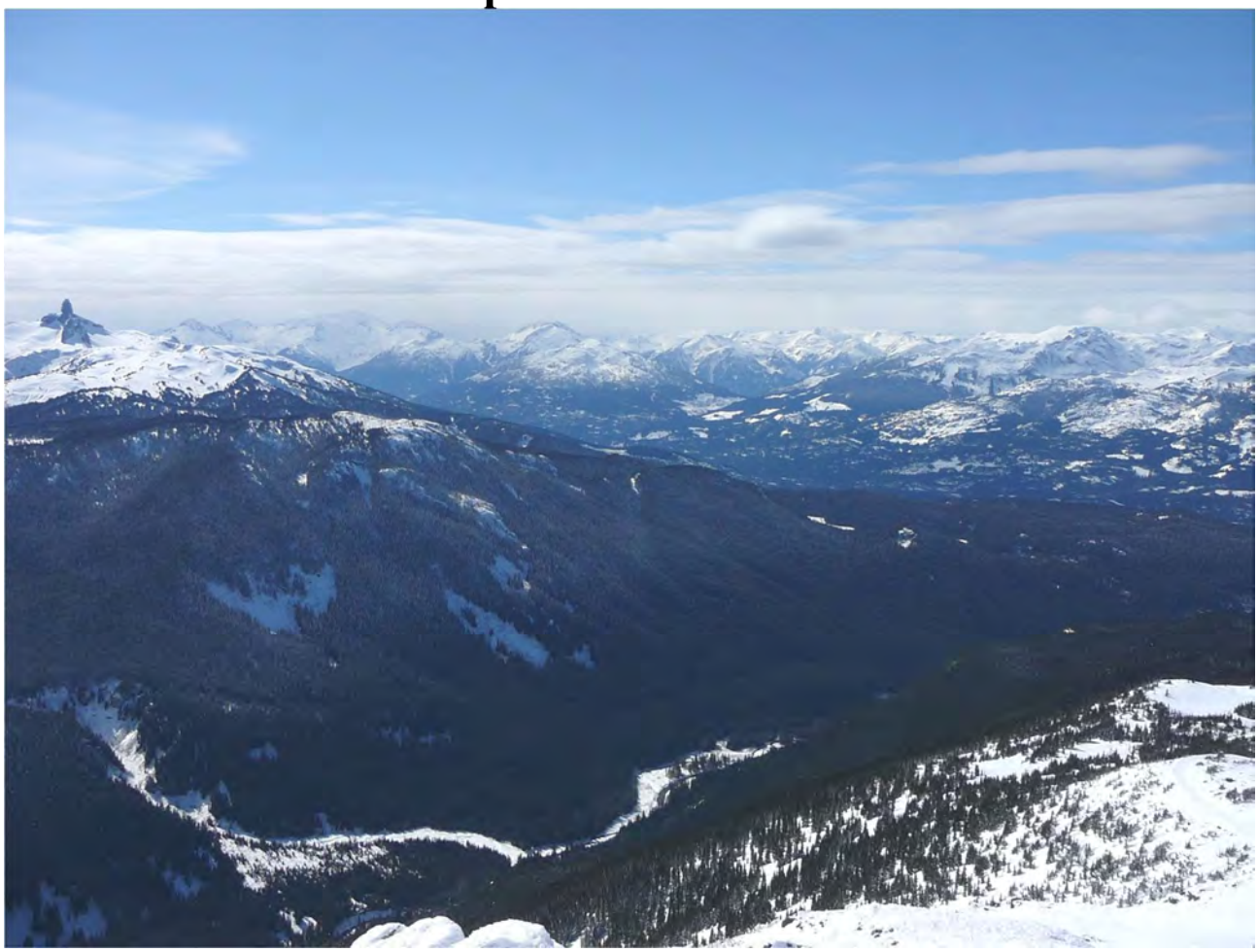
Cheakamus Community Forest

K3V

Forest Stewardship Plan #912

Replacement 2022



Black Tusk and Cheakamus River as viewed from Whistler Mountain

AMENDMENT SUMMARY TRACKER

Ref#	Task	Date

Authorizations

Forest Stewardship Plan Holder Authorization Signatures

This replacement document was prepared by: Thomas R. Cole RPF, Simon Murray, RFT and Adrian Litz, RPF

The undersigned has determined that the content of this plan meets Section 5 of FRPA. The signature and seal applies to section 22.1 of the FPP Regulation 14/2004.

Signed this 21st day of September, 2022

Adrian Litz, RPF #4365

Signed this 21st day of September, 2022

Simon Murray, RFT #0473

The undersigned having signing authority for the Cheakamus Community Forest, hereby provides authorization of this plan under the Forest Act for the K3V Tenure within the Sea to Sky Natural Resource District:

Signed this 31st day of August, 2022

John Grills, President – Cheakamus Community Forest Limited Partnership

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Interpretation: Definitions and Abbreviations in this FSP

Note: these definitions are meant to assist the reader. In the event of a misinterpretation those definitions specified in Forest and Range Practices Act and the Forest Planning and Practice Regulation 14/2004 apply.

AAC	means annual allowable cut as determined by the provincial government
access partial harvest	means an intermediate stand treatment of removing trees adjacent to an existing or planned road system, which is generally limited to one-and-a-half tree lengths depending on terrain; (e.g., cedar poling, day-lighting, fuel reduction thinning)
BEC	means Biogeoclimatic Ecosystem Classification. A multi-scaled, ecosystem-based classification system that groups ecologically similar sites based on climate, soils, and vegetation; widely used as a framework for resource management and scientific research in British Columbia.
biodiversity	means the biological diversity of plants, animals and other living organisms in all their forms and levels of organization, including the biological diversity of genes, species and ecosystems.
CCF	means the Cheakamus Community Forest Limited Partnership
compartment	means a broadly defined area for the purposes of planning primary forest activities. A compartment is a subset of a FDU (Management Unit) that forms the basis of referrals and a four year cutting authority. A compartment may include one or more cutblocks.
CP	means cutting permit
cultural heritage resources	As per the *Forest Act:* means an object, a site or the location of a traditional societal practice that is of historical, cultural or archaeological significance to British Columbia, a community or an aboriginal people. As per the *Sea to Sky Land Use Order:* means a) trees, wild plant foods, botanical medicines and other forest resources, including wildlife, that are utilized by a First Nation for food, social, treaty or ceremonial purposes; and b) culturally modified trees and other historical and archaeological artefacts, sites and locations that are important to the cultural practices, knowledge, spirituality and heritage of a First Nation;
cultural management areas	means areas identified by First Nations as having historic and contemporary cultural significance to them and for which management direction is provided in the Sea to Sky LRMP and government-to-government agreements. The locations of the cultural management areas are shown on the LRMP maps.
cultural places	means places identified by First Nations as having cultural heritage resource values of importance to them and for which management direction is provided in the Sea to Sky LRMP and government-to-government agreements. The locations of the cultural places are shown on the LRMP maps.
cultural sites	means places identified by the Squamish Nation as having cultural heritage resource significance.
cutblock	means a specific area of land with defined boundaries, authorized for timber harvesting.
CWD	means Coarse Woody Debris: Typically, sound or rotting logs, stumps, or large branches that have fallen or been cut and left in the woods, or trees and branches that have died but remain standing or leaning.
definable wetland	means an easily identifiable change in terrestrial to aquatic vegetation that is wholly surrounded by merchantable trees and does not transition into a larger complex, mosaic or a non-forested feature. It does not mean a forest growing on periodically flooded or ponded soils
ecosystem	A functional unit consisting of all the living organisms (plants, animals, and microbes) in a given area, and all the non-living physical and chemical factors of their environment, linked together through nutrient cycling and energy flow. An ecosystem can be of any size—a log, pond, field, forest, or the earth's biosphere—but it always functions as a whole unit. Ecosystems are commonly described according to the major type of vegetation (e.g., forest ecosystem, old-growth ecosystem, or range ecosystem).
evaluation	means an assessment conducted by a qualified person or qualified professional that examines, on a site specific basis, the social, economic and environmental factors as well as relevant factors as described in FPPR Schedule 1
EBM	means Ecosystem Based Management: An adaptive management approach to managing human activities that seeks to ensure the coexistence of healthy, fully functioning ecosystems and human communities. The intent is to maintain those spatial and temporal ecosystems such that component species and ecological processes can be sustained and human well-being supported and improved.
FDU(s)	means forest development unit(s) within a Forest Stewardship Plan;

	(a) where forest development may occur during the term of the plan, and (b) within which, during the term of the plan, timber to be harvested or roads to be constructed are entirely located.
FPPR	means the Forest Planning and Practices Regulation of the Forest and Range Practices Act
FRPA	means the Forest and Range Practices Act
FSP	means Forest Stewardship Plan
forest elements	means the trees, in all orders of growth or decay, and associated flora which make up forested ecosystems.
fuel break	means an existing barrier or change in fuel type (to one that is less flammable than that surrounding it), or a wide strip of land on which the native vegetation has been modified or cleared, that acts as a buffer to fire spread so that fires burning into them can be more readily controlled. Often selected or constructed to protect a high-value area from fire.
fuel modification area	means the four areas shown on the maps, or within the INTERFACE FDU or within 300m of the primary fuel break identified within the Community Wildfire Protection Plan 2015. Through a combination of commercial harvesting, tree-thinning and other stand management practices the intention is to modify wildfire behavior.
GWM	means General Wildlife Measures specified within established ministerial orders
harvest unit	means an administrative opening or group of openings planned for tree removal within a calendar year or contract period. There may be more than one Silviculture system within a harvest unit. A Harvest Unit may be comprised of Openings derived from more than one Compartment.
hazardous fuel types	are forest stand types that have a potential for extreme fire behavior with active crown fire.
HLP	means Higher Level Plan – used to establish the broader, strategic context for operational plans, providing objectives that determine the mix of forest resources to be managed in a given area.
immature forests	forests with average stand age <100 years in the sub-maritime variants
integrated resource management	A holistic approach to resource management that entails the management of two or more resources (e.g., water, soil, timber, pasture, wildlife, and recreation) and that integrates the values of the community into the design of policies or projects to use and sustain these resources in perpetuity.
IWMS	means Identified Wildlife Management Strategy as defined in version 2004
K3V	means community forest tenure held by the Cheakamus Community Forest Limited Partnership
logging trail	means a temporary access structure used to forward logs prior to processing and loading.
LRMP	means Ministry of Forests, Lands and Natural Resource Operations Ministerial Order: Land Use Objectives for the Sea-to-Sky Land and Resource Management
LU	means landscape unit: An area of land and water used for long-term planning of resource management activities. These units, which are typically 5000–400 000 ha in area, are important for designing strategies and patterns for landscape-level biodiversity and for managing a variety of resource values.
measure	means the course of action to achieve a particular purpose
MAMU	means Marbled Murrelet (Brachyramphus marmoratus)
mature forests	forest with average stand age >100 and <250 year in the sub-maritime variants
MFHA	means Managed Future Habitat Area: forests managed primarily for timber harvesting opportunities while maintaining future options for all or portions to become Northern Spotted Owl habitat. MFHA is intended to accelerate the development of suitable owl habitat, should that stand be needed in the future to provide habitat, through the retention of structural attributes that will accelerate the development of suitable habitat in regenerating stands.
natural non-forest	means land not primarily suited for growing or supporting a forest.
Net Area to be Reforested (NAR)	means the area specified in a Silviculture site plan with the obligation of a stocking standard reforestation.
non-forest elements	means land clearing, transmission lines, transportation corridors, building and other manmade infrastructure and disturbances with no obligations to reforest.
OGMA	means an area that is subject to old growth management objectives established under section 3 *[resource management zones and objectives]* or 4 *[landscape units and objectives]* of the *Forest Practices Code of British Columbia Act*;

old forests	forests greater than 1 ha in area with >50% of the standing tree volume comprised of trees with estimated ages over 250 years
opening	means an area within a compartment planned and prescribed for tree removal and subject to stocking standards as a *Net Area to be Reforested.*
primary forest activity (PFA)	As per *FPPR*: means one or more of the following:(a) timber harvesting; (b) silviculture treatments; (b.1) wildlife habitat enhancement; (c) road construction, maintenance and deactivation;
qualified professional	means a person who by education, experience and professional credentials is considered knowledgeable and able to provide expert advice on a given subject in a given situation and is licensed or regulated by a governing body or association in the province of BC.
public highway	a highway for which public money has been spent and which is dedicated to public use by a plan deposited in a land titles office for the district in which the road is situated.
result	is defined in the *FPPR* as the "description of measurable or verifiable outcomes in respect of a particular established objective, and the situations or circumstances that determine where in a Forest Development Unit the steps or practices will be applied".
retention system	a Silviculture system where >50% of the harvest unit is influenced by standing trees by being within one tree height distance from standing trees.
RMA	means an area described under FPPR, Division 3 *[Riparian Areas]* of Part 4 *[Practice Requirements]*, that consists of a riparian management zone and a riparian reserve zone;
roads	means a constructed and ballasted haul road for wheeled traffic and as defined under the FPPR.
RMOW	Resort Municipality of Whistler
RMZ	means riparian management zone: an area described under FPPR, Division 3 *[Riparian Areas]* of Part 4 *[Practice Requirements]*, that (a) is a portion of the riparian management area, and (b) is established to (i) conserve the fish, wildlife habitat, biodiversity and the water values of the riparian management zone, and (ii) protect the riparian reserve zone, if any, within the riparian management area;
RP	means road permit
RRZ	means riparian reserve zone: an area described under FPPR Division 3 *[Riparian Areas]* of Part 4 *[Practice Requirements]*, that (a) is a portion of a riparian management area, and (b) is established to protect fish, wildlife habitat, biodiversity and the water values of the riparian reserve zone.
salvage harvesting	Means logging operations specifically designed to remove damaged timber (dead or in poor condition) and yield a wood product. Often carried out following fire, insect attack, or windthrow disturbances.
Silviculture Site Plan	means a site-specific operational plan prepared by a registered professional to describe the amounts, areas and obligations from primary forest activities and reforestation objectives of the Openings within a Compartment.
strategy	is defined in the *FPPR* as a "description of measurable or verifiable steps or practices that will be carried out in respect of a particular established objective, and the situations or circumstances that determine where in a Forest Development Unit the steps or practices will be applied."
target fuel types	are the hazardous forest stand types (high consequence in risk analysis) that are targeted in the near term for fuel reduction projects part of the draft RMOW Community Wildfire Resiliency Plan (2021).
target retention	means the planned number of trees retained within a riparian management area by using the proration of the management zone distance for streams defined under FPPR S. 47.
THLB	means timber harvesting landbase
timber salvage	means logging operations specifically designed to remove damaged timber (dead or in poor condition) and yield a wood product. Often carried out following wildfire, insect attack or severe weather event.
UWR	means an objective for ungulate winter range (a) continued under section 181 *[grandparenting objectives]* of the FRPA, or (b) established under the Government Actions Regulation;

VQO	means Visual Quality Objective: "scenic area" means an area of land established as a scenic area under the *Forest Practices Code of British Columbia Act* on or before October 24, 2002 and continued as a scenic area under section 180 (c) of the Act; "visual sensitivity class" means a visual sensitivity class established on or before October 24, 2002, particulars of which are publicly available in the Land and Resource Data Warehouse maintained by the minister responsible for the *Land Act*. (2) The objective set by government in relation to visual quality for a scenic area, that (a) was established on or before October 24, 2002, and (b) for which there is no visual quality objective is to ensure that the altered forest landscape for the scenic area (c) in visual sensitivity class 1 is in either the preservation or retention category, (d) in visual sensitivity class 2 is in either the retention or partial retention category, (e) in visual sensitivity class 3 is in either the partial retention or modification category, (f) in visual sensitivity class 4 is in either the partial retention or modification category, and (g) in visual sensitivity class 5 is in either the modification or maximum modification category.
WHA	means a wildlife habitat area (a) continued under section 180 (b) *[grandparenting specified designations]* of the FRPA, or, (b) established under the Government Actions Regulation.
WTRA	means wildlife tree retention area: individual or groups of trees, either standing or naturally fallen, having attributes that can be used by wildlife species for various stages of their life cycle.

1. Plan Structure

Objectives set by government are either specifically identified in legislation or have been enacted by ministerial order through enabling legislation or higher-level plans. *Forest Planning and Practices Regulation* legislative objectives pertaining to each result and strategy are rewritten into this plan. Ministerial orders are found within the appendices of the plan.

A written **context** (preamble) is provided for the reader's information and is not part of the legal obligations of this plan.

Measures, undertakings and commitments have been assigned a unique identifier reference label which is meant to facilitate review and comment, track amendments and provide references in silviculture site plans. Each identifying reference label is identified by: CCF (Cheakamus Community Forest; WLD (acronym for Wildlife Resource for example); 02 (numeric reference). Therefore CCF-WLD-01 is the first measure for wildlife resources. Once approved, the original reference label stands unless amended, in which case the original label is deleted. Under a replacement document previous references that are rescinded will be extinguished for continuity.

Voluntary Measures are included in this plan that are not legally enforceable Results and Strategies under FRPA. These measures are identified in sections 10.4, 11.2.1 and 11.2.2.

Each FDU represent a distinct management unit area and is described by place name. Commitments and Undertakings are defined by FDU Name (i.e.: Wedge FDU = WED; ALL = all FDU's)

Licence Holder and Agreement

Licence Holder	Agreement
Cheakamus Community Forest Limited Partnership	Community Forest Licence: **K3V**

Table 1. List of Forest Development Units within this plan:

Management Unit	FDU	ID REF	HLP Management Considerations	Comment
Interface 2,718 Ha	INTERFACE	**INT**	Scenic Area Wildfire Mitigation	CCF_K3V 2,718 Ha
Wedge 1,175 Ha	WEDGE	**WED**	SRMZ Scenic Area	Includes 270 ha of Fuel Modification Area
Showh 2,651 Ha	SHOWH	**SHO**	Community Watershed Scenic Area	Includes 185 Ha of Fuel Modification Area
Rainbow 2,492 Ha	RAINBOW	**RAI**	Scenic Area	Includes 225 Ha of Fuel Modification Area
Cheakamus 2,651 Ha	CHEAK	**CHE**	Cultural Mgmt. Area Whistler Inter Forest	Includes 465 Ha of Fuel Modification Area
Callaghan 2,172 Ha	CALLAGHAN	**CAL**	Cultural Mgmt. Area	
Fee 3,571 Ha	FEE	**FEE**		
Powder 1,570 Ha	POWDER	**POW**	Scenic Area	
Tusk 2,867 Ha	TUSK	**TUS**	Scenic Area SRMZ	
Brew 1,616 Ha	BREW	**BRE**	Community Watershed Scenic Area	

All undertakings and measures (results or strategies) form the basis of CCF commitments under this plan and are contained in a format outlined below:

EXAMPLE:

Ref #	Forest Development Unit Area	Measure	Operational and Planning Commitment

The plan contains five FSP maps outlining the arrangement of the FDU and other planning elements in effect at least 4 months prior to the draft submission. Figure 1 is an overview map for reference only. Silviculture Stocking Standards include enhanced Fuel Management Standards and Single Entry Dispersed Retention Stocking Standards.

2. Application of the FSP

This FSP has been prepared as required under section 3(1) of FRPA, in order to plan and implement forest management activities related to the CCF K3V in its primary forest activities (resource road, stand tending, intermediate thinning and retention silviculture system harvest development) and other intended forest management obligations pursued under that agreement.

The FSP contains the following components:

- Maps illustrating the FDU's that direct objectives for primary forest activities subject to the following:
    - The extent of the Area Based Tenure K3V
    - The influence of other features as described in section 14 of the FPPR that obligate CCF K3V to modify or prohibit its forest management activity
    - All fee simple private land within the K3V tenure are shown on the FSP maps. For context the area of RMOW Urban and Whistler-Blackcomb Controlled Recreation Area are also shown due to their proximity and influence on the K3V tenure.
- Results and/or Strategies to address objectives set by government for the following:
    - Soils
    - Timber
    - Wildlife
    - Water, fish, wildlife, and biodiversity within riparian areas
    - Fish habitat in fisheries sensitive watersheds
    - Water in community watersheds
    - Wildlife and Biodiversity
    - Visual quality
    - Cultural heritage resources
- Stocking standards for silviculture reforestation
- Measures to prevent the introduction and spread of invasive plants
- Measures related to natural range barriers

3. Area to Which this FSP Applies

This FSP applies to primary forest activities as defined in the FPPR, salvage harvesting, fuel modification, fuel breaks, wildlife habitat enhancement and forest ecosystem restoration within the area of CCF_K3V. This plan does not apply to any Land Act *(1996)* designations, crown leases, parks, EBM reserves, conservancies, wildlands, or areas shown as urban on the FSP maps. Ten separate **Forest Development Units** comprise this plan.

4. Term of Plan

The term of this plan is five years and will be extended or replaced five years from the approved date. This term is with the understanding that amendments both voluntary and mandatory may be required from time to time over the term of the plan.

5. Maps

Overview Map	Figure 1	1: 200,000 scale
FSP MAPs (FDU)	Figure 2	1: 20,000 scale

FRPA S. 5(1)(A) & FPPR S. 14 identifies required land use elements and declared areas that are shown on the Forest Stewardship Plan map. The Figure 1 outlines the Forest Development Units covering the K3V operating area.

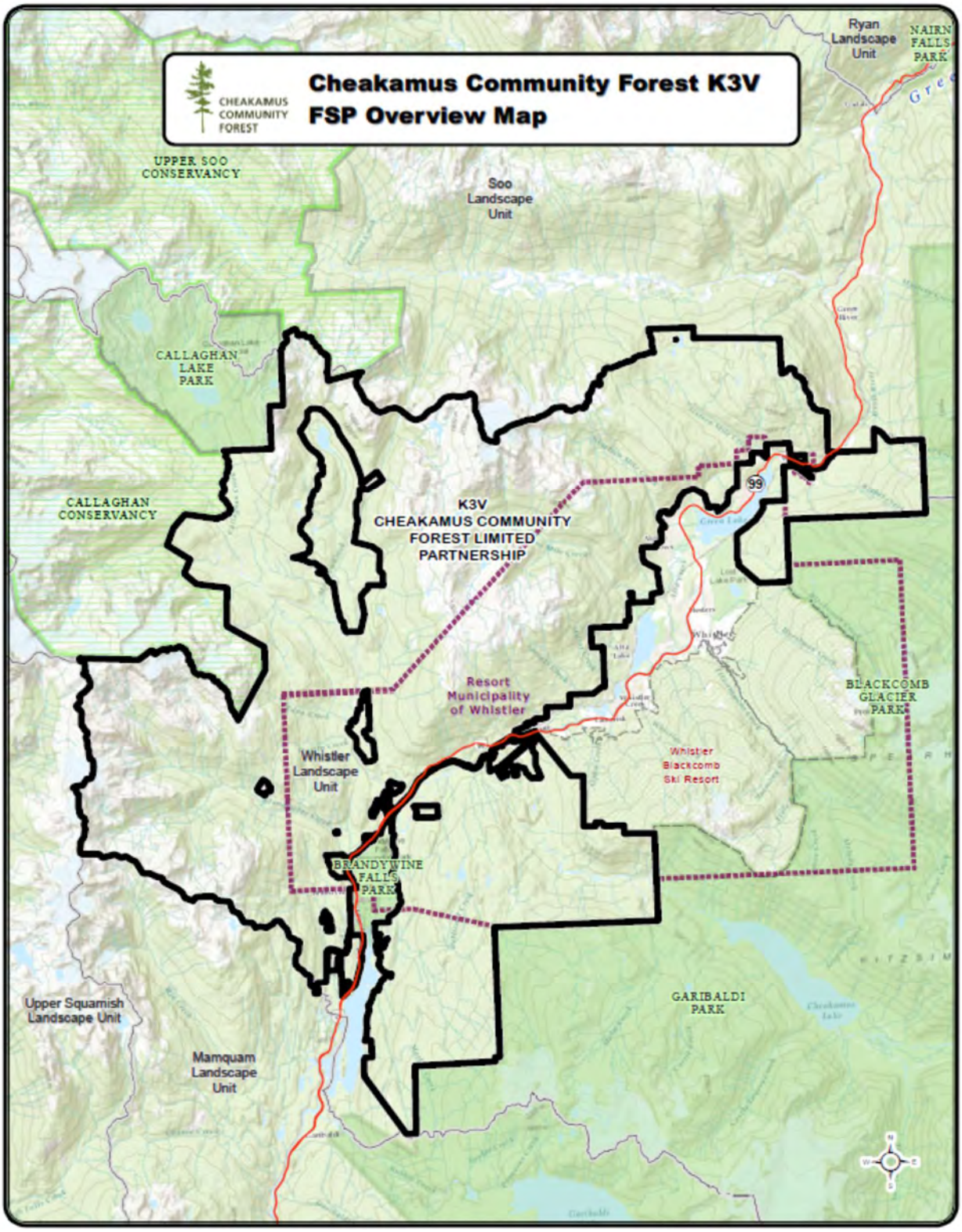

Figure 1: FSP Overview Map – 1:200,000 CCF_K3V

Figure 2: FSP Maps 1 - 5 1:20,000 CCF_K3V

Refer to the five separately attached FSP maps

6. Areas to Which this FSP Will Not Apply S.197(7)

There are no areas or cutting authorizations that require grand-parenting.

7. Areas to Which S.196(1) (2) of FRPA Apply

There are no areas for S. 196 (1) and (2) Apply

8. Designations and Objectives in Effect

The following land use designations, objectives and notices apply to the FSP and the details are found in the appendix of this plan:

FRPA S.5

Sea to Sky Land and Resource Management Plan and Map (April 2008) have been published, areas for which commercial timber harvesting is prohibited have been made under the Land Act.

FPPR S.14

Table 2: Designations and Objectives in Effect

Land Use Designations	Legally Established	Date Designated
s.14(3)(a) Ungulate Winter Range		
Order- Ungulate Winter Range #U2-002 (Mountain Goat) Soo Timber Supply Area (TSA)	Yes	October 6, 2003
Order- Ungulate Winter Range #U2-005, (Deer and Moose Winter Range) Soo TSA	Yes	October 31, 2014
s.14(3)(b) Wildlife Habitat Areas		
Order- Wildlife Habitat Areas #2-272 to 2-297, 2-381 to 2-386, 2-388, 2-390 to 2-406, 2-436 to 2-443 Grizzly Bear – Sea to Sky Forest District Also applies to Coastal Tailed Frog	Yes	Aug 25, 2010
Order for the Recovery of Marbled Murrelet (*Brachyramphus marmoratus*)	Yes	December 2, 2021
Order- Wildlife Habitat Areas 2-517 TO 2-525 (Spotted Owl)	Yes	February 28, 2013
Northern Goshawk	No	Not yet in affect
s.14(3)(c) Fisheries Sensitive Watersheds	-	-
s.14(3)(d) Lakeshore Management Zone	-	-
s.14(3)(e) Scenic area		
Sea to Sky Scenic Area and Visual Quality Objectives for Hwy 99 Corridor and the 3 Corridors Landscape Plan	Yes	Established December 18, 1995
s.14(3)(f) Lake identified as an L1 lake	No	-
s.14(3)(g)Community Watersheds		
Alpha Community Watershed Blackcomb Community Watershed Brew Community Watershed Twenty one mile Community Watershed Whistler Creek Community Watershed Rideau Brook (Emerald) Agnew Creek (Alpine)	Yes (code 900.003) Yes (code 119.002) Yes (code 900.074) Yes (code 119.007) Yes (code 900.068) Yes (code119.006) Yes (code 119.001)	June 15, 1995 June 15, 1995 June 15, 1995 June 15, 1995 June 15, 1995 June 15, 1995 June 15, 1995
s.14(3)(h) Old Growth Management Areas		
Ministerial Order #216848, Land Use Objectives for the Whistler Landscape Unit	Yes	August 20, 2015
Land Use Objectives for the Sea to Sky Land and Resource Management Plan	Yes	August 13, 2013
s.14(3)(i) Harvesting Prohibited		
Private Land, BC Parks and others	Yes	Various
Conservancies	Yes	2009
Sea to Sky-LRMP - Wildlands	Yes	March 24, 2011
Other		
LRMP Order (Cultural Mgmt. Area, Cultural Sites and Places, Floodplain)	Yes	April 4, 2011

Table 3: Cutting and Road Authorizations in Effect

Cutting Permits	Timber Mark	Expiry Date
W80	K3V W80	Sept.30.2022
C02	K3V C02	October 22, 2024
C04	K3V C04	April.15.2022
C03	K3V C03	April.15.2022
P07	K3V P07	Oct.4.2022
T01	K3V T01	April.16.2024
C09	K3V C09	April.15.2024
Road Permit – R18469	K3V 0R1	none

9. Recreation Sites, Recreation Trails and Interpretive Forests

Recreation sites, trails, and interpretive forests have been established or authorized under the Forest Practices Code and are grand parented under s.180 of the FRPA. Objectives applicable to these recreation sites, trails and interpretive forests are grand parented under s.181 of the FRPA. Additional recreation sites and trails have been established under FRPA section 56 or authorized for construction under FRPA section 57. Table 4 provides a list of the established or authorized recreation trails located within the FDU's defined for this FSP, which were established under the FPC and have been continued under section 180 of the FRPA. The objectives associated with these sites have been continued under section 181 of the FRPA.

FDU	Measure	Operational and Planning Commitment
All	**STRATEGY**	In respect of each established or authorized recreation site or recreation trail or interpretive forest for which there is an applicable established objective, the holder of this FSP will: • Plan and conduct primary forest activities consistent with the established objectives for each relevant established or authorized recreation site or recreation trail or interpretive forest for which there is an applicable established objective. • Identify the primary user group of the feature and facilitate consultation between the licensee, the user group and the Sea to Sky District Recreation Officer to identify any concerns or potential impacts to the feature or use of the feature and the strategies that can be employed to minimize or eliminate these impacts. • Provide in writing to the user group(s) and to the District Recreation Officer, a summary of the consultation efforts, the identified concerns and the mitigation actions that will be utilized to minimize or eliminate the effects of the primary forest activity on the feature and its intended use.
All	**STRATEGY**	In respect of each established or authorized recreation site or recreation trail or interpretive forest for which there is no established objectives, the holder of this FSP will: • Plan and conduct primary forest activities in a manner that ensures that the planned activity does not render ineffective the relevant established recreation site, trail or interpretive forest and that the recreation feature is retained and remains available for the use for which it was intended. • Identify the primary user group of the feature and facilitate consultation between the licensee, the user group and the Sea to Sky District Recreation Officer to identify any concerns or potential impacts to the feature or use of the feature and the strategies that can be employed to minimize or eliminate these impacts. • Provide in writing to the user group(s) and to the District Recreation Officer, a summary of the consultation efforts, the identified concerns and the mitigation actions that will be utilized to minimize or eliminate the effects of the primary forest activity on the feature and its intended use.

Trails and or other recreation features that are not established through Section 56 or authorized by Section 57 that are identified on areas planned for primary forest activities will be considered, on a case-by-case basis the level of management required for the feature. Where specific management is determined to be appropriate by the qualified professional developing site level activity prescriptions, the CCF will, if possible, identify the primary user group of the feature and complete information sharing with the group. Relevant information will be considered along with the nature of the unauthorized feature and appropriate actions for management of the feature will be determined and utilized during primary forest activities.

Table 4. Established and Authorized Recreation Sites, Trails and Interpretive Forests

Recreation Trails		Recreation Sites	Interpretive Forests
REC206149	19 Mile Creek Trail	Alexander Falls Site REC0108 2000/02/29	Whistler IF * REC6264 2003/05/29
REC16158	27 Swithbacks		
REC16141	A River runs through it/Bart's Dark Trail		
REC16185	Beverly Lake - Rainbow Mountain		
REC16134	Big Kahuna-White Knuckles-No Girlie Man-S**t happens	Brandywine Parking Lots (was REC16019) REC33093 2013/03/28	* denotes legal objectives have been established
REC16157	Billy's Epic		
REC16143	Bob's Rebob		
REC203074	Brandywine Connector Trail		
REC3215	BRANDYWINE MEADOWS	Bungee REC6891 2002/08/09	
REC6902	BRANDYWINE SNOWMOBILE TRAIL		
REC6891	BUNGEE TRAIL		
REC3218	CAL CHEAK/BRANDYWINE	Cal Cheak Confluence REC0127 1991/08/01	
REC32329	Callaghan Ski Trails		
REC16183	Cat Scratch Fever		
REC16136	Cheap Thrills	Sea to Sky (new, current) REC33049 2013/03/28	
REC6889	Comfortably Numb/Secret Trail		
REC16139	Dinamal-Yodas Playground		
REC262257	Farout		
REC262260	Flash Back	Showh Lakes Rec Area – REC3186	
REC16131	Gargamel Trail		
REC16181	Green Lake Loop		
REC33056	Industrial Disease		
REC258508	Industrial Waste		
REC203762	Into the Mystic		
REC6122	JANE LAKES TRAIL		
REC6600	KAYAK TRAIL		
REC258687	Kevins Home Run		
REC16130	Kill me Thrill me		
REC258681	Long Lake Connector		
REC203764	Lord of the Squirrels		
REC16138	Lower Sproatt Trail at Alta lake rd		
REC190994	MOUNT SPROATT SNOWMOBILE TRAIL		
REC204754	Newt Lake Trail		
REC16156	Old Binty's		
REC6599	PEANUT'S TRAIL		
REC6408	Rainbow-Sproatt-Flank Trail		
REC16182	Rainbow Mountain Bike Trail		
REC6125	RainbowLake Trail and Madeley Lake		
REC257651	Ricks Roost Access		
REC260687	Ricks Roost		
REC33049	SEA TO SKY TRAIL		
REC258683	Sky Walk		
REC258685	Sky Walker South Connector		
REC203776	Skywalk Trail		
REC203768	Sproat Ridge Trails		
REC203273	Trails		
REC203772	Trails		
REC16155	Trainwreck extension		
REC16152	Trainwreck Trail		
REC16154	Wedgemount		
REC16159	Whip me snip me		
REC33054	Young Lust		

10. Higher Level Planning Measures

The Ministerial Order – *Land Use Objectives for the Sea-to-Sky Land and Resource Management Plan* (LRMP), (August 13, 2013) established legal objectives for First Nations' Cultural Places and Cultural Management Areas and; Floodplains and Riparian Areas. Refer to section 11.4.7 of this FSP for results and strategies related to Cultural Heritage Resources. (Appendix N)

The Whistler Interpretive Forest has legal objectives established in 1999 under the Forest Practices Code Act of BC. "*The objective of the Whistler Interpretive Forest Site is to provide forest interpretation and education opportunities, while demonstrating integrated resource management".* (Appendix I)

10.1 Context for existing legal objective

The Whistler Interpretive Forest legal objectives apply specifically to a portion of the Cheakamus FDU. The objective is to provide forest interpretation and education opportunities, while demonstrating **integrated resource management**. Forest recreation will be managed for non- motorized and rural recreation experiences.

10.2 Measures, Undertakings, and Commitments

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-WIF-01	**CHE**	**STRATEGY**	The CCF, when planning and conducting primary forest activities under this FSP, will do so in a manner that is consistent with the November 20, 1999 Ministerial "Order to Establish Objectives for the Whistler Interpretive Forest in the Squamish Forest District": 1. Forest stands will be managed for harvesting and utilizing various silviculture systems. 2. Forest interpretation activities and education on local ecosystems and forest practices will be provided through brochures, self guided interpretive trails and signage. 3. Existing interpretation infrastructure will be maintained.

10.3 Context for non-legal objectives

The *Sea to Sky Land and Resource Management Plan* April 2008 specified two objectives for a Front Country Zone 1) *To maintain a level of visual quality in the Front-country Area consistent with the high scenic value of the area for local communities and visitors;* 2) *To undertake resource uses and activities in a manner consistent with the high quality of recreational experience sought by public and commercial users of the Front-country Area*.

The plan also references those watersheds bordering Highway 99 within the immediate vicinity of the Resort Municipality of Whistler as the ***"Whistler Corridor"***. The specific objectives for the ***"Whistler Corridor"*** are:

1. *To recognize and conserve the integrity of First Nation's cultural and heritage resources and values;*
2. *To maintain high visual quality from Whistler and Blackcomb Mountains and other viewpoints along the Whistler Corridor;*
3. *To maintain a diverse range of opportunities for high quality backcountry recreational activities.*
4. *To conserve ecosystem integrity and biological diversity, including the structure and functional characteristics of critical wildlife habitat, and rare and unique ecosystems.*
5. *To maintain opportunities for economic activities where these are consistent with other objectives.*

Until further Legal Orders become effective, the following results or strategies serve as voluntary management plan guidance and do not constitute legal commitments.

10.4 Voluntary Measures, Undertakings, and Commitments

REF. #	FDU	Operational and Planning Commitment
CCF-STS-01	**All**	The CCF will provide an annual forum (open house meeting) to engage, communicate and identify issues arising from all primary forest activities planned, proposed and projected for the public, commercial recreation interests and community stakeholders. This forum provides the opportunity to have the CCF engage the community on a CCF Annual Operating Plan, a plan that shows all primary forest activities that are scheduled for implementation. The CCF Annual Operating Plan indicates the location and scale of 1-3 years of current and planned projects. In addition, the CCF will provide the CCF Annual Operating Plan to the Forest and Wildland Advisory Committee to seek out resource issues relating to primary forest activities. The CCF will further ensure that the most current CCF Annual Operating Plan is publicly available for viewing on the CCF Website www.cheakamuscommunityforest.com
CCF-STS-02	**All**	The CCF, when planning and implementing primary forest activities, will identify and reserve from harvest or disturbance by road development all rare forest ecosystems specified in Appendix F of this plan at the Compartment level by using the terrestrial ecosystem mapping layer to flag their potential and by engaging a qualified professional if identified to determine the extent necessary to protect that forested ecosystem from disturbance.
CCF-LU-03	**All**	The CCF will not plan and implement primary forest activities within the spatially established 3,841 ha of EBM Reserve Areas as shown on the FSP Maps, unless: 1. The amendment strategy in Appendix G of this plan is applied to modify the extent of the polygon area. 2. A project unrelated to the CCF that is authorised by government that requires clearing of the EBM Reserve Area and the timber is in sufficient quantity and location to be recovered under an authorisation. 3. A forest health issue arises and the amendment strategy in Appendix G is required to prevent the spread of the forest health issue.
CCF-TIM-01	**INT**	The CCF, when planning and implementing primary forest activities, will only apply for cutting authorities and road permits in order to implement the RMOW-Community Wildfire Resiliency Plan 2022, and/or the Strategic Wildfire Implementation Plan 2017, and/or serve as permanent access for either fire and rescue services or providing permanent public recreation access. All fuel reduction projects will be guided by the RMOW Community Wildfire Resiliency Plan 2022 under a stand management prescription prepared by a Qualified Professional, and can include the application of access partial harvest, to offset the initial costs of road re-construction and/or road modification improvements in order to carry out treatments.
CCF-WT-04	**All**	When planning and implementing primary forest activities under a retention silviculture system the CCF will limit an individual Opening to less than 8.0 ha in size when the opening retains moderate levels of tree retention (6-20m^2) or high levels (21-40m^2) basal area per hectare as temporary or permanent individual retention trees, retention patches and adjacent riparian tree retention until free growing is achieved. In addition, an Opening will be restricted to a maximum of 5.0 ha if there is less than 5m^2/ha basal area of internal tree retention as individuals or grouped patches. There are no size restriction or limitations for an Opening when uniform tree retention is implemented under wildfire fuel reduction or tree thinning treatments and greater than 200 stems per hectare remain standing as scattered individuals or grouped patches.

11. Objectives Prescribed under FRPA Section 149

Objectives set by Government are outlined in Section 149 (1) of FRPA. The following identifies each of those objectives and provides the licensee commitment to meeting those objectives within the specific operating area of CCF_K3V comprising this plan.

