karst
LN-048	249.2	N	N	N	S	P	T	N	N	Karst	
LN-049	194.0	P	S	N	N	N	T	N	N	UWR	THLB Impact = MAMU
LN-050	7.9	N	N	N	N	N	P	N	N	Eco Rep	

OGMA	Area (ha)	UWR	MAMU	NOGO	Keen's bat	Karst	Ecol. Rep.	Rare Plants	Wildlife	Primary Value	Comments
LN-051	3.8	N	N	N	N	N	P	N	N	Eco Rep	
LN-052	29.8	N	P	N	N	N	S	N	N	MAMU	High number of detections
LN-053	3.2	N	N	N	N	N	P	N	N	Eco Rep	
LN-054	32.0	N	N	N	N	N	P	N	N	Eco Rep	Some mamu class 3 habitat
LN-055	48.0	N	N	N	N	N	P	N	N	Eco Rep	Some mamu class 3 habitat
LN-056	16.9	N	N	N	N	N	P	N	N	Eco Rep	Some mamu class 3 habitat
LN-057	16.0	N	N	N	N	N	P	N	N	Eco Rep	
LN-058	20.5	N	N	N	N	N	P	N	N	Eco Rep	
LN-059	38.0	N	N	N	N	N	P	N	N	Eco Rep	Some mamu class 3 habitat
LN-060	7.9	N	N	N	N	N	P	N	N	Eco Rep	MAMU Class 3
LN-061	235.8	N	P	N	N	N	S	N	N	MAMU	high MAMU activity area
LN-062	102.5	N	P	N	N	N	S	N	N	MAMU	MAMU Class 2/4
LN-063	6.8	N	P	N	N	N	S	N	N	MAMU	MAMU Class 1
LN-064	132.9	P	N	N	N	N	S	N	N	UWR	some MAMU Class 3
LN-065	142.9	P	S	N	N	N	T	N	N	UWR	THLB Impact = MAMU
LN-066	6.5	N	P	N	N	N	S	N	N	MAMU	MAMU Class 2-4
LN-067	8.2	N	P	N	N	N	S	N	N	MAMU	MAMU Class 4
LN-068	31.8	P	S	N	N	N	T	N	N	MAMU	MAMU Class 3/4
LN-069	88.9	N	N	N	N	N	P	N	N	VILUP	VILUP objective 1
LN-070	4.0	N	N	N	N	N	P	N	N	Eco Rep	
LN-071	18.9	N	N	N	N	N	P	N	N	Eco Rep	
LN-072	74.7	P	N	N	N	N	S	N	N	UWR	
LN-073	10.0	N	N	N	N	S	P	T	N	VILUP	3 Caves, VILUP RMZ 10 Objective
LN-074	27.1	N	P	N	N	N	T	S	N	MAMU	
LN-075	8.9	N	P	N	N	N	S	N	N	MAMU	

OGMA	Area (ha)	UWR	MAMU	NOGO	Keen's bat	Karst	Ecol. Rep.	Rare Plants	Wildlife	Primary Value	Comments
LN-076	7.4	N	S	N	N	N	T	N	P	Non_SAR	bear dens, MAMU Class 2
LN-077	14.0	N	P	N	N	N	T	N	S	MAMU	bear dens
LN-078	15.0	N	P	N	N	N	S	N	N	MAMU	
LN-079	69.8	N	P	N	N	N	S	N	N	MAMU	
LN-081	199.8	P	S	N	N	N	T	N	N	UWR	THLB Impact = MAMU
LN-082	24.6	N	N	P	N	N	S	N	N	NOGO	
LN-083	29.1	N	N	P	N	N	S	N	N	NOGO	2nd growth nogo territory, VILUP RMZ 10 objective
LN-084	16.4	N	S	N	N	N	P	T	N	VILUP	MAMU Class 3, VILUP RMZ 10 objective
LN-085	8.9	N	N	N	N	N	P	N	S	VILUP	BAEA, VILUP RMZ 10 objective
LN-086	2.5	N	N	N	N	N	P	N	N	VILUP	VILUP RMZ 10 objective
LN-087	112.7	N	T	N	N	N	P	Y	N	VILUP	VILUP RMZ 10 Objective
LN-088	3.2	N	N	N	N	N	P	N	N	Eco Rep	
LN-089	24.3	N	P	N	N	N	S	N	N	MAMU	
LN-090	5.0	N	N	N	N	N	S	N	P	Non_SAR	riparian
LN-091	2.6	N	N	N	N	N	S	N	P	Non_SAR	riparian
LN-092	6.4	N	S	N	N	N	P	N	N	Eco Rep	Mostly MAMU Class 2
LN-093	92.3	N	S	N	N	N	P	N	N	Eco Rep	Some MAMU habitat (2/3)
LN-094	35.5	N	P	N	N	N	S	N	N	MAMU	some uwr value minor component of mamu habitat
LN-095	11.4	N	N	N	N	N	P	N	N	Eco Rep	
LN-096	14.6	N	P	N	N	N	S	N	N	MAMU	9.5 ha band of MAMU Class 3
LN-097	10.1	N	P	N	N	N	S	N	N	MAMU	MAMU Class 3
LN-098	13.2	N	N	N	N	N	S	P	N	Rare Plants	
LN-099	7.4	N	N	N	N	N	P	N	N	Eco Rep	
LN-100	10.2	N	S	N	N	N	P	N	N	Eco Rep	MAMU Class 3