11.1 Soils Resources

11.1.1 Objective for Soils Resources

The objective set by government for soils is to conserve the productivity and hydrologic function of soils without unduly reducing the supply of timber from BC forests.

11.1.2 Context

Implementing multiple entry harvest system will require access structures to remain; this is also considered a benefit in some portion of the forest to expand recreational and First Nations cultural uses. Permanent site occupation from roads and landings must be balanced with the need to meet statutory limits. Therefore, permanent occupancy will be determined at the cutblock unit level.

11.1.3 Measures, Undertakings, and Commitments

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-SO-01	**All**	**RESULT**	The CCF, when planning and implementing primary forest activities, will undertake to comply with the soil disturbance and permanent access structure limits stated in Sections 35 and 36 of the FPPR as of the date of this submission when assessed at the cutblock level within a Silviculture Site Plan.

11.2 Timber Resources

The CCF is not required to prepare results or strategies for timber resources.

11.2.1 Voluntary Objectives for Timber Resources

- Maintain or enhance an economically valuable supply of commercial timber from British Columbia's forests;
- Ensure that delivered wood costs, generally, after taking into account the effect on them of the relevant provisions of this regulations and of the *Forest Act*, are competitive in relation to equivalent costs in relation to regulated primary forest activities in other jurisdictions, and
- Ensure that the provisions of this regulation and of the Act that pertain to primary forest activities do not unduly constrain the ability of a holder of an agreement under the Forest Act to exercise the holder's rights under the agreement.

11.2.2 Context

Management Plan #2 (March 2015) provides direction for balancing the Timber Resources Objectives with that of the stated priority for Recreation Management for the forest. The plan rationalizes a base case timber flow analysis against the components of the **Ecosystem Based Management Plan** (2012) and CCF Carbon Project (2015). The outcome of the sensitivity analysis recommended that the annual allowable harvest would of 21,000m3/year could be maintained indefinably with due consideration of the recreation priority, scenic value and storage of carbon within the forest.

The CCF Carbon Project has been constructed by storing carbon within four main pools. 1) Additional old forest protection, 2) Enhanced riparian protection, 3) Additional stand level tree retention and, 4) Extended rotations to second growth. Both the province and CCF are beneficiaries of the Atmospheric Benefit Agreement from this project.

The RMOW has prepared a *Community Wildfire Resiliency Plan (2022)* and a *Strategic Wildfire Implementation Plan (2017)* that defines priority areas for fuel treatments at the landscape, interface and infrastructure level. Four original Fuel Modification Areas are identified on the FSP map and are now supplemented by Landscape Fuel Break and Interface FDU objectives.

11.3 Wildlife Resources

The FSP Maps (Figure 2) outline areas that have been established for wildlife. The authority to establish wildlife habitat areas and associated general wildlife measures or objectives is enabled through sections 9 and 10 of the *Government Actions Regulation*. This authority has been delegated by the Minister of Environment to the Deputy Minister of Environment.

11.3.1 Species at Risk – Identified Wildlife Section 7 Notices

Specific notices are found as **Appendix C** of this plan. FSP holders are required to follow both the Section 7 notice and any established Orders specific to wildlife found within the plan area. On December 30, 2004, the government issued a ***NOTICE-****INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF SPECIES AT RISK IN THE SQUAMISH FOREST DISTRICT.* The Notice identified the following species as being species at risk and addressed habitat requirements for the species at risk:

1) Marbled Murrelet (*Brachyramphus marmoratus*);
2) Coastal Tailed Frog (*Ascaphus truei*);
3) Grizzly Bear (*Ursus arctos*); and,
4) Spotted Owl (*Strix occidentalis*).

In addition to the species at risk identified in the Notice above, as per direction from a letter issued by the Acting District Manager for the Sea to Sky Natural Resource District (Shaw-MacLaren 2016), the following species at risk were also include in this plan:

1) Pacific Water Shrew (*Sorex bendirii*); and
2) Northern Goshawk (*Accipiter gentilis*).

11.3.2 Objective for Wildlife Resources (FPPR 7/2004)

The objective set by government for wildlife is, without unduly reducing the supply of timber from BC forests, to conserve sufficient wildlife habitat in terms of amount of area, distribution of areas and attributes of those areas, for (a) the survival of the species at risk; (b) the survival of regionally important wildlife; and (c) the winter survival of specified ungulate species.

A person required to prepare a forest stewardship plan must specify a result or strategy in respect of the objective stated under subsection (1) only if the Minister of Environment, or a designated official, notifies the person of the applicable (a) species referred to in subsection 1), and (b) indicators of the amount, distribution and attributes of wildlife habitat described in subsection (1).

There are no regionally designated wildlife within this plan area.

11.3.2.1 Ungulate Winter Range FPPR S. 149.1(1)

11.3.2.2 Context: Ungulate Winter Range Orders

An Ungulate Winter Range Order U2-002 was established on October 6, 2003 for Mountain Goat. Likewise, Order U2-005 was declared for Deer and Moose on February 28, 2005 and amended on October 31, 2014. These wildlife habitat area orders spatially define winter ranges with attributes suitable for ungulate survival during a potentially critical winter. These ministerial orders normally restrict or prohibit forest management unless they are management activities thought to restore or enhance habitat, stand structure, or forage. General Wildlife Measures are therefore in place. The orders are found as Appendix A and B of this plan.

Measures, Undertakings, and Commitments

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-WILD-01	**ALL**	**RESULT**	With respect to Mountain goats (*Oreamnos americanus*): The CCF will only plan and implement primary forest activities within Ungulate Winter Ranges for mountain goats where the primary forest activities are consistent with the **ORDER** – UNGULATE WINTER RANGE #U2-002 which specifies spatial Ungulate Winter Ranges and General Wildlife Measures.
CCF-WILD-02	**ALL**	**RESULT**	With respect to Black tailed deer (*Odocoileus hemionus*) and Moose (*Alces americanus*): The CCF will only plan and implement primary forest activities within Ungulate Winter Ranges for black-tailed deer and moose where the primary forest activities are consistent with the **ORDER -** U-2-005 Black tailed Deer and Moose- Sea to Sky Forest District amended October 31, 2014 which specifies spatial Ungulate Winter Ranges and General Wildlife Measures.

11.3.2.3 Context: Grizzly Bear *(Ursus arctos horribilis)*

Grizzly bear **Wildlife Habitat Areas** have been spatially established throughout the Sea to Sky Natural Resource District. The proximity to urban areas and the recreational use of outlying forest lands is believed to have the biggest impact on their current distribution. Site level planning will consider Grizzly bear features and harvest plans may include, if possible: a) retention of habitat features; b) snow avalanche slide path buffers; c) planting in cluster formations to encourage berry patches. A ministerial order establishing Grizzly Bear WHA's in the Whistler LU was declared on August 25, 2010 (Appendix D).

Measures, Undertakings, and Commitments

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-WILD-03	**ALL**	**RESULT**	With respect to Grizzly bear (*Ursus arctos horribilis*): The CCF**,** when planning and implementing primary forest activities, within Grizzly bear Wildlife Habitat Areas, as defined by the **Order** - *Wildlife Habitat Areas #2-272 to 2-297, 2-381 to 2-386, 2-388, 2-390 to 2-406, 2-436 to 2-443 Grizzly Bear – Squamish Forest District* dated August 25th, 2010, will only carry out primary forest activities within the Grizzly bear *Wildlife Habitat Areas* in accordance with Schedule 1 - General Wildlife Measures of the **Order.**

11.3.2.4 Context: Coastal Tailed Frog *(Ascaphus truei)*

Tailed frogs are thought to be endemic in all FDU's covered under this plan. The species accounts required at the TSA level (25ha from the THLB within the entire Soo TSA) and the account has been captured within Grizzly Bear WHAs (*Order -Wildlife Habitat Areas #2-272 to 2-297, 2-381 to 2-386, 2-388, 2-390 to 2-406, 2-436 to 2-443 Grizzly Bear – Squamish Forest District)* now legally established. Appendix D of the order states that "pursuant to Section 7(3) of the FPPR, persons required to prepare a Forest Stewardship Plan are hereby exempt from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the FPPR for coastal tailed frog in the Sea to Sky Natural Resource District".

The Licensee plans to implement additional coastal tailed frog habitat management at the stand and landscape level with the following strategy:

Measures, Undertakings, and Commitments

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-WILD-04	**ALL**	**STRATEGY**	With respect to Coastal Tailed Frog (*Ascaphus truei*): For watercourses with known Coastal Tailed Frog populations or watercourses containing high value coastal tailed frog habitat, as determined by a qualified professional, when planning and implementing primary forest activities, the CCF will adhere to the following strategies: • Machinery will not cross these streams except on a road. • Road crossings will be minimized wherever practicable. • The duration and extent of machinery working within the Riparian Management Zone will be minimized wherever practicable. • A minimum 10m wide Reserve Zone will be established along both sides of each watercourse containing known tailed frog populations or high value habitat, as determined by a qualified professional or as defined in a field guide for the identification of tailed frog habitat, which will be subject to the restrictions listed in Section 51 of the FPPR.

11.3.2.5 Context: Marbled Murrelet *(Brachyramphus marmoratus)*

Objectives for Marbled Murrelet (MAMU) nesting habitat have been established within the Sea to Sky Natural Resource District through an Order and Notice. (Appendix K)

Whistler landscape unit

The Whistler Landscape Unit boundary is an amalgamation of the Callaghan LU, the Whistler LU and a small portion of Soo LU, so that the CCF is entirely within the Whistler Landscape Unit. A target of 381 hectares of suitable habitat has been set for the Whistler LU and 305 hectares have been identified as the minimum habitat threshold.

Measures, Undertakings, and Commitments

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-WILD-05	**All**	**RESULT**	In this result, **Order** means the: Order for the Recovery of Marbled Murrelet (*Brachyramphus marmoratus*) - effective December 2, 2021. The CCF when planning and conducting primary forest activities, will comply with the **Order** by maintaining the amount of Marbled Murrelet Suitable Habitat within the plan area of the FSP equal to or greater than the Suitable Habitat Target in the Whistler landscape unit Portion (schedule 7, Table 2, Column A of the Order).
CCF-WILD-06	**All**	**RESULT**	In this result, **Notice** means the: *NOTICE: INDICATORS OF THE AMOUNT, DISTRIBUTION, AND ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF Marbled Murrelet (Brachyramphus marmoratus)* - effective December 2, 2021 The CCF, when planning and implementing primary forest activities, will comply with the **Notice** by maintaining the amount of Suitable Habitat in the Whistler landscape unit Portion with all "Attributes" outlined in Schedule1 of the Notice: a) Equal to or greater than the Notice Table 3 column titled "MAMU WHA and OGMA Suitable Habitat Target(ha)" and b) Equal to or greater than the Notice Table 3 column titled "MAMU WHA Suitable Habitat Target(ha)"

11.3.2.6 Context: Northern Spotted Owl (*Strix occidentalis ssp. caurina*)

The CCF_K3V Forest incorporates two areas now designated as Wildlife Habitat Areas for Northern Spotted Owls. Both currently do not contain breeding pairs, rather WHA 2-524 Cheakamus and WHA 2—525 Wedgemount/Green are designated as **Managed Future Habitat Area** (MFHA). Until government provides further management direction, current forest management in the two Northern Spotted Owl MFHA's are intended to maintain and promote structural forest attributes into the future to provide future options to government if needed. See the Order – Wildlife Habitat Areas 2-517 to 2-525 (Spotted Owl) (Appendix J)

Measures, Undertakings, and Commitments

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-WILD-07	**TUS, CHE, INT, WED**	**RESULT**	With respect to Northern Spotted Owl (*Strix occidentalis ssp. caurina*) The CCF, when planning and implementing primary forest activities, will comply with the General Wildlife Measures within WHA 2-524 and WHA 2-525 as defined by the *Order- Wildlife Habitat Areas 2-517 to 2-525* dated February 28th 2013

11.3.2.7 Context: Northern Goshawk (*Accipiter gentilis laingi & atricapillus ssp.*)

There are no established WHA's or objectives, or FPPR Section 7 Notices currently in effect for the Northern Goshawk in the Sea to Sky Natural Resource District. However, the *laingi* subspecies is listed as threatened federally by COSEWIC under the *Species at Risk Act*, listed as imperiled by the BC Conservation Data Centre, and is a red-listed / endangered species provincially. The presence of northern goshawk is confirmed and documented both by provincial staff and the Species and Ecosystems at Risk within the RMOW (Brett 2017) within the CCF. Recent genetic testing (Irwin 2018) has confirmed that the species found within this region are most likely not "laingi" but rather the "atricapillus" subspecies, regardless the nesting, brooding and fledging timeline (April-August) are a critical period to avoid disruption.

The *laingi* subspecies is also the subject of a draft Federal recovery strategy. The *atricapillus* subspecies is not listed federally but is listed as a Species of Special Concern by the BC Conservation Data Centre and is a blue-listed / species of special concern provincially. The CCF operating area is at the eastern limits of the l*aingi* subspecies' range, but the *atricapillus* subspecies is common throughout. As such, it is more likely that management activities may affect the *atricapillus* subspecies vs the l*aingi*.

Measures, Undertakings, and Commitments

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-WILD-08	**All**	**STRATEGY**	With respect to Northern Goshawk (*Accipiter gentilis ssp. laingi)* The CCF, when planning and implementing primary forest activities, will: 1. If a Goshawk nest is located, a qualified professional will determine appropriate measures to act in accordance with the Wildlife Act, the Implementation Plan for the Recovery of Northern Goshawk, laingi Subspecies (*Accipiter gentilis laingi*) in British Columbia [Ministry of Forests, Lands, Natural Resource Operations and Rural Development - February 2018], the Science-Based Guidelines for Managing Northern Goshawk Breeding Areas in Coastal British Columbia [McLaren et al 2015] and other pertinent legislation. Measures developed by the qualified professional will be implemented by the FSP holder to avoid disturbance to the nest or individual goshawk. These measures include, but will not be limited to: timing restrictions on activities with potential to disturb nesting goshawks and / or delineating no-work zones of an appropriate width on active nest sites. Buffer width and management considerations will be based on site specific features such as nest activity, nest location, surrounding topography, forest cover, habitat types and the types of activities expected to occur adjacent to the nest. 2. If a Goshawk or Goshawk nest is encountered when planning or conducting primary forest activities it will be reported to the BC Conservation Data Centre and Ministry of Forests as soon as practicable. 3. Prior to initiating fieldwork, field staff will be trained in the identification of Goshawk individuals, habitat and their nests.

11.3.2.8 Context: Pacific Water Shrew (*Sorex bendirii*)

There are no established WHA's or objectives, or FPPR Section 7 Notices currently in effect for the Pacific Water Shrew in the Sea to Sky Natural Resource District. This species is listed as Endangered in Canada by COSEWIC under the Federal *Species at Risk Act*, listed as Imperiled by the BC Conservation Data Centre, and is a Red-Listed / Endangered Species provincially. The Pacific water shrew is also the subject of a draft Federal recovery strategy. The current documented range of the Pacific Water Shrew in British Columbia includes the Fraser Valley, lower mainland and as far north as Squamish. Additionally, the extensive multi-year Whistler BioBlitz inventory project, the species and account inventory (Brett 2017) indicates the Pacific Water Shrew presence within this region as "unlikely". Therefore, this small stream dependent species would at the very least be conserved through the expanded riparian protection efforts of this plan.

Measures, Undertakings, and Commitments

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-WILD-09	**All**	**STRATEGY**	With respect to the Pacific Water Shrew (*Sorex bendirii*): For riparian areas with known Pacific Water Shrew populations, the CCF when planning and implementing primary forest activities will ensure: 1. Machinery will not cross these riparian features except on a road. 2. New road crossings will be located elsewhere wherever practicable. 3. Machinery working within the Riparian Management Zone will be minimized wherever practicable. 4. A minimum 10m Riparian Reserve Zone will be established, which will be subject to the restrictions listed in Section 51 of the FPPR. 5. A minimum of 10% of the basal area within the Riparian Management Zone will be retained. 6. If any individuals are found, sightings will be reported to the BC Conservation Data Centre.

11.4 Wildlife and Biodiversity

11.4.1 Objectives set by government for wildlife and biodiversity – Landscape Level – FPPR section 9

The objective set by government for wildlife and biodiversity at the landscape level is, without unduly reducing the supply of timber from BC forests and to the extent practicable, to design areas in which timber harvesting is to be carried out that resemble, both spatially and temporally, the patterns of natural disturbance that occur within the landscape.

11.4.1.1 Context: Landscape Level Planning

The Whistler Landscape Unit as defined in the Ministerial Order – *Landscape Objectives for the Whistler Landscape Unit - Sea to Sky District* dated August 20, 2015 totals 94,131 ha in size, with a total forested area of 46,762 ha. Current representation as of 2016 is that 7,224ha are Mature Forest and 29,466ha are Old Forest (15% and 63% respectively of the total forested landscape area). The extent of old and mature forest within the Whistler Landscape creates a low risk to forest biodiversity resulting from primary forest activities.

The CCF Ecosystem Based Management Plan #2 approved by government is premised by retaining visual conditions throughout the forest by implementing a silviculture system that retains trees and limits the scale of forest development. Primary forest activities will not take place in the spatially established 3,841 ha of EBM Reserve Areas as shown on the FSP Map, unless:

1. The amendment strategy in Appendix G of this plan is applied to modify the extent of the polygon area.
2. A project unrelated to the CCF that is authorised by government that requires clearing of the EBM Reserve Area and the timber is in sufficient quantity and location to be recovered under an authorisation.
3. A forest health issue arises and the amendment strategy in Appendix G is required to prevent the spread of the forest health issue.

Measures, Undertakings, and Commitments

Ref #	FDU	Measure	Operational and Planning Commitment
CCF-LU-01	**ALL**	**RESULT**	In respect of wildlife and biodiversity at the landscape level: In accordance with Section 25.1 (2) of the FPPR, the CCF will plan and implement primary forest activities consistent with the Ministerial **Order**: *Land Use Objectives for the Whistler Landscape Unit, Sea to Sky District, dated August 20th, 2015*. The Objectives for OGMAs are as follows: 1. Retain trees in OGMAs identified in Schedule A of the **Order,** except to fell trees where necessary for any of the following: a) to prevent insect infestations or disease posing a significant threat to forest health; b) to remove an identified safety hazard within road right-of-ways, recreation sites, or trails; 2. Retain trees in OGMAs identified in Schedule A of the **Order**, except to fell an area of trees where necessary for any of the following: a) To enable a safe falling boundary on a block immediately adjacent to the OGMA; b) To enable road or bridge construction for access to resource values beyond or adjacent to the OGMA, and no other practicable option for road or bridge location exists; c) To improve guyline clearance, tailholds, or tiebacks for guylines; d) To improve windfirmness along block boundaries.

Ref #	FDU	Measure	Operational and Planning Commitment
			3. The area of trees felled in an OGMA as provided in section 2 (above) will not exceed the lesser of: a) Two hectares, or b) Five percent of the OGMA area. 4. The trees felled under section 1 (above) are to be left on-site to function as coarse woody debris, except where they pose a significant risk to forest health. 5. The CCF will identify an equivalent area of trees to replace the area of trees felled under section 2 (above), and ensure each of the following conditions are met: a) The replacement area of trees is equal or greater than the area of trees felled, b) The replacement area of trees has equivalent or better stand attributes (i.e. age, site index, species distribution) than the area of trees felled, and c) The replacement area of trees is located according to the following order of priority: i. Connected to the OGMA subject to activities pursuant to section 2 (above), in the same BEC variant; ii. Connected to a nearby OGMA in the same BEC variant; iii. A new area of trees located as close as is practicable to the OGMA subject to activities pursuant to section 2 (above), in the same BEC variant. 6. The CCF will provide notice and documentation of the proposed area of trees felled under section 2, in addition to the proposed equivalent area of trees to replace the area of trees felled, to the district office with cutting permit, road permit, or other tenure application. Notice and documentation should include: a) A description of the proposed area and characteristics of trees to be removed from the OGMA; b) A description of the proposed replacement area and characteristics of trees required in accordance with Section 4 and; c) Spatial data (i.e. GIS shape files) to identify the proposed area of trees felled from the OGMA and the proposed replacement area of trees.

11.4.2 Stand Level Plan Objectives – FPPR section 9.1

11.4.2.1 Objectives set by government for wildlife and biodiversity – Stand Level

The objective set by government for wildlife and biodiversity at the stand level is, without unduly reducing the supply of timber from BC forests, to retain wildlife trees.

11.4.2.2 Context: Stand Level Planning

At the compartment, harvest unit or opening level there are a number of options for the retention of trees suitable for wildlife and biodiversity.

Internal trees selected from the larger older veteran layer or tree patches containing multi aged trees and wide range of diameters are valuable anchors points for retention. Patches containing dead and dying trees can be retained while

shielding forest workers from overhead hazards. Expanded riparian and gully retention when formed into the boundaries of openings fit small scale forest management objectives.

Biodiversity and Wildlife Resources at the stand level are also addressed by the following measures listed in this plan:

- **CCF-WILD-01, 02, 03, 04 and 05**
- **CCF-LU-01, 02**
- **CCF-WT-01, 02**
- **CCF-RIP-01,02**
- **CCF-VIS-02**

The Ministerial **Order**: *Land Use Objectives for the Whistler Landscape Unit, Sea to Sky District, dated August 20th, 2015* does not specify the amount of Wildlife Tree Reserve areas required.

Measures, Undertakings, and Commitments

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-WT-01	**ALL**	**RESULT**	CCF when planning and implementing primary forest activities will undertake to comply with the legislated requirements of FPPR section 66. The CCF will identify within a Silviculture Site Plan and retain after completion of harvest the amount of area as a Wildlife Tree Retention Area, reserved from cutting as specified below: The CCF will derive the location of these retention areas from either one of, or a combination of the following: 1. known or identified constrained areas immediately adjacent to or within an individual opening; 2. rare or unique forested ecosystems as listed in Appendix F, immediately adjacent to an individual opening; 3. areas of semi-open forests and forested rock outcrops immediately adjacent to an individual opening, provided these areas include higher value wildlife habitat attributes, as determined by a qualified professional. - **CWHds1 WTRA**% minimum required 9% - **CWHms1 WTRA**% minimum required 7% - **MHmm2 WTRA**% minimum required 7% NOTE: All primary forest development within WHA 2-252 and 2-524 requires a 10% WTRA%. The percentages above by variant, will be based upon the total area under prescription (TAUP) for each individual block. TAUP includes all area of harvest, all reserve areas associated with the opening and all in-block roads. For compliance, the Terrestrial Ecosystem Mapping completed as of March 2010 will form the basis of biogeoclimatic subzone and variant determination.
CCF-WT-02	**All**	**RESULT**	When planning and implementing primary forest activities, the CCF will undertake to comply with the legislated requirements of FPPR Section 67 in the restriction for removal of timber from within a Wildlife Tree Retention Area.
CCF-WT-03	**All**	**RESULT**	When planning and conducting primary forest activities, the CCF will undertake to comply with FPPR Sections 64 (Maximum Cutblock Size) and 65 (Harvesting Adjacent to Another Cutblock)

11.4.3 Riparian Areas – Water, Fish, Wildlife and Biodiversity

11.4.3.1 Objectives set by government for water, fish, wildlife and biodiversity within riparian areas – FPPR section 8

The objective set by government for water, fish, wildlife and biodiversity within riparian areas is, without unduly reducing the supply of timber from BC forests, to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas.

11.4.3.2 Context: Riparian Resources

Forest management strategies of assigning tree retention levels and specifying permitted activities adjacent to rivers, streams, creeks, and watercourses, including Wetlands and Lakeshores, form the basis of meeting multiple objectives set by government for water, fish and wildlife habitats, and biodiversity.

Measures, Undertakings, and Commitments

<table>
<tr><th>REF. #</th><th>FDU</th><th>Measure</th><th>Operational and Planning Commitment</th></tr>
<tr><td>CCF-RIP-01</td><td>All</td><td>RESULT</td><td>
In respect to water, fish, wildlife and biodiversity within riparian areas:

The CCF, when planning and implementing primary forest activities, will undertake to comply with the following sections of the FPPR:
• Section 47 (stream riparian classes) subsections 1-3 and 5-8 only. Refer to table 5 below for the alternative result adopted in place of subsection 4.
• Section 48 (wetland riparian classes) subsections 1-7. Refer to the table 6 below for the result proposed which is consistent with subsection 3.
• Section 49 (lake riparian classes) subsections 1 and 3-5 only. Refer to the table below for the alternative result adopted in place of subsection 2.
• Section 50 (restrictions in a riparian management area)
• Section 51 (restrictions in a riparian reserve zone)
• Section 52(2) (restrictions in a riparian management zone)
• Section 53 (temperature sensitive streams) of the FPPR

For interpretation and compliance, no commercial timber removal will occur within the riparian reserve zone except for right of way clearing that occurs at designated stream crossings as part of road development.

Table 5: Stream Riparian Classes as per FPPR Section 47(1-3) and 47(5-8)
RMA, RRZ and RMZ presented as alternative to FPPR Section 47(4)
<table>
<tr><th>Riparian Class (width)</th><th>Riparian Management Area</th><th>Minimum Riparian Reserve Zone</th><th>Riparian Management Zone</th></tr>
<tr><td>S1-B* (20-100m)</td><td>70m</td><td>50m</td><td>20m</td></tr>
<tr><td>S2 (5-20m)</td><td>50m</td><td>30m</td><td>20m</td></tr>
<tr><td>S3 (1.5-5m)</td><td>40m</td><td>20m</td><td>20m</td></tr>
<tr><td>S4 (<1.5m)</td><td>40m</td><td>10m</td><td>30m</td></tr>
<tr><td>S5 (>3m)</td><td>30m</td><td>10m</td><td>20m</td></tr>
<tr><td>S6 (<3m)</td><td>20m</td><td>0m</td><td>20m</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>REF. #</th><th>FDU</th><th>Measure</th><th>Operational and Planning Commitment</th></tr>
<tr><td></td><td></td><td></td><td>
Table 6: Wetland Riparian Classification as per FPPR Section 48(1) and 48(2)
RMA, RRZ and RMZ as per FPPR Section 48(3)
<table>
<tr><th>Riparian Class Area / BGCZ (subzone/variant)</th><th>Riparian Management Area</th><th>Minimum Riparian Reserve Zone</th><th>Riparian Management Zone</th></tr>
<tr><td>W1 (>5.0ha)</td><td>50m</td><td>10m</td><td>40m</td></tr>
<tr><td>W2 (1-5.0ha /ds1)</td><td>30m</td><td>10m</td><td>20m</td></tr>
<tr><td>W3 (1-5.0ha /ms1-mh2)</td><td>30m</td><td>0m</td><td>30m</td></tr>
<tr><td>W4 (>0.25-1ha /ds1)</td><td>30m</td><td>0m</td><td>30m</td></tr>
<tr><td>W4 (>0.5-1ha /ms1-mh2)</td><td>30m</td><td>0m</td><td>30m</td></tr>
<tr><td>W5 complexes</td><td>50m</td><td>10m</td><td>40m</td></tr>
</table>
Table 7: Lake Riparian Classes as per FPPR Section 49(1) and 49(3-5)
RMA, RRZ, RMZ presented as alternative to FPPR Section 49(2)
<table>
<tr><th>Riparian Class Area / BGCZ (subzone/variant)</th><th>Riparian Management Area</th><th>Riparian Reserve Zone</th><th>Riparian Management Zone</th></tr>
<tr><td>L1-B** (5-1000ha)</td><td>30m</td><td>15m</td><td>15m</td></tr>
<tr><td>L2 (1-5.0 ha /ds1)</td><td>30m</td><td>15m</td><td>15m</td></tr>
<tr><td>L3 (1-5ha /ms1-mh2)</td><td>30m</td><td>15m</td><td>15m</td></tr>
<tr><td>L4 (>0.25ha /ds1)</td><td>30m</td><td>15m</td><td>15m</td></tr>
<tr><td>L4 0.5-1ha (ms1-mh2)</td><td>30m</td><td>15m</td><td>15m</td></tr>
</table>
* There are no S1-A streams within the CCF. S1-S4 streams are either fish habitat or within a Community Watershed.
** There are no L1-A lakes within the CCF.
</td></tr>
<tr><td>CCF-RIP-02</td><td>All</td><td>STRATEGY</td><td>
In respect to sections 8 and 12(3) of the FPPR, to address the retention of trees in a riparian management zone the CCF, when planning and implementing primary forest activities will:

a) ensure that prior to commencing any primary forest activity, retention levels within the RMZ's are determined by a qualified professional through a riparian assessment that considers:
i. all factors listed in schedule 1, section 2 of the FPPR as it states on the date of submission of this FSP and;
ii. potential site-specific safety and operational issues.

b) design cutblocks and roads in a manner that is consistent with the retention levels as determined by a qualified professional as described in a).

c) plan and implement primary forest activities consistent with the results and recommendations of the assessment a) and the design b).

d) meet or exceed the level of retention for each riparian classification as detailed in the following table:
</td></tr>
</table>

REF. #	FDU	Measure	Operational and Planning Commitment
			Table 8: Basal area retention within a Riparian Management Zone

Riparian class	Minimum Basal Area to be Retained Within the RMZ
S1-B stream	20%
S2 stream	20%
S3 stream	20%
S4 stream	10%
S5 stream	10%
S6 stream	0%
All classes of wetlands and lakes	10%

The basal area retained within a RMZ will be similar to the pre-harvest stand structure attributes and may include both coniferous and deciduous tree species where it is determined to be appropriate and practicable (in accordance with approved stocking standards). Consideration will be given to the retention of specific desired stand attributes, understory vegetation, high value wildlife trees and coarse woody debris.

Additional retention within an RMZ may also be prescribed prior to conducting a primary forest activity by a Qualified Professional in regards to:

- Potential safety issues
- Operational constraints, economics and efficiencies
- The need to buffer the riparian feature from the introduction of materials that are deleterious to water quality.
- The role played by trees and understory vegetation in conserving water quality, fish habitat, wildlife habitat and biodiversity.
- The role of the RMZ in maintaining stream bank and stream channel integrity and normally functioning drainage processes.
- The relative importance and sensitivity of the riparian feature/class in conserving water quality, fish habitat, wildlife habitat and biodiversity.
- The type, timing or intensity of forest practices that are proposed.
- The species composition and physical structure of the riparian management zone as it was prior to timber harvesting.
- The role of the RMZ, where applicable, in maintaining the integrity of the associated reserve zone.
- The risk as determined by assessment of windthrow within the RMZ.
- The risk of riparian area impacts, where applicable, as determined by a terrain stability field assessment.
- The role of forest shading in controlling an increase in temperature of a stream, if the increase might have a deleterious effect on fish or fish habitat.
- The potential for and risk from downstream transport of introduced woody material if falling and yarding across riparian features is planned.
- The potential for and risk of stream bank instability, introduction of deleterious substances and transport of introduced woody or sediment materials if machine crossing of riparian features is planned.
- The probability of traditional and current Lil'wat uses.

Riparian management prescriptions will be marked in the field (where necessary), shown on operational maps, documented in the Site Plan, and discussed with operators prior to start-up in a pre-work meeting.

11.4.4 Objectives set by government for fish habitat in fisheries sensitive watersheds – FPPR section 8.1

11.4.4.1 Context

There are no "fisheries sensitive watersheds" established for any area under this plan.

11.4.5 Community Watersheds

11.4.5.1 Objectives set by government for water in community watersheds - FPPR section 8.2

The objective set by government for water being diverted for human consumption through a licensed waterworks in a community watershed is to prevent to the extent described in subsection (3) the cumulative hydrological effects of primary forest activities within the community watershed from resulting in (a) a material adverse impact on the quantity of water or the timing of the flow of the water from the waterworks, or (b) the water from the waterworks having a material adverse impact on human health that cannot be addressed by water treatment required under (i) an enactment, or (ii) the license pertaining to the waterworks.

11.4.5.2 Context: Community Watersheds

The Brew Creek Community Watershed has been the focus of industrial timber harvesting since the mid- 1990's. The most recent Hydrologic Assessment observed and documented no issues relating to peak flow or sedimentation source concerns from existing development. Implementing previous recommendations of the assessments, limiting the future rate of cut to 1% per year of the watershed area, and applying non-clear-cut or small opening type silviculture systems is a prudent and cautious approach to Watershed Management. Brew Creek does not connect directly to the point of diversion for the *Brew Creek Centre*, they take subsurface water through an adjacent well system.

In 2008 an updated Community Watershed Assessment Procedure was conducted. This CWAP provides information on timber harvesting amounts, road density, construction methods and drainage design. A copy of this document is included in APPENDIX M.

The Agnew and Rideau Community Watersheds are located within the Interface and Showh FDU's respectively. Primary forest activities are not planned within these watersheds unless there is a requirement for a salvage operation due to circumstances caused by wildfire, windthrow or insect and disease damage.

Measures, Undertakings, and Commitments

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-CW-01	**BRE**	**STRATEGY**	Within the area of the Brew creek community watershed, the CCF will implement the recommendations of the *Updated Coastal Watershed Assessment Procedure for Brew Creek Community Watershed, Whistler, B.C.* dated July 17,2008 The total amount of disturbed area permitted within the watershed is limited to a maximum of 1.0% of the total watershed per year or 70ha over a 5-year period. Disturbed areas are defined as harvested areas and areas disturbed by natural causes such as fire, windthrow, insect and disease outbreaks which result in widespread mortality of existing forested stands. If the total existing and planned disturbance within the watershed exceeds the 1-year or 5-year levels described above, the CCF will during planning and prior to conducting any primary forest activity: a) instigate a watershed assessment, using a qualified professional who will review the current state of the watershed and recommend measures to apply at the primary forest activity site level which will minimize the potential cumulative effects of the primary forest activities on water quantity, sediment sources, risks to water quality, timing of flow and human health. b) implement all recommendations applicable to the primary forest activity prescriptions, and c) provide the appropriate government ministry a copy of the watershed assessment and in writing, a summary of measures that have been implemented in the primary forest activity prescriptions.
CCF-CW-02	**SHO INT**	**STRATEGY**	In the event that primary forest activities are planned to reduce wildfire hazards or respond to windthrow, disease or insect damage within the Agnew or Rideau

REF. #	FDU	Measure	Operational and Planning Commitment
			Community Watersheds as mapped, the CCF will during planning and completion of primary forest activities: a) at the planning stage instigate a watershed assessment, to be completed by a qualified professional to review the current state of the watershed and provide recommendations for the development of primary forest activity prescriptions which will minimize the potential cumulative effects of the primary forest activities on water quantity, sediment sources, risks to water quality, timing of flow and to human health. b) the CCF will implement the recommendations of the qualified professional in the development of the prescription and the execution of the primary forest activity. c) Plan and implement excavated road-trail construction and deactivation to occur within the community watershed boundary only during the July-October time period.

11.4.6 Visual Quality

11.4.6.1 Objectives for Visual Quality

The objectives set by government under the Sea to Sky Scenic Area Plan, December 1995 are:

i. *to prepare a landscape inventory and identify visual sensitivity*
ii. *to establish acceptable VQO's*
iii. *to prepare landscape management principles*
iv. *to establish a mechanism for implementation of these principles in the preparation, review, approval, and monitoring of forest management actives; and*
v. *to consider and recommend secondary corridors in the Soo TSA which require future analysis.*

11.4.6.2 Context: Sea to Sky Scenic Area

The Sea to Sky Scenic Area Plan was designated December 9, 1991 and in 1995 the Sea to Sky Scenic Area and Visual Quality Objectives for Hwy 99 Corridor and the 3 Corridors Landscape Plan came into effect. In 2002, under section 180 of FRPA the plan was grand-parented. Covering Hwy #99 from Horseshoe Bay to Pemberton, the existing VQO's and viewpoints have limitations which may not reflect the level of visual management desired in the CCF.

Prudent planning for visual management within the CCF is to consider viewing from atop Whistler and Blackcomb mountains including from the Peak to Peak Gondola. By implementing the CCF Silviculture Strategy defined in the K3V Management Plan #2 (March 2015) and considering the scale, distance and viewing angle, a Partial Retention VQOs will be achieved under almost all circumstances and from all considered viewpoints. The lower range of visual alterations from 1-3% when viewed in perspective is the desired outcome from all prominent viewing positions.

In addition, the immediate foreground will be considered in visual design when in proximity to an established recreation trail or adjacent to public highways. This consideration needs to recognize the reality of upgrade and modification to existing access (trail, intersections, old road grades) in order to provide safe access for forestry operations. Immediate foreground will primarily be managed by varying the amount of tree retention within a "linear zone" defined in a Silviculture Site Plan.

Measures, Undertakings, and Commitments

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-VIS-01	**All**	**RESULT**	The CCF, when planning and implementing primary forest activities, will achieve the Visual Quality Objectives (VQO) assigned to each visual polygon within the scenic areas shown in the *BC Geographic Warehouse* and displayed on the FSP maps. Consistency with the assigned objectives will be achieved by applying good visual design principles in the planning of all primary forest activities within areas with established VQO's. The consistency of the planned primary forest activity with the VQO assigned to an area will be evaluated through the preparation of a Visual Impact Assessment (VIA) by a qualified professional prior to commencing a primary forest activity that will result in visual alteration to an area to which a VQO is assigned. Preparation of the VIA will;

REF. #	FDU	Measure	Operational and Planning Commitment
			1. Consider all existing visual alterations to the landscape where the proposed primary forest activity is to occur, including the effect of winter contrast, where "landscape" means: the entire scene viewed at one time from one place. Visual alterations not related to primary forest activities are excluded from consideration in the VIA. 2. Identify all significant public viewpoint(s) for each proposed area of harvest and utilize these locations as viewpoints in the completion of the VIA. Significant public viewpoints are defined as: a. a location from where a proposed primary forest activity will be visible where a large number of the public traditionally congregate along major public highways, or within common public spaces; and/or b. a viewpoint location identified in the *BC Geographic Warehouse* and on the FSP Maps. c. the mountaintop lodges on Whistler and Blackcomb ski areas and mid-span on the Peak to Peak gondola d. the most restrictive vantage point for each proposed area of harvest, where "most restrictive vantage point" means: specific point(s) along highway 99 and the Callahan Valley Road that provide the best view of the planned primary forest activities' alteration to the visual landscape The completed VIA will guide the final layout shape and location of tree retention areas and ensure completed primary forest activities are consistent with the assigned VQO assigned to the area.
CCF-VIS-02	**All**	**STRATEGY**	In this strategy, a "visual buffer" means: a strip, group or individual trees and/or vegetation intended to partially or fully obscure the view of a primary forest activity from a view point. The CCF, when planning and implementing primary forest activities, will employ the following strategy to accommodate a visual buffer zone for all Openings that are; 1. directly adjacent to highway #99 and the Callaghan Valley Road or 2. affecting the foreground zone of Established and Authorized Recreation Trails, Recreation Sites and Interpretive Forests. The "foreground zone" means the area closest and immediately visible from an established and authorized recreation site, trail or interpretive forest. The strategy requires a visual impact assessment completed by a qualified professional in order to determine, in advance of the commencement of a PFA, the location and quantity of trees to be retained within the visual buffer zone. Subject to: 1. an assessment which excludes any right of way clearing required for road development or modification. 2. objectives set on an established recreation trail, site or interpretive forest that would vary the level of tree retention required for an appropriate visual buffer. 3. input from community stakeholders and user groups to determine an appropriate visual buffer will be considered by a qualified professional. 4. the assessment will not consider any non-forested openings and non-forested elements that occur within the foreground zone.

11.4.7 Cultural Heritage Resources

11.4.7.1 Objectives for Cultural Heritage Resources – FPPR section 10

The objective set by government for cultural heritage resources is to conserve, or if necessary, protect cultural heritage resources that are (a) the focus of a traditional use by an aboriginal people that is of continuing importance to that people, and (b) not regulated under the Heritage Conservation Act.

11.4.7.2 Context: First Nations Partners

The CCF has entered into an Agreement with the Lil'wat Nation and the Squamish Nation whereby all planned primary forest activities are sent to a Referral Committee specific to each Nation requesting review, comment and approval to complete the primary forest activity. The Lil'wat Nation and the Squamish Nation will review the information and provide approval for the activity to proceed. Approval may include recommendations for incorporation of specific measures to be included in the primary forest activities being referred. Any measures proposed by the Lil'wat Nation or Squamish Nation will be incorporated into primary forest activity planning and completion.

In the event that planned primary forest activities which have completed the referrals process are expanded beyond the scope of the original referral, the CCF will re-refer those changes to ensure they are considered by the referral committee for both the Squamish Nation and the Lil'wat Nation.
The CCF partnership has recognized the opportunity for the Squamish Nation and Lil'wat Nation to explore commercial non-timber forest products and botanicals.

Measures, Undertakings, and Commitments

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-CULT-01	**All**	**RESULT**	The CCF, when planning and implementing primary forest activities (PFAs), will manage plantations and roadside vegetation without the use of chemical pesticides so that the Squamish Nation and Lil'wat Nation have unfettered ability to access early seral plant communities within the harvested areas for traditional use or botanical products throughout the area covered by this plan.
CCF-CULT-02	**All**	**STRATEGY**	1. Prior to submitting an application for authorization to conduct a PFA, the CCF will provide the Squamish Nation and Lil'wat Nation with the details and locations via the Squamish Nation's *Squamish Connect* and Lil'wat Nation's *Knowledge Keeper* web-based referral portals. If Cultural Heritage Resource (CHR) information is shared or directions provided to the CCF, that information or direction will be documented within the cover letter of the application for authorization to conduct a PFA. Included in that documentation will be a summary of any accommodations made, including specific deferred areas and/or measures to be implemented which conserve or protect CHR that are of continuing importance to the First Nation(s). 2. The time frame for First Nations review of the information provided will be consistent with the *First Nations Consultation and Revenue Sharing Agreements* (FCRSA) entered between the affected First Nation and government. If at any time the CCF contemplates expanding, altering or increasing the extent of planned PFA's the CCF will, in advance of applying for authorization to conduct a PFA, share the details of those plans with the Squamish Nation and Lil'wat Nation and carry out recommendations provided by that referral in order to protect identified CHR. 3. On the basis of any referral direction by either the Squamish Nation or Lil'wat Nation or the recommendation from any of the following planning initiatives: A. Archeological Impact Assessment; B. Preliminary Field Reconnaissance Surveys; C. Terrestrial Vegetation Inventory; D. Environmental Monitoring; the CCF will implement the recommendations regarding the PFA's and if necessary, defer, modify or alter the extent of the primary forest activity as part of those recommendations. 4. The CCF will submit applications to authorize PFA's only when both the Squamish Nation and Lil'wat Nation have agreed by way of a written response that the CCF's planned primary forest activities have adequately considered and respected CHR within the area affected.

REF. #	FDU	Measure	Operational and Planning Commitment
			5. Upon completion of a PFA that is carried out adjacent or affects identified Cultural Heritage Resources (as defined in both the *Forest Act* and the *Land Use Objectives Order for Sea to Sky LRMP*), the CCF will notify and report the extent and condition of the cultural heritage resources to the respective First Nation(s). 6. In the event that a previously unidentified CHR is discovered during planning or operations the CCF will: a. suspend any PFA that threatens the CHR, notify the Squamish Nation and Lil'wat Nation and work with them to develop management/mitigation options that may include modifications to the PFA and; b. Any modifications will be clearly identified on the revised Silviculture Site Plan or design documents and the applicable maps. This information will be communicated to the First Nation(s) and individuals carrying out the PFA. The modified design and Site Plan will be implemented accordingly. c. only resume a PFA once the planned activity has been modified to the extent possible that protects or conserves the identified CHR.
CCF-CULT-03	**All**	**STRATEGY**	The CCF will, upon written request, assist the Squamish Nation and Lil'wat Nation communities with locating and facilitating the collection of traditional use forest products and resources such as edible and medicinal plants, fungi, bark, boughs and non-merchantable wood products.

11.4.7.4 First Nations' Cultural Places

Areas are defined under the LRMP Order as either ***Cultural Places or Cultural Management Areas***. (Appendix N) Objectives for these are:

1) Conserve and protect the integrity of the First Nations cultural and heritage resources;
2) Ensure that economic development activities are undertaken in a manner that is sensitive and maintain First Nation's traditional harvesting for food, social, ceremonial and spiritual purposes.

There are three Cultural Places established within the CCF:

- Upper Cheakamus River cultural site #64 (Squamish Nation)
- Green Lake North cultural site #52 (Squamish Nation)
- Green Lake spirited ground area #31 (Lil'wat Nation)

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-CULT-04	**All**	**STRATEGY**	When planning and implementing primary forest activities the CCF will follow the Order regarding Objectives for First Nations' Cultural Places as specified in the *Ministerial Order for Land Use Objectives for the Sea to Sky LRMP* (approved and amended on August 13th, 2013). Objectives for First Nations' Cultural Places: 1. Protect the cultural heritage resources (as defined in both the *Forest Act* and the *Land Use Objectives Order for Sea to Sky LRMP*), within the cultural places listed in Schedule 1 of the Ministerial Order, to support First Nations' food, social, ceremonial and spiritual use of the forest. 2. Maintain 100% of the forested area in the cultural places as listed in Part 2, section 3(2) of the Ministerial Order. 3. Despite the above section 2, timber harvesting may occur in the cultural places to: a. maintain forest health (including salvage harvesting) within the cultural places and adjacent forests;

REF. #	FDU	Measure	Operational and Planning Commitment
			b. address road maintenance activities within the cultural places; and to c. eliminate a safety hazard.

11.4.7.5 First Nations' Cultural Management Areas

Areas are defined under the LRMP Order as either ***Cultural Places or Cultural Management Areas***. (Appendix N) Objectives for these are:

1) Conserve and protect the integrity of the First Nations cultural and heritage resources;
2) Ensure that economic development activities are undertaken in a manner that is sensitive and maintain First Nation's traditional harvesting for food, social, ceremonial and spiritual purposes.

There are two Cultural Management Areas established within the CCF:

- Cheakamus Cultural Management Area
- Callaghan Cultural Management Area

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-CULT-05	**CHE, CAL**	**STRATEGY**	When planning and implementing primary forest activities the CCF will follow the Order regarding Objectives for First Nations' Cultural Management Areas as specified in the *Ministerial Order for Land Use Objectives for the Sea to Sky LRMP* (approved and amended on August 13th, 2013). Objectives for First Nations' Cultural Management Areas: 1. Conserve cultural heritage resources within the Cheakamus and Callaghan cultural management areas as shown on map 2 of the Order. 2. Maintain opportunities for first nations to practice traditional harvesting for food, social, ceremonial and spiritual purposes in the cultural management areas.

12. Regeneration Stocking Standard Obligations

Pursuant to the Forest Planning and Practices Regulation S.16, the following tables and standards are to be applied to harvested areas under this Forest Stewardship Plan (FSP). These standards are appropriate across the range of forest ecosystems within the CCF and reflect the management directions within Management Plan #2 dated March 2015 for this tenure.

S. 44(1) of the FPPR applies to all FDU's where the CCF is required to establish a free growing stand. The applicable stocking standards, regeneration dates and free growing heights referred to in s.44(1)(a) and (b) of the FPPR are described in tables S1-7 and are applicable to all FDU's where the CCF proposes to conduct harvesting operations.

With respect to S.16(4) of the FPPR, which refers to S.44(4) and harvesting timber in the circumstances addressed by S.44(3)(h)(i), this FSP has presented "Deviation from Potential Tabular Stocking Standards" for blocks planned to be harvested with Moderate to High Levels of Over-story Tree Retention, which will be applied at the individual block level through the block site plan.

Standards have been developed for specific fuel management purposes where stocking levels are intentionally reduced and tree species varied with the inherent knowledge of the potential in reducing future timber yields.

Standards are provided to describe the stocking condition of over-story retained trees when those trees are permanently retained. These standards are to be used in conjunction with silviculture site plans and RESULTS reporting required under the Forest and Range Practices Act. These standards recognize the full range of silviculture systems and regeneration conditions that occur as a result of harvesting and/or other disturbances the Ecosystem Based Management Plan and Silviculture Strategy for K3V.

12.1 Even-Aged Management

12.1.1 Low Levels of Over-story Tree Retention

Context: The following standards in tables S1-S3 apply to standard units where even-aged management is practiced. Generally applicable to the following silviculture systems:

Patch-Cut or Retention-Cut Openings with low levels of dispersed tree retention (<5m2/ha of basal area);

Table S1			**Normal Regeneration Standards**							
ID # Assigned	BGC Classification		Species		Stocking			Min Inter-tree Spacing (m)	Regen. Delay (Max yrs)	Free Grow (Max yrs)
			Species/Minimum FG Height (m)		Target	Min p&a	Min p			
	Zone/SZ	Site Series	Preferred (p)	Acceptable (a)	(well-spaced/ha)					
1070407	CWH ds1	01	Fd/2.25	Cw/1.5 Pw/2.5	900	500	400	2.0	3	20
1070408	CWH ds1	02[1]	Pl/1.25 Fd/1.5		400	200	200	2.0	3	20
1070409	CWH ds1	03	Fd/1.5 Pl/1.25	Cw/1.0	800	400	400	2.0	3	20
1070411	CWH ds1	04	Fd/2.25	Cw/1.5 Pw/2.5	800	400	400	2.0	3	20
1070412	CWH ds1	05	Fd/2.25	Cw/1.5 Hw/1.0 Pw/2.5	900	500	400	2.0	3	20
1070413	CWH ds1	06	Hw/1.0 Fd/2.25		900	500	400	2.0	6	20
1070414	CWH ds1	07	Cw/2.0 Fd/3.0	Bg/2.0	900	500	400	2.0	3	20
1070415	CWH ds1	08	Cw/2.0/Ss/3.0Bg/2.0		900	500	400	2.0	3	20
1070416	CWH ds1	09	Cw/2.0	Bg/2.0	900	500	400	2.0	3	20
1070417	CWH ds1	11[1]	Pl/1.25	Cw/1.0	400	200	200	2.0	3	20

1070418	CWH ds1	12	Cw/1.0	Pl/1.25	800	400	400	2.0	3	20
Pw: Use of resistant stock mitigates risk of white pine blister rust. Do not use non-resistant stock for reforestation. Pw is limited to a maximum of 20% of the silviculture component at free growing.										
1: Avoid logging										

Table S2			**Normal Regeneration Standards**							
ID # Assigned	BGC Classification		Species		Stocking			Min Inter-tree Spacing (m)	Regen. Delay (Max yrs)	Free Grow (Max yrs)
			Species/Minimum FG Height (m)		Target	Min p&a	Min p			
	Zone/SZ	Series	Preferred (p)	Acceptable (a)	(well-spaced/ha)					
1070419	CWH ms1	01	Cw/1.5 Fd/2.25 Sx/1.0 Hw/1.5 Ba/0.75	Yc/1.5	900	500	400	2.0	3	20
1070421	CWH ms1	02[1]	Pl/1.25 Fd/1.5		400	200	200	2.0	3	20
1070422	CWH ms1	03	Cw/1.5 Fd/2.25	Sx/1.0	800	400	400	2.0	3	20
1070424	CWH ms1	04	Cw/2.0 Fd/3.0 Ba/1.0	Hw/2.0/ Sx/1.25 Yc/2.0 Pw/2.5	900	500	400	2.0	3	20
1070425	CWH ms1	05	Cw/1.5 Hw/1.5 Ba/0.75	Yc/1.5	900	500	400	2.0	6	20
1070426	CWH ms1	06	Cw/2.0 Fd/3.0	Ba/1.0 Sx/1.25 Yc/2.0	900	500	400	2.0	3	20
1070427	CWH ms1	07	Ba/1.0 Cw/2.0 Ss/4.0 Sx/1.25	Fd/3.0	900	500	400	2.0	3	20
1070428	CWH ms1	08	Cw/2.0	Ba/1.0	900	500	400	2.0	3	20
1070429	CWH ms1	10[1]	Pl/1.25	Cw/1.0	400	200	200	2.0	3	20
1070430	CWH ms1	11	Cw/1.0 Yc/1.0	Pw/2.5 Sx/0.75	800	400	400	2.0	3	20
Pw: Use of resistant stock mitigates risk of white pine blister rust. Do not use non-resistant stock for reforestation. Pw is limited to a maximum of 20% of the silviculture component at free growing.										
Ba: Suitable at upper elevations, on cool aspects and in cold air drainages.										
1: Avoid logging										

Table S3			**Normal Regeneration Standards**							
ID # Assigned	BGC Classification		Species		Stocking			Min Inter-tree Spacing (m)	Regen. Delay (Max yrs)	Free Grow (Max yrs)
			Species/Minimum FG Height (m)		Target	Min p&a	Min p			
	Zone/SZ	Series	Preferred (p)	Acceptable (a)	(well-spaced/ha)					
1070431	MHmm2	01	Ba/0.6 Hm/1.0	Yc/1.0 Sx/1.0	900	500	400	2.0	6	20
1070432	MHmm2	02	Hm/0.75 Bl/0.8	Yc/0.75 Sx/0.75 Ba/0.6	400	400	400	2.0	6	20
1070433	MHmm2	03	Ba/0.6 Hm/1.0 Sx/1.0	Yc/1.0	900	500	400	2.0	6	20
1070434	MHmm2	04	Ba/0.6 Hm/1.0	Yc/1.0	900	500	400	2.0	6	20
1070435	MHmm2	05	Ba/0.6 Sx/1.0	Yc/1.0 Hm/1.0	900	500	400	2.0	6	20
1070436	MHmm2	06	Hm/0.75	Yc/0.75 Ba/0.6	800	400	400	2.0	6	20
1070437	MHmm2	07	Ba/0.6 Sx/0.75	Hm/0.75 Yc/0.75	900	500	400	2.0	6	20
1070438	MHmm2	08[1]	Hm/0.75	Yc/0.75	400	200	200	2.0	6	20
1070439	MHmm2	09	Hm/0.75	Yc/0.75 Sx/0.75	800	400	400	2.0	6	20
1: Avoid logging										

Tree Species Abbreviations for stocking standard tables S1-S7

Conifer Tree Species	Broadleaf Tree Species
"Ba" means amabilis fir; "Bl" means subalpine fir;	“Act” means black cottonwood;
"Hw" means western hemlock; "Hm" means mountain hemlock;	“Dr” means red alder;
"Cw" means western red cedar; “Yc” means yellow cedar;	“Ep” means common paper birch;
"Pl" means lodgepole pine; “Pw” means western white pine;	“Mb” means bigleaf maple
"Fd" means coastal Douglas-fir; “Lw” means western larch;	
“Sx” means hybrid Engelmann/white spruce;	
“Sxs” means hybrid Engelmann/Sitka spruce;	
“Ss” means Sitka spruce.	

12.1.2 Moderate to High Levels of Over-story Tree Retention

Context: The following stocking standards are applied where even-aged management is practiced as single entry dispersed retention and the over-story is permanently retained for other forest management objectives. This includes both the internal dispersed retention required for managed future harvest areas (SPOW-WHAs) and those for ecosystem based management. Generally applicable to the following silviculture systems: *(Ref: CCF MP#2 March.2015)*

1. Retention systems either variable or dispersed where regeneration is significantly influenced by residual trees; or shelter wood systems when the removal cut is scheduled beyond 20 years free growing date:
   -Moderate Retention 5m2 to 20m2 Retained Basal Area (RBA); or,
   -High Retention 20m2 to 39m2 Retained Basal Area (RBA).

2. Aggregate (Grouped) Retention – Preferred for Managing Fdc Aggregates with Fdc Reforestation

   Situations and Circumstances

   - If retention is required for other non-timber values and where Fdc is the prime species being managed for regeneration, then establishment of Aggregated – Grouped reserves is the recommended approach.
   - Dispersed retention is not recommended when managing for Fdc regeneration under retention and is only an acceptable practice (using the standards outlined in section 3.0 below), if the use of Aggregated – Grouped reserves cannot operationally meet the non-timber value objectives.
   - Rationale: Douglas-fir is a light demanding species and demonstrates lower growth rates beneath retained trees which intercept light. Retention of trees in a dispersed pattern can have a greater negative effect on Douglas-fir growth rather than retention in aggregated patterns. -- -Dispersed retention should focus on those trees with special attributes specific to the non-timber management objectives. Typically, these trees will be veteran trees (survivors of the last stand initiating event) and large diameter trees with specific structural attributes (multiple leaders, cavities, etc.) There is however some variance across subzones and Fdc can be somewhat shade tolerant in CDF xeric sites, but can be very shade intolerant in the CWH vm1/2. Results have shown that the growth loses elevate rapidly in dispersed retention for any collective cover over 4 to 6 m2/ ha. of Basal Area (BA) retained in second growth Fdc stands. As well significant losses in Fdc growth rates decline on north aspects in these zones and therefore preclude preferring Fdc for regeneration on these aspects.

3. Aggregate Patch Retention Recommended Design Criteria

If the Aggregate Retention Criteria below is deployed on SUs managed for Fdc, that the even aged regeneration and free growing stocking standards identified in tables S1-S3 are appropriate.

- Must be > 2 stand tree lengths apart;
  - must be oriented North ↔ South;
- Target aggregate patch sizes between 0.1 and .25 ha. in size – larger patches for WTRA should be targeted to be part of the external boundary and not isolated within the opening with the intent of reforesting Fdc around them;
  - target the aggregate patch width to be ≤ 20 meters;
  - target the aggregate patch length to be ≤ 150 meters;
- Must not be located within openings with a North Aspect within the wetter or more northern CWH subzones.

Source: Silviculture Working Group, CRIT, final sedrss appendix 3 fdc stocking standards August 3, 2016

Applying the tabular method for Deviation from Potential surveys to monitor and report regeneration and free growing obligations: (ref: Single Entry Dispersed Retention Stocking Standard implementation guide v2.0)

Applicability:

a. For second growth Douglas Fir and Hemlock dominated stands of SI_{50} between 24 to 36m;
b. When applied using the dominant site series for the opening;
c. All areas >0.25ha of non-harvest are removed from the NAR being assessed;
d. The dripline is defined as *"the vertical boundary of the outside of the outer live foliage of the over-story tree";*
e. The M value is the Target SPH divided by 200, when using a 3.99m fixed area plot;
f. Damage Criteria as specified in *Appendix K* for both over-story and understory are applied.

Deviation from Potential Tabular Stocking Standard for CWHms1

Table S4-1

Xeric	Standard: DFP-DF Ref#	*Stocking Standard for K3V on FdHw - Falsebox*								*Free Growing Guide*	
		Species	Site Occupancy					Regen Delay (max yrs)	MITD		
Site Series	Layer		All BA combinations are applicable to survey plots							Species	Height (m)
			Only used during plots	Average Crop Basal Area of Standards Unit REGEN / FG SEDRSS Obligations				Only used during plots			
CWH ms1 03(02)	Residual Layer (L1) (≥12.5dbh) (BA m^2 /ha)	Fd[1],Cw[2] Ba, Hw	0-4 m^2 /ha	5-10 m^2 /ha Mod1	11-16 m^2 /ha Mod2	17-23 m^2 /ha High1	24-39 m^2 /ha High2	≥ 40 m^2 /ha	3	N/A		
	Regen Layer (L2-L4) (WS / ha. TSS – Target MSS - Minimum)	Preferred: Fd[1],Cw[2] Accept[1] Pw, Pl, Yc, Hw	800 TSS 400 MSS	700 TSS 400 MSS	600 TSS 300 MSS	500 TSS 200 MSS	400 TSS 100 MSS	0 0	3	L1 Drip line *or* 2.0 m (L2-L4)	Fd Cw Hw	2.25[2] 1.5 1.0

Table S4-2

Zonal	Standard: DFP-AM Ref# ?	*Stocking Standard for K3V on HwBa –Step Moss*								*Free Growing Guide*	
		Species	Site Occupancy					Regen Delay (max yrs)	MITD		
			All BA combinations are applicable to survey plots								
Site Series	Layer		Only used during plots	Average Crop Basal Area of Standards Unit REGEN / FG SEDRSS Obligations				Only used during plots		Species	Height (m)
CWH ms1 01(04)	Residual Layer (L1) (≥12.5dbh) (BA m^2 /ha)	Fd,Cw Ba, Hw,Yc	0-4 m^2 /ha	5-10 m^2 /ha Mod1	11-16 m^2 /ha Mod2	17-23 m^2 /ha High1	24-39 m^2 /ha High2	≥ 40 m^2 /ha	3	N/A		
	Regen Layer (L2-L4) (WS / ha. TSS – Target MSS - Minimum)	Preferred Cw, Ba, Fd, Hw Accept[1] Pw,Yc	900 TSS 500 MSS	800 TSS 400 MSS	700 TSS 300 MSS	600 TSS 200 MSS	500 TSS 100 MSS	0 0	3	L1 Drip line *or* 2.0 m (L2-L4)	Ba Fd Cw Hw Yc	0.75 2.25[2] 1.5 1.5 1.5

Stocking Decision for CWHms1: A Standard Unit is found to have met its Regen or Free Growing obligation if ≥ the Minimum Stocking Standard (MSS) has been achieved for the corresponding Average Crop Basal Area and the DFP value is < 0.26.

Deviation from Potential Tabular Stocking Standard for MHmm2

Table S4-3

Zonal	Standard: DFP-MB Ref#	*Stocking Standard for K3V for HmBa –Blueberry*								*Free Growing Guide*	
		Species	Site Occupancy					Regen Delay (max yrs)	MITD		
			All BA combinations are applicable to survey plots								
Site Series	Layer		Only used during plots	Average Crop Basal Area of Standards Unit REGEN / FG SEDRSS Obligations				Only used during plots		Species	Height (m)
MHmm2 01-(03)	Residual Layer (L1) (≥12.5dbh) (BA m^2 /ha)	Hm, Hw Yc, Ba	0-4 m^2 /ha	5-10 m^2 /ha Mod1	11-16 m^2 /ha Mod2	17-23 m^2 /ha High1	24-39 m^2 /ha High2	≥ 40 m^2 /ha		N/A		
	Regen Layer (L2-L4) (WS / ha. TSS – Target MSS - Minimum)	Preferred Ba,Hm,Yc	900 TSS 500 MSS	800 TSS 400 MSS	700 TSS 300 MSS	600 TSS 200 MSS	500 TSS 100 MSS	0 0	6	L1 Drip line *or* 2.0 m (L2-L4)	Ba Hm Yc	0.6 1.0 0.75

Table S4-4

Euro-trophic	Standard: DFP-AB Ref#	*Stocking Standard for K3V for BaHm-Twistedstock*								*Free Growing Guide*	
		Species	**Site Occupancy**						**Regen Delay (max yrs)**	**MITD**	
			All BA combinations are applicable to survey plots								
Site Series	**Layer**		**Only used during plots**	**Average Crop Basal Area of Standards Unit REGEN / FG SEDRSS Obligations**				**Only used during plots**			**Species** / **Height (m)**
MHmm2	**Residual Layer (L1) (≥12.5dbh) (BA m^2 /ha)**	Hm, Hw Yc, Ba	**0-4 m^2 /ha**	**5-10 m^2 /ha Mod1**	**11-16 m^2 /ha Mod2**	**17-23 m^2 /ha High1**	**24-39 m^2 /ha High2**	**≥ 40 m^2 /ha**		N/A	
05-(04)	**Regen Layer (L2-L4) (WS / ha. TSS – Target MSS - Minimum)**	**Preferred** Yc, Ba, Hm, Hw	**900 TSS** **500 MSS**	**800 TSS** **400 MSS**	**700 TSS** **300 MSS**	**600 TSS** **200 MSS**	**500 TSS** **100 MSS**	**0** **0**	6	L1 Drip line ***or*** 2.0 m (L2-L4)	Ba 0.6 Hm 1.0 Yc 0.75

Stocking Decision for MHmm2: A Standard Unit is found to have met its Regen or Free Growing obligation if ≥ the Minimum Stocking Standard (MSS) has been achieved for the corresponding Average Crop Basal Area and the DFP value is < 0.32

Footnotes:

1) Fdc
- Ecologically Suitable only in areas with < 10 m2 /ha. BA.;
- Restricted to a maximum of 200 WS/FG /ha (1 per 3.99 m plot) with ≥ 10 m2 /ha and ≤ 16 m2/ha. BA;
- Not Suitable > 16 m2/ha. BA;
- Not Suitable on north aspects unless no residual trees within 2 stand tree lengths.

2) Cw (Note: For Cw and Hw dominated retention stands of SI < 30 – the SEDRSS procedures referenced in the main text of this document are recommended)
- Ecologically Suitable only in areas with < 10 m2 /ha. BA.;
- Restricted to a maximum of 200 WS/FG /ha (1 per 3.99 m plot) with ≥ 10 m2 /ha and ≤ 23 m2/ha. BA;
-Not Suitable > 23 m2/ha. BA;

Table S5

DFP VALUE TABLE for K3V COASTAL MONTANE: ***(source: CRIT: SEDRSS Implementation Guide V2.0 Feb.14.2014)***

Note1: hemlock stands of SI_{50} between 18 to 30m;

Note2: pink shaded areas are "open" and green shaded are "stocked" DFP values.

Note3: the development of this table was based upon growth models assuming Cw and Hw overstorey and understory; with an average SI 24 of the overstorey and rotation of 100 years.

Basal Area On Opening	Understory density – well spaced trees per hectare												
	0	100	200	300	400	500	600	700	800	900	1000	1200	1400
0	1.00	0.81	0.65	0.51	0.41	0.32	0.25	0.20	0.15	0.12	0.09	0.05	0.03
1	0.98	0.79	0.63	0.50	0.40	0.31	0.25	0.19	0.15	0.12	0.09	0.05	0.03
2	0.95	0.77	0.62	0.49	0.39	0.31	0.24	0.19	0.15	0.11	0.09	0.05	0.02
3	0.93	0.75	0.60	0.48	0.38	0.30	0.23	0.18	0.14	0.11	0.08	0.05	0.02
4	0.90	0.73	0.59	0.46	0.37	0.29	0.23	0.18	0.14	0.11	0.08	0.05	0.02
5	0.88	0.71	0.57	0.45	0.36	0.28	0.22	0.17	0.13	0.10	0.08	0.04	0.02
6	0.85	0.69	0.55	0.44	0.35	0.27	0.22	0.17	0.13	0.10	0.08	0.04	0.02
7	0.83	0.67	0.54	0.43	0.34	0.27	0.21	0.16	0.13	0.10	0.08	0.04	0.02
8	0.80	0.65	0.52	0.41	0.33	0.26	0.20	0.16	0.12	0.10	0.07	0.04	0.02
9	0.78	0.63	0.50	0.40	0.32	0.25	0.20	0.15	0.12	0.09	0.07	0.04	0.02
10	0.76	0.61	0.49	0.39	0.31	0.24	0.19	0.15	0.12	0.09	0.07	0.04	0.02
11	0.73	0.59	0.47	0.38	0.30	0.24	0.18	0.14	0.11	0.09	0.07	0.04	0.02
12	0.71	0.58	0.46	0.36	0.29	0.23	0.18	0.14	0.11	0.08	0.06	0.04	0.02
13	0.69	0.56	0.45	0.35	0.28	0.22	0.17	0.14	0.11	0.08	0.06	0.04	0.02
14	0.67	0.54	0.43	0.34	0.27	0.21	0.17	0.13	0.10	0.08	0.06	0.03	0.02
15	0.64	0.52	0.42	0.33	0.26	0.21	0.16	0.13	0.10	0.08	0.06	0.03	0.02
16	0.62	0.51	0.40	0.32	0.25	0.20	0.16	0.12	0.10	0.07	0.06	0.03	0.02
17	0.60	0.49	0.39	0.31	0.25	0.19	0.15	0.12	0.09	0.07	0.05	0.03	0.02
18	0.58	0.47	0.38	0.30	0.24	0.19	0.15	0.12	0.09	0.07	0.05	0.03	0.02
19	0.56	0.46	0.37	0.29	0.23	0.18	0.14	0.11	0.09	0.07	0.05	0.03	0.01
20	0.55	0.44	0.35	0.28	0.22	0.18	0.14	0.11	0.08	0.06	0.05	0.03	0.01
21	0.53	0.43	0.34	0.27	0.21	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.01
22	0.51	0.41	0.33	0.26	0.21	0.16	0.13	0.10	0.08	0.06	0.05	0.03	0.01
23	0.49	0.40	0.32	0.25	0.20	0.16	0.12	0.10	0.08	0.06	0.04	0.03	0.01
24	0.48	0.39	0.31	0.24	0.19	0.15	0.12	0.09	0.07	0.06	0.04	0.02	0.01
25	0.46	0.37	0.30	0.24	0.19	0.15	0.12	0.09	0.07	0.05	0.04	0.02	0.01
26	0.44	0.36	0.29	0.23	0.18	0.14	0.11	0.09	0.07	0.05	0.04	0.02	0.01
27	0.43	0.35	0.28	0.22	0.17	0.14	0.11	0.08	0.07	0.05	0.04	0.02	0.01
28	0.41	0.34	0.27	0.21	0.17	0.13	0.10	0.08	0.06	0.05	0.04	0.02	0.01
29	0.40	0.32	0.26	0.21	0.16	0.13	0.10	0.08	0.06	0.05	0.04	0.02	0.01
30	0.39	0.31	0.25	0.20	0.16	0.12	0.10	0.08	0.06	0.05	0.04	0.02	0.01
31	0.37	0.30	0.24	0.19	0.15	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.01
32	0.36	0.29	0.23	0.19	0.15	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.01
33	0.35	0.28	0.22	0.18	0.14	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.01
34	0.34	0.27	0.22	0.17	0.14	0.11	0.08	0.07	0.05	0.04	0.03	0.02	0.01
35	0.32	0.26	0.21	0.17	0.13	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.01
36	0.31	0.25	0.20	0.16	0.13	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.01
37	0.30	0.24	0.19	0.15	0.12	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.01
38	0.29	0.24	0.19	0.15	0.12	0.09	0.07	0.06	0.04	0.03	0.03	0.01	0.01
39	0.28	0.23	0.18	0.14	0.11	0.09	0.07	0.06	0.04	0.03	0.03	0.01	0.01
40	0.27	0.22	0.17	0.14	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.01	0.01

LEGEND

	Denotes voids or open areas not satisfactorily stocked.
	Represents marginally stocked.
	Represents well stocked targets are achieved.

Table S6: DFP Value Table for Second Growth Fdc Coastal Montane *(source: Smith 2014)*	
Fdc DFP Regen and Free Growing Obligation Criteria	
DFP Threshold Value	**Obligation Standard**
Average DFP	≤ 0.26
Proportion of plots in "open" class (pink)	≤ 25%

Stocking Decision – The SU is found to have met its Regeneration Obligation or Free Growing Obligation if the DFP criteria in the table above have been met

DFP Table S6 Fdc (*Smith 2014*)

					DFP Table			Fdc over Fdc/Hw											
									MSS				TSS						
OS	Species (may vary per Zone	WS Stems/ha	0.0	100.0	200.0	300.0	400.0	500.0	600.0	700.0	800.0	900.0	1000.0	1100.0	1200.0	1300.0	1400.0	1500.0	1600.0
BA m2/ha	& Site Series)	WS Stems/plot	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0
0			1.00	0.77	0.59	0.45	0.34	0.26	0.20	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01
1			0.95	0.72	0.55	0.42	0.33	0.25	0.19	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01
2	Fdc*, Hw		0.89	0.69	0.52	0.40	0.31	0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01
3	Cw		0.85	0.65	0.50	0.38	0.29	0.22	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01
4			0.80	0.62	0.47	0.36	0.28	0.21	0.16	0.12	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01
5	*N aspect		0.76	0.58	0.45	0.34	0.26	0.20	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01
6	no Fdc		0.72	0.55	0.42	0.33	0.25	0.19	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01
7			0.69	0.53	0.40	0.31	0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01
8			0.65	0.50	0.38	0.29	0.23	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01
9			0.62	0.48	0.37	0.28	0.21	0.16	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01
10			0.59	0.46	0.35	0.27	0.20	0.16	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01
11			0.57	0.43	0.33	0.26	0.20	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01
12	Hw		0.54	0.42	0.32	0.24	0.19	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01
13	Fdc* & Cw		0.52	0.40	0.30	0.23	0.18	0.14	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01
14	Max		0.50	0.38	0.29	0.22	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01
15	200 /ha		0.48	0.37	0.28	0.21	0.16	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01
16			0.46	0.35	0.27	0.21	0.16	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01
17			0.44	0.34	0.26	0.20	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01
18	Hw		0.42	0.32	0.25	0.19	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01
19			0.41	0.31	0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01
20	Cw Max		0.39	0.30	0.23	0.18	0.14	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01
21	200 /ha		0.38	0.29	0.22	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01
22	(no Fdc)		0.37	0.28	0.22	0.17	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01
23			0.36	0.27	0.21	0.16	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
24			0.35	0.26	0.20	0.16	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
25			0.34	0.26	0.20	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
26	Hw		0.33	0.25	0.19	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
27			0.32	0.24	0.19	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
28	(no Fdc &		0.31	0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
29	no Cw)		0.30	0.23	0.18	0.14	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
30			0.29	0.23	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
31			0.29	0.22	0.17	0.13	0.10	0.08	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00
32			0.28	0.22	0.17	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00
33			0.28	0.21	0.16	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00
34			0.27	0.21	0.16	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
35			0.27	0.20	0.16	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
36			0.26	0.20	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
37			0.26	0.20	0.15	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
38			0.25	0.19	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
39			0.25	0.19	0.15	0.11	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
40			0.24	0.19	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
41			0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
42			0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
43			0.24	0.18	0.14	0.11	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
44			0.23	0.18	0.14	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
45			0.23	0.18	0.14	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
46			0.23	0.17	0.13	0.10	0.08	0.06	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
47			0.23	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
48			0.22	0.17	0.13	0.10	0.08	0.06	0.05	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
49			0.22	0.17	0.13	0.10	0.08	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
50			0.22	0.17	0.13	0.10	0.08	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
51			0.22	0.17	0.13	0.10	0.08	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
52			0.22	0.17	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00
53			0.22	0.17	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00
54			0.21	0.16	0.13	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00
55			0.21	0.16	0.12	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00
56			0.21	0.16	0.12	0.10	0.07	0.06	0.04	0.03	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00
57			0.21	0.16	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00
58			0.21	0.16	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.00	0.00
59			0.21	0.16	0.12	0.09	0.07	0.06	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00
60			0.21	0.16	0.12	0.09	0.07	0.05	0.04	0.03	0.02	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00

	FDU	Operational and Planning Commitment
CCF-STO-01	**All**	CCF will only accept regeneration and acceptable residual trees as per guidance from the most current FS660 *Silviculture Survey Reference* or from SEDRSS *Tree Damage and Acceptability Criteria* tables, presented in Appendix L, in determining if the stocking of a harvested area meets the stocking standard assigned to the area, consistent with specifications outlined in Tables S1 through S3 and tables S4-1 to S4-4.
CCF-STO-02	**All**	CCF will not apply stocking standards or report denudation activities in the application of salvage logging, when <50m^3 of timber has already been damaged, if the area created from the practice occurs in isolated and dispersed openings of <0.25ha.
CCF-STO-03	**All**	CCF will use >1.0 ha contiguous or dispersed area as the minimum strata size, at the individual cutblock level to assign appropriate stocking standards, as determined by a qualified professional through the block Site Plan.
CCF-STO-04	**All**	CCF will only design and implement forest harvesting practices, using silviculture systems with very high uniform levels of permanent dispersed retention (>40m2/ha), which may impact timber supply due to reduced regeneration growth rates and losses of accessible merchantable timber within highly constrained areas, such as, but not limited to: 1. Wildfire Fuel Reduction Treatments; 2. Unstable Terrain; 3. Preservation or Retention VQO's; 4. The foreground zone of Established Recreation Sites, Trails and Interpretive Forests ; 5. Rotation Winter Ranges or other areas specifically managed for Identified Wildlife; 6. Riparian Management Areas; 7. Individual Standard Units predominantly occupied by non-productive soils or rocky substrates.
CCF-STO-05	**All**	CCF will only apply stocking standards at the individual cutblock level through the Site Plan prepared by a qualified professional for each individual cutblock.

12.2 Single Stem Harvesting Standards (Very High Retention)

Context: Single stem harvest is the one-time removal of individual stems (trees) or very small groups of trees using

1. "standing stem" harvest by helicopter or conventional falling and yarding by helicopter or;
2. other equipment involved in the application of **access partial harvesting** to remove minor amounts of timber adjacent to roadways while maintaining a fully stocked stand. The residual stand that remains following an intermediate cut (even-aged management) does not have free growing requirements. There are no reforestation requirements for this type of intermediate cutting, subject to the following standards:

12.2.1 Stocking Standards for Single Stem Harvesting

Table S5	Regeneration stocking standards are not required for Standard Units and Openings where the following apply:
	▪ The void created by single tree or small group harvest of less than 0.1 Ha in size; and ▪ the species composition of all retained trees within the harvest unit are similar in percentage (within variation +/15%) to the pre-harvest species composition; and ▪ the quantity and distribution of trees retained within the harvest unit must be at a level that will ensure the area remains adequately stocked for a period of 12 months after completion of harvest (FPPR s.44(4)) .

12.2.2 Standards for Retained Trees in Single Stem Harvesting

The ecological suitable tree species listed in Tables S1-S3 stocking standards are to be considered "preferred" when assessing the Opening.

REF. #	FDU	Operational and Planning Commitment
CCF-STO-06	**All**	CCF will only implement Single Stem Harvesting in areas that are outlined in CCF-STO-04 above and applying stocking standards criteria in Table S5.

12.3 Fuel Reduction & Intermediate Harvest Standards

Context: In normal practice regeneration standards and species selection are focused on maximizing timber productivity with full consideration of the ecological site conditions. Fuel modification objectives are at times at odds with the timber objective. Therefore, Table S7 will only be applied to those areas of the **Fuel Modification Area (s), Linear Fuel Break (s)** or within the **INTERFACE FDU** as mapped on the FSP map.

The RMOW engaged a forest fuel specialist to prepare a *Community Wildfire Protection Plan* in 2005 and subsequently updated in 2011. In 2017 a *Strategic Wildfire Protection Plan* was presented and endorsed by Mayor and Council which identified funding necessary and identified ways to integrate fuel reduction projects between Protection Services, Environmental Management and the CCF. These plans prioritize the identified hazardous fuel types suitable for treatment and other measures needed in order to eventually protect the Resort Municipality from various wildfire scenarios.

Shaded Fuel Breaks: Reduced tree density through whole tree harvesting has proven the most cost-effective approach where feasible to achieve the Wildfire Protection Strategy Plan implementation schedule. When access is available both logs and biomass are recovered with a corresponding reduction in residual tree densities. When access or ground based mobility is restricted then residual tree densities are increased to reduce the overall cost of treatment with all materials wasted by burning or chipping.

The objective of either landscape or interface fuel breaks is to alter wildfire behavior by slowing the rate of spread, lessening impact severity and increasing suppression outcomes. Implementation means reducing crown bulk density through thinning, removing ladder fuels by pruning and achieving fine forest floor fuel loading by removal. This method also achieves the CCF primary objective of protecting the scenic resource. There is no reforestation obligation on shaded fuel breaks.

Fuel Modification Areas: Originally identified north and south of the Resort Community the intent was to apply retention logging efforts and reforest with modified regeneration standards to “modify” composition and density to promote a more fire resilient future stand condition. Including additional efforts to decrease post-harvest fuel loading through the application of prescribed fire, field chipping/grinding or biomass recovery are all considered complementary to the goal.