OGMA	Area (ha)	UWR	MAMU	NOGO	Keen's bat	Karst	Ecol. Rep.	Rare Plants	Wildlife	Primary Value	Comments
LN-101	28.5	N	N	N	N	N	P	N	N	Eco Rep	
LN-102	44.5	N	P	N	N	N	S	N	N	MAMU	
LN-103	169.1	P	S	N	N	N	T	N	N	UWR	
LN-104	4.5	N	N	N	N	N	S	P	N	Rare Plants	
LN-105	10.2	N	P	N	N	N	S	N	N	MAMU	
LN-106	18.8	N	N	N	N	N	P	N	N	Eco Rep	
LN-107	15.2	N	P	N	N	N	S	N	N	MAMU	
LN-108	6.2	N	S	N	N	N	P	N	N	Eco Rep	MAMU Class 2
LN-109	6.1	N	N	N	N	N	P	N	N	Eco Rep	
LN-110	160.1	P	N	N	N	N	S	N	N	UWR	Some MAMU Class 3
LN-111	26.8	N	P	N	N	N	S	N	N	MAMU	Mamu class 3, Meadow Lake
LN-112	70.5	N	N	N	N	N	P	N	N	Eco Rep	
LN-113	7.5	N	N	N	N	N	P	N	N	Eco Rep	
LN-114	25.5	N	N	N	N	N	P	N	N	Eco Rep	
LN-115	3.6	N	N	N	N	N	S	N	P	Non_SAR	BAEA
LN-116	4.5	N	N	N	N	N	S	N	P	Non_SAR	BAEA
LN-117	32.0	N	N	N	N	N	P	N	N	Eco Rep	Excellent recruitment minimal old growth in area, bear dens
LN-118	13.4	N	N	N	N	N	S	N	P	Non_SAR	
LN-119	9.7	N	N	N	N	N	P	N	N	Eco Rep	minimal old growth in area
LN-120	2.6	N	N	N	N	N	P	N	N	Eco Rep	minimal old growth in area
LN-121	2.2	N	N	N	N	N	P	N	N	Eco Rep	minimal old growth in area
LN-122	11.8	N	N	N	N	N	S	N	P	Non_SAR	BAEA
LN-123	168.3	P	S	N	N	N	Y	T	Y	UWR	
LN-124	12.2	N	N	N	N	N	P	N	N	Eco Rep	
LN-125	73.6	P	N	N	N	N	N	N	N	UWR	