Interface Forest Development Unit(s): The west INT FDU has the primary role of maintaining the scenic resource when viewed from the Controlled Recreation Area – Whistler Blackcomb. The southern INT FDU area has both a recreation focus around the Loggers Lake Recreation Area and basalt geologic formation while be directly adjacent to the expanding Cheakamus Crossing neighborhood. Forest management for both areas is restricted to only fuel reduction projects or access to support public recreation. Treatment area selection and priority setting is undertaken by the RMOW Fuels Specialist, with shaded fuel break being the standard practice, thus achieving high scenic visual conditions all with no regeneration obligations.

12.3.1 Standards for Retained Trees for Intermediate Harvest (Fuel Treatments)

Table S6	**Regeneration stocking standards are not required or applied to a Treatment Unit, Standard Unit or Opening when the following conditions are achieved:**
When applied to the appropriate Subzone and Site Series	1. thinning results in >60% of the pre-harvest basal area being retained, and/or; 2. a minimum of 250 trees per hectare of L1, L2 and L3 trees in any combination are somewhat uniformly retained that meet the following criteria, and/or; 3. retention levels are prescribed on a site-specific basis by a Qualified Professional that meets both fuel management and regeneration objectives.
	• Preferred and Acceptable tree species meeting the assessment criteria applicable in **Table S1 through Table S3**. • Retained trees assessed will have adequate crown form and depth, exhibit health and vigour commensurate with the associated site productivity and can be reasonably expected to release and/or continue to occupy the site. • Scars and physical damage <5% of the total L1 trees retained. Layer 2 and 3 trees are free from all open injuries (scars). With exceptions of: ▪ any stem damage on all layer 1, 2 & 3 western red cedar and yellow cedar. ▪ basal scars on all L1 Douglas fir if the scars is <25% of circumference is affected. • The live crown is greater than 20% for layers 1 and 2 and 30% for layer 3 trees.
	And ▪ as a result of any ***Fuel Reduction Treatments (thinning)*** within the Interface FDU, Fuel Modification Areas or Fuel Breaks, all areas > 0.25 ha that has been created outside of permanent road right of ways or landings that are void of Layer 1, 2 or 3 trees below 250 SPH within 2 years of the treatment will be reforested using the regeneration stocking standards as applicable from **Table S7** of this document, or; ▪ as a result of any ***Intermediate Harvest (thinning)*** outside of the Interface FDU, Fuel Modification Areas or Fuel Breaks, all areas >0.25 ha that has been created outside of permanent road right of ways or landings that are void of Layer 1, 2 or 3 trees below 250 SPH within 2 years of the treatment will be reforested using the regeneration stocking standards as applicable from **Table S1-S3** of this document.

Table S7			**Regeneration Standards within the Fuel Modification Areas; Landscape Fuel Breaks and the INTERFACE FDU when an opening of >0.25ha has been created and regeneration is required.**							
ID # Assigned	BGC Classification		Species		Stocking			Min Inter-tree Spacing (m)	Regen. Delay (Max yrs)	Free Grow (Max yrs)
			Species/Minimum FG Height (m)		Target	Min p&a	Min p			
	Zone/SZ	Site Series	Preferred (p)	Acceptable (a)	(well-spaced/ha)					
1070440	CWHms1	01	Fd/2.25 Cw/1.5 Hw/1.5 Ba/0.75	Pw/2.5 Ep/1.5 Act/2.5	600	400	300	2.0	3	20
1070441	CWHms1	02	Pl/1.25 Fd/1.5	Ep/1.5	400	200	200	2.0	3	20
1070442	CWHms1	03	Cw/1.5 Fd/2.25 Sx/1.0	Hw/1.0	400	200	200	2.0	3	20
1070443	CWHms1	04	Fd/3.0 Cw/2.0	Ba/1.0 Hw/2.0 Ep/1.5 Act/2.5 Pw /2.5	600	400	300	2.0	3	20
1070444	CWHms1	05	Fd/2.25 Cw/1.5 Hw/1.5	Ba/0.75 Act/2.5 Yc/1.5 Ep/1.5 Pw/2.5	600	400	300	2.0	6	20
1070445	CWHms1	06	Fd/3.0 Cw/2.0 Hw/2.0 Sx 1.25	Ba//1.0 Yc/1.0 Act/2.5	600	400	300	2.0	3	20
1070446	CWHms1	07	Ba/1.0 Cw/2.0 Sx1.25	Act/2.5 Fd3.0	600	400	300	2.0	3	20
1070447	CWHms1	10	Pl/1.25 Pw/1.5	Cw/1.0 Yc/1.0	400	200	200	2.0	3	20
1070448	CWHms1	11	Pl/1.25 Hw/1.25 Cw/1.0 Yc/1.0	Ep/1.5	400	200	200	2.0	3	20
Maximum Density: 1200sph			Minimum Post Spacing Density: 500sph		Maximum Post Spacing Density: 900sph					

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-STO-07	**INT, Fuel Breaks and fuel modification areas of SHO, WED, RAI, CHE**	**RESULT**	CCF will apply Table S6 in the determination of reforestation stocking within Fuel Modification Areas, Linear Fuel Breaks or the INTERFACE FDUs and will subsequently apply Table S7 standards to any portions of the treated area where a NAR of >0.25ha has been created within the total area that the treatment was applied.
CCF-STO-08	**All FDU's outside of the INT FDU, Fuel Breaks and fuel modification areas.**	**RESULT**	CCF will apply Table S6 in the determination of reforestation stocking for all other intermediate harvest thinning and will subsequently apply Table S1-S3 standards to any portion of the Opening where a NAR of >0.25ha has been created within the total area that the treatment was applied.

12.4 Uneven Aged Forest Management

Context: An uneven aged forest management regime requires the scheduling of repeatable stand entries to alter stand and regeneration stocking. For selection systems these entries are in perpetuity and applicable to the following silviculture systems:

- Small Group or Individual Tree Selection Systems Openings <0.25 Ha;

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-STO-09	**All**	**RESULT**	CCF will ensure that prior to carrying out forest harvesting practices under uneven aged forest management that site specific stocking standards are developed and will be based upon the site ecology and stand dynamics. Such standards will be developed in a Silviculture Site Plan and amended into Section 12 of this plan under a minor amendment.

13. Measures to Prevent the Introduction and Spread of Invasive Plants

Objective: *Section 17 FPPR "…a person who prepares a Forest Stewardship Plan must specify measures in the plan to prevent the introduction or spread of species of plants that are invasive plants under the Invasive Plant Regulation, if the introduction or spread is likely to be the result of the person's forest practice.*

Context: Coordinated detection and eradication efforts are best done on a sub-regional scale. To date there are no species within the CCF which are known to affect or impede the area to be reforested. Potential invasion is limited to exposed road cuts, landslide tracks, exposed soils and along roadsides resulting from uncontrolled public dumping of garden waste material and/or contaminated soils.

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-INV-01	**All**	**STRATEGY**	The CCF when planning and conducting primary forest activities, will ensure the following measures are taken to prevent the introduction or spread of invasive plants if such introduction or spread is likely to be the result of primary forest activities carried out under this FSP: a) Prior to the commencement of primary forest activities, a qualified professional will assess the area within and immediately adjacent (within 25 m) to the proposed activity and consult with the Invasive Alien Plant Program database (IAPP) to identify any invasive plant infestations present or reported that could be spread by the proposed activity. Invasive plant species requiring identification will be those listed in the *Invasive Plant Regulation* under FRPA. Where an invasive plant species is identified within or adjacent to an area planned for a primary forest activity that will result in soil disturbance, prior to commencing the activity, the CCF will engage a qualified professional to develop measures to be employed during completion of the PFA to control and prevent the spread of the identified invasive plant species. Measures to prevent the spread of invasive plants may include: quarantining the infested area; mechanical and manual removal of the invasive plant(s), grass seeding, inspection and cleaning of machinery that has come into contact with invasive plant material and contaminated soil prior to and following the implementation of PFA's. The CCF will implement the prescribed measures and document the actions to be followed in the activity plans developed by a qualified professional b) Following completion of the PFA resulting in soil disturbance the CCF will monitor harvested areas and associated roads during regeneration and stocking surveys to determine if any invasive plant species have become established. c) Following the completion of primary forest activities resulting in soil disturbance or during monitoring of PFA areas, if any new invasive plant communities are identified within cutblocks or roads under the permit or obligation, the CCF will engage a qualified professional to develop site specific measures which will be implemented by the CCF to control and prevent the spread of the identified invasive plant d) If grass seeding is prescribed as part of the invasive plant plan, the seed used will be appropriate for the biogeoclimatic zone and will meet or exceed Common No. 1 Forage Mixture or better specifications as defined by the Canada Seeds Act. e) Sites referred to in subparagraph (b) and (d) will be monitored appropriately to determine if the plan developed by a qualified professional is being effective at preventing the spread of the invasive plant infestation. f) Soil or fill material will not be moved from a location where an invasive plant infestation has been identified. g) The CCF will inventory the presence, map the location, document all measures employed to prevent the introduction and spread of invasive plants and report this information to the IAPP database

14. Measures Related to Natural Range Barriers

REF. #	FDU	Measure	Operational and Planning Commitment
CCF-NRB-01	All	Measure	There are no natural range barriers within the area of this plan and therefore no specific measures have been developed. If, in the future, there are range tenures established within the area of this plan then measures related to natural range barriers will be developed and amended into this plan.

Appendices

Appendix A) TSA UWR Plan – Order #U2-002-Goat

ORDER – UNGULATE WINTER RANGE #U2-002

On being satisfied that the establishment of the ungulate winter range dealt with in this order is necessary to meet the habitat requirements of the ungulate species, and that the management objectives dealt with in this order are necessary to maintain the ungulate species within those areas, and under the authority of section 69 (1) (a) and (b) of the Operational and Site Planning Regulation, B.C. Reg. 107/98, the Deputy Minister of Water, Land and Air Protection orders that

1. the ungulate winter range shown in the map set out in the attached Schedule A (#U2-002) is established;

2. the ungulate winter range referred to in section 1 is approved for mountain goat (*Oreamnos americanus*)*;* and

3. the following practices are established as management objectives inside the ungulate winter range referred to in section 1:

Maintain mountain goat winter ranges to provide high suitability habitat. Habitat attributes include snow interception, foraging opportunities, escape terrain, steep south and west-facing windswept ridges/slopes, conifer bluffs, shrub/grass communities, and security cover. This will be accomplished by applying the following specific management objectives to the proposed UWRs:

Objective 1

Road and trail construction and timber harvesting, including but not limited to, single tree selection and salvage topping for cone harvesting, will not be permitted within the GWRs, except as specified in section 1 and 2 below:

1. The MWLAP Statutory Decision Maker or designate, through the approval of a variance, may allow operations to occur within a GWR for reasons such as but not limited to the following:
a. Construction of roads and/or yarding corridors if no other practicable option exists.
b. Treatments to restore or enhance degraded habitats.

2. The following activities will be allowed to occur within a GWR subject to objective 2:
a. Maintenance and deactivation of existing roads.
b.Brushing or clearing along existing roads under active tenure within right of way for safety purposes.
c.Falling of guyline clearance, tailhold anchor trees or danger trees along right of way and cutblock boundaries, where the tree has been determined as a danger tree by a qualified Wildlife/Danger Tree Assessor, and the establishment of a No-work Safety Zone as per Worker's Compensation Board requirements is not practicable. Any trees that must be felled within a GWR will be left onsite to provide coarse woody debris.
d.Existing access agreements that were previously negotiated between industry and MWLAP will continue to be honoured.

ORDER – UNGULATE WINTER RANGE #U2-002

Objective 2

Where activities within a GWR have been approved by the MWLAP Statutory Decision Maker or designate or where exempted activities must occur, consistent with Objective 1, they shall be undertaken during a period extending from May 1 to October 31 of a calendar year, except as specified below:

1. The MWLAP Statutory Decision Maker or designate may permit industrial operations to occur within a GWR boundary for a period extending up to 4 weeks prior to May 1 and 4 weeks past October 31, where relevant site inspection data indicates that no impacts to Mountain Goats using the GWR will result from the extended operations; or
2. The MWLAP Statutory Decision Maker or designate may permit industrial operations to occur within a GWR boundary during some other specified period, where relevant site inspection data indicates that negative impacts to Mountain Goats using the GWR may result from operations occurring between May 1 and October 31 of a calendar year.

ORIGINAL SIGNED BY

Signed this 6th day of Oct., 2003 Gordon Macatee, Deputy Minister Ministry of Water, Land and Air Protection

Appendix B) Order U2-005 Deer and Moose

BRITISH COLUMBIA

ORDER – AMENDMENT TO UNGULATE WINTER RANGE U-2-005
Black-tailed Deer and Moose – Sea to Sky Forest District

This Order is given under the authority of sections 9(2) and 12(1) of the *Government Actions Regulation* (B.C. Reg. 582/2004)(GAR).

1. The delegated decision maker, being satisfied that
   i. the area contains habitat that is necessary to meet the winter habitat requirements for Black-tailed deer (*Odocoileus hemionus*) and Moose (*Alces americanus*); and
   ii. the habitat requires special management that is not otherwise provided for under GAR or another enactment;

orders that

a) this Order cancels and replaces:
   i. the Order that became effective February 28, 2005 entitled "Order – Ungulate Winter Range #U-2-005"; and
   ii. the Order that became effective on November 6, 2008 entitled "Order – Amendment to Ungulate Winter Range U-2-005";

b) pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) required to prepare a forest stewardship plan is exempt from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation* for the winter survival of ungulates in the Soo Timber Supply Area;

c) the "retention" designation for Black-tailed deer unit G80-25-RE is canceled, and replaced with the amended "retention" unit G80-25-RE and amended "rotation" unit G80-25-RO as shown on the attached Schedule A map, and contained in the UWR spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_UNGULATE_WINTER_RANGE_POLY). The centre point of the line on the attached Schedule A map is what establishes the UWR boundary;

d) the "retention" designation for Black-tailed deer units G98-34-RE and J18-87-RE is canceled, and replaced with a "rotation" designation as shown on the attached Schedule A map, and contained in the UWR spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_UNGULATE_WINTER_RANGE_POLY). The amended units are renamed G98-34-RO and J18-87-RO. The centre point of the line on the attached Schedule A map is what establishes the UWR boundary;

e) the "rotation" designation for Black-tailed deer units J18-88-RO and J18-89-RO is cancelled, and replaced with a "retention" designation as shown on the attached Schedule A map, and contained in the UWR spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_UNGULATE_WINTER_RANGE_POLY). The amended units are renamed J18-88-RE and J18-89-RE. The centre point of the line on the attached Schedule A map is what establishes the UWR boundary;

f) the area described as "J28-205-RE" and shown in the map set out in the attached Schedule A, and contained in the UWR spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_UNGULATE_WINTER_RANGE_POLY), is

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– Moose

established as Black-tailed deer unit J28-205-RE of U-2-005. The centre point of the line on the attached Schedule A is what establishes the UWR boundary;

g) the areas described as "J27-46-RE (cancelled)", "J27/28-47-RO (cancelled)", "G88-90-RE (cancelled)", "G75-9-RO (cancelled)" and shown in the map set out in the attached Schedule A, being entirely protected under the provincial *Park Act*, are deleted and no longer part of the Order for UWR U-2-005;

h) the areas described as "G75-11-RO", "J57-86-RE", and "J26/27-201-RO" and shown in the map set out in the attached Schedule A, and contained in the UWR spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_UNGULATE_WINTER_RANGE_POLY), with portions being protected under the provincial *Park Act*, are amended;

i) the areas described as "J37-64-RO", "J58-58-RO", and "J58-59A-RO" and shown in the map set out in the attached Schedule A, and contained in the UWR spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_UNGULATE_WINTER_RANGE_POLY) with portions being in private land, are amended;

j) the Black-tailed deer unit J47-80-RE amended by the Order for UWR U-2-005 established November 6, 2008 and shown in the map set out in the attached Schedule A, and contained in the UWR spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_UNGULATE_WINTER_RANGE_POLY) remains unchanged and in effect;

k) the remaining Black-tailed deer and Moose units originally established by the Order for UWR U-2-005 on February 28, 2005 and shown in the map set out in the attached Schedule A map, and contained in the UWR spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_UNGULATE_WINTER_RANGE_POLY) remain unchanged and in effect ;

l) if there is a discrepancy between the areas shown in the map set out in the attached Schedule A map and the UWR spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_UNGULATE_WINTER_RANGE_POLY), the areas as detailed in the UWR spatial layer will take precedent.

2. The delegated decision maker, being satisfied that

i. the general wildlife measures (GWMs) described below are necessary to protect and conserve the winter habitat of Black-tailed deer and Moose; and

ii. GAR or another enactment does not otherwise provide for that protection or conservation;

orders that

a) the GWMs outlined in Schedule 1 are established for U-2-005;

Schedule 1:

Definitions:

Words and expressions not defined in this Order have the meaning given to them in *the Forest and Range Practices Act* (FRPA) and the regulations made under it, unless context indicates otherwise.

Deer Winter Range – Retention means forested habitat, usually stands of mature or old-growth conifers, which provide deer with resources critical to survival during severe winters.

Deer Winter Range – Rotation means habitats in various stages of succession that provide deer winter habitat for survival and are usually located between retention winter range habitats when the distance between retention winter ranges is >4km; or in areas where there is a lower snow pack and known deer winter use.

Director means the Director of Resource Management, South Coast Region, Ministry of Forests, Lands and Natural Resource Operations (FLNR).

Functional Winter Range means a narrow range of habitats that sustain deer over winter periods of extended stressful conditions. Functional winter range is important and is required during periods where snow can persist occasionally over extended periods of time.

Incursion means new timber harvesting or road construction that is located within a UWR boundary where no harvesting or road construction is otherwise permitted to occur.

Moose Core Winter Range means forested habitat, usually stands of mature or old-growth conifers, having very high winter forage values and/or good snow interception properties and are close to good moose forage values.

Moose Winter Range Forage Management Zone means habitat that is outside the Moose Core Winter Range that is managed for the production of winter moose forage.

Productive forest area means forest included as either contributing, partial contributing or non-contributing as per timber supply review planning.

Traditional and cultural activities are as defined in the *Free Use Permit Regulation* of the *Forest Act*.

General Wildlife Measures:

Deer Winter Range – Retention units (DWRRE):

1. No timber harvesting, including salvage, and road construction are permitted. Exemptions would only normally be considered for the purposes of enhancing quality of the DWRRE; or for roads where there is no other practicable option.

2. GWM 1 does not apply if:
    a. it is necessary to create guyline tiebacks for timber harvesting outside of a DWRRE boundary;
    b. trees felled in accordance with GWM 2 (a) are retained onsite to function as coarse woody debris, unless the felled tree:
        i. lies outside the DWRRE boundary; or

ii. poses a forest health risk;

c. cutting of trees is for the purpose of traditional and cultural activities, as authorized under a Free Use Permit issued under the *Forest Act*; or
d. road maintenance activities, or road deactivation, or brushing and clearing activities occur on existing roads.

Deer Winter Range – Rotation units (DWRRO):

3. Maintain a minimum of 20% of the total DWRRO area in each unit as *functional winter range* at any one time. The functional winter range component must be spatially arranged to provide optimum ready access to forage and shelter for deer; and must be spatially identified prior to commencing harvesting.

4. Up to 20% of the total DWRRO area in each unit can be harvested every 20 years without restrictions as long as GWM 3 has been met.

5. The requirements of GWM 4 may be exceeded if Silviculture treatments, and timber harvesting including intermediate commercial thinning, are undertaken in the same DWRRO unit to enhance, create or expedite the production of functional winter range.

Moose Core Winter Range (MCWR):

6. Timber harvesting, including salvage, and road construction are not permitted. Exemptions would normally be considered for the purposes of enhancing the quality of the MCWR; or for roads where there is no other practicable option.

7. GWGWM 6 does not apply if:
   a. it is necessary to create guyline tiebacks for timber harvesting outside of a MCWR boundary;
   b. trees felled in accordance with GWM 7 (a) are retained onsite to function as coarse woody debris, unless the felled tree:
      i. lies outside the MCWR boundary; or
      ii. poses a forest health risk;
   c. cutting of trees is for the purpose of traditional and cultural activities, as authorized under a Free Use Permit issued under the *Forest Act*; or
   d. road maintenance activities, or road deactivation, or brushing and clearing activities occur on existing roads.

Moose Winter Range Forage Management Zone (MWRFMZ):

8. Timber harvesting, reforestation and stand tending (silviculture) operations in MWRFMZ are permitted if they will not cause a material adverse impact on the production of moose winter forage.

9. Timber harvesting will result in cut blocks where areas of forage production are ≤200 meters from a group of retained trees, an area of wildlife tree retention, or the cut block boundary.

10. Wildlife tree retention areas, or other groups of retained trees (up to 0.2 ha), planned within an area of timber harvesting, will be designed to provide patches of snow interception and security cover.

Incursions:

11. Where primary forest activities are planned immediately adjacent to any DWRRE or MCWR unit in U-2-005 with >30 ha productive forest area, GWMs #1 or #6 respectively do not apply to the area of an incursion along the UWR unit boundary if:
    a. the incursion is required to provide for a logical harvesting boundary or a logical road or trail location that utilizes a physical feature or administrative boundary; and
    b. the area of the incursion, or multiple incursions cumulatively, do not exceed:
        i. 1 ha of productive forest area in UWR units with >30 ha and ≤50 ha productive forest area; or
        ii. 2 ha of productive forest area in UWR units with >50 ha to ≤100 ha productive forest area; or
        iii. 3 ha or 1% of productive forest area, whichever is greater, in UWR units with >100 ha productive forest area;
    c. the incursion exceeds 0.5 ha, and the area of the incursion is replaced with an equivalent or greater area of equal or better habitat contiguous to the UWR unit such that there is no net loss; and the incursion does not affect the intent or integrity of the UWR unit; and
    d. boundaries of the incursion and any replacement habitat are provided to the Director (via ESRI shape files) prior to the commencement of primary forest activities associated with the incursion.

H MacKnight — October 31, 2014.

Heather MacKnight, Date Signed
Regional Executive Director, South Coast Region
Ministry of Forests, Lands and Natural Resource Operations

Appendix 1:

The following information is provided by FLNR and Ministry of Environment (MoE) as background information and support to the Order amending UWR U-2-005. This appendix is not part of the Order.

1. **Activities to which the Order does not apply:** Section 2(2) of the *Government Actions Regulation* states

   An Order under any of sections 5 to 15 does not apply in respect of
   (a) any of the following entered into before the Order takes effect:
      (i) a cutting permit;
      (ii) a road permit;
      (iii) a timber sale licence that does not provide for cutting permits;
      (iv) a forestry licence to cut issued by a timber sales manager under section 47.6 (3) of the *Forest Act*;
      (v) subject to subsection (3), a minor tenure,
   (b) a declared area,
   (c) areas described in section 196 (1) of the *Act*, and
   (d) areas referred to in section 110 of the *Forest Planning and Practices Regulation.*

2. Authority to consider an exemption from these GWMs is provided in Section 92(1) of the *Forest Planning and Practices Regulation* and section 79(1) of the *Woodlot License Planning and Practices Regulation.* An exemption may be provided if the Minister's delegate is satisfied that the intent of the GWM will be achieved or that compliance with the provision is not practicable, given the circumstances or conditions applicable to a particular area.

   An exemption application should be submitted to the Director of Resource Management, South Coast Region with a rationale describing the nature of the problem and options to integrate winter range conservation with proposed forest and/or range practices. This submission will assist in timely consideration of the matter, and will inform the conditions, if any, of the exemption that may be granted prior to commencement of activities. Upon receipt of a complete exemption application, a determination will normally be made within 14 calendar days of arrival at the FLNR regional office. Incomplete packages will be returned to the proponent for re-submission. A template for exemption requests is available at: http://www.env.gov.bc.ca/wld/frpa/index.html

3. In the Soo Timber Supply Area two subspecies of Black-tailed deer occur. Coastal areas are occupied by Columbian Black-tailed deer *(Odocoileus hemionus columbianus)* while more interior habitats are occupied by Rocky Mountain mule deer *(O. h. hemionus)*. The GWMs do not distinguish between the two subspecies.

4. Moose winter range is differentiated from deer winter range on the Schedule A map by colour. Labels for deer winter range "retention" and "moose core winter range" include a descriptor shown as "RE" (e.g. J28-49-RE). Labels for deer "rotation" and "moose winter range forage management zone" include a descriptor shown as "RO" (e.g. J28-53-RO).

5. Any maps produced by *Forest Act* agreement holders to spatially identify at least 20% functional winter range in DWRRO, or any mapping undertaken in support of timber harvesting in MWRFMZ, are to be kept on file and made available to a government official upon request. It is recommended that qualified professionals be engaged to help spatially define the functional winter range in DWRRO, or assist with planning in MWRFMZ.

6. Specific to GWM 4 in Deer Rotation Winter Range, where up to 20% of the total rotation polygon may be harvested every 20 years, the intent is to include any forest in the rotation winter range category that is <20 years old at the time of the assessment. The "up to 20% every 20 years" is not measured or tied to the Order date (i.e. every 20 years is not measured from 2005 to 2024, then 2025 to 2044). As an example, if a licensee in the year 2012 is considering a new cut block in a 100 ha rotation deer winter range and there is a 20 ha - 18 year old cut block already existing, then the 18 year old block is included as part of the 20%, and in this example no further regular harvesting would be allowed until the existing block was at least 20 years old. In the same example, if the 18 year old block was only 10 ha, then a further 10 ha could be harvested in 2012.

7. Guidance specific to GWM 3, 4, 5, 8, 9 and 10 is provided in Appendix 2.

8. The intent of GWM 11 is to facilitate pre-authorized boundary exemptions for those UWR retention or core units with >30 ha productive forest area provided that FLNR is notified prior to the incursion taking place.

   Examples of incursions include a cut-block, road, trail or landing that overlaps an UWR boundary and: a) that the intent of the UWR boundary was to follow a creek/road and in some areas the boundary extends slightly beyond the creek/road due to a GIS mapping error and creates the overlap; or b) unintentional overlap occurs with an engineered primary forest activity that becomes evident when comparing map scales (e.g. 1:20000 vs 1:5000); or c) *Forest Act* agreement holders can demonstrate that the block, road, trail or landing are located in a logical location and the incursion does not exceed the amount allowed.

   In almost all instances the amount of incursion is anticipated to affect a small area. No replacement area is required when the discrepancy is: a) caused by GIS boundary mapping error since the intent of the winter range has not been altered; or b) the cumulative overlap is <0.5 ha. In other situations, the intended result is that where a boundary amendment is suggested by a *Forest Act* agreement holder and when the reduction is measurable (≥0.5 and ≤3 ha or <1% measured cumulatively in any UWR unit), it will result in no net loss to the winter range. Delineation of equal or better UWR habitat, in quantity and quality, will be required. A biological assessment to replace habitat should be conducted by a qualified professional with appropriate training and experience for the work being completed. If replacement habitat is required and equal or better habitat is not available contiguous to the UWR unit in question, the incursion cannot proceed under this GWM. Boundary amendments meeting the conditions identified in GWM 11 will be periodically reviewed by FLNR and MoE and the UWR boundary officially amended under the *Government Actions Regulation*. In any instances where the conditions in GWM 11 cannot be met, proposed primary forest activities will require an exemption as outlined under section 2 in this Appendix.

UWR retention or core units with <30 ha productive forest area are excluded from GWM 11 because of potential adverse impacts to the small amount of existing snow interception cover from an incursion. An exemption request for any of these small UWR units should be submitted to the Director of Resource Management as outlined under section 2 in this Appendix. Proponents are responsible for determining the amount of productive forest area (i.e. area of contributing, partial-contributing, or non-contributing forest as per the timber supply review) within all UWR units to determine which category they fit into in the GWM.

In addition to reporting incursions to the Director prior to commencement of activities as per GWM 11(d), it is the proponent's responsibility to keep accurate records of each occurrence. Records must also be made available to a government official upon request.

9. These GWMs do not apply to persons who must comply with the *Worker's Compensation Act* and the regulations under that *Act* (e.g. danger tree felling). Consistent with section 2(3) of the *Forest Planning and Practices Regulation*, exemptions from these GWMs are not required to meet safety requirements. Where safety considerations prevent following the GWMs, professionals should consider writing a rationale to explain the safety issue; and it should be kept on file.

Appendix 2.

The following information is provided by FLNR and Ministry of Environment (MoE) as background information and support to the Order amending UWR U-2-005. This appendix is not part of the Order.

A. Deer Winter Range:

1. **In meeting the requirement for GWM 3, the critical features of functional winter range that will help to sustain deer during winter periods are:**
   - well-developed tree crowns that intercept snow (allowing foraging and movement);
   - warm aspects (SE, S, SW, W);
   - moderate to steep slopes (40-100%);
   - elevations below 1500m (in interior ecosystems on shallow snow pack zones, and 1000m in coastal ecosystems and the moderate to deep snow pack zones);
   - small openings (<0.5 ha) in a variable canopy permitting growth of key forage species;
   - multiple canopy layers with an understory of Douglas-fir or cedar-hemlock thickets providing additional thermal cover, security cover and forage;
   - small rock outcrops that provide intense solar radiation and foraging areas and thermal sites;
   - minimal shading from adjacent hillsides;
   - older forests (>100 years) with arboreal lichen (*Alectoria, Bryoria and Usnea spp.*) which are key winter food sources, especially when snow depths restrict access to the availability of other rooted forage species;
   - proportions of crown closure habitat within functional deer winter range (Figure 1) within the Moderate Snowpack Zone:

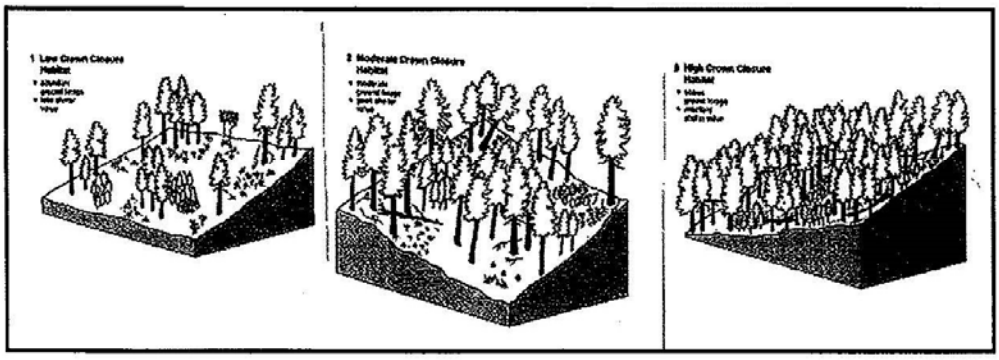
Crown closure habitat types within functional deer winter range in low, moderate, and deep snowpack zones[1]:

Crown Closure Habitat	*Crown Closure Percentage*	*Crown Closure Class Code*	*Recommended proportion (%) of Crown Closures within the Shallow Snowpack Zone* (100 cm mean annual snowfall)*	*Recommended proportion (%) of Crown Closures within the Moderate Snowpack Zone* (100-150 cm mean annual snowfall)*	*Recommended proportion (%) of Crown Closures within the Deep Snowpack Zone* (150-200 cm mean annual snowfall)*
Low	**16-35%**	**2, 3**	**~40**	**~33**	**~33**
Moderate	**36-65%**	**4, 5, 6**	**~40**	**~33**	**0**
High	**>65%**	**>6**	**~20**	**~33**	**~66**

*This Order does not define elevations for snow zones, however: Shallow Snowpack Zone is generally defined as <400 m elevation. Moderate Snowpack Zone is generally defined as 400-800 m elevation. Deep Snowpack Zone is generally defined as >800 m elevation.

[1] See Armleder, H.M., M.J. Waterhouse, R.J. Dawson and K.E. Iverson. 1998. Mule Deer Response to Low-volume Partial Cutting on Winter Ranges in Central Interior British Columbia. Ministry of Forests, Research Program. B.C.

Figure 1: Proportions of crown closure habitat within functional deer winter range



2. In meeting the requirement for GWMs 4 and 5, the following is suggested operational guidelines for planning harvesting, planting, stand tending and road building within a Rotation Winter Range:

The following guidelines have been divided into recommendations when harvesting: 1) an area within a rotation winter range that meets GWM 4; and 2) a portion of the winter range for the purpose of creating, expediting or enhancing part of the winter range as per GWM 5.

Harvesting	
Guidelines to consider when harvesting the unrestricted 20% of the rotation winter range as to GWM 4.	***Guidelines to apply when creating winter range attributes in rotation winter range through mitigation or enhancement as per GWM 5.***
• Consider small openings as opposed to one large one	• Maintain the crown closure proportions recommended for the specific snowpack zone
• Consider lower volume selective harvesting	• Openings should be 0.5 to 1.0 tree heights wide (Nyberg and Janz 1990).
• Maintain micro-habitats important to deer (ridges, rock outcrops and knolls with conifer cover, topographic breaks or edges that show travel use by deer, dense thickets that provide security and thermal cover)	• Maintain a significant component of old-growth trees; cover must be at least 100m wide to be effective at providing cover and gain thermal shelter
	• Maintain micro-habitats important to deer (ridges, rock outcrops and knolls with conifer cover, topographic breaks or edges that show travel use by deer, dense thickets that provide security and thermal cover)
	• Control debris (slash) depths to maintain movement opportunities for deer
	• Minimize damage to residual trees and regeneration

3. Other considerations:

- If **road building** must occur in or adjacent to a winter range, harassment or disturbance pressures on deer can be reduced by:
    - Designing road layout to minimize the amount of road required;
    - Avoiding road routes through the winter range or along an edge; and
    - Maintaining, where possible, cover (screening) along the road edge.

- **Reforestation (tree species selection) and stand density management** that produce an optimum mix of: 1) large crowns for cover; and 2) thermal shelter, should be considered when preparing a site plan or enhancement plan in a rotation winter range.

- Consulting a qualified professional in wildlife/forest management is recommended when preparing site plans or enhancement plans for a rotation winter range.

B. Moose Winter Range:

1. In meeting the requirements of GWM 8, 9 and 10, the following is offered as guidance for operating in Moose Winter Range Forage Management Zone:

Harvesting Operating Guidelines[2]:

- Harvesting may utilize a suite of harvesting/silviculture systems including clear cutting, variable retention, selective logging, and commercial thinning.
- Special attention is to be paid to including the retention of larger limbed tree species (specific to individual ecosystems) that provide better snow interception than other species.
- Early harvesting (i.e. before culmination age is achieved) is permitted as a technique to put a closed canopy stand back into the high forage value status associated with a recently logged (i.e. early seral) vegetative community.
- Commercial thinning can be used to reduce crown closure and stimulate the production of herbaceous forage species. Commercial thinning may be done uniformly across a stand or involve removal of small groups to target a mosaic of mature trees and forage areas on the floodplain in the future.
- Commercial thinning in combination with delayed or extended rotation final harvest may also be considered. Multiple entry commercial thinning may be considered as a part of this strategy.

Reforestation Operating Guidelines:

- Generally, reforestation strategies which optimize timber production and forage production are to be used within the THLB portion of the MWRFMZ.
- Reforestation prescriptions should include options such as cluster planting or lower density stocking so that crown closure is delayed and forage production is maintained further into the rotation.

[2] See International Forest Products Ltd (Interfor) 2002. TFL 38 Moose Winter Range Management Strategy. June 2002. Squamish, B.C.

- Tree species that provide for better snow interception characteristics should be considered for reforestation.
- Brush control prescriptions should focus only on control of brush that is directly competing with crop trees and should specifically avoid incidental or broadcast brushing of high value forage species such as red-osier dogwood, black cottonwood and willow.

Stand Tending Operating Guidelines:

- Juvenile spacing may be used to reduce crop tree density and thereby increase light to the forest floor and stimulate rooted forage production.
- Pruning prior to crown closure may be used to increase light penetration and maintain forage production longer into the rotation.
- In stands where stand establishment has been achieved, consider manual brushing to promote sprouting to increase the forage supply.

C. References:

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Nyberg, J.B. and D.W. Janz, technical eds. 1990. Deer and Elk Habitats in Coastal Forests of Southern British Columbia. Ministry of Forests, Special Report Series 5, Research Branch, Victoria, BC.

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St-Louis, A., J.P. Ouellet, M. Crête, J. Maltais, and J. Huot. 2000. Effects of partial cutting in winter on white-tailed deer. Can J. For. Res. 30: 655-661 (2000). © 2000 NRC Canada.

Appendix C) Wildlife Notice Order

BRITISH COLUMBIA

December 30, 2004

NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF SPECIES AT RISK IN THE SQUAMISH FOREST DISTRICT

This Notice is given under the authority of section 7(2) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/04*)* and 9(3) of the *Woodlot Licence Planning and Practices Regulation* (B.C. Reg. 21/04).

The following Notice includes indicators of the amount, distribution and attributes of wildlife habitat required for the survival of the species at risk outlined in Schedule 1.

Approved Wildlife Habitat Areas are not included in the indicators of amount, distribution and attributes for each of the species outlined in Schedule 1. As per section 7(3) of the *Forest Planning and Practices Regulation*, forest tenure holders are exempt from the obligation to specify a result or strategy in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation*, for approved Wildlife Habitat Areas.

This Notice applies to the Squamish Forest District.

Schedule 1

1) Marbled Murrelet *(Brachyramphus marmoratus)*

Amount:

1. An amount equal to the total amount of currently suitable nesting habitat in the non-contributing landbase. Government policy for determining the amount of suitable nesting habitat is provided in the species account for Marbled Murrelet in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004);
2. An amount of suitable Marbled Murrelet nesting habitat within Old Growth Management Areas consistent with the direction from landscape unit planning; and
3. An amount of suitable nesting habitat to a maximum net mature timber harvesting landbase impact of 415 ha.

Distribution:

1. The amount of habitat referenced above must be distributed to provide:
   -areas of suitable nesting habitat of the size and spatial distribution identified in the species account for Marbled Murrelet in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Marbled Murrelet in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

Species: Marbled murrelet

Attribute	Characteristics

Size	Maintain a balanced range of patch sizes including a mix of large (>200 ha), medium (50-200 ha) and small (<50 ha) patches within managed forests. The area should include vertical canopy complexity,
Tree Features	Large branches or branches with deformities, and presence of mossy platforms
Tree Species	It is unlikely that Marbled murrelets select particular tree species, however certain species are more likely to provide large horizontal platforms suitable for nesting. This includes yellow cedar, western hemlock, Sitka spruce, Douglas-fir and western red cedar. Less likely species include mountain hemlock and amabilis fir.
Nesting Habitat Features	Suitable nesting habitat includes old seral stage coniferous forests, providing large trees with platforms (limbs or deformities >15cm diameter) with variable canopy structure and small gaps in the canopy. Readily nest on steep slopes but is not essential if forest canopies are non-uniform.
Tree Size	Most nesting trees in BC are >200 yr. Nest trees are typically >40 m tall and nest heights are typically >30 m. Nest limbs range in size from 15-74 cm diameter.
Structural Stage	7: old forest (>250 yr - age class 9, but 8 is acceptable if older forest is not present and the age class 8 provides platform limbs and other nest attributes).
Additional information	Table 3 of the IWMS Version 2004 species account for Marbled Murrelet provides detailed information about the habitat features that are associated with most likely, moderately likely and least likely habitat within each of the Marbled Murrelet Conservation regions.

2) Grizzly Bear *(Ursus arctos)*

Amount:

1. 7280 ha with an impact to the mature timber harvesting landbase of approximately 385 ha.

Distribution:

1. The amount of habitat referenced above must be distributed in the Soo Timber Supply Area to provide:
    - areas of suitable foraging and security habitat of the size and spatial distribution identified in the species account for Grizzly Bear in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Grizzly Bear in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).

Attributes:

Species: Grizzly Bear

Attribute	Characteristics
Size	1-500 ha, depending on the area of use, extent of seasonal habitat and buffer size required.

Critical patch habitats	Critical patch habitats include, estuaries, rich non-forested fens, the edges of forested and non-forested bogs, herb-dominated patches on avalanche chutes with adjacent forest (particularly south-facing ones), herb-dominated subalpine parkland meadows, skunk cabbage swamps, floodplain ecosystems, white bark pine forage areas, and areas where bears fish for spawning salmon. Den cavities and surrounding stands are also considered critical. Non-forested critical habitats include a core area and buffer of forested cover. Forested critical habitats are not buffered.
Denning Habitat Features	Hibernating habitats tend to be high elevation areas that are sloped with dry, stable soil conditions that remain frozen throughout the winter. Dens are typically located on steep north-facing slopes, areas where vegetation will stabilize the den roof and where snow will accumulate for insulation. Dens are rarely re-used but Grizzly bears will often return to the same vicinity to dig new dens.
Foraging Habitat Features	Habitat selection is strongly influenced by meeting nutritional requirements, access to mates, thermal cover (i.e., dens), social interactions and the presence and activities of people. Habitat requirement vary greatly as some bears are more transient while others are more resident. Both residents and transients select patches or complexes of habitats within landscapes.
Structural Stage	Generally, foraging is more abundant in non-forested sites, sites with partial forest or sites with many tree gaps in older forest. Closed forest sites near quality habitat may be used for security and day bedding areas. Many or all structural stages can be used seasonally or for specific needs and as such, forage type is not necessarily tied to one particular structural stage.
Elevation	All elevations from sea level estuaries to high alpine meadows and talus slopes.

) 3) Coastal Tailed Frog *(Ascaphus truei)*

Amount:

1. 40 ha not exceeding an impact to the mature timber harvesting landbase of 25 ha.

Distribution:

1. The amount of habitat referenced above must be distributed to provide:
   - areas of suitable habitat of the size and spatial distribution identified in the species account for Coastal Tailed Frog in the *Accounts and Measures for Managing Identified Wildlife* (Identified Wildlife Management Strategy Version 2004).
2. The areas described above are located within occupied streams in the biogeoclimatic units and preferred elevations identified in the species account for Coastal Tailed Frog in the *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

Attributes:

Species: Coastal Tailed Frog	
Attribute	**Characteristics**

Size	Approximately 20 ha (depending on number and length of suitable stream reaches). Larger areas may be appropriate in watersheds with unstable terrain (class 4-5). Areas should include at least two streams or stream reaches (i.e., S4 to S6) with previous detections of tailed frogs. The area should include a 30 m core area buffered by a 20m management zone on both sides of occupied stream reaches.
Habitat Attributes	Tailed frog aquatic habitats are generally characterised by year round flow, non fish bearing (S4-S6), intermediate gradient (>2.5%), coarse substrates (>6.4 cm), stable channel beds and forest cover (generally associated with structural stage S6 or S7). Retain 100% of forest cover within the core area. Within the management zone maintain 70% basal area with appropriate structure to maintain riparian forest, important structural elements (e.g., coarse wood debris,) water quality and temperature (5 to 18 degrees), and naturally dispersed water flows.
Elevation	From sea level to 2140 m.

Appendix D) Established Wildlife Habitat Areas

BRITISH COLUMBIA
The Best Place on Earth

ORDER – Wildlife Habitat Areas
2-272 to 2-297, 2-381 to 2-386, 2-388, 2-390 to 2-406, 2-436 to 2-443
Grizzly Bear – Squamish Forest District

This order is given under the authority of sections 9(2) and 10(1) of the *Government Actions Regulation* (B.C. Reg. 582/2004) (GAR).

1. The Deputy Minister of Environment, being satisfied that
   i. the following area contains habitat that is necessary to meet the habitat requirements for Grizzly Bear (*Ursus arctos*);

   orders that
   a) the areas shown in the map set out in the attached Schedule A (2-272 to 2-297, 2-381 to 2-386, 2-388, 2-390 to 2-406, 2-436 to 2-443) and contained in the wildlife habitat area (WHA) spatial layer stored in the Geographic Warehouse (*twha_bc)* are established as wildlife habitat areas 2-272 to 2-297, 2-381 to 2-386, 2-388, 2-390 to 2-406, 2-436 to 2-443 for Grizzly Bear. The centre point of the line on the attached Schedule A is what establishes the WHA boundary;
   b) if there is a discrepancy between the areas shown in the map set out in the attached Schedule As and the WHA spatial layer stored in the Geographic Warehouse (*twha_bc*), the areas as detailed in the WHA spatial layer will take precedent; and
   c) pursuant to section 7(3) of the *Forest Planning and Practices Regulation* the person(s) required to prepare a forest stewardship plan are hereby exempted from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation* for Coastal Tailed Frog in the Squamish Forest District.

2. The Deputy Minister of Environment, being satisfied that
   i. the general wildlife measures (GWMs) described below are necessary to protect or conserve the habitat of Grizzly Bear ; and
   ii. GAR or another enactment does not otherwise provide for that protection or conservation;

   orders that
   a) the GWMs outlined in Schedule 1 are established for WHAs 2-272 to 2-297, 2-381 to 2-386, 2-388, 2-390 to 2-406, 2-436 to 2-443.

Definitions

Words and expressions not defined in this order have the meaning given to them in the *Forest and Range Practices Act* (FRPA) and the regulations made under it, unless context indicates otherwise.

incursion means timber harvesting or road construction that is located within a wildlife habitat area boundary where no harvesting or road building is otherwise permitted to occur.

productive forest area means forest included as either contributing, partial contributing and non-contributing as per Timber Supply Review 2 planning

regional manager means the Ministry of Environment Regional Manager Environmental Stewardship, South Coast

traditional and cultural activities is as defined in the *Free Use Permit Regulation.*

Schedule 1 – General Wildlife Measures:

Access, harvesting and silviculture

1. Do not harvest timber or construct roads in the WHA.

2. Provided the Regional Manager is notified prior to the commencement of activities, GWM 1 does not apply if:
   a) future road reconstruction is required through WHA 2-438, 2-439 or 2-440 to access timber beyond the WHA; or
   b) future road reconstruction or relocation of the Lillooet South FSR is required through WHA 2-399 or 2-400, as a result of flooding, debris torrent or similar natural event, associated with the Lillooet River.

3. GWM 1 does not apply if:
   a) timber harvesting within the WHA is necessary to create guyline tiebacks for timber harvesting provided trees that fall within the WHA boundary are retained on site to function as coarse woody debris;
   b) cutting of trees is for the purposes of traditional and cultural activities, as authorized under a Free Use Permit;
   c) timber harvesting occurs in Block 18-6 within WHA 2-382, with an area not to exceed that shown on the field map dated May 1, 2009; or
   d) timber harvesting and temporary road construction occurs in Block 156 in WHA 2-397, with an area of overlap not to exceed that shown on the map dated August 9, 2010.

4. Where timber harvesting or road construction are planned immediately adjacent to any WHA with >30 ha productive forest area, GWM 1 or GWM 3 do not apply to the area of an incursion along the WHA boundary if:

    a) the incursion is required to provide for a logical harvesting boundary or a logical road or trail location that utilizes a physical feature or administrative boundary;

    b) the area of the incursion, or multiple incursions cumulatively, do not exceed:

        i. 1 ha of productive forest area in WHAs with >30 ha and ≤50 ha productive forest area; or

        ii. 2 ha of productive forest area in WHAs with >50 ha to ≤100 ha productive forest area; or

        iii. 3 ha or 1% of productive forest area, whichever is greater, in WHAs with >100 ha productive forest area;

    c) the incursion exceeds 0.5 ha, and the area of the incursion is replaced with an equivalent or greater area of equal or better habitat contiguous to the WHA such that there is no net loss; and the incursion does not affect the intent or integrity of the WHA; and

    d) the incursion as per GWM 4 a) or b), and any replacement habitat as per GWM 4 c) are provided to the Regional Manager (via ESRI shapefiles) prior to the commencement of primary forest activities associated with the incursion.

Pesticides

5. Do not use pesticides in the WHA, except for:

    a) the use of *Bacillus thuringiensis* var *kurstaki* for the control of western spruce budworm;

    b) the use of beetle pheromones for the control of bark beetles; and

    c) the application of herbicides to control invasive plants or noxious weeds.

Recreation

6. Wherever practicable, do not develop recreational structures, trails, or facilities.

Signed this 25 day of August 2010
Doug Konkin, Deputy Minister
Ministry of Environment

Appendix 1:

The following information is provided by the Ministry of Environment as background information and support to the order establishing WHAs 2-272 to 2-297; 2-381 to 2-386; 2-388 to 2-406; 2-436 to 2-443. This appendix is not part of the order.

1. **Activities to which the order does not apply:** Section 2(2) of the *Government Actions Regulation* states

   An order under any of sections 5 to 15 does not apply in respect of

   (a) any of the following entered into before the order takes effect:

   (i) a cutting permit;

   (ii) a road permit;

   (iii) a timber sale licence that does not provide for cutting permits;

   (iv) a forestry licence to cut issued by a timber sales manager under section 47.6 (3) of the *Forest Act*;

   (v) subject to subsection (3), a minor tenure,

   (b) a declared area,

   (c) areas described in section 196 (1) of the Act, and

   (d) areas referred to in section 110 of the *Forest Planning and Practices Regulation* (FPPR).

2. Authority to consider an exemption from these GWMs is provided in section 92(1) of the FPPR, and section 79(1) of the *Woodlot License Planning and Practices Regulation.* An exemption may be provided if the Minister's delegate is satisfied that the intent of the GWM will be achieved or that compliance with the provision is not practicable, given the circumstances or conditions applicable to a particular area.

   An exemption application should be submitted to the Minister's delegate (Regional Manager for the region in which the order applies) with a rationale describing the nature of the problem and options to integrate WHA conservation with proposed forest and/or range practices. This submission will assist in timely consideration of the matter, and will inform the conditions, if any, of the exemption that may be granted prior to commencement of activities. Upon receipt of a complete exemption application, a determination will normally be made within 14 calendar days of arrival. Incomplete packages will be returned to the proponent for re-submission. A template for exemption requests is available at: http://www.env.gov.bc.ca/wld/frpa/index.html

3. For GWM 1, exemptions would only normally be considered to restore or enhance degraded habitat, as determined by the Regional Manager, or for roads or trails where there are no other practicable options.

4. GWM 1 does not apply to road maintenance, road deactivation or brushing within the right-of-way on existing roads or trails in the WHA, provided these activities are carried out in a manner that will not affect the intent or integrity of the WHA.

5. For GWM 2 the intent of clause (b) is to allow reconstruction or relocation of the Lillooet South FSR (through 2-399 or 2-400) if future flooding or debris torrent (or similar event) on the Lillooet River result in the river channel migrating towards the Lillooet South FSR making such a relocation necessary. The Regional Manager should be provided with reconstruction/relocation engineering plans prior to the commencement of work.

6. For GWM 3 (d) the temporary road to access Block 156 should be deactivated to a non-driveable state as soon as possible after completion of harvesting and planting. This will minimize disturbance to grizzly bears while foraging in this WHA.

7. The intent of GWM 4 is to facilitate pre-authorized boundary exemptions for those WHAs with >30 ha productive forest area provided that MOE is notified prior to the incursion taking place. Examples of incursions include a cut-block, road, trail or landing that overlaps a WHA boundary and: a) that the intent of the WHA boundary was to follow a creek/road and in some areas the boundary extends slightly beyond the creek/road due to a GIS mapping error and creates the overlap; or b) unintentional overlap occurs with an engineered primary forest activity that becomes evident when comparing map scales (e.g. 1:20000 vs 1:5000 often at final design stage); or c) *Forest Act* agreement holders can demonstrate that the block, road, trail or landing are located in a logical location and the incursion does not exceed the amount allowed.

   In almost all instances the amount of incursion is anticipated to affect a small area. No replacement area is required when the discrepancy is: a) caused by GIS boundary mapping error since the intent of the WHA has not been altered; or b) the cumulative overlap is <0.5 ha. In other situations, the intended result is that where a boundary amendment is suggested by a *Forest Act* agreement holder and when the reduction is measurable (≥0.5 and ≤3 ha or <1% measured cumulatively in any WHA), it will result in no net loss to habitat in the WHA. Delineation of equal or better grizzly bear habitat, in quantity and quality, will be required contiguous to the WHA. Any biological assessment to replace habitat should be conducted by a qualified professional with appropriate training and experience for the work being completed. If replacement habitat is required and equal or better habitat is not available contiguous to the WHA in question then the incursion cannot proceed under this GWM.

   Boundary amendments meeting the conditions identified in GWM 4 will be periodically reviewed by MoE and the WHA boundary officially amended under the *Government Actions Regulation*. In any instances where the conditions in GWM 4 cannot be met, proposed primary forest activities will require an exemption as outlined under section 2 in this Appendix.

   WHAs with <30 ha of productive forest area (i.e. WHA 2-273, 2-276, 2-277, 2-281, 2-282, 2-284, 2-285, 2-286, 2-287, 2-289, 2-290, 2-292, 2-293, 2-294, 2-296, 2-390, 2-392, 2-395, 2-406, 2-437), are excluded from GWM 4 (b)(i) because of potential adverse impacts to the small amount of security cover from an incursion. An exemption request for any incursions in these WHAs should be submitted to the Regional Manager, as

outlined under section 2 in this Appendix.

In addition to reporting incursions to the Regional Manager prior to commencement of timber harvesting or road construction as per GWM 4 (d), it is the proponent's responsibility to keep accurate records of each occurrence. Records must also be made available to a MoE or Ministry of Forests and Range official upon request.

8. Where roads in the WHA are temporary and no longer required, they should be permanently deactivated. Proponents must notify the Regional Manager when deactivation of temporary roads is complete.

9. When reforesting areas within the WHA reduced stocking standards should be used as outlined in the document titled: *Grizzly Bear Habitat in Managed Forests - Silviculture Treatments to Meet Habitat and Timber Objectives.*

10. These GWMs do not apply to persons who must comply with the *Worker's Compensation Act* and the regulations under that Act (e.g. danger tree felling).

Appendix E) Whistler Landscape Unit –Ministerial Order

PROVINCE OF BRITISH COLUMBIA

Ministry of Forests, Lands and Natural Resource Operations

Ministerial Order

Land Use Objectives for the Whistler Landscape Unit

Sea to Sky District

Part 1 - Interpretation

1. Pursuant to Section 93.4 of the *Land Act*, the following objectives are established as land use objectives for the purposes of the *Forest and Range Practices Act (FRPA)* and apply to old-growth management areas (OGMAs) within the Whistler Landscape Units (LU), as shown in the map set out in Schedule A and contained in the old-growth management area spatial layer stored in the Geographic Warehouse (WHSE_LAND_USE_PLANNING.RMP _OGMA_LEGAL_CURRENT_SVW).
2. If there is a discrepancy between the areas shown in the map attached as Schedule A and the OGMA spatial layer stored in the Geographic Warehouse (WHSE_LAND_USE_PLANNING.RMP _OGMA_LEGAL_CURRENT_SVW), the areas as detailed in the OGMA spatial layer will take precedence.
3. Nothing in, under or arising out of this order either abrogates or derogates from any aboriginal rights, aboriginal title or treaty rights of any applicable First Nation, nor relieves the Province of any obligation to consult with any applicable First Nation.

Part 2 - Objectives

4. The Objectives for Old-Growth Management Areas (OGMAs) are as follows:

1) Retain trees in the OGMAs identified in Schedule A, except to fell trees where necessary for any of the following:
   (b) To prevent insect infestations or diseases posing a significant threat to forest health;
   (c) To remove an identified safety hazard within road right-of-ways, recreation sites, or trails;

2) Retain trees in the OGMAs identified in Schedule A, except to fell an area of trees where necessary for any of the following:
   (a) To enable a safe falling boundary on a block immediately adjacent to the OGMA;
   (b) To enable road or bridge construction for access to resource values beyond or adjacent to the OGMA, and no other practicable option for road or bridge location exists;
   (c) To improve guyline clearance, tailholds, or tiebacks for guylines;
   (d) To improve wind firmness along block boundaries.

3) The area of trees felled in an OGMA as provided in Section 4 (2) will not exceed the lesser of:
   (a) Two hectares, or
   (b) Five percent of the OGMA area.

Part 3 – Identification of Replacement Area and Communication

5. The trees felled under Section 4(1) are to be left on-site to function as coarse woody debris, except where they pose a significant risk to forest health.

6. The licensee will identify an equivalent area of trees to replace the area of trees felled under Section 4 (2), and ensure each of the following conditions are met:

   1) The replacement area of trees is equal or greater to the area of trees felled,
   2) The replacement area of trees has equivalent or better stand attributes (i.e. age, site index, species distribution) than the area of trees felled, and
   3) The replacement area of trees is located according to the following order of priority:
      (a) Connected to the OGMA subject to activities pursuant to Section 4 (2), in the same Biogeoclimatic Ecosystem Classification (BEC) variant;
      (b) Connected to a nearby OGMA in the same BEC variant;
      (c) A new area of trees located as close as is practicable to the OGMA subject to activities pursuant to Section 4 (2), in the same BEC variant.

7. The licensee will provide notice and documentation of the proposed area of trees felled under Section 4 (2), in addition to the proposed equivalent area of trees to replace the area of trees felled, to the district office with cutting permit, road permit, or other tenure application. Notice and documentation should include:

   1) A description of the proposed area and characteristics of trees to be removed from the OGMA;
   2) A description of the proposed replacement area and characteristics of trees required in accordance with Section 5; and
   3) Spatial data (i.e. GIS shape files) to identify the proposed area of trees felled from the OGMA and the proposed replacement area of trees.

Part 4 -Effective Date and Transition

8. This order and the Objectives in this order take effect on the date that notice of this order is published in the BC Gazette.

08/20/15

(Signed) Date (MM/DD/YY)

for Heather MacKnight, Regional Executive Director
South Coast Region, Ministry of Forests, Lands and Natural Resource Operations

Appendix F) Guide to Rare Forested Ecosystems for CCF

Pink are CDC Red Listed if OLD FOREST; Blue are CDC Blue Listed if OLD FOREST - Green denotes Forest Site Units (series)
Note: Rare Forested Ecosystems are those with <2% occurrence in the 3 existing Landscape Units
Site Series descriptors are based upon the ***Terrestrial Ecosystem Mapping: Whistler Landscape Unit*** *March 31st 2010.*

CWHms1 Code/SS	**Area**	**% Occurrence**	**Forest Ecosy.**
AM 01	20176.98	45.205%	Y
DF 03	7253.83	16.252%	Y
AD 06	3408.37	7.636%	Y
DK 02	2535.80	5.681%	Y
AO 04	1889.25	4.233%	Y
TA 00	1688.73	3.783%	N
AH 00	1144.14	2.563%	N
LA 00	997.91	2.236%	N
UR 00	854.60	1.915%	N
RC 11	548.62	1.229%	Y
RO 00	429.23	0.962%	N
GB 00	350.76	0.786%	N
OS 00	334.17	0.749%	N
NTA	294.33	0.659%	N
SS 07	281.05	0.630%	Y
PL 00	274.27	0.614%	N
HQ 05	251.81	0.564%	Y
RI 00	234.58	0.526%	N
CD 08	216.88	0.486%	Y
SK 00	206.02	0.462%	N
FE 00	186.03	0.417%	N
GC 00	161.25	0.361%	N
LU 00	132.41	0.297%	N
RZ 00	129.81	0.291%	N
GP 00	76.11	0.171%	N
ES 00	70.37	0.158%	N
PD 00	68.58	0.154%	N
CW 09	66.23	0.148%	Y
AA 00	63.31	0.142%	N
OW 00	51.56	0.116%	N
LS 10	43.98	0.099%	Y
GT 00	35.24	0.079%	N
EX 00	32.79	0.073%	N
RU 00	31.17	0.070%	N
LO 00	29.34	0.066%	N
OF 00	28.32	0.063%	N
BU 00	27.70	0.062%	N
RN 00	19.61	0.044%	N
AS 00	5.50	0.012%	N
RS 00	1.71	0.004%	N
CB 00	1.06	0.002%	N
SU 00	0.83	0.002%	N
Total	**44634.25**	100.000%	

MHmm2 Code/SS	**Area**	**% Occurrence**	**Forest Ecosy.**
MB 01	18809.58	46.664%	Y
MT 05	3757.63	9.322%	Y
MM 02	3714.62	9.215%	Y
AH 00	2090.40	5.186%	N
TA 00	1812.19	4.496%	N
YH 07	1395.39	3.462%	Y
RO 00	1018.39	2.526%	N
YB 00	881.87	2.188%	Y
AA 00	880.58	2.185%	N
FR 00	836.36	2.075%	Y
AS 00	781.00	1.938%	N
FH 00	537.46	1.333%	N
YC 09	488.25	1.211%	Y
MO 00	452.59	1.123%	N
SK 00	443.49	1.100%	N
MR 00	418.76	1.039%	N
AB 04	268.05	0.665%	Y
FE 00	247.40	0.614%	N
BV 00	170.81	0.424%	N
MD 06	168.30	0.418%	Y
AM 00	156.43	0.388%	N
RU 00	152.76	0.379%	N
BA 00	114.65	0.284%	N
SM 00	106.64	0.265%	N
YS 08	105.71	0.262%	Y
LA 00	83.96	0.208%	N
GB 00	66.64	0.165%	N
PD 00	62.00	0.154%	N
RI 00	57.57	0.143%	N
AK 00	54.51	0.135%	N
WP 00	38.75	0.096%	N
ES 00	38.06	0.094%	N
OS 00	36.41	0.090%	N
MN 00	30.07	0.075%	N
OW 00	13.31	0.033%	N
MP 00	8.55	0.021%	N
LU 00	5.36	0.013%	N
RZ 00	3.22	0.008%	N
CL 00	0.87	0.002%	N
Total	**40308.60**	100.000%	

(source Bob Green, M.Sc., R.P.F., R.P.Bio. April 12, 2010 by Landscape Units Soo, Callaghan, Whistler)

Appendix G) CCF Ecosystem Based Reserves

Table G-1 Polygon ID, Source and Objective List

Polygon ID	ConstrStat	Source	Hectares	Rating	Comment	Reserve Objective
1	EBM Reserve - Env	AWARE	73.4	High	Callaghan Upper Ponds CMA	Environmental
2	EBM Reserve - Env	AWARE	26.0	High	Callaghan Lower Ponds CMA	Environmental
3	EBM Reserve - Env	AWARE	8.4	High	Lower Basalt Creek	Environmental
4	EBM Reserve - Env	AWARE	40.7	High	Brew Headwaters	Environmental
5	EBM Reserve - Env	AWARE	111.0	High	Old Forest above Whistler Olympic Park	Environmental
6	EBM Reserve - Env	CCF	294.5	High	Environmental, AWARE, WORCA, Jane Lakes area	Environmental
7	EBM Reserve - Env	CCF	21.4	High	Lower ‘yer Seat and Train Wreck area	Environmental
8	EBM Reserve - Env	CCF	66.4		Environmental + TAG operating area	Environmental
9	EBM Reserve - Env	CCF	20.4	High	Callaghan Old Growth Knob	Environmental
10	EBM Reserve - Env	CCF	150.0	High	Environmental + Canadian Wilderness Adventures core use zone	Environmental
11	EBM Reserve - Env	CCF	57.1		Environmental + Canadian Wilderness Adventures core use zone	Environmental
12	EBM Reserve - Env	CCF	4.7		Environmental + Canadian Wilderness Adventures core use zone	Environmental
13	EBM Reserve - Env	CCF	2.6		Environmental + Canadian Wilderness Adventures core use zone	Environmental
14	EBM Reserve - Env	CCF	6.8		Environmental + Canadian Wilderness Adventures core use zone	Environmental
15	EBM Reserve - Env	CCF	17.9		Environmental + TAG operating area	Environmental
16	EBM Reserve - Env	CCF	133.1	High	Callaghan Alexander Falls Area	Environmental
17	EBM Reserve - Env	CCF	13.6	High	Logger's Lake Wet Cedar Reserve	Environmental
18	EBM Reserve - Env	CCF	29.4	High	Petticoat Lake	Environmental
19	EBM Reserve - Env	CCF	11.7	High	Environmental + BSL Cabin Marshall Lake	Environmental
20	EBM Reserve - Env	CCF	14.5	High	Red Listed polygon	Environmental
21	EBM Reserve - Env	CCF	15.9	High	Sugar Cube	Environmental
22	EBM Reserve - Env	CCF	491.8	High	West Interface Old Forest	Environmental
23	EBM Reserve - Env	CCF	315.9	High	RRC Old Forest	Environmental
24	EBM Reserve - Env	CCF	28.9	High	Environmental + Blackcomb Snowmobile core use zone	Environmental
25	EBM Reserve - Env	CCF	6.2	High	Environmental + Blackcomb Snowmobile core use zone	Environmental

26	EBM Reserve - Env	CCF	1.1	High	Environmental + Blackcomb Snowmobile core use zone	Environmental
27	EBM Reserve - Env	Old Forest	48.4	High	Objective for Management Blackwell	Environmental
28	EBM Reserve - Env	Old Forest	315.5	Low	Objective for Management Blackwell	Environmental
29	EBM Reserve - Env	Old Forest	22.9	low	Objective for Management Blackwell	Environmental
30	EBM Reserve - Env	Old Forest	90.7	Medium	Objective for Management Blackwell	Environmental
31	EBM Reserve - Env	Old Forest	9.0	Medium	Objective for Management Blackwell	Environmental
32	EBM Reserve - Env	Old Forest	5.4	Medium	Objective for Management Blackwell	Environmental
33	EBM Reserve - Env	Old Forest	40.2	High	Objective for Management Blackwell, also rec trail values	Environmental/Public Recreation
34	EBM Reserve - Env	Old Forest	45.1	low	Objective for Management Blackwell	Environmental
35	EBM Reserve - Env/Rec	Old Forest	51.4	High	Objective for Management Blackwell, also rec trail values	Environmental/Public Recreation
36	EBM Reserve - Env/Rec	Old Forest	128.5	High	Objective for Management Blackwell, also rec trail values	Environmental/Public Recreation
37	EBM Reserve - Env/Rec	Old Forest	21.1	High	Objective for Management Blackwell, also rec trail values	Environmental/Public Recreation
38	EBM Reserve - Env/Rec	Old Forest	1.4	High	Objective for Management Blackwell, also rec trail values	Environmental/Public Recreation
39	EBM Reserve - Env/Rec	WORCA	4.1	High	Young Lust	Environmental/Public Recreation
40	EBM Reserve - Rec	CCF	32.2	high	public recreation, recruitment option	Public Recreation
41	EBM Reserve - Env/Rec	Public Consultation	131.8	High	Old Forest + Logger's Lake area	Public Recreation
42	EBM Reserve - Rec	WORCA	82.7		Howler/North Flank area	Public Recreation
43	EBM Reserve - Rec	WORCA	24.6		Comfortably Numb Start	Public Recreation
44	EBM Reserve - Rec	WORCA	20.7	low	Foreplay, end of Comfortably Numb	Public Recreation
45	EBM Reserve - Rec	WORCA	11.0	low	Rockwork Orange. Korova Milkbar, Wizard Burial Ground	Public Recreation
46	EBM Reserve - Rec	WORCA	46.6	low	27 Switchbacks, Billy Epic	Public Recreation
47	EBM Reserve - Rec	WORCA	2.7	low	Pura Vida	Public Recreation
48	EBM Reserve - Rec	WORCA	1.9	low	Pura Vida	Public Recreation
49	EBM Reserve - Rec	WORCA	8.8	low	End Comfortably Numb/YummyNumby	Public Recreation

G-2 EBM Reserve – Alteration, Incursions and Amendment Policy

A. **Reserve Objectives Priority:** during stakeholder input and crafting of reserve potential, a priority objective has been assigned to each reserve. A reference number and primary label is affixed. Although there is considerable overlap for multiple objectives it is the expectation that the primary objective being identified as principle to the long term integrity of the reserve objective.

B. **Expectations for Reserves:** the reserves as shown have no legal protection other than they provide direction to the forest management of the CCF. It is hoped however that with these stated objectives they would be recognised by all other resource uses. Referrals to the CCF would consider and elevate these EBM Reserves objectives in hopes that the 3rd party proponent considers mitigation or avoidance if not compatible.

C. **Reserve Options Old Forest vs Recruitment:** Since much of the selection criteria was focussed on forest protection of original old forest. Younger forests used to protect a recreation feature, riparian area or use trail were considered subordinate to the selection process and will in time recruit to mature and eventually old forest conditions.

D. **Reserve Incursions:** these are thought to recognize permissible uses of EBM reserves for public, commercial recreation and/or interpretation opportunities. Access within the reserves whether by existing road systems or trail can be maintained or expanded when they meet the primary objectives. New road construction or upgrading of existing resource roads will be avoided, however if other options to avoid incur >15% additional costs for construction difficulty or in road lengths then roads will be constructed through a reserve but will be subject to the amendment provisions below.

E. **Reserve Area Amendments:** at the scale of planning used in this project, there will be the inevitable need for area amendments. The following amendment provisions will be utilized:

1) Retain all trees within a reserve except to fell where necessary for the following:
    (a) -removal of danger tree identified as a safety hazard to the public, when those trees are left in place as coarse woody debris.
    (b) -to prevent the spread of insects or diseases posing a significant threat to the surrounding forest.
    (c) -carrying out fuel reduction activities within the Interface FDUs. Including required upgrade to existing or construction of new access road or skid trails required to implement a fuel treatment project.
2) The area of change or alteration to a reserve area without the need for formal replacement will be:
    a. 3% of the total reserve area as mapped for reserves <30ha;
    b. 5% of the total reserve area as mapped for reserves >30 and <100;
    c. Replacement area will be required for any alteration above these limits if carried out by the Community Forest during its primary forest activities. The areas amended will be directly adjacent to the reserve area and be of similar attributes, ages and structure than what is removed through alteration.

F. **Catastrophic Loss or Removal through Other Enactments:** No replacement will occur if the change is a result of another enactment such as Hydro Line Expansion, Mining or Urbanization. Rather it will be the role of CCF management to identify the potential loss to the proponent and determine if mitigation is at all possible. In the event of future damaging agents (fire, blowdown or insect) affect a reserve, they will be off limits to any timber salvaging and shall contribute to diversity of seral stage conditions in the forest. Climate change may be the only factor in the longevity and preservation of current forest attributes of these reserves. Perhaps beyond the scope of this project these reserves may support options to understand, predict and ensure forest resilience over time.

Appendix H: Invasive and Alien Plant Species List for CCF

SSISC Management Categories:

Priority	Category	Definition	Management Approach
1	**Prevention Watchlist**	These species are not yet found in the region/ISMA, but found in neighbouring areas or are considered likely to arrive soon.	Alert or Watchlist species, focus on education & awareness with the goal of prevention. If prevention fails, and these species are detected in an ISMA where they were previously not known to occur, the goal is immediate eradication following the proposed new SSISC EDRR protocol.
2	**Eradicate**	These species exist in the region/ISMA, but with very limited distribution. Eradication is feasible.	Eradication is the goal. These species are the highest priority for planned control programs.
3	**Contain**	These species are abundant in certain portions of the ISMA/region, but have not yet infested all potential habitats.	Management efforts are delineated by containment lines which may be based on geographic (i.e. a specific region) or jurisdictional (e.g. private gardens only) boundaries. Some of these species have biocontrol agents available which may be useful within the containment line. Containment to currently infested areas is the management objective.
4	**Strategic Control**	These are widespread species that are beyond landscape-level control and/or have relatively low impact.	The goal of management efforts for these species is to protect site-specific values or assets. Land managers may choose to treat these species at sites they deem valuable to protect (e.g. wildlife habitat, corridors of spread, agricultural land etc.) based on specific land management objectives. Some of these species have biological control agents available.
5	**No Action**	These are widespread species, where site-scale control is ineffective or futile; and/or these species have relatively low impact. Lost causes.	Not included in control programs. Education only (e.g. do not plant in gardens).
6	**Insufficient Information**	There is insufficient information for these species on their distribution, impacts, potential for spread and/or feasibility of control. Not enough information to assign a management category.	Carry out inventory if required, monitor known locations, and/or access more information from other regions.

Note: these categories will be assigned to species at the regional scale, and at the Invasive Species Management Area (ISMA) scale.

1

Scientific Name	Common Name	Regional Priority	Priority in Squamish ISMA 1	Priority in Whistler ISMA 2	Priority in Pemberton ISMA 3
Abutilon theophrasti	velvet-leaf	Prevent	Prevent	Prevent	Prevent
Acroptilon repens	Russian knapweed	Prevent	Prevent	Prevent	Prevent
Alliaria petiolata	garlic mustard	Prevent	Prevent	Prevent	Prevent
Anthriscus caucalis	burr chervil	Prevent	Prevent	Prevent	Prevent
Anthriscus sylvestris	wild chervil	Prevent	Prevent	Prevent	Prevent
Centaurea debeauxii	meadow knapweed	Prevent	Prevent	Prevent	Prevent
Centaurea solstitialis	yellow starthistle	Prevent	Prevent	Prevent	Prevent
Cirsium palustre	marsh plume thistle	Prevent	Prevent	Prevent	Prevent
Clematis vitalba	wild clematis	Prevent	Prevent	Prevent	Insufficient Information
Conium maculatum	poison hemlock	Prevent	Prevent	Prevent	Prevent
Crupina vulgaris	common crupina	Prevent	Prevent	Prevent	Prevent
Cynoglossum officinale	hound's-tongue	Prevent	Prevent	Prevent	Prevent
Cyperus esculentus	yellow nutsedge	Prevent	Prevent	Prevent	Prevent
Cyperus rotundus	purple nutsedge	Prevent	Prevent	Prevent	Prevent
Datura stramonium	jimsonweed	Prevent	Prevent	Prevent	Prevent
Dipsacus fullonum	teasel	Prevent	Prevent	Prevent	Prevent
Euphorbia esula	leafy spurge	Prevent	Prevent	Prevent	Prevent
Fallopia sachalinensis	giant knotweed	Prevent	Prevent	Prevent	Prevent
Foeniculum vulgare	Sweet Fennel	Prevent	Prevent	Prevent	Prevent
Gypsophila paniculata	baby's breath	Prevent	Prevent	Prevent	Prevent
Hieracium flagellare	whiplash hawkweed	Prevent	Prevent	Prevent	Prevent
Hyoscyamus niger	black henbane	Prevent	Prevent	Prevent	Prevent
Knautia arvensis	field scabious	Prevent	Prevent	Prevent	Prevent
Lamium amplexicaule	common dead-nettle	Prevent	Prevent	Prevent	Prevent
Lepidium latifolium	Perrenial pepperweed	Prevent	Prevent	Prevent	Prevent
Lysimachia vulgaris	garden yellow loosestrife	Prevent	Prevent	Prevent	Prevent
Myriophyllum aquaticum	parrotweed; parrotfeather	Prevent	Prevent	Prevent	Prevent
Myriophyllum spicatum	Eurasion water-milfoil	Prevent	Prevent	Prevent	Prevent
Phragmites australis subsp. australis	common reed	Prevent	Prevent	Prevent	Prevent
Pueraria montana	kudzu	Prevent	Prevent	Prevent	Prevent
Silybum marianum	milk thistle	Prevent	Prevent	Prevent	Prevent
Soliva sessilis	carpet burweed	Prevent	Prevent	Prevent	Prevent
Spartina alterniflora	Smooth Cordgrass	Prevent	Prevent	Prevent	Prevent
Spartina anglica	English cordgrass	Prevent	Prevent	Prevent	Prevent
Spartina densiflora	Dense-flowered Cordgrass	Prevent	Prevent	Prevent	Prevent
Spartina patens	Saltmeadow Cordgrass	Prevent	Prevent	Prevent	Prevent
Spartium junceum	Spanish Broom	Prevent	Prevent	Prevent	Prevent
Spergula arvensis	corn-spurry	Prevent	Prevent	Prevent	Prevent
Tribulus terrestris	puncture vine	Prevent	Prevent	Prevent	Prevent
Ulex europaeus	gorse	Prevent	Prevent	Prevent	Prevent
Vinca major	Large periwinkle	Prevent	Prevent	Prevent	Prevent
Anchusa officinalis	common bugloss	Eradicate	Eradicate	Prevent	Eradicate
Butomus umbellatus	flowering rush	Eradicate	Prevent	Eradicate	Prevent
Chondrilla juncea	rush skeletonweed	Eradicate	Prevent	Prevent	Eradicate
Cytisus multiflorus	White Spanish Broom	Eradicate	Prevent	Eradicate	Prevent
Euphorbia cyparissias	cypress spurge	Eradicate	Eradicate	Eradicate	Prevent
Heracleum mantegazzianum	giant hogweed	Eradicate	Eradicate	Prevent	Eradicate
Iris pseudacorus	yellow flag iris	Eradicate	Eradicate	Eradicate	Eradicate
Lathyrus latifolius	broad-leaved peavine	Eradicate	Eradicate	Eradicate	Eradicate
Lathyrus sylvestris	flat pea	Eradicate	Eradicate	Eradicate	Prevent
Lythrum salicaria	purple loosestrife	Eradicate	Eradicate	Eradicate	Eradicate
Onopordum acanthium	Scotch Thistle	Eradicate	Eradicate	Prevent	Prevent
Pastinaca sativa	Wild parsnip	Eradicate	Prevent	Prevent	Eradicate
Polygonum polystachum	Himalayan knotweed	Eradicate	Eradicate	Eradicate	Prevent
Potamogeton crispus	curled pondweed	Eradicate	Prevent	Eradicate	Prevent
Senecio jacobaea	tansy ragwort	Eradicate	Eradicate	Prevent	Prevent
Berteroa incana	hoary alyssum	Contain	Eradicate	Eradicate	Insufficient Information
Buddleja davidii	butterfly bush	Contain	Contain	Eradicate	Prevent
Centaurea biebersteinii	spotted knapweed	Contain	Contain	Contain	Strategic Control
Centaurea diffusa	diffuse knapweed	Contain	Contain	Contain	Strategic Control
Cytisus scoparius	Scotch broom	Contain	Strategic Control	Eradicate	Eradicate
Daphne laureola	spurge laurel	Contain	Contain	Prevent	Prevent
Echium vulgare	blueweed	Contain	Contain	Prevent	Contain
Fallopia japonica	Japanese knotweed	Contain	Contain	Eradicate	Eradicate
Fallopia x bohemicum	Bohemian knotweed	Contain	Contain	Prevent	Prevent

Scientific Name	Common Name	Regional Priority	Priority in Squamish ISMA 1	Priority in Whistler ISMA 2	Priority in Pemberton ISMA 3
Hedera helix + Helix varieties	English ivy & varieties	Contain	Contain	Prevent	Prevent
Ilex aquifolium	English holly	Contain	Contain	Prevent	Prevent
Impatiens glandulifera	policeman's helmet	Contain	Strategic Control	Eradicate	Eradicate
Impatiens parviflora	smallflower touch-me-not	Contain	Insufficient Information	Contain	Eradicate
Lamium galeobdolon	yellow lamium	Contain	Strategic Control	Contain	Contain
Potentilla recta	sulphur cinquefoil	Contain	Prevent	Eradicate	Contain
Rubus armeniacus	Himalayan blackberry	Contain	Strategic Control	Eradicate	Eradicate
Rubus laciniatus	cutleaf evergreen blackberry	Contain	Strategic Control	Eradicate	Eradicate
Symphytum officinale	Common Comfrey	Contain	Contain	Eradicate	Eradicate
Arctium minus	common burdock	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Artemisia absinthium	wormwood	Strategic Control	Prevent	Prevent	Strategic Control
Centaurea cyanus	cornflower	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Chenopodium album	lamb's-quarters	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Cichorium intybus	chicory	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Cirsium arvense	Canada thistle	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Cirsium vulgare	bull thistle	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Convolvulus spp.	invasive morning glory	Strategic Control	No action	Strategic Control	Strategic Control
Digitalis purpurea	foxglove	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Gnaphalium uliginosum	marsh cudweed	Strategic Control	Strategic Control	No action	Prevent
Hesperis matronalis	dame's rocket	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Hieracium aurantiacum	orange hawkweed	Strategic Control	Strategic Control	Contain	Strategic Control
Hieracium caespitosum	Meadow Hawkweed	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Hieracium maculatum	Spotted hawkweed	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Hieracium piloselloides	tall hawkweed	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Hieracium praealtum	Queen devil hawkweed	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Hypericum perforatum	common St. John's-wort	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Hypochaeris radicata	hairy cat's ear	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Lactuca serriola	prickly lettuce	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Leucanthemum vulgare	oxeye daisy	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Linaria dalmatica	dalmatian Toadflax	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Linaria vulgaris	Common toadflax	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Lysimachia punctata	large yellow loosestrife	Strategic Control	Strategic Control	Strategic Control	Prevent
Matricaria perforata	scentless chamomile	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Oenothera biennis	common evening-primrose	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Rhus glabra	smooth sumac	Strategic Control	No action	Strategic Control	No action
Silene vulgaris	bladder campion	Strategic Control	Prevent	Strategic Control	Prevent
Sinapis arvensis	Wild mustard	Strategic Control	Prevent	Strategic Control	Strategic Control
Sisymbrium loeselii	Loesel's tumble-mustard	Strategic Control	Insufficient Information	Strategic Control	Insufficient Information
Sisymbrium officinale	hedge mustard	Strategic Control	Insufficient Information	Strategic Control	Insufficient Information
Sonchus arvensis	perennial sow thistle	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Sonchus oleraceus	annual sow thistle	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Tanacetum vulgare	common tansy	Strategic Control	Strategic Control	Strategic Control	Strategic Control
Vinca minor	common periwinkle	Strategic Control	Strategic Control	Contain	Prevent
Aegopodium podagraria	bishop's goutweed; ground elder	Insufficient Information	Insufficient Information	Insufficient Information	Insufficient Information
Agrostis capillaris	colonial bentgrass	Insufficient Information	Insufficient Information	Insufficient Information	Insufficient Information
Agrostis gigantea	redtop	Insufficient Information	Insufficient Information	Insufficient Information	Insufficient Information
Agrostis stolonifera	creeping bentgrass	Insufficient Information	Insufficient Information	Insufficient Information	Insufficient Information
Alisma sp.	water-plantain	Insufficient Information	Insufficient Information	Insufficient Information	Insufficient Information
Alopecurus geniculatus	water meadow-foxtail	Insufficient Information	Insufficient Information	Insufficient Information	Insufficient Information
Anthoxanthum odoratum	sweet vernal grass	Insufficient Information	Insufficient Information	Insufficient Information	Insufficient Information
Bellis perennis	English daisy	Insufficient Information	Insufficient Information	Insufficient Information	Insufficient Information
Betula pendula	weeping birch	Insufficient Information	Insufficient Information	Insufficient Information	Insufficient Information
Brassica rapa	field mustard	Insufficient Information	Insufficient Information	Insufficient Information	Insufficient Information

Appendix I Whistler Interpretive Forest Legal Objective

Order to Establish Objectives
for the Whistler Interpretive Forest
in the Squamish Forest District

Notice is hereby given that, pursuant to Section 6(3) of the *Forest Practices Code of British Columbia Act*, objectives for the following Ministry of Forest's interpretive forest site are to be established effective *November 20,1999*:

Whistler Interpretive Forest Site, Project 16660-20-6264

The objective of the Whistler Interpretive Forest Site is *to provide forest interpretation and education opportunities*, while demonstrating integrated resource management. Forest resources, including public recreation, fish, wildlife, timber, forage, water, soil and landscape aesthetics will be managed using a comprehensive planning process. Ecosystem biodiversity will be managed at the landscape level with particular attention given to the conservation of riparian and meadow areas. Forest recreation will be managed for non-motorized and rural recreation experiences. Seasonal two wheel drive access, on designated roads, will be permitted. Opportunities for a wide variety of recreational activities will be available. Roads and day use facilities will be maintained. Forest stands will be managed for harvesting, utilizing various silvicultural systems. Forest interpretation activites and education on local ecosystems and forest practices will be provided through brochures, self guided interpretive trails and signage.