OGMA	Area (ha)	UWR	MAMU	NOGO	Keen's bat	Karst	Ecol. Rep.	Rare Plants	Wildlife	Primary Value	Comments
LN-126	28.9	N	N	N	N	N	P	N	N	Eco Rep	minimal old growth in area, MAMU Class 3
LN-127	6.9	N	N	N	N	N	P	N	N	Eco Rep	
LN-128	5.3	N	N	N	N	N	P	N	N	Eco Rep	
LN-129	121.6	N	N	N	N	T	P	S	N	VILUP	VILUP RMZ 10 objective
LN-130	2.3	N	N	N	N	N	P	S	N	VILUP	VILUP RMZ 10 objective
LN-131	7.7	N	N	N	N	N	P	S	N	VILUP	VILUP RMZ 10 objective
LN-132	3.3	N	N	N	N	N	P	S	N	VILUP	VILUP RMZ 10 objectives
LN-133	6.1	N	N	N	N	N	P	S	N	VILUP	VILUP RMZ 10 objectives
LN-134	8.5	N	N	N	N	N	P	S	N	VILUP	VILUP RMZ 10 objectives
LN-135	100.7	S	Y	T	N	N	P	Y	N	VILUP	nogo likely as well due to habitat and spacing
LN-136	55.8	N	N	N	N	Y	P	N	T	VILUP	VILUP RMZ 10 objectives, MAMU Class 3
LN-137	4.5	N	N	N	N	N	P	N	N	VILUP	VILUP RMZ 10 objectives
LN-138	19.6	N	S	N	N	N	P	N	N	VILUP	VILUP RMZ 10 objectives, MAMU Class 2
LN-139	42.0	P	N	N	N	N	S	N	N	UWR	
LN-140	14.4	N	N	N	N	N	P	N	N	Eco Rep	
LN-141	11.0	N	N	N	N	N	P	N	N	Eco Rep	
LN-142	27.3	N	N	N	N	N	P	N	N	Eco Rep	
LN-143	16.9	N	N	N	N	N	P	N	N	Eco Rep	
LN-144	34.4	N	N	N	N	N	P	N	N	Eco Rep	
LN-145	13.6	N	N	N	N	N	P	S	N	VILUP	VILUP RMZ 10 objective
LN-146	167.8	P	N	N	N	N	S	N	N	UWR	THLB Impact = Ecol Rep
LN-147	11.3	N	P	N	N	N	T	N	S	MAMU	MAMU class 3, BEAR DENS
LN-148	34.6	N	S	N	N	P	T	N	N	Karst	MAMU Class 4
LN-149	43.4	N	T	N	P	S	Y	N	N	Keens	Dreamtime Cave
LN-150	77.7	N	N	N	N	N	P	N	N	Eco Rep	

OGMA	Area (ha)	UWR	MAMU	NOGO	Keen's bat	Karst	Ecol. Rep.	Rare Plants	Wildlife	Primary Value	Comments
LN-151	14.8	N	N	N	N	N	P	S	N	VILUP	VILUP RMZ 10 objective Rec site, BAEA, some MAMU
LN-152	32.9	N	T	N	N	N	P	N	S	VILUP	Class 3, VILUP RMZ 10 ob
LN-153	8.5	N	N	N	N	N	P	N	N	VILUP	VILUP RMZ 10 objective
LN-154	2.6	N	N	N	N	N	S	P	N	Rare Plants	
LN-155	2.0	N	N	N	N	N	P	N	N	VILUP	VILUP RMZ 10 objective VILUP RMZ 10 Objective, BAEA
LN-156	12.8	N	N	N	N	N	P	N	S	VILUP	
LN-157	6.4	N	N	N	N	N	P	S	N	VILUP	VILUP RMZ 10 objective
LN-158	12.9	N	N	N	N	N	S	P	N	Rare Plants	
LN-159	26.2	N	N	N	N	N	P	S	N	VILUP	VILUP RMZ 10 objective
LN-160	82.1	P	S	N	N	N	T	N	N	UWR	
LN-161	11.7	N	N	N	N	N	P	S	N	VILUP	VILUP RMZ 10 objective
LN-162	18.1	N	N	N	N	N	P	S	N	VILUP	VILUP RMZ 10 objective
LN-163	6.2	N	N	N	N	N	P	N	N	VILUP	VILUP RMZ 10 objective BAEA, VILUP RMZ 10 objective
LN-164	5.7	N	N	N	N	N	P	N	S	Eco Rep	
LN-165	1.9	N	N	N	N	N	P	S	N	VILUP	VILUP RMZ 10 objective VILUP RMZ 10 objective, nogo frequently seen
LN-166	52.2	S	N	T	N	N	P	N	N	VILUP	
LN-167	3.0	N	N	N	N	N	P	N	N	VILUP	VILUP RMZ 10 objective
LN-168	9.0	N	N	N	N	N	P	N	N	VILUP	VILUP RMZ 10 objective
LN-169	43.8	P	N	N	N	N	S	N	N	UWR	
LN-170	130.8	P	N	N	N	N	S	N	N	VILUP	RMZ 10 objectives

APPENDIX VI: Public Consultation Summary

The advertising period for the proposed Lower Nimpkish Landscape Unit Plan commenced on May 4, 2005 and ran until July 3, 2005. Ads were placed in the North Island Gazette, the Gold River Record and the Campbell River Mirror on May 4, 2005.

In addition to the draft plan, maps and objectives being available on the Ministry of Sustainable Resource Management web site, these items were available for viewing at the Campbell River Forest District Office, the North Island Central Coast Forest District Office in Port McNeill and at the regional Ministry of Forests Office in Nanaimo as well as at the regional office of the Ministry of Sustainable Resource Management.

No comments were received at any time during the 60 day review period.