Dated November 25, 1999

Paul Kuster
District Manager, Squamish Forest District

BRITISH COLUMBIA

ORDER – WILDLIFE HABITAT AREAS 2-517 to 2-525

This order is given under the authority of sections 9(2) and 10(1) of the *Government Actions Regulation* (B.C. Reg. 582/2004) (GAR).

1. The Regional Executive Director, South Coast Region, Ministry of Forests, Lands and Natural Resource Operations, being satisfied that
   i. the following area contains habitat that is necessary to meet the habitat requirements for Spotted Owl (*Strix occidentalis*); and
   ii. the habitat requires special management that is not otherwise provided for under GAR or another enactment;

orders that

   a) the areas shown in the map set out in the attached Schedule A (2-517 to 2-525) and contained in the wildlife habitat areas (WHAs) spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_WILDLIFE_HABITAT_AREA_POLY) are established as wildlife habitat areas for Spotted Owl (including Long Term Owl Habitat Area (LTOHA), and Managed Future Habitat Area (MFHA) boundaries, as defined in the Feature Notes). The centre point of the line on the attached Schedule A is what establishes the WHAs; and
   b) if there is a discrepancy between the areas shown in the map set out in the attached Schedule A and the WHA spatial layer stored in the Geographic Warehouse (WHSE_WILDLIFE_MANAGEMENT.WCP_WILDLIFE_HABITAT_AREA_POLY), the areas as detailed in the WHA spatial layer will take precedent.

2. The Regional Executive Director, South Coast Region, Ministry of Forests, Lands and Natural Resource Operations, being satisfied that
   i. the general wildlife measures (GWMs) described below are necessary to protect and conserve the habitat of Spotted Owl; and
   ii. GAR or another enactment does not otherwise provide for that protection or conservation;

orders that

   a) the GWMs outlined in Schedule 1 are established for WHAs 2-517 to 2-525

3. Pursuant to section 7(2) of the *Forest Planning and Practices Regulation* a person required to prepare a forest stewardship plan is exempt from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the *Forest Planning and Practices Regulation* for Spotted Owl in the Sea to Sky District.

4. The GWMs outlined in Schedule 1 do not apply for the purposes of exploration, development and production activities when these activities have been authorized for the purpose of subsurface resource exploration, development or production by the *Mineral Tenure Act, the Coal Act, or the Geothermal Resources Act.*

Definitions:

Words and expressions not defined in this order have the meaning given to them in the *Forest and Range Practices Act* and the regulations made under it, unless context indicates otherwise.

drier ecosystems means the following biogeoclimatic subzones or variants: CWHds1, CWHms1, CWHms2, MHmm2, ESSFmw and IDFww.

large coarse woody debris (CWD) means fallen trees or logs (non self-supporting and a diameter at the small end >7.5cm) at an angle <45 degrees to the ground surface, stumps, or fallen large branches (>20cm in diameter).

large wildlife trees means wildlife trees, in wildlife tree classes 2 through 7-8, that are typically >75 cm dbh in wetter ecosystems; and wildlife trees, in wildlife tree classes 2 through 7-8, that are typically >50 cm dbh in drier ecosystems.

long-term owl habitat area (LTOHA) means the defined areas within a WHA that are to function as current or future Spotted Owl habitat.

managed future habitat area (MFHA) means the defined areas within a WHA that are primarily available for timber harvesting opportunities while retaining structural attributes to maintain options for all or portions of the MFHA to become future Spotted Owl habitat and, if necessary, LTOHA.

nest and critical roost site reserves means a forested and conserved area, normally 80 ha of Spotted Owl habitat, surrounding areas that are known by the Ministry of Environment (MoE) and Ministry of Forests, Lands and Natural Resource Operations (FLNR) and identified by the Director of Resource Management, South Coast Region to be used for nesting and roosting by Spotted Owls, or those areas identified by *Forest Act* agreement holders during the course of conducting timber harvesting and road construction.

net benefit to Spotted Owl habitat means a stand treatment that within 20 years will create or enhance Spotted Owl habitat conditions by improving quality of habitat or accelerating the development of spotted owl habitat attributes.

no net loss of Spotted Owl habitat means that any primary forest activity occurring within LTOHA that causes a temporary or permanent loss of Spotted Owl habitat or habitat attributes associated with Spotted Owl habitat, is mitigated to provide a net benefit to Spotted Owls and Spotted Owl habitat within 20 years.

Spotted Owl habitat is defined in Section 2 of the document *Best Management Practices for Managing Spotted Owl Habitat: A component of the Spotted Owl Management Plan 2, Chilliwack and Squamish Forest Districts* dated July 7, 2009.

total area under prescription (TAUP) means the treatment area, natural non-productive areas (e.g. rocky outcrops, slides, wetlands), wildlife tree retention areas, reserves, and road rights-of-way but excludes the road prism (top of cut bank to toe of fill slope) of existing permanent roads.

treatment area means the area where tree removal occurs including timber extraction corridors and landings, but excludes road rights-of-way, road prisms (top of cut bank to toe of fill slope), natural non-productive areas (e.g. rocky outcrops, slides, wetlands), wildlife tree retention areas and reserves.

uniform forest stands means a forest stand lacking structural diversity where trees are of a similar age and uniform size (height and diameter), with no apparent secondary tree canopy layers.

wetter ecosystems means the following biogeoclimatic subzones or variants: CWHdm, CWHvm1, CWHvm2 and MHmm1.

wildlife tree retention area (WTRA) means areas set aside from treatment that vary in size and distribution and are located to maximize protection of, and/or recruitment of, structural attributes associated with Spotted Owl habitat (e.g. wildlife trees, large trees, large CWD); and to provide for stand level biodiversity and habitat benefits for small mammals, including prey species for Spotted Owls.

Schedule 1 – General Wildlife Measures:

Access, timber harvesting and silviculture

1) Do not harvest timber or construct roads within WHA areas designated as long term owl habitat areas (LTOHA) or managed future habitat areas (MFHA) except as provided in GWM 2 through 6.

2) GWM 1 does not apply if:
   a) timber harvesting within the WHAs is necessary to create guyline tiebacks for timber harvesting provided that trees that fall within the LTOHA portion of the WHA boundary are retained on site to function as coarse woody debris;
   b) timber harvesting is for the purposes of traditional and cultural activities, as authorized under a Free Use Permit; or
   c) road maintenance, deactivation or brushing in the road rights-of-way is required.

3) GWM 1 does not apply where timber harvesting within LTOHA is designed to enhance or create Spotted Owl habitat if:

a) timber harvesting results in a net benefit to Spotted Owl habitat;
b) timber harvesting occurs outside of nest and critical roost site reserves;
c) a minimum of 10% of the total area under prescription (TAUP) is retained as untreated wildlife tree retention areas (WTRA);
d) excluding the area retained in WTRAs as specified in GWM 3(c), no more than 40% of the stand basal area in the rest of the TAUP is harvested; and of the 40% stand basal area removed:
    i. a minimum of 50% of the basal area is harvested as single stems or as small groups of trees that result in canopy gaps ≤50 square metres;
    ii. no more than 25% of the basal area removed is from timber extraction corridors (e.g. linear features) and the maximum corridor width is 8 m; and
    iii. no more than 25% of the basal area removed is from groups of trees that would result in canopy gaps between 51 and 300 square metres;
e) in drier ecosystems, a minimum average of 275 live trees/ha >30cm dbh are retained across the treatment area where tree retention density on each hectare of treatment area may vary between 240 to 310 live trees >30cm dbh;
f) in wetter ecosystems, a minimum average of 225 live trees/ha >50 cm dbh are retained across the treatment area where tree retention density on each hectare of treatment area may vary between 200 to 250 live trees >50 cm dbh;
g) an average density of 100 large-diameter live trees/ha are retained across the treatment area where large-diameter live tree retention densities per hectare may vary between 50 and 150 trees/ha as follows:
    i. in non-uniform forest stands, retained large-diameter live trees are selected from the diameter classes representing the 150 largest diameter live trees/ha;
    ii. in uniform forest stands, retained large-diameter live trees are selected from the dominant and co-dominant canopy layers; and
    iii. at least 10 large wildlife trees/ha, if present, are retained among the 100 largest diameter live trees/ha; and
h) all pre-harvest coarse woody debris is retained.

4) GWM 1 does not apply to timber harvesting within WHA areas designated as MFHA if:
a) timber harvesting occurs outside of nest and critical roost site reserves;
b) a minimum of 10% of the TAUP is retained as untreated WTRAs;
c) in drier ecosystems, a minimum average of 40 large-diameter live trees/ha are retained across the TAUP as follows:
    i. in non-uniform forest stands, the retained large-diameter trees are selected from the diameter classes representing the 80 largest diameter live trees/ha;
    ii. in uniform forest stands, the retained large-diameter trees are selected from the dominant and co-dominant canopy layers;

iii. the number of trees retained per hectare may vary across the TAUP, however no point within the TAUP should be greater than 40 m from a retained tree;
iv. of the 40 large-diameter trees/ha, no more than 40% of those trees within the TAUP are retained within wildlife tree retention areas and other reserves; and
v. large-diameter trees are retained as single trees or groups of trees within the TAUP;

d) in wetter ecosystems, a minimum average of 15 large-diameter live trees/ha are retained across the TAUP as follows:
i. in non-uniform forest stands, the retained large-diameter trees are selected from the diameter classes representing the 30 largest diameter live trees/ha;
ii. in uniform forest stands, the retained large-diameter trees are selected from the dominant and co-dominant canopy layers;
iii. the number of trees retained per hectare may vary across the TAUP, however, no point within the TAUP should be greater than 40 m from a retained tree;
iv. of the 15 large-diameter trees/ha, no more than 40% of those trees within the TAUP are retained within WTRAs and other reserves; and
v. large-diameter trees are retained as single trees or groups of trees within the TAUP;

e) post-harvest large coarse woody debris is retained over the treatment area to result in:
i. representative species and sizes of the pre-harvest large coarse woody debris;
ii. a minimum average volume of 75 cubic metres/ha of large coarse woody debris; and
iii. where pre-harvest Western redcedar large coarse woody debris is present, a minimum average volume of 25 cubic metres/ha of Western redcedar large coarse woody debris if available, or all pre-harvest Western redcedar large coarse woody debris, if the pre-harvest amount available is <25 cubic metres/ha, towards the GWM 4 (e) ii requirement; and

f) early successional conifer species that are ecologically suitable for the site are planted with consideration for variable density planting.

5) GWM 1 does not apply to road construction within the WHA if:
a) road construction activities occur outside of nest and critical roost site reserves;
b) there is no other practicable option for road construction in the LTOHA and the negative impacts of clearing road rights-of-way are offset so that there is no net loss to Spotted Owl habitat; and
c) road rights-of-way clearing widths within the LTOHA do not exceed the minimum clearing widths established under FPPR section 78.

6) GWM 1 does not apply to salvage in the MFHA if salvage activities:
   a) occur outside of nest and critical roost site reserves; and
   b) follow the requirements in GWM 4(a) through (e).

Pesticides

7) Do not use pesticides in LTOHA, except for:
   a) the use of *Bacillus thuringiensis var kurstaki* for the control of western spruce budworm;
   b) the use of beetle pheromones for the control of bark beetles; and
   c) the application of herbicides for control of invasive plants or noxious weeds.

Signed this 28th day of February, 2013
Heather MacKnight, Regional Executive Director, South Coast Region
Ministry of Forests, Lands and Natural Resource Operations

Appendix 1:
The following information is provided by FLNR and MoE as background information and support to the order establishing Spotted Owl WHAs 2-517 to 2-525. This appendix is not part of the order.

1. These GWMs do not apply to persons that must comply with the *Workers Compensation Act* and the regulations made under that Act (e.g. OH&S Regulation Part 26). Where a GWM cannot be achieved due to a safety concern, a person should consider developing a rationale related to the safety issue. Consistent with section 2(3) of the *Forest Planning and Practices Regulation*, exemptions from these GWMs are not required to meet safety requirements. In situations where exercising the safety concern may be common and affect a substantial part of the cut-block (e.g. certain cable yarding situations, or meeting inter-tree spacing requirements in GWM 4 c(iii) and 4 d(iii)), it has the potential to significantly affect the over-riding objective of the Spotted Owl Management Plan, particularly maintaining structural attributes in the MFHA. In these cases, agreement holders should consider increasing retention in other portions of the cut-block or consider clustering of trees as a means of offsetting the lost retention from the safety affected area. This will help to ensure that the objective for MFHA in the Spotted Owl Management Plan is achieved at the broader scale.

2. **Activities to which the order does not apply:** Section 2(2) of the *Government Actions Regulation* states

   An order under any of sections 5 to 15 does not apply in respect of
   (a) any of the following entered into before the order takes effect:
      (i) a cutting permit;
      (ii) a road permit;
      (iii) a timber sale licence that does not provide for cutting permits;
      (iv) a forestry licence to cut issued by a timber sales manager under section 47.6 (3) of the *Forest Act*;
      (v) subject to subsection (3), a minor tenure,
   (b) a declared area,
   (c) areas described in section 196 (1) of the Act, and
   (d) areas referred to in section 110 of the *Forest Planning and Practices Regulation.*

3. *Forest Act* agreement holders should be familiar with the document *Best Management Practices for Managing Spotted Owl Habitat: A component of the Spotted Owl Management Plan 2, Chilliwack and Squamish Forest Districts* dated July 7, 2009. This document was developed by the Best Management Practices Working Group and contains recommendations that are not directly reflected in this order, yet are still considered important for managing Spotted Owl habitat and should be considered by professionals when proposing activities in Spotted Owl WHAs. The document may be updated from time to time. Where a discrepancy exists between the BMPs and the GWMs, the latter takes precedence.

The document is available here:
http://www.for.gov.bc.ca/ftp/DCK/external/!publish/SOMP/

4. Authority to consider an exemption from these GWMs is provided in Section 92(1) of the *Forest Planning and Practices Regulation* and section 79(1) of the *Woodlot License Planning and Practices Regulation*. An exemption may be provided if the Minister's delegate is satisfied that the intent of the GWM will be achieved or that compliance with the provision is not practicable, given the circumstances or conditions applicable to a particular area.

   An exemption application should be submitted to the Minister's delegate with a rationale describing the nature of the problem and options to integrate owl habitat conservation with proposed forest and/or range practices. This submission will assist in timely consideration of the matter, and will inform the conditions, if any, of the exemption that may be granted prior to commencement of activities. Upon receipt of a complete exemption application, a determination will normally be handled within 14 calendar days of arrival at the FLNR Regional office. Incomplete packages will be returned to the proponent for resubmission. A template for exemption requests is available at:
   http://www.env.gov.bc.ca/wld/frpa/index.html

   For GWM 1, exemptions would generally be considered when the proposed activities continue to meet the intent of the Spotted Owl Management Plan, as determined by the FLNR.

5. For the definition of large wildlife trees (as used in GWM 3(g)(iii)): see Figure 2 (classes 2 through 7-8) in *Best Management Practices for Managing Spotted Owl Habitat: A component of the Spotted Owl Management Plan 2, Chilliwack and Squamish Forest Districts* dated July 7, 2009.

6. For the LTOHA definition: The management goal is to achieve 100% Spotted Owl habitat conditions by conserving existing Spotted Owl habitats (e.g. old forests) and creating additional Spotted Owl habitats or enhancing habitat (e.g. in younger forests) to improve quality for foraging and/or nesting. Forestry activities within the LTOHA are only permitted with the purpose of enhancing and creating Spotted Owl habitat or protecting Spotted Owl habitat from catastrophic loss.

7. For the MFHA definition: The management goal is to allow for timber harvesting with the retention of structural attributes such as large diameter trees, snags, and large coarse woody debris to enable future recruitment as Spotted Owl habitat. The attributes retained are not normally present (in quality and quantity) in stands managed for timber on "normal" 60-100 year rotations. See also the section on MFHA in *Best Management Practices for Managing Spotted Owl Habitat: A component of the Spotted Owl Management Plan 2, Chilliwack and Squamish Forest Districts* dated July 7, 2009.

8. The intent of GWM 3(b), 4(a), 5(a) and 6(a) is that *Forest Act* agreement holders contact the FLNR or MoE for locations of known nest and critical roost site reserves prior to the commencement of activities. In some cases agreement holders may, during the course of conducting timber harvesting and road construction, identify a nest or critical roost site; and if this occurs they should provide that information to the Director of Resource Management, South Coast Region. It must be noted that since these sites represent a 'sensitive occurrence' (masked by the BC Conservation Data Centre (CDC)) they are protected from being distributed to the public. Proponents required to know of these locations may have to enter into a Confidentiality Agreement with MoE (and the BC CDC) before the location will be provided. There are times when the information will not be released because a planned activity will fall outside the critical nest or roost site, but this will be determined by the CDC upon reviewing the activity.

9. In GWM 3(g)(i) and (ii) and 4(c)(i) and (ii) and 4(d)(i) and (ii), retained trees should include any veteran trees present, and any trees exhibiting valuable habitat characteristics such as large, clustered or gnarled branches, or horizontal thickly moss-covered branches (e.g. wildlife trees from class 1). In uniform stands, preference should also be given to retain more windfirm species, such as Douglas-fir and Western redcedar, where options exist. When determining large tree retention in GWM 4(c) and 4(d), the intent is to refer to individual type stand tables (rather than block tables), which should provide a more accurate reflection of the stand conditions and are ecologically more defensible.

10. In GWM 3(e), 3(f), 4(c) and 4(d), tree retention in general should consider:
    a) on dry sites, Douglas-fir trees are very windfirm;
    b) on wet sites, Western redcedar trees are considered to be more windfirm than hemlock and balsam fir because of crown characteristics and rooting habits;
    c) stem taper may be an important factor affecting susceptibility to stem breakage;
    d) the height-to-diameter ratio of dominant trees in even-aged stands has been found to be a good indicator of risk of stem breakage;
    e) crown class alone is not a reliable predictor of windthrow hazard. There is some evidence to suggest that dominant, codominant, and veteran trees are less susceptible to windthrow than the intermediate and suppressed crown classes if they have been exposed to wind for a long time;
    f) more information is available in the Windthrow Handbook for BC Forests, available here: http://www.for.gov.bc.ca/hfd/pubs/Docs/Wp/Wp01.htm
    g) that some post harvest stem breakage and windthrow is expected and acceptable since it will help create wildlife trees and coarse woody debris.

11. The intent of GWM 3 (h) is that pre-harvest coarse woody debris is retained on site as distributed across the treatment area; and it will not be assessed as waste as defined in the *Provincial Logging Residue and Waste Measurement Procedures Manual* (Waste Manual). Coarse woody debris piled at roadside or landings has limited ecological value. There is also an expectation that when harvest occurs to

create or enhance LTOHA that post-harvest large CWD will be recruited and distributed throughout the treatment area (e.g. particularly in stands with <75 m3/ha). It is important that the forest professional understands that retention of post-harvest large CWD in long-term spotted owl habitat will not form the grounds for classification as unavoidable waste as defined in the Waste Manual. All post-harvest large CWD will be subject to measurement and classification according to the methods outlined in the Waste Manual.

12. The intent of GWM 4 (e)(ii) and (iii) is to:
    a) improve the potential for restoring superior owl habitat through retention of large CWD that has a high component of fallen trees or logs >75cm in diameter and >5m in length in the wetter ecosystems; and a high component of fallen trees or logs >50cm in diameter and >5m in length in the drier ecosystems.
    b) distribute large CWD throughout the treatment area as single pieces and/or small piles, using a variety of large CWD materials (e.g. fallen trees, logs, and large branches rather than just large branches). Logs should be processed at the stump so that large CWD can be left throughout the stand to avoid concentrating CWD accumulations at landings and roadsides.
    c) not use fresh cut stumps to meet large CWD requirements where there are large fallen trees and other sources available. Fresh stumps should only be needed to meet the CWD requirements in second growth stands where alternate sources of large CWD are limited. Ideally, fresh stumps should only form a small portion of large CWD requirements.
    d) follow best management practices on page 18 section 4.3 of the Best Management Practices document.
    e) it should be understood that if large CWD is also comprised of merchantable timber (meaning logs, timber and woody material that meets the Coast Timber Merchantability Specifications) it may be subject to waste billing under the Waste Manual. It is important that the forest professional understands that retention of large CWD in managed future spotted owl habitat will not form the grounds for classification as unavoidable waste as defined in the Waste Manual. All large CWD will be subject to measurement and classification according to the methods outlined in the Waste Manual. The intent of the GWM is to leave existing CWD while adding to it with low grade and non-merchantable material (meaning logs, timber and woody material that does not meet the Coast Timber Merchantability Specifications) such that minimum average levels are achieved. As mentioned in Appendix clause 12 (a), large and long piece sizes should be considered. Where it is estimated that required levels of large CWD may not exist or pre-harvest merchantable timber must be retained (e.g. to meet the Cw requirement) it is incumbent on the forest professional to undertake surveys to establish the levels and to develop a plan for recruitment of large CWD that addresses the billable waste issues. This may include marking of large CWD pieces for retention.

13. The intent of GWM 5 (b) is that offsets to the negative impacts of clearing road rights-of-way must be acceptable to the Director of Resource Management, South Coast Region.

14. The intent of GWM 6 is to enable minor and major salvage in only the MFHA when it meets the conditions of this GWM. If a disturbance event (e.g. windthrow, fire, or forest health etc) occurs in treated MFHA which does not meet the conditions of this GWM, an exemption is required. Major salvage (operations that recover >100 cubic metres of forest products) within the LTOHA will only be considered on a site by site basis where damage within the LTOHA exceeds 30% of the stand volume; or where a natural disturbance caused by insects, disease, wildfire, windthrow or other catastrophic event results in degradation to the suitability of Spotted Owl habitat. Salvage proposals in the LTOHA will require an exemption. Proponents should not expect that all salvage applications in the LTOHA will be approved. It is not government's intention to accept repeated salvage requests over the same or similar area. Minor salvage (operations that recover <100 cubic metres of forest products) is not permitted in the LTOHA.

15. The 2012 Spotted Owl Management Plan acknowledges the need for adaptive management. It is expected that the Best Management Practices document will need to adapt as the practices are implemented and tested, and as new information becomes available. For more on adaptive management please refer to section 7 of *Best Management Practices for Managing Spotted Owl Habitat: A component of the Spotted Owl Management Plan 2, Chilliwack and Squamish Forest Districts* dated July 7, 2009; and to the Forest Practices Branch website: http://www.for.gov.bc.ca/HFP/archives/amhome/AMDEFS.HTM.

    Where adaptive management is being considered for implementation at an operational scale, and differs from requirements in this order, the adaptive management proposal (that follows the 6 step process outlined in the above website) should be submitted as an exemption request. To acknowledge successful results from the adaptive management process, this order may be periodically updated.

16. Where an established WHA is subject to the operations of multiple *Forest Act* agreement holders, which may include areas under timber licence, woodlot licence, and First Nations woodlands licence, cooperation between licence holders should occur in order to ensure compliance with the GWMs established by this order.

Appendix K:

Ministry of Forests, Lands, Natural Resource Operations and Rural Development
Ministerial Order
Order for the Recovery of Marbled Murrelet (*Brachyramphus marmoratus*)
Preamble

It is the goal of the Province, through land use objectives and other measures, to implement management of Marbled Murrelet (MAMU) nesting habitat on provincial Crown land to support viable populations of Marbled Murrelets across their range in B.C.

This Ministerial Order represents a statutory decision under the *Land Act* to implement a priority Action identified in the *Implementation Plan for the Recovery of Marbled Murrelet (Brachyramphus marmoratus) in British Columbia*. In addition, the Land Use Objectives Regulation requires an appropriate balance of social, economic and environmental benefits.

The purpose of this order, in relation to the maintenance of suitable marbled murrelet nesting habitat (hereafter suitable habitat) is to: 1) ensure the availability of suitable habitat meets or exceeds minimum habitat thresholds established for provincial Crown land for the West and North Vancouver Island and the Southern Mainland Coast Conservation Regions; and 2) retain 100% of the remaining suitable habitat on provincial Crown land in the East Vancouver Island Conservation Region. Provisions in the order are in place in the East Vancouver Island Conservation Region to avoid isolating and preventing access to natural resources and address safety concerns.

Minimum habitat thresholds are established for landscape unit portions and landscape unit aggregates. These thresholds influence how much suitable habitat will be maintained at those spatial scales and how suitable habitat is to be maintained and distributed across Crown land. The amount of suitable habitat must meet or exceed landscape unit portion and landscape unit aggregate minimum habitat thresholds. Landscape unit aggregates are located within the same Natural Resource District and Conservation Region; therefore, minimum habitat thresholds at the Natural Resource District and Conservation Region scales are achieved without the need to set objectives at those scales. To increase management flexibility in the West and North Vancouver Island and Southern Mainland Coast Conservation Regions suitable habitat targets are established for landscape unit portions which, combined, equal the minimum habitat threshold for the landscape unit aggregate they are located in. There is flexibility to deviate from the landscape unit portion suitable habitat targets as long as landscape unit portion and landscape unit aggregate minimum habitat thresholds are achieved.

This intent of this order is to meet the aspatial habitat management commitments outlined in the Implementation Plan. Separate and complementary measures outside the scope of this order will be implemented to meet spatial habitat management commitments through the establishment of Wildlife Habitat Areas under the *Forest and Range Practices Act* and Old Growth Management Areas under the *Land Act* so at least 80% of the minimum habitat thresholds for the West and North Vancouver Island and Southern Mainland Coast Conservation Regions are spatially mapped and protected.

Significant effort has been made to improve the accuracy of the suitable habitat mapping. It is anticipated that habitat mapping improvements will continue and support an update to this order five years in the future to be consistent with the best available information. The implementation of this Order will be monitored, and if results indicate objectives are not being met, this order may be reviewed and amended. This preamble is provided for context and background and does not form part of the order.

1. Relationship with *Forest and Range Practices Act* Objectives

(1) Pursuant to section 93.4 of the *Land Act*, the objectives set out in paragraph 3 of this order are established as land use objectives for the purposes of the *Forest and Range Practices Act* and apply to the Crown land in the landscape unit portions and landscape unit aggregates shown on Schedule 1 attached to this order.
(2) Nothing in, under or arising out of this order abrogates or derogates from any aboriginal rights, aboriginal title or treaty rights of any applicable First Nations and does not relieve the Province of any obligation to consult with any applicable First Nation.

2. Definitions

(1) In this order:
a. The objectives set out in paragraph 3 of this order apply to the mapped polygons of marbled murrelet nesting habitat (Suitable Habitat) shown on Schedules 2 to 6 attached to this order.
b. Words and expressions not defined in this order have the meaning given to them in the *Forest and Range Practices Act*, the *Forest Act*, the *Range Act* and the regulations made under those Acts, unless the context indicates otherwise.
c. Where an objective refers to an area shown on a Schedule and the area is also defined by a spatial dataset, the boundaries of the area as defined by the spatial dataset apply in the event of any inconsistency. A complete list of spatial datasets is contained in:
www.for.gov.bc.ca - /ftp/RCO/external/!publish/MAMU/

4. Objectives for Marbled Murrelet nesting habitat

(1) Maintain Suitable Habitat as follows:

a) For each:

landscape unit aggregate in the order area:
Retain all timber in an amount equal to or greater than the minimum habitat threshold listed in Column "A" in Table 1 in Schedule "7".

b) For each:

landscape unit portion in the order area:
Retain all timber in an amount equal to or greater than the suitable habitat target listed in Column "A" in Table 2 in Schedule "7";

(2) Despite subsection (1)(b), the amount of timber that must be retained within a landscape unit portion in the West and North Vancouver Island and Southern Mainland Coast Conservation Regions may be less than the suitable habitat target listed in Column "A" in Table 2 in Schedule"7", provided that:

The amount of timber retained is equal to or greater than the minimum habitat threshold listed in Column "B" in Table 2 in Schedule "7".

(3) Despite subsection (1)(a), Suitable Habitat polygons shown in Schedule "1 to 6" in the East Vancouver Island Conservation Region may be harvested, provided that harvesting is required for road access, other infrastructure, or to address safety concerns, where there is no practicable alternative.

(4) Variance from the Objectives in Sections 3.(1) to 3.(3) for the Suitable Habitat polygons shown in Schedule "1 to 6" may be allowed, provided that:

(a) A Qualified Professional:

(i) Completes a field assessment that identifies the characteristics of Suitable Habitat using established standards; and

(ii) Confirms the alteration will result in no net loss or functional loss of Suitable Habitat.

(b) A Regional Ministry of Forests, Lands, Natural Resource Operations and Rural Development biologist approves the alteration of the Suitable Habitat polygons.

4. This Order takes effect on the day that notice of this Order is published in the Gazette.

5. Pursuant to section 8(2)(b) of the *Forest and Range Practices Act*, an approved forest stewardship plan in the Order area must be amended to be consistent with this order within 6 months from the effective date of this Order.

_____ ___November 19, 2021_____

Craig Sutherland Date
Assistant Deputy Minister, Coast Region
Ministry of Forests, Lands, Natural
Resource Operations and Rural Development

Appendix L) Tree Damage and Acceptability Criteria

FG DAMAGE CRITERIA FOR *SINGLE ENTRY DISPERSED RETENTION STOCKING STANDARD* (SEDRSS)

TABLE A- Layer 1 - ≥ 12.5 cm DBH. SEDRSS damage criteria

Location of Damage	Type of Damage	Tree being assessed is UNACCEPTABLE if:		Possible damage agents & codes	Comments
		Hw, Ba, Fd, Sx, Pw, Pl,	Cw, Yc		
Stem	**Wound**	• Wound girdles **>33%** stem circumference, or • One wound **>400 cm^2** on stem, or • Wound on major root within **1 m** of stem, or • Tree has **gouge** in stem.	No criteria	fire NB, windthrow NW, sunscald NZ, logging TL, mechanical TT.	A **wound** is defined as an injury in which the cambium is dead (e.g., sunscald) or completely removed from the tree exposing the sapwood. Measure the wound across the widest point of the exposed sapwood (or dead cambium when the tree is damaged by sunscald). Healed over wounds (=scars) are acceptable.
Stem	**Decay**	• Any pathological indicator(s) are present. This may include **conk, blind conk, frost crack, rotten branches or missing wood.**		various decay fungi DD.	
Stem	**Bark Mining**	• Any of the following signs are visible: pitch tubes, boring dust, exit holes on bark surface, galleries under the bark.	No criteria	Douglas-fir beetle IBD, Ips pini IBI, Pityogenes & Pityophthorus IBP	Note: pitch tubes can be associated with trees that have successfully repelled bark beetles, bark must be removed above pitch tube to confirm successful attack (successful galleries will be filled with frass and not pitch, contain adult beetles and/or larval galleries). Stressed trees are susceptible to secondary bark and twig beetles.
Stem	**Deformation (including crook, fork and dead or broken top)**	• A **crook** displaces the portion of the stem above the defect by >50% from the line of growth formed by the stem below the point of defect in the bottom 2/3rds of the stem only. • A **fork** occurs above stump height in the bottom 2/3rds of the stem only. • A **dead** or **broken top** extends more than 20% of the stem length or the live crown is removed.	No criteria • A **dead tree** with no live foliage • the stem is unable to produce > 50% merchantable volume.	frost NG, hail NH, snow NY, drought ND, logging TL, mechanical TT, Dwarf mistletoes (see below).	**Cw:** Unacceptable as a contributing Crop Tree if assessed as unable to produce **> 50% Merchantable Volume** in the first 10 m. log length – defined as either: 1.Utility Grade – At least a solid 8 inch shell – Shake and Shingle and /or 2.Higher Grade – Complete solid wood – Saw Logs **Note**: Field guidance procedures and photo examples for the estimation of merchantable Cw volume are identified in **Appendix 1.**

Location of Damage	Type of Damage	Tree being assessed is UNACCEPTABLE if:		Possible damage agents & codes	Comments
		Hw, Ba, Fd, Sx, Pw, Pl,	**Cw, Yc**		
Stem	**Dwarf Mistletoe Infection**	• **Hawksworth rating >3**, or severe stem infections (major swelling or deformity) present.	• **No criteria**	hemlock dwarf mistletoe DMH	The Hawksworth rating system is described in the FPC *Dwarf Mistletoe Management Guidebook* (or refer to Appendix AA of this document) For SEDRSS, this rating system will only apply to the tree/plot assessment level, and not at the stand level.
Foliage	**Defoliation**	**For defoliating insects:** • > 80% of foliage has been removed, lost or damaged due to insect defoliation. **For foliar diseases:** • > 50% of foliage has been removed, lost or damaged	• **No criteria**	defoliators ID, foliage diseases DF	
Foliage	**Live Crown Vigour**	• **Stems < 17.5 cm dbh** - < 30% live crown due to poor vigour. • **Stems ≥ 17.5 cm dbh** - < 20% live crown due to poor vigour.	• A dead tree with no live foliage		Percent live crown is the length of continuous green foliage on a tree expressed as a percentage of its total height.

<table>
<tr><th>Location of Damage</th><th>Type of Damage</th><th colspan="2">Tree being assessed is UNACCEPTABLE if:
Hw, Ba, Fd, Sxs, Pw, Pl</th><th>Possible damage agents & codes</th><th>Comments</th></tr>
<tr><td rowspan="3">Tree layer</td><td rowspan="3">Roots
Root Disease</td><td>Sign(s) or definitive combinations of symptoms of root disease are observed</td><td rowspan="2">• For Cw or Yc, there is no criterion for net down calculation - considered not susceptible or low susceptibility.</td><td>armillaria root disease DRA, laminated root rot DRL, annosus root disease DRN.</td><td rowspan="3">Signs are direct evidence of the pathogenic fungus including fruiting bodies, distinctive mycelium or rhizomorphs. Symptoms include foliar thinning or chlorosis, pronounced resin flow near the root collar, reduced recent leader growth, a distress cone crop, and wood decay or stain. Symptoms alone are not usually sufficient to identify root disease. Both signs and symptoms may be detected from old stumps, root balls, or other post-harvest remains.

Example: How to apply net down for root disease.

If root disease-infected trees are found in the plot:

1. Determine the number of healthy, well-spaced trees in each layer using the prescribed minimum inter-tree distance (MITD) (e. g., 3 layer 1, 3 layer 3 and 4 layer 4 = 10 healthy, well-spaced) ignoring the M-value;
2. Count the number of infected trees (e. g., 1 layer 1 tree and 1 layer 3 tree);
3. Working from the uppermost layer down, apply the multiplier in Table Y to each lower layer. Subtract the resultant from each layer in turn, for susceptible species only (e. g., if all trees are susceptible, 1 infected layer 1 tree removes 1 healthy, well-spaced layer 1 tree plus 3 layer 3 trees plus 4 layer 4 trees). Note the effects are cumulative, not exclusive and lower layers do not affect higher layers;

Calculate the remaining healthy, well-spaced trees once all removals due to infected trees are completed (e. g. 10 – 8 = 2). The result is the maximum number of free growing trees tallied for the plot.</td></tr>
<tr><td>• Infected conifer or stump found in plot. See Table Y for well-spaced tree net down calculation by layer.</td><td>armillaria root disease DRA, laminated root rot DRL,

annosus root disease DRN.</td></tr>
<tr><td colspan="2">TABLE Y. Deductions from numbers of acceptable well-spaced uninfected stems for trees infected by root disease in layered stands.

<table>
<tr><th rowspan="2">with infected tree(s) or stumps</th><th colspan="4">Multiplier used to determine number of acceptable trees to be deducted from:</th></tr>
<tr><th>Layer 1</th><th>Layer 2</th><th>Layer 3</th><th>Layer 4</th></tr>
<tr><td>Layer 1</td><td>Deduct BA of infected layer 1 from Crop BA</td><td>2</td><td>3</td><td>4</td></tr>
<tr><td>Layer 2</td><td></td><td>2</td><td>2</td><td>3</td></tr>
<tr><td>Layer 3</td><td></td><td></td><td>2</td><td>2</td></tr>
<tr><td>Layer 4</td><td></td><td></td><td></td><td>2</td></tr>
</table></td></tr>
</table>

TABLE B- Layers 2, 3 & 4 - < 12.5 cm DBH. SEDRSS damage criteria

Location of Damage	Type of Damage	Tree being assessed is UNACCEPTABLE if:	Host Species	Possible damage agents & codes	
Stem	**Wound**	• Wound girdles **>25% stem circumference**, or • One wound **>10% the length of stem**	All	fire NB, windthrow NW, sunscald NZ, logging TL, mechanical TT.	A **wou** (e.g., s sapwo expose sunsca
Stem	**Decay**	• Any pathological indicator(s) are present. This may include **conk, blind conk, frost crack,** or **rotten branches.**	All	various decay fungi DD.	
Stem	**Bark Mining**	• Any of the following signs are visible: pitch tubes, boring dust, exit holes on bark surface, galleries under the bark.	All	Douglas-fir beetle IBD, Ips pini IBI, Pityogenes & Pityophthorus IBP	Note: succes pitch t be fille larval Stresse
Stem	**Deformation (including crook, fork and dead or broken top)**	• The pith is horizontally displaced more than 30 cm from the point of defect and originates above 30 cm from the point of germination	All	defoliators ID, white pine (spruce) weevil IWS, lodgepole pine terminal weevil IWP, cattle AC, deer AD, elk AE, moose AM, frost NG, hail NH, snow NY, drought ND, logging TL, mechanical TT, Dwarf mistletoes (see below).	
		• The tree leader has been killed three or more times in the last 5 years (weevil only)	Ss		This c
		• The tree has two or more leaders with no dominance expressed after five years growth and the fork originates above 30 cm from the point of germination. • The tree has a dead or broken top at a point that is > 3cm in diameter. • The tree has a flat top (umbrella like) form and no distinct leader.	All		Leade taller t Types.
Stem	**Lean and Sweep**	• The tree leans >30^0 from the vertical with or without growth correction.	All	Flooding NF, snow NY, slides NS, wind NW, mechanical TM	

Location of Damage	Type of Damage	Tree being assessed is UNACCEPTABLE if:	Host Species	Possible damage agents & codes	
Stem	**Infection (includes cankers and galls)**	• Any infection occurs on the stem.	All	white pine blister rust DSB, atropellis canker DSA, Dwarf mistletoes (see below).	**Note**: should
Branch	**Infection (cankers)**	• An infection occurs on a live branch less than 60 cm from the stem.	Pw, Pl, Py	white pine blister rust DSB, comandra blister rust DSC, stalactiform blister rust DSS.	
Branch	**Galls**	• A gall rust infection occurs on a live branch less than 5 cm from the stem.	Pl, Py	western gall rust DSG.	

Foliage	**Defoliation**	• >60% tree foliage has been removed by hemlock looper	Hw	Hemlock looper IDL	
		• > 80% of foliage has been removed, lost or damaged due to insect defoliation.	All other	defoliators ID	
		• > 50% of foliage has been removed, lost or damaged due to foliar disease.	All	foliage diseases DF	
Foliage	**Live Crown Vigour**	• <30% live crown present due to poor vigour.			Percen tree ex
Stem or Branch	**Adelgid Gouting**	• Any adelgid **gouting** occurs on a stem or branch.	Ba, Bg, Bl	balsam woolly adelgid IAB.	**Gouti** caused missha and at distrib
Stem or Branch	**Dwarf Mistletoe Infection**	• Any infection occurs on the stem or a live branch, or • A susceptible tree is located within 10 m of the bole of a higher layer tree that is infected with dwarf mistletoe.	Hw	hemlock dwarf mistletoe DMH	**Note:** aerial broom

Location of Damage	**Type of Damage**	**Tree being assessed is UNACCEPTABLE if:**	**Host Species**	**Possible damage agents & codes**	
Roots	**Root Disease**	• Sign(s) or definitive combinations of symptoms of root disease are observed	All	armillaria root disease DRA, laminated root rot DRL, annosus root disease DRN.	**Signs** fruitin includ root c wood identif from o
		• Infected conifer or stump found in plot. See **Table Y** for well-spaced tree net down calculation by layer.	All	armillaria root disease DRA.	**Exam** If root 4. De lay (e. spa 5. Co lay 6. Wo in eac are spa No do Calcul remov result plot.
		• Infected conifer or stump found in plot. See **Table Y** for well-spaced tree net down calculation by layer.	Fd, Ba, Bg	laminated root rot DRL.	**Note: not su**
		• Infected conifer or stump found in plot. See **Table Y** for well-spaced tree net down calculation by layer.	Ba, Hw, Ss	annosus root rot DRN.	**Note:** consid

Single Entry Dispersed Retention Stocking Standard FG Damage Criteria – Second Growth Fdc (SEDRSS – Fdc)
A Fdc bacterial canker (agent Erwinia billingiae) was observed on understorey Fdc branches and stems during the plot assessment in Roberts Creek, Sunshine Coast in May 2016.This pathogen linked to overstorey Fdc dispersal (however somewhat isolated in occurrence only on the Sunshine Coast). Its potential damage at FG is similar to other gall rust infections on the main stem of crop trees when the circumference is sufficient enough to cause stem breakage.

It is recommended that this "**Fdc Bacterial Canker**" be included in the **SEDRSS damage criteria** list as proposed below.

Amendment to: FG Damage Criteria For SEDRSS Managed Stands In Coastal B.C.
TABLE B- Layers 2, 3 & 4 - < 12.5 cm DBH. SEDRSS damage criteria

Location of Damage	Type of Damage	Tree being assessed is UNACCEPTABLE if:	Host Species	Possible damage agents & codes	Comments
Stem	Infection (includes cankers and galls)	• Any infection occurs on the stem.	All	white pine blister rust DSB, atropellis canker DSA, Dwarf mistletoes (see below).	Note: Wounds caused by rodent feeding around rust cankers should have stem rust recorded as the causal agent.
Branch	Infection (cankers)	• An infection occurs on a live branch less than 60 cm from the stem.	Pw, Pl, Py	white pine blister rust DSB, comandra blister rust DSC, stalactiform blister rust DSS.	
		• A Fdc bacterial canker infection occurs on a Fdc stem that affects >25% of stem circumference.	Fdc	Fdc bacterial canker DS	
Branch	Galls	• A gall rust infection occurs on a live branch less than 5 cm from the stem.	Pl, Py	western gall rust DSG.	
Foliage	Defoliation	• >60% tree foliage has been removed by hemlock looper	Hw	Hemlock looper IDL	

Appendix M) Updated Coastal Watershed Assessment Procedure (CWAP)

Brew Creek Community Watershed, Whistler, B.C.

Squamish Timber Supply Area

Prepared for
Infinity-Pacific Stewardship Group

July 17, 2008

Prepared by

Carson Land Resources Management Ltd.
Roberts Creek, B.C.

I. INTRODUCTION

In response to a request from Infinity-Pacific Stewardship Group, Carson Land Resource Mgt. Ltd. conducted a re-assessment of the hydrological condition of the 1420 hectare Brew Creek Community Watershed located south of Whistler, B.C. Initiated under the old Forest Practices Code, hydrological assessments of community watersheds were required in order to determine whether the cumulative effect of forest harvesting within a watershed would influence water quality, quantity or timing of flows.

The last CWAP revision was conducted in 2003. This report provides an update for the series of reports already written (see below) for Brew Creek Community Watershed. Because there has been less forestry activity undertaken within the watershed than was planned at the time of writing the 2003 CWAP update, the results and recommendations coming out of that report are still valid in 2008.

II. METHODOLOGY

The Consultant reviewed all relevant reports that were made available to him including:

- BCTS, 2008. Detailed Location Map of Block TSL A79878. 1:20,000
- BCTS, 2008. Harvest Plan Map Blocks CM008 and CM009, 1:5,000
- Chapman Geoscience Ltd. 1997. *Brew Creek Watershed Assessment* for Pacific Forest Products Limited. Ladysmith B.C.
- Chapman Geoscience Ltd. 2000. *Soil Erosion Potential and Sediment Delivery Potential of Brew Creek Watershed* Prepared for Western Forest Products Ltd.
- Chapman Geoscience Ltd. 2000. *Assessment of the Brew Creek Watershed* Prepared for Western Forest Products Ltd. Kamloops, B.C.
- Chapman Geoscience Ltd. 2003. *Letter referencing Brew Creek CWAP*. For Western Forest Products Ltd. Victoria B.C.
- Madrone Environmental Consultants. 2008. Surface Soil Erosion Assessment. Block CM008 and CM009, Brew Creek Drainage.

Mr. Carson spent 1/2 day (July 7, 2008) in the watershed, an hour of which in the company of Greg Peterson of Infinity-Pacific Stewardship Group. The weather was clear and warm and there had been no heavy, long duration rainfall in the recent past. The open road network was driven, stream crossings were inspected, the lower section of the main channel of Brew Creek was visited, the new blocks proposed for harvesting were reviewed and the present use of water from Brew Creek was determined. For readers interested in past studies, they are encouraged to review the original Chapman 1997, 2000 and 2003 CWAP documents and the Madrone Soil Erosion Assessment Report held at the office of British Columbia Timber Sales in Squamish B.C.

II. RESULTS AND DISCUSSION

Upon reviewing the previously written CWAP documents, visiting the watershed and gathering latest information, the following results are presented.

1. Since the last reporting of the condition in Brew Creek Watershed, it is understood that there have been no exceptional hydrological or geomorphological events that might alter the assumptions or conclusions of the original report.

2. According to data made available to the consultant, of the 93 ha that were approved for harvesting in the 2003 CWAP update for the period between 2002 and 2007, only 70 ha were actually logged. At present, the Equivalent Clearcut Area (ECA), not accounting for any hydrological recovery of previously logged blocks, is 9.8 percent. With less than 10% of the watershed harvested, any hydrological impact of this low level of harvesting on the main channel of Brew Creek would be immeasurable. With only 7.6 ha of harvesting planned in the immediate future, this increases the ECA by 0.5 %.

3. The hydrological effect of the existing road network is still at a low level considering the extensive level of deactivation of the branch roads. All unneeded roads have had culverts pulled and cross ditches and water bars installed. No new roads are required to harvest Blocks CM 008 and CM 009.

4. The sediment delivery potential of the existing road network is low as a result of the care given in the location of roads away from streams, the breaking up of long grades approaching stream crossings and the attention to use of good surfacing materials to minimize potential sediment generation. The signage used to warn road users that they are within Riparian Management Areas was noted and also reflects good watershed management.

5. At present, around 55% of the Brew Creek watershed falls within the rain-on-snow dominated zone (300-800 m) while 45 % lies in the snow dominated zone (> 800 m. elevation). With global climate change predictions of between 1 and 5 degrees increase in mean annual temperature over the next 40 years, such changes would result in a substantial increase in the extent of the rain-on-snow zone within the watershed. [1] The net effect of warmer temperatures at higher altitudes could markedly alter the hydrograph. Maximum discharges could be higher with more storm flow generated within the rain-on snow zone, minimum flows, lower with less watershed area generating summer snow melt. Such hydrological changes, if they occur, will be independent of how the watershed is managed.

6. At the time of visit, the main channel of Brew Creek was flowing at an estimated 0.5 m^3 /sec. The type and amount of large woody debris and nature of the channel bed itself reflected that of an undisturbed stream.

7. While hydrocarbon contamination (diesel, gasoline and hydraulic oil) from heavy machine activity are of concern in community watersheds, the streams adjacent to the proposed

[1] For each 0.6 degrees Centigrade increase in temperature, the boundaries of these zones would move up the slope by 100 m elevation.

cutblocks are well buffered and there are no actual stream crossings within the blocks. In general, well disciplined industrial workers do not themselves poise a large risk because workers are trained to deal with accidents, if they occur.

8. Faecal contamination is occasionally recorded on all surface waters, generated by both wildlife and occasionally, human sources. Ministry of Health standards requires that such waters be disinfected. Hazards associated with Giardiasis and Cryptosporidium, parasites found in mammals, are not likely to be any worse than at present with any future forestry activities. Normal pathogen hosts, rodents, bear and deer are already common and active in the watershed.

9. The three major water users, Brew Creek Lodge, Black Tusk and Pine Crest residential developments have secured more reliable water sources, now drawing from drainage galleries adjacent to the creek or from standing ponds. They no longer rely on water intakes using surface water directly from Brew Creek.

III. CONCLUSIONS

1. With reasonable care given in reopening the road and harvesting of Blocks CM008 and CM009, no measurable changes are expected in water quality or discharge.

2. Ongoing, low levels of harvesting, such as has occurred since 1997 (1-2 % per year) with the concurrent high management standards maintained, is unlikely to measurably affect existing water quality, quantity and timing of flows within the Brew Creek Watershed.

3. No new roads are planned for the immediate harvesting that has been proposed and thus the present development will not alter road density. Given the high quality of existing road construction and drainage management observed within the Brew Creek Watershed, and the on going attention to deactivation of unused roads, a modest future increase in road construction is unlikely to have any measurable impact on stream hydrology.

4. The re-activating of the main line to access Cutblocks CM008 and CM009 should be straightforward. The Licensee is reminded, as was noted in the original CWAP, that the highly fractured and weathered sheer zones in the phyllitic bedrock are unsuited for road surfacing material within Riparian Management Areas (RMAs), as they tend to break down to form red clays.

5. Future forest roads may provide increased recreation access which in turn may be considered to poise additional risks of fires and faecal contamination. Good planning and management of the active road network through signage, road closures and implementing degrees of deactivation can minimize these risks.

6. The lower reaches of Brew Creek stream channel appears to be in good condition given the nature of the terrain. There has been very little forestry-related disturbance within any of the riparian areas within the watershed. Stream crossings have been located, designed and managed with considerable care. Concentration of road ditch discharge has been avoided. Windthrow has been minimized.

7. Because the water users no longer draw water directly from Brew Creek, risks associated with the occasional natural (and potentially human induced) turbidity events are substantially down-graded.

IV. Recommendations

The following recommendations guide sensitive watershed management for the Brew Community Watershed.

1. While no new roads are planned at this time, they are likely to be built in the future. Licensee should continue to ensure appropriate location, design and construction of all new roads and adopt a high level of management for the maintenance and deactivation of all new and actively used roads within the watershed. Stream crossings whether bridged or culverted should be targeted for special attention. Competent surfacing materials, and not the commonly occurring shattered phyllites should be used for capping road surfaces in proximity to natural drainages. Original recommendations provided in the 1997 CWAP are still valid.

2. Licensees should ensure well-planned and executed stand harvesting particularly by avoiding soil compaction, soil truncation and forest floor gouging during felling and yarding operations. Heavy machinery operating in wetter areas within the blocks should make use of brush mats. Operations should observe shutdowns during excessively heavy rains.

3. Licensees should continue to carefully consider windthrow in their design of riparian buffers.

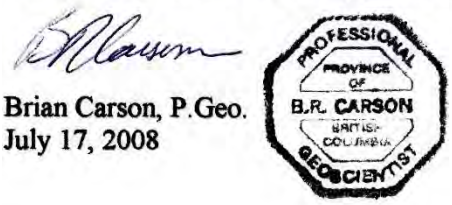
4. The present road condition is good with appropriately placed cross ditching. The permanent deactivation of most branch road has also been done to a high standard. The continuance of these high standards is recommended.

5. Erosion control assessments should be a regular feature of road network management. A rigorous inspection and maintenance schedule should be continued on any active road network within the Brew Creek watershed. This would include routine installation of water bars and cross ditch installation along high priority road segments each autumn.

Should you have any questions or concerns regarding this report, please feel free to contact me at any time.

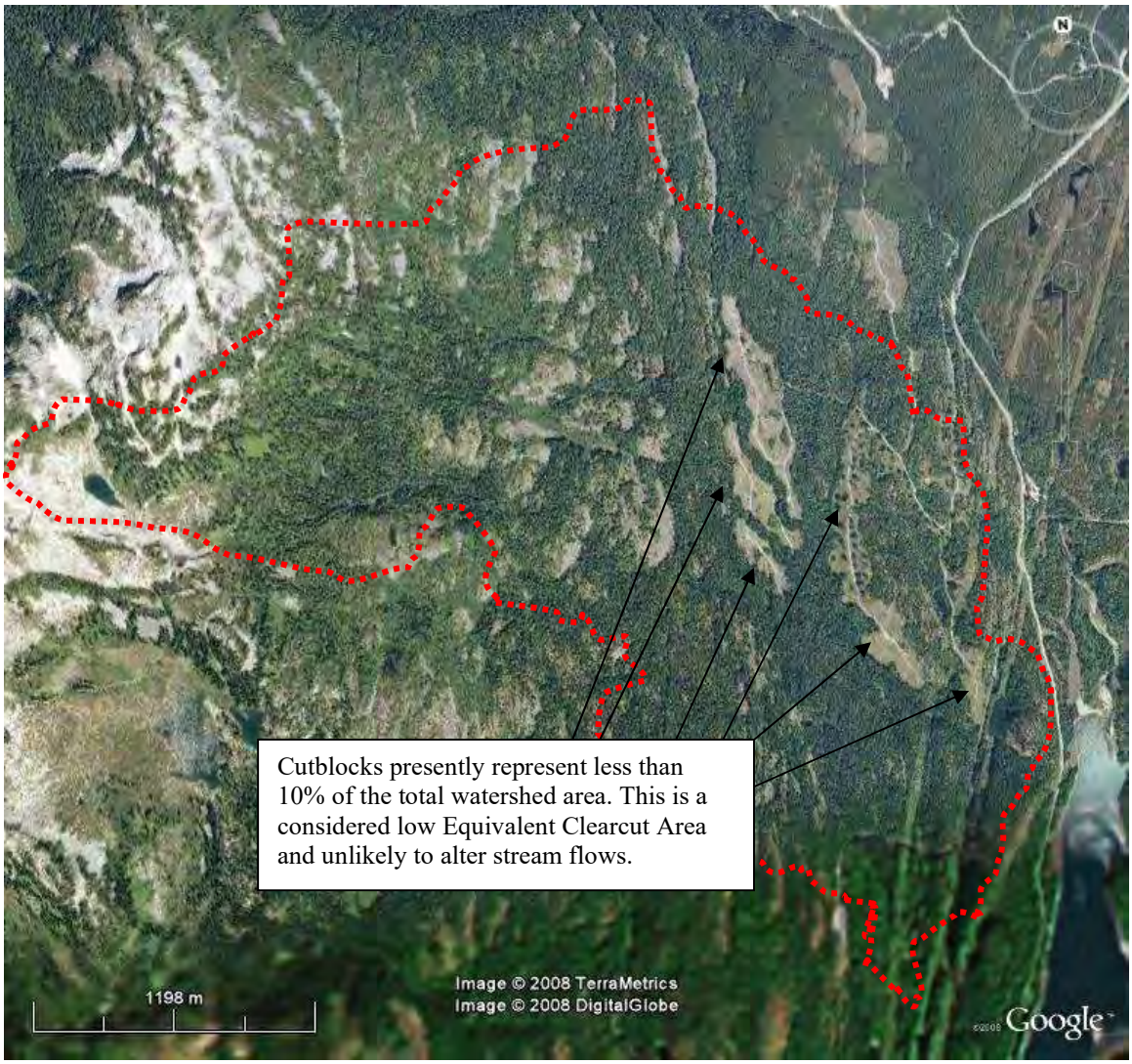
Respectfully submitted,

Carson Land Resources Management Ltd.



Brian Carson, P.Geo.
July 17, 2008

Figure 1. Brew Creek Watershed



Ministry of Forests, Lands and Natural Resource Operations

Ministerial Order

Land Use Objectives for the Sea-to-Sky Land and Resource Management Plan

Part 1 - Interpretation

1. Relationship with *Forest and Range Practices Act*

(1) Pursuant to section 93.4 of the *Land Act*, the following objectives are established as land use objectives for the purposes of the *Forest and Range Practices Act*, and apply to the area shown on Map 1.

(2) This ministerial order establishes land use objectives in accordance with section 93.4 of the *Land Act*, and nothing in, under or arising out of this ministerial order abrogates or derogates from any aboriginal rights, aboriginal title or treaty rights of any applicable First Nation and does not relieve the Province of any obligation to consult with First Nations.

2. Definitions

(1) In this order:

"cultural heritage resources" means:

a) trees, wild plant foods, botanical medicines and other forest resources, including wildlife, that are utilized by a First Nation for food, social, treaty or ceremonial purposes; and

b) culturally modified trees and other historical and archaeological artefacts, sites and locations that are important to the cultural practices, knowledge, spirituality and heritage of a First Nation;

"cultural management areas" means areas identified by First Nations as having historic and contemporary cultural significance to them and for which management direction is provided in the Sea-to-Sky LRMP and government-to-government agreements. The locations of the cultural

management areas referred to in this order are shown on Map 2 and are comprised of:

- the In-SHUCK-ch Nation cultural management area;
- the Lil'wat Nation cultural management areas; and
- the Squamish Nation special cultural management areas;

"cultural places" means places identified by First Nations as having cultural heritage resource values of importance to them and for which management direction is provided in the Sea-to-Sky LRMP and government-to-government agreements. The locations of the cultural places referred to in this order are shown on Map 3 and are comprised of:

- the In-SHUCK-ch Nation cultural sites;
- the Lil'wat Nation A7x7ūlḿecw (spirited ground) areas and the Skelulátkwa / Owl Creek cultural education area; and
- the Squamish Nation Síiyamín ta Sḵwx̱wú7mesh (cultural sites) and Úx̱wumixw (village sites);

"floodplain management areas" means the Crown Land portions of the floodplains of the Upper Lillooet, Green, Soo, Elaho and Squamish Rivers shown on Map 4;

"herbicide" means a substance used to destroy or inhibit the growth of plants;

"mature forest" means stands 80 years or older in the Coastal Western Hemlock (CWH) biogeoclimatic zone and 100 years or older in the Interior Douglas Fir (IDF) biogeoclimatic zone;

"old growth forest" means a stand of trees 250 years or older in the Coastal Western Hemlock and Interior Douglas Fir biogeoclimatic zones;

"pesticide" means a substance used to repel, kill, or control any species considered to be a pest, including weeds, insects, rodents, fungi, bacteria, or other organisms and includes herbicides, insecticides, rodenticides, fungicides, and bactericides;

"riparian areas" means areas of land that have conservation values because of their proximity to water and their ability to support plant and animal species that are distinctly different from the adjacent upland areas.

(2) Words and expressions not defined in this order have the meaning given to them in the *Forest and Range Practices Act*, the *Forest Act*, the *Heritage Conservation Act*, the *Range Act* and the regulations made there under, unless the context indicates otherwise.

(3) Where an objective refers to an area shown both on a map and in a spatial dataset linked to the map, the boundaries of the area defined by the spatial dataset are to apply in the event of any inconsistency. The spatial datasets that apply to this order are available for download by going to the Legal Planning Objectives theme on the GeoBC Data Discovery Service at:
https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=55383&recordSet=ISO191155

(4) The descriptive headings used in this order are for convenience only and do not limit or enlarge the meaning of any of the objectives.

Part 2 - First Nations' Cultural Places and Cultural Management Areas

3. Objectives for First Nations' cultural places

(1) Protect the cultural heritage resources within the cultural places listed in Schedule 1 and shown on Map 3, to support First Nations' food, social, ceremonial and spiritual use of the forest.

(2) Maintain 100% of the forested area in the following cultural places:

a. Zone 2 of the In-SHUCK-ch mountain special management area shown on Map 5;

b. Category A Lil'wat Nation A7x7ūlḿecw (spirited ground) areas shown on Map 6;

c. Portions of Category B Lil'wat Nation A7x7ūlḿecw (spirited ground) areas within floodplain management areas as shown on Map 7;

d. Squamish Nation Síiyamín ta Sḵwx̱wú7mesh (cultural sites) shown on Map 8; and

e. Core areas within Squamish Nation Úx̱wumixw (village sites) shown on Map 8.

(3) Despite subsection 3 (2), timber harvesting may occur in the cultural places described in subsection 3 (2) to:

a. maintain forest health within the cultural places and adjacent forests;

b. address road maintenance activities within the cultural places; and to

c. eliminate a safety hazard.

4. Objectives for First Nations' cultural management areas

(1) Conserve cultural heritage resources within the Lower Lillooet, Upper Soo, Qwalímak / Birkenhead River, Cheakamus, Callaghan, Kákila, Upper Elaho, Nexw Áyantsut / Sims Creek and the Estétiwilh / Westside Squamish River cultural management areas shown on Map 2.

(2) Maintain opportunities for First Nations to practice traditional harvesting for food, social, ceremonial and spiritual purposes in the cultural management areas.

(3) Maintain 100% of the old growth forest in the Upper Elaho cultural management area shown on Map 2.

(4) Protect riparian area and cultural heritage resource values in the Qwalímak / Birkenhead River corridor area shown on Map 9 by:

a. limiting forest harvesting to stands that were less than 40 years of age as of March 2008; and by

b. using alternatives to pesticide and herbicide applications in this area, where practicable.

(5) Despite subsection 4 (4) a., timber harvesting may occur in the Qwalímak / Birkenhead River corridor described in section 4 (4) to:

a. maintain forest health within the corridor and adjacent forests;

b. address road maintenance activities within the corridor; and to

c. eliminate a safety hazard.

Part 3 - Floodplains and Riparian Areas

5. Objectives for floodplain management areas

(1) Maintain the functional integrity of the floodplain ecosystems within each of the five floodplain management areas shown on Map 4 by:

a. limiting the total area available for timber harvesting to a maximum of 20% of each floodplain management area over a rotation; and

b. retaining a fully representative suite of forest types, plant communities and wildlife habitats within each floodplain management area, where practicable.

(2) Maintain 100% of the forested area in the portion of the Squamish River floodplain management area that is situated on the west side of the Squamish River as shown on Map 10.

(3) Despite subsection 5 (2), timber harvesting may occur in the portion of the Squamish River floodplain management area situated on the west side of the Squamish River as described in section 5 (2) to:

a. maintain forest health in the area and adjacent forests;

b. address road maintenance activities within the area; and to

c. eliminate a safety hazard.

6. Objectives for riparian areas

(1) Maintain at least 70% of the forested area, as a combination of mature forest and old growth forest, within the Upper Lillooet River riparian area shown on Map 11.

(2) Maintain at least 70% of the forested area, as a combination of mature forest and old growth forest, within a minimum 100 meter riparian buffer area around Lillooet Lake.

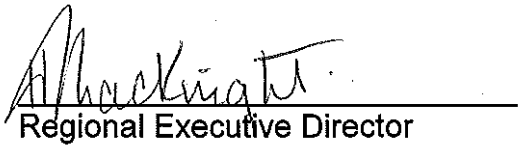
(3) Protect riparian area values within the 100 meter riparian buffer area around Lillooet Lake by using alternatives to pesticide and herbicide applications in this area, where practicable.

Part 4 - Transition

7. Application of this order

(1) This order and the land use objectives in this order take effect on the date that notice of this order is published in the Gazette.

(2) The applicable period under section 8(2)(b) of the *Forest and Range Practices Act* is 12 months starting on the date this order comes into effect as specified in subsection 7(1).



Regional Executive Director
South Coast
Regional Operations
Ministry of Forests, Lands and Natural Resource Operations

April 4, 2011
Date

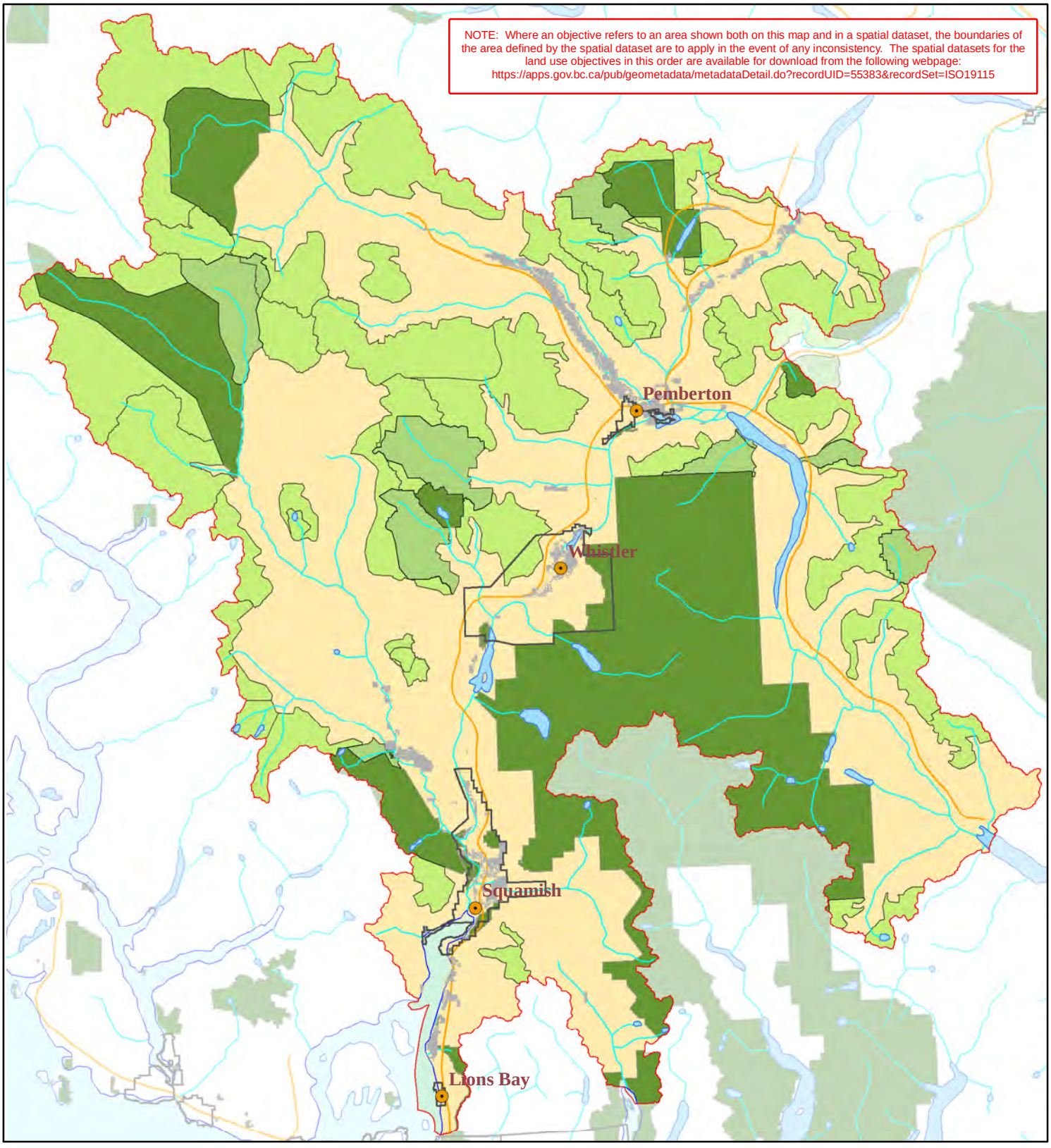
Schedule 1. List of First Nation Cultural Places Applicable to the Order

No.	First Nation	Cultural Place Name
1	In-SHUCK-ch Nation	Cúmiyqs / Franks Creek cultural site
2	In-SHUCK-ch Nation	In-SHUCK-ch Mountain special management area
3	Lil'wat Nation	Skelulátkwa / Owl Creek cultural education area
4	Lil'wat Nation	27 Mile A7x7ūlḿecw (spirited ground) area -Cat. "A"
5	Lil'wat Nation	29 Mile A7x7ūlḿecw (spirited ground) area -Cat. "A"
6	Lil'wat Nation	6 Mile Creek A7x7ūlḿecw (spirited ground) area -Cat. "A"
7	Lil'wat Nation	Cheakamus Canyon A7x7ūlḿecw (spirited ground) area -Cat. "A"
8	Lil'wat Nation	Grandfather Mountain A7x7ūlḿecw (spirited ground) area -Cat. "A"
9	Lil'wat Nation	Hindu Flats A7x7ūlḿecw (spirited ground) area -Cat. "A"
10	Lil'wat Nation	IR4 A7x7ūlḿecw (spirited ground) area -Cat. "A"
11	Lil'wat Nation	Lizzie Lake A7x7ūlḿecw (spirited ground) area -Cat. "A"
12	Lil'wat Nation	Lokla A7x7ūlḿecw (spirited ground) area -Cat. "A"
13	Lil'wat Nation	Lower Birkenhead A7x7ūlḿecw (spirited ground) area -Cat. "A"
14	Lil'wat Nation	Lower Soo A7x7ūlḿecw (spirited ground) area -Cat. "A"
15	Lil'wat Nation	MacKenzie Basin A7x7ūlḿecw (spirited ground) area -Cat. "A"
16	Lil'wat Nation	Mosquito Lake A7x7ūlḿecw (spirited ground) area -Cat. "A"
17	Lil'wat Nation	North Creek A7x7ūlḿecw (spirited ground) area -Cat. "A"
18	Lil'wat Nation	North Millar A7x7ūlḿecw (spirited ground) area -Cat. "A"
19	Lil'wat Nation	Owl Creek Pool A7x7ūlḿecw (spirited ground) area -Cat. "A"
20	Lil'wat Nation	Oxbow Lake A7x7ūlḿecw (spirited ground) area -Cat. "A"
21	Lil'wat Nation	Shadow Lake A7x7ūlḿecw (spirited ground) area -Cat. "A"
22	Lil'wat Nation	Smoke-a-butt trail A7x7ūlḿecw (spirited ground) area -Cat. "A"
23	Lil'wat Nation	Soo Waterfall A7x7ūlḿecw (spirited ground) area -Cat. "A"
24	Lil'wat Nation	Spetch Creek A7x7ūlḿecw (spirited ground) area -Cat. "A"
25	Lil'wat Nation	Upper Birkenhead A7x7ūlḿecw (spirited ground) area -Cat. "A"
26	Lil'wat Nation	Wolverine Lake A7x7ūlḿecw (spirited ground) area -Cat. "A"
27	Lil'wat Nation	Birkenhead Bailey Bridge A7x7ūlḿecw (spirited ground) area -Cat. "B"
28	Lil'wat Nation	Driftwood A7x7ūlḿecw (spirited ground) area -Cat. "B"
29	Lil'wat Nation	Gates Falls A7x7ūlḿecw (spirited ground) area -Cat. "B"
30	Lil'wat Nation	Gravelle Creek A7x7ūlḿecw (spirited ground) area -Cat. "B"
31	Lil'wat Nation	Green Lake A7x7ūlḿecw (spirited ground) area -Cat. "B"
32	Lil'wat Nation	Green-Lillooet River A7x7ūlḿecw (spirited ground) area -Cat. "B"
33	Lil'wat Nation	Hi7hi A7x7ūlḿecw (spirited ground) area -Cat. "B"
34	Lil'wat Nation	Ivey Lake West A7x7ūlḿecw (spirited ground) area -Cat. "B"
35	Lil'wat Nation	Lillooet Lake-Fish Camp A7x7ūlḿecw (spirited ground) area -Cat. "B"
36	Lil'wat Nation	Lillooet Lake North A7x7ūlḿecw (spirited ground) area -Cat. "B"
37	Lil'wat Nation	Lillooet Lake South A7x7ūlḿecw (spirited ground) area (1 & 2) -Cat. "B"
38	Lil'wat Nation	Lower Twin One A7x7ūlḿecw (spirited ground) area -Cat. "B"
39	Lil'wat Nation	Meager A7x7ūlḿecw (spirited ground) area -Cat. "B"
40	Lil'wat Nation	Owl Creek A7x7ūlḿecw (spirited ground) area -Cat. "B"
41	Lil'wat Nation	Pemberton Airport A7x7ūlḿecw (spirited ground) area -Cat. "B"
42	Lil'wat Nation	Salal Creek-Keyhole Falls A7x7ūlḿecw (spirited ground) area -Cat. "B"
43	Lil'wat Nation	Sampson Creek A7x7ūlḿecw (spirited ground) area -Cat. "B"

44	Lil'wat Nation	Signal Hill A7x7ūlḿecw (spirited ground) area -Cat. "B"
45	Lil'wat Nation	Tenas Lake A7x7ūlḿecw (spirited ground) area -Cat. "B"
46	Lil'wat Nation	Ts'zil A7x7ūlḿecw (spirited ground) area -Cat. "B"
47	Lil'wat Nation	Walkers Bridge A7x7ūlḿecw (spirited ground) area -Cat. "B"
48	Squamish Nation	Browning Lake Síiyamín ta Sḵwx̱wú7mesh (cultural) site
49	Squamish Nation	ChekChekts Úx̱wumixw (village) site
50	Squamish Nation	Cloudburst Mountain Síiyamín ta Sḵwx̱wú7mesh (cultural) site
51	Squamish Nation	Fries Creek Síiyamín ta Sḵwx̱wú7mesh (cultural) site
52	Squamish Nation	Green Lake North Síiyamín ta Sḵwx̱wú7mesh (cultural) site
53	Squamish Nation	Indian River Síiyamín ta Sḵwx̱wú7mesh (cultural) site
54	Squamish Nation	Lower High Falls Creek Síiyamín ta Sḵwx̱wú7mesh (cultural) site
55	Squamish Nation	Lower Soo River Síiyamín ta Sḵwx̱wú7mesh (cultural) site
56	Squamish Nation	Mid Cheakamus River Síiyamín ta Sḵwx̱wú7mesh (cultural) site
57	Squamish Nation	Monmouth Creek Síiyamín ta Sḵwx̱wú7mesh (cultural) site
58	Squamish Nation	Puyam Úx̱wumixw (village) site
59	Squamish Nation	Raffuse Creek Síiyamín ta Sḵwx̱wú7mesh (cultural) site
60	Squamish Nation	Sims Elaho Confluence Síiyamín ta Sḵwx̱wú7mesh (cultural) site
61	Squamish Nation	Squamish River West Síiyamín ta Sḵwx̱wú7mesh (cultural) site
62	Squamish Nation	Stawamus Creek Síiyamín ta Sḵwx̱wú7mesh (cultural) site
63	Squamish Nation	Tatlow Creek Síiyamín ta Sḵwx̱wú7mesh (cultural) site
64	Squamish Nation	Upper Cheakamus River Síiyamín ta Sḵwx̱wú7mesh (cultural) site
65	Squamish Nation	Upper High Falls Creek Síiyamín ta Sḵwx̱wú7mesh (cultural) site
66	Squamish Nation	Upper Mamquam Síiyamín ta Sḵwx̱wú7mesh (cultural) site
67	Squamish Nation	Yelhixw Úx̱wumixw (village) site

SEA-TO-SKY MINISTERIAL ORDER
MAP 1: Area to Which Order Applies

NOTE: Where an objective refers to an area shown both on this map and in a spatial dataset, the boundaries of the area defined by the spatial dataset are to apply in the event of any inconsistency. The spatial datasets for the land use objectives in this order are available for download from the following webpage: https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=55383&recordSet=ISO19115



Legend
- Sea to Sky LRMP Boundary
- Area to which Order applies
- Wildlands
- Conservancies
- Provincial Parks
- Private Land

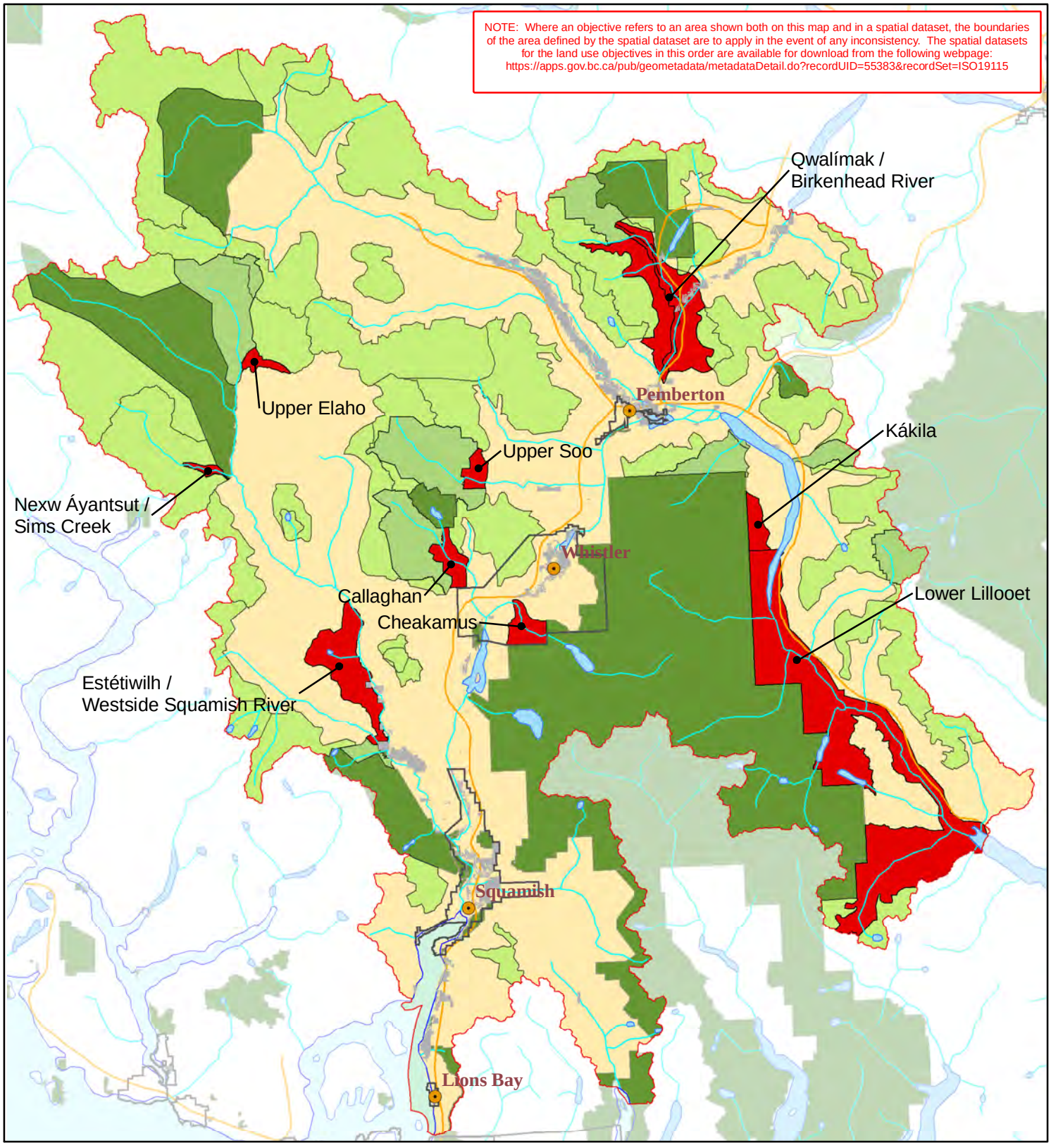
N
W E
S

0 5 10 20 30 Km

Scale: 1:750,000

SEA-TO-SKY MINISTERIAL ORDER
MAP 2: First Nations' Cultural Management Areas

NOTE: Where an objective refers to an area shown both on this map and in a spatial dataset, the boundaries of the area defined by the spatial dataset are to apply in the event of any inconsistency. The spatial datasets for the land use objectives in this order are available for download from the following webpage: https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=55383&recordSet=ISO19115



Legend
- Sea to Sky LRMP Boundary
- First Nations' Cultural Management Areas
- Wildlands
- Conservancies
- Provincial Parks
- Private Land

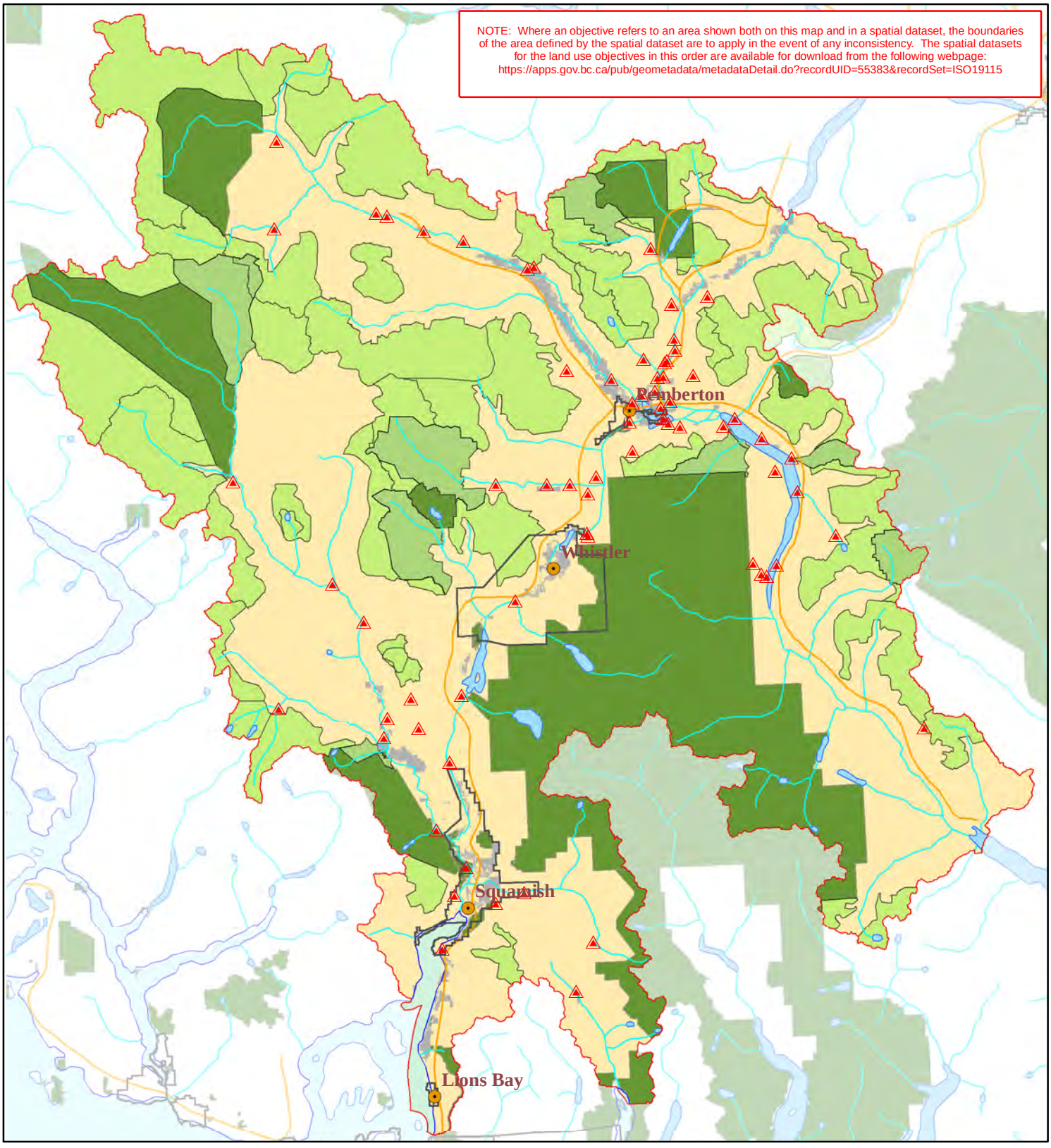
N
W E
S

0 4.5 9 18 27 Km

Scale: 1:750,000

SEA-TO-SKY MINISTERIAL ORDER
MAP 3: First Nations' Cultural Places

NOTE: Where an objective refers to an area shown both on this map and in a spatial dataset, the boundaries of the area defined by the spatial dataset are to apply in the event of any inconsistency. The spatial datasets for the land use objectives in this order are available for download from the following webpage: https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=55383&recordSet=ISO19115



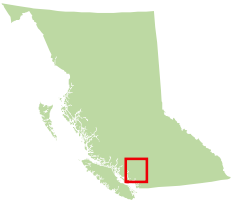
Legend

- First Nations' Cultural Places
- Sea to Sky LRMP Boundary
- Private Land
- Wildlands
- Conservancies
- Provincial Parks

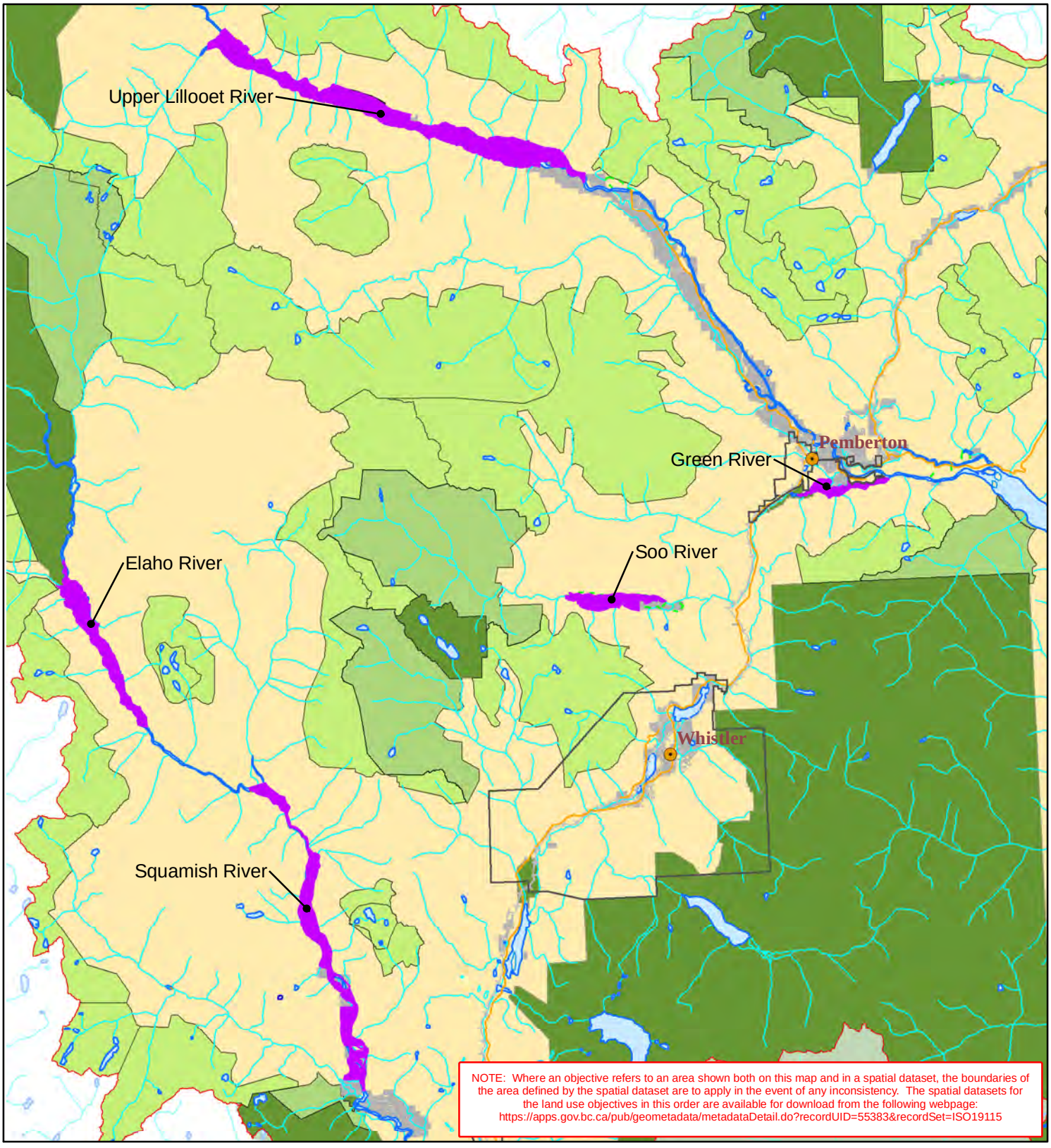
N
W E
S

0 3 6 12 18 Km

Scale: 1:750,000



SEA-TO-SKY MINISTERIAL ORDER
MAP 4: Floodplain Management Areas



NOTE: Where an objective refers to an area shown both on this map and in a spatial dataset, the boundaries of the area defined by the spatial dataset are to apply in the event of any inconsistency. The spatial datasets for the land use objectives in this order are available for download from the following webpage: https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=55383&recordSet=ISO19115

Legend

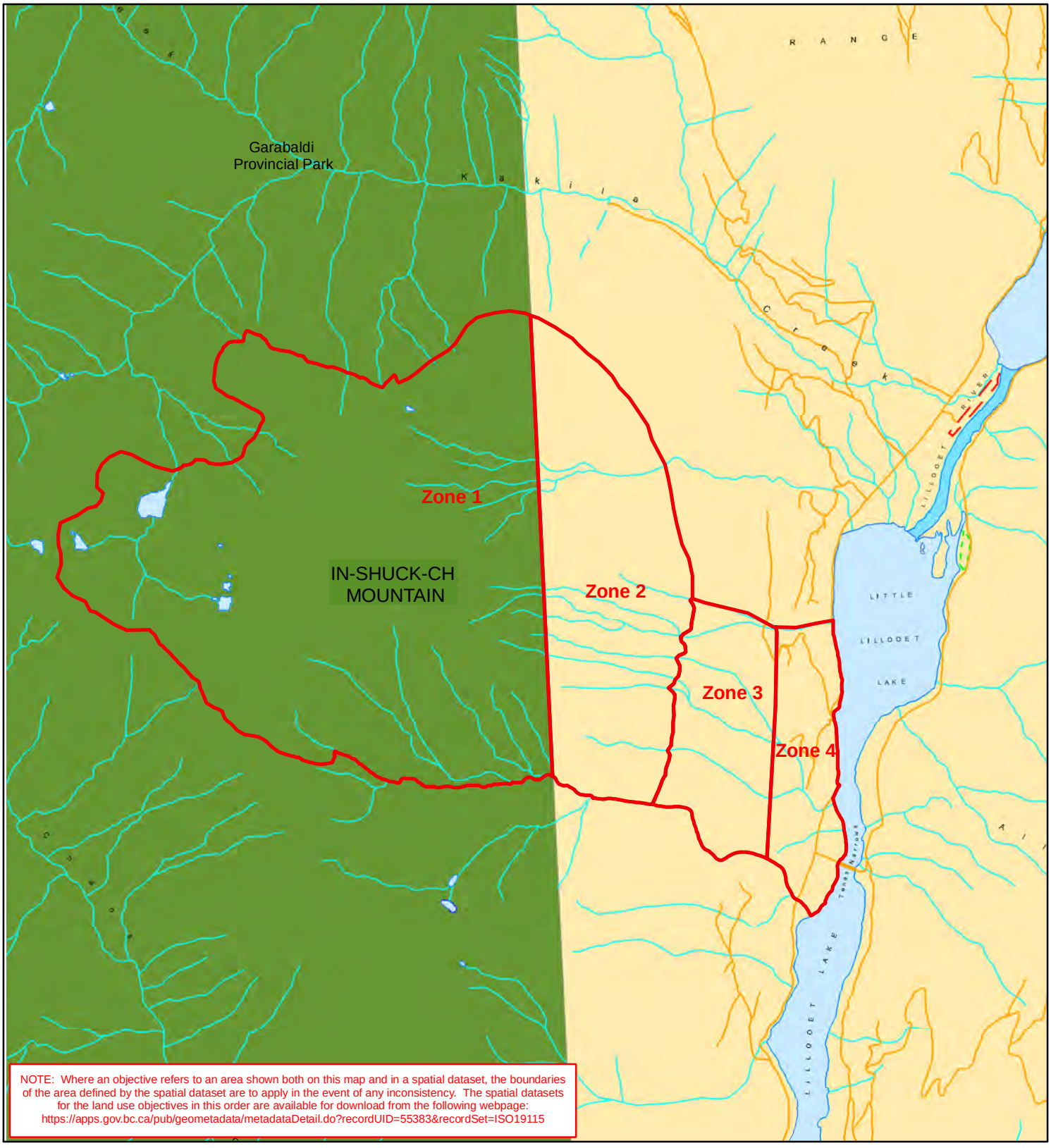
- Sea to Sky LRMP Boundary
- Floodplain Management Areas
- Wildlands
- Conservancies
- Provincial Parks
- Private Land

N
W E
S

0 2.5 5 10 15 Km

Scale: 1:400,000

SEA-TO-SKY MINISTERIAL ORDER
MAP 5: In-SHUCK-ch Mountain Special Management Area



NOTE: Where an objective refers to an area shown both on this map and in a spatial dataset, the boundaries of the area defined by the spatial dataset are to apply in the event of any inconsistency. The spatial datasets for the land use objectives in this order are available for download from the following webpage: https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=55383&recordSet=ISO19115

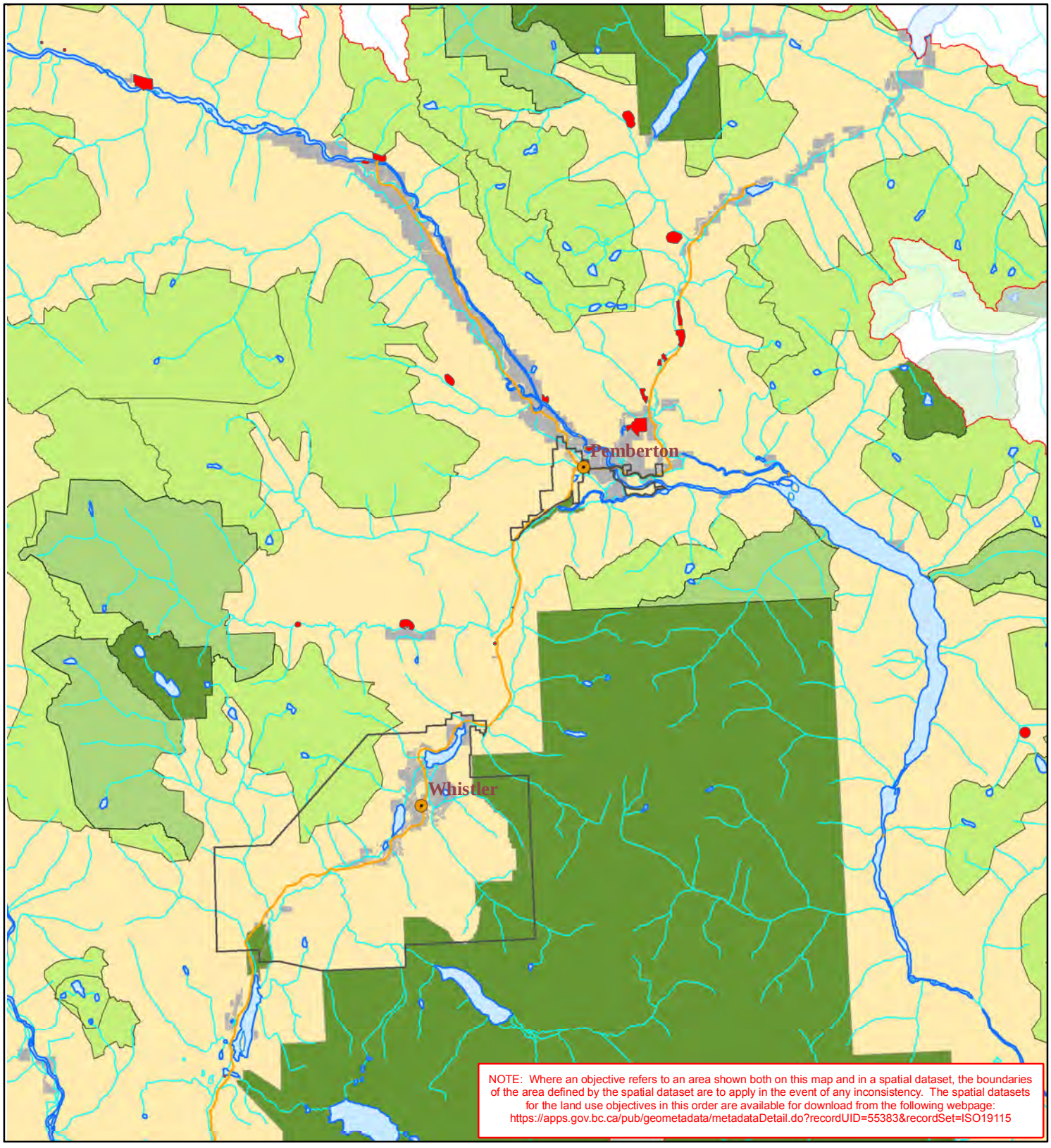
Legend
- In-SHUCK-ch Mountain Special Management Area
- Provincial Park

N
W E
S

0 0.25 0.5 1 1.5 Km

Scale: 1:50,000

SEA-TO-SKY MINISTERIAL ORDER
MAP 6: Category A Lil'wat Nation A7x7ūlmecw (Spirited Ground) Areas



NOTE: Where an objective refers to an area shown both on this map and in a spatial dataset, the boundaries of the area defined by the spatial dataset are to apply in the event of any inconsistency. The spatial datasets for the land use objectives in this order are available for download from the following webpage: https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=55383&recordSet=ISO19115

Legend

- Category A Lil'wat Nation A7x7ūlmecw (spirited ground) areas
- Sea to Sky LRMP Boundary
- Wildlands
- Conservancies
- Provincial Parks

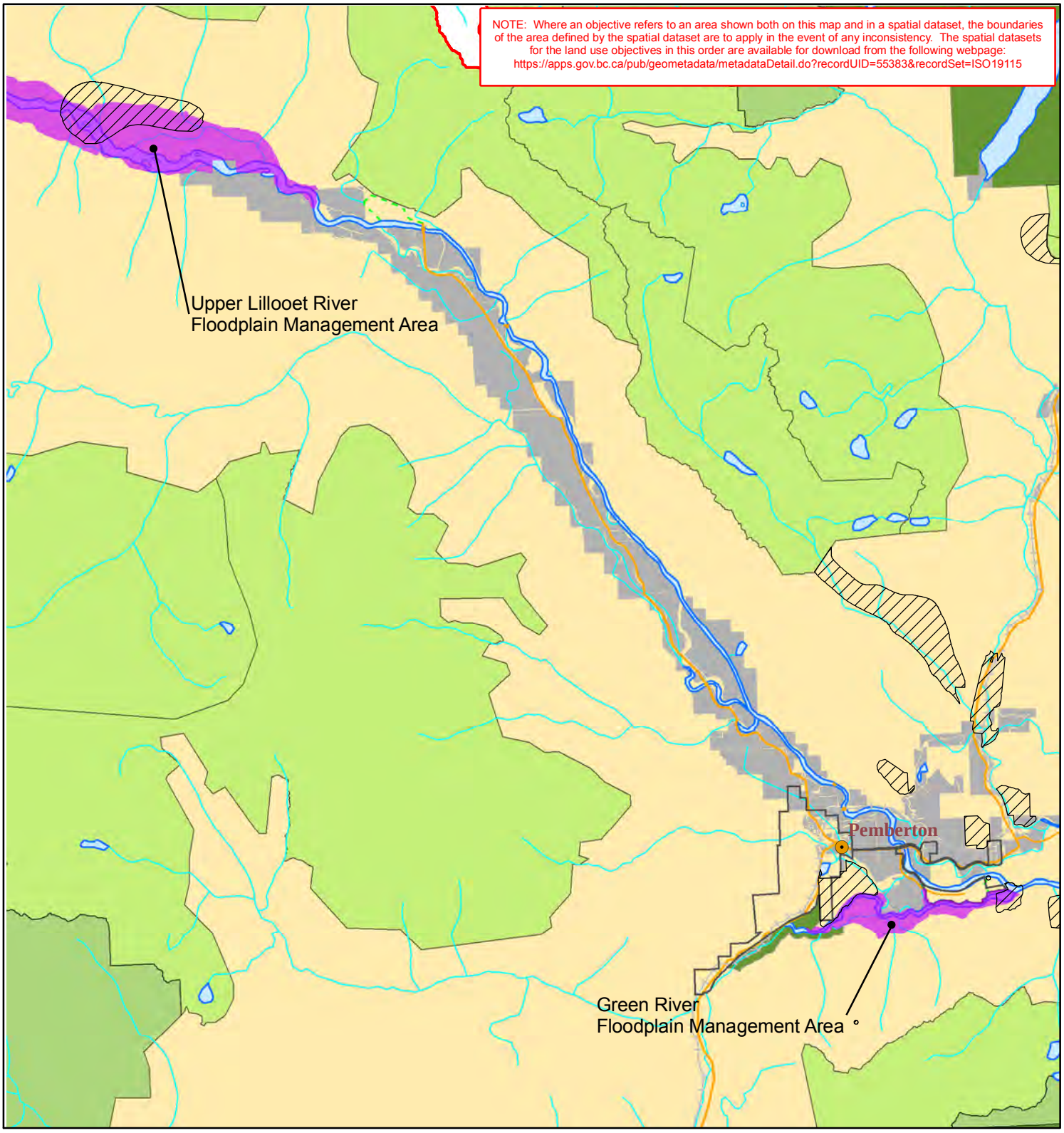
N
W E
S

0 3 6 12 18 Km

Scale: 1:350,000

SEA-TO-SKY MINISTERIAL ORDER
MAP 7: Portions of Category B Lil'wat Nation A7x7ūlmecw (Spirited Ground) Areas within Floodplain Management Areas

NOTE: Where an objective refers to an area shown both on this map and in a spatial dataset, the boundaries of the area defined by the spatial dataset are to apply in the event of any inconsistency. The spatial datasets for the land use objectives in this order are available for download from the following webpage: https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=55383&recordSet=ISO19115



Legend
- Sea-to-Sky LRMP Boundary
- Floodplain Management Areas
- Category B Lil'wat Nation A7x7ūlmecw (spirited ground) areas
- Wildlands
- Conservancies
- Provincial Parks

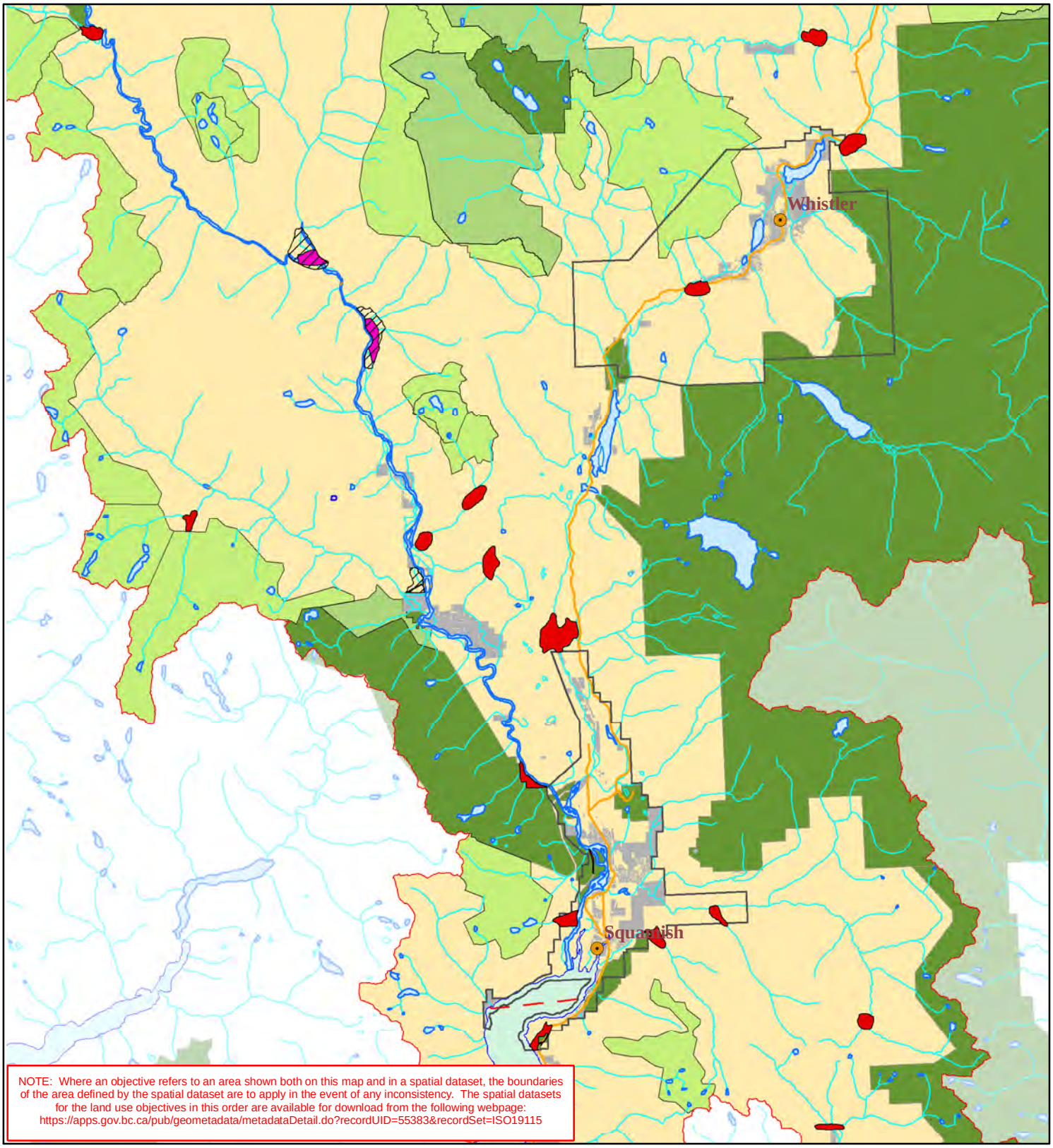
N
W E
S

0 1 2 4 6 Km

Scale: 1:175,000

SEA-TO-SKY MINISTERIAL ORDER

MAP 8: Squamish Nation Síiyamín ta Skwxwú7mesh (cultural sites) and Core Areas within Úxwumixw (village sites)



NOTE: Where an objective refers to an area shown both on this map and in a spatial dataset, the boundaries of the area defined by the spatial dataset are to apply in the event of any inconsistency. The spatial datasets for the land use objectives in this order are available for download from the following webpage: https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=55383&recordSet=ISO19115

Legend

- Squamish Nation Úxwumixw (village sites)
- Core Areas within Squamish Nation Úxwumixw (village sites)
- Squamish Nation Síiyamín ta Skwxwú7mesh (cultural sites)
- Wildlands
- Conservancies
- Provincial Parks
- Private Land

N

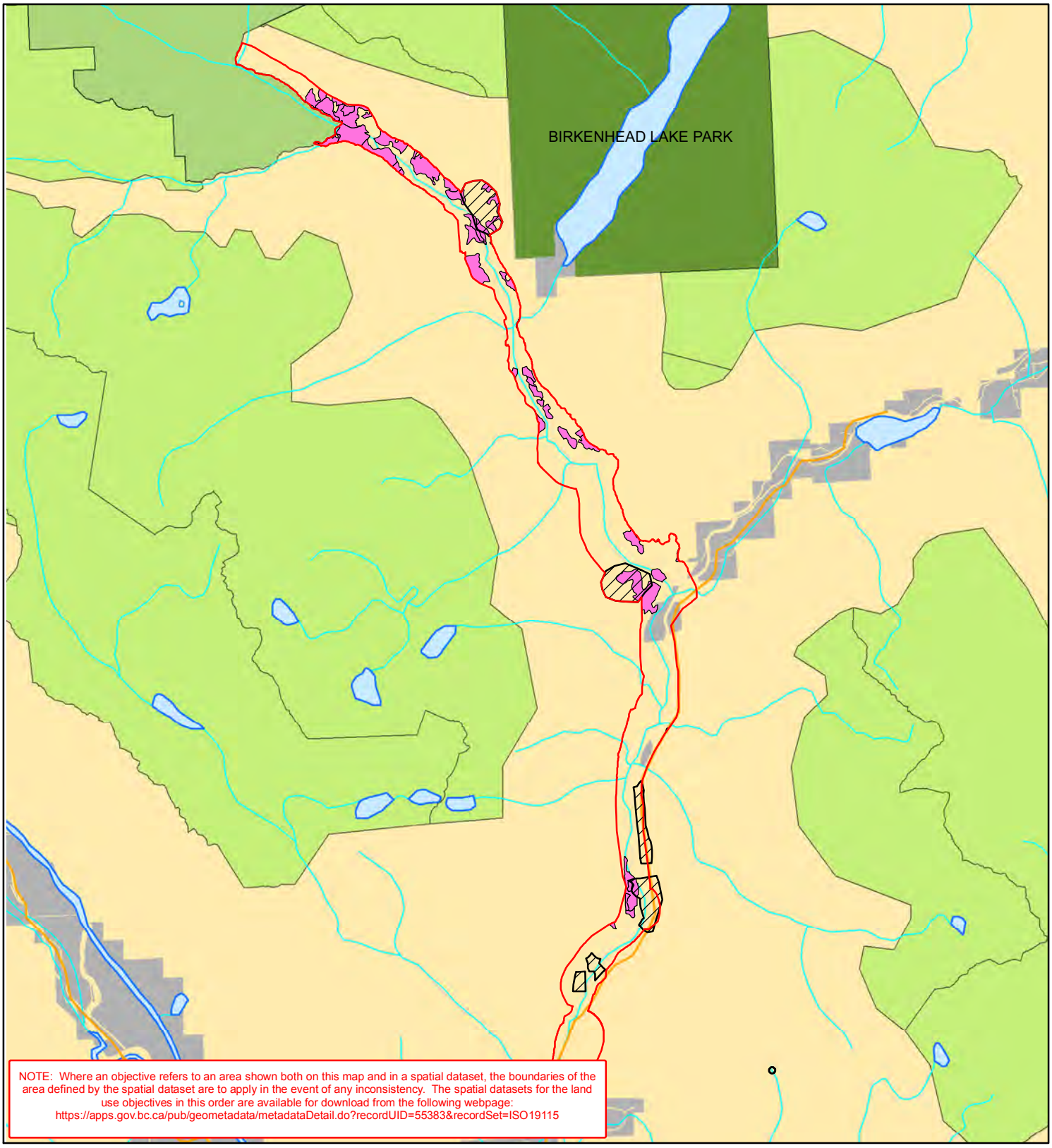
W E

S

0 2.5 5 10 15 Km

Scale: 1:350,000

SEA-TO-SKY MINISTERIAL ORDER
MAP 9: Qwalímak / Birkenhead River Corridor



NOTE: Where an objective refers to an area shown both on this map and in a spatial dataset, the boundaries of the area defined by the spatial dataset are to apply in the event of any inconsistency. The spatial datasets for the land use objectives in this order are available for download from the following webpage: https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=55383&recordSet=ISO19115

Legend

- Qwalimak / Birkenhead River Corridor
- Category A Lil'wat Nation A7x7ūlmecw (spirited ground) areas
- Stands <40 yrs old as of March 2008
- Wildlands
- Conservancies
- Provincial Parks
- Private Land

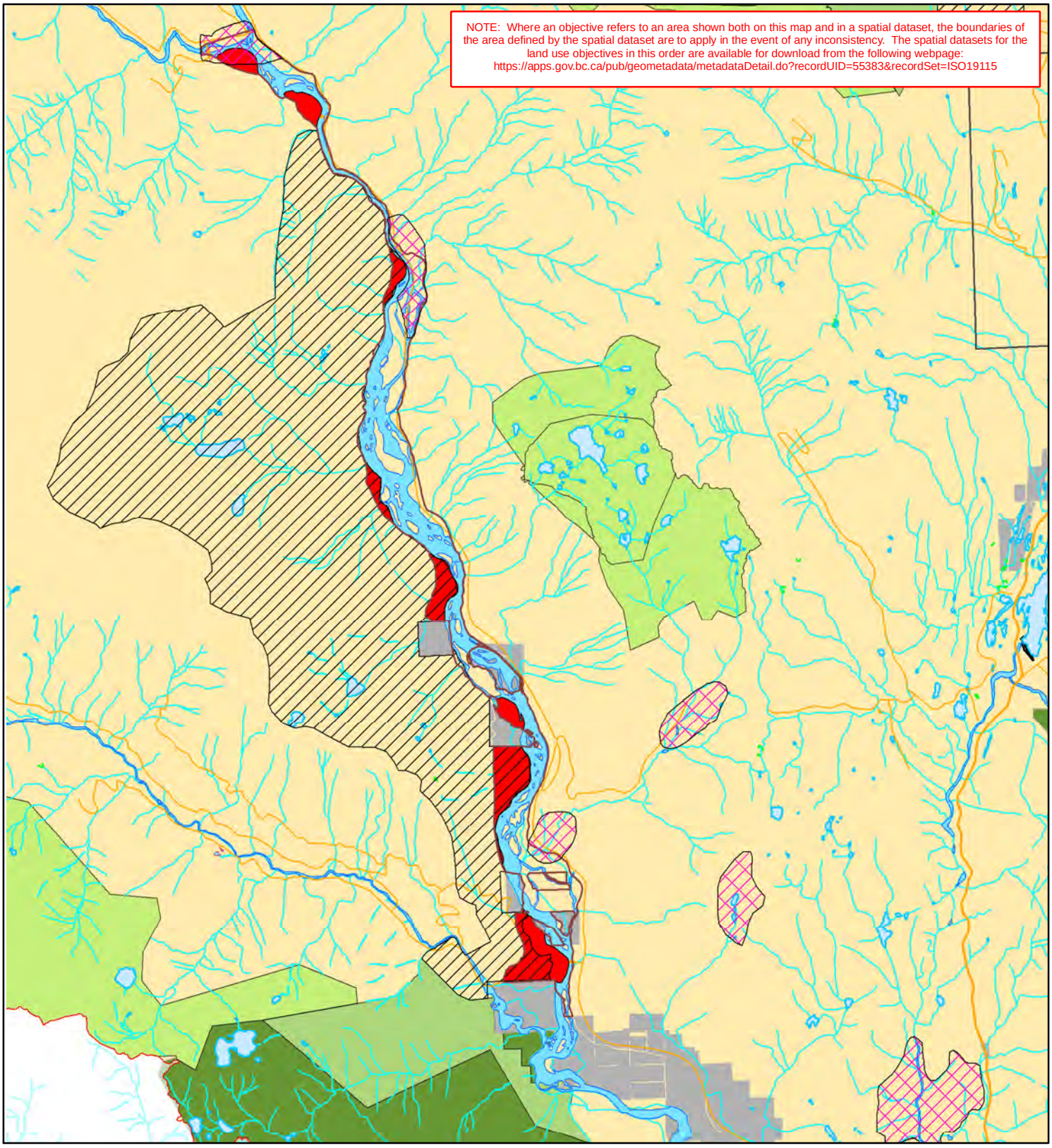
N
W E
S

0 0.5 1 2 3 Km

Scale: 1:110,000

SEA-TO-SKY MINISTERIAL ORDER
MAP 10: West Side of Squamish River Floodplain Management Area

NOTE: Where an objective refers to an area shown both on this map and in a spatial dataset, the boundaries of the area defined by the spatial dataset are to apply in the event of any inconsistency. The spatial datasets for the land use objectives in this order are available for download from the following webpage: https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=55383&recordSet=ISO19115



Legend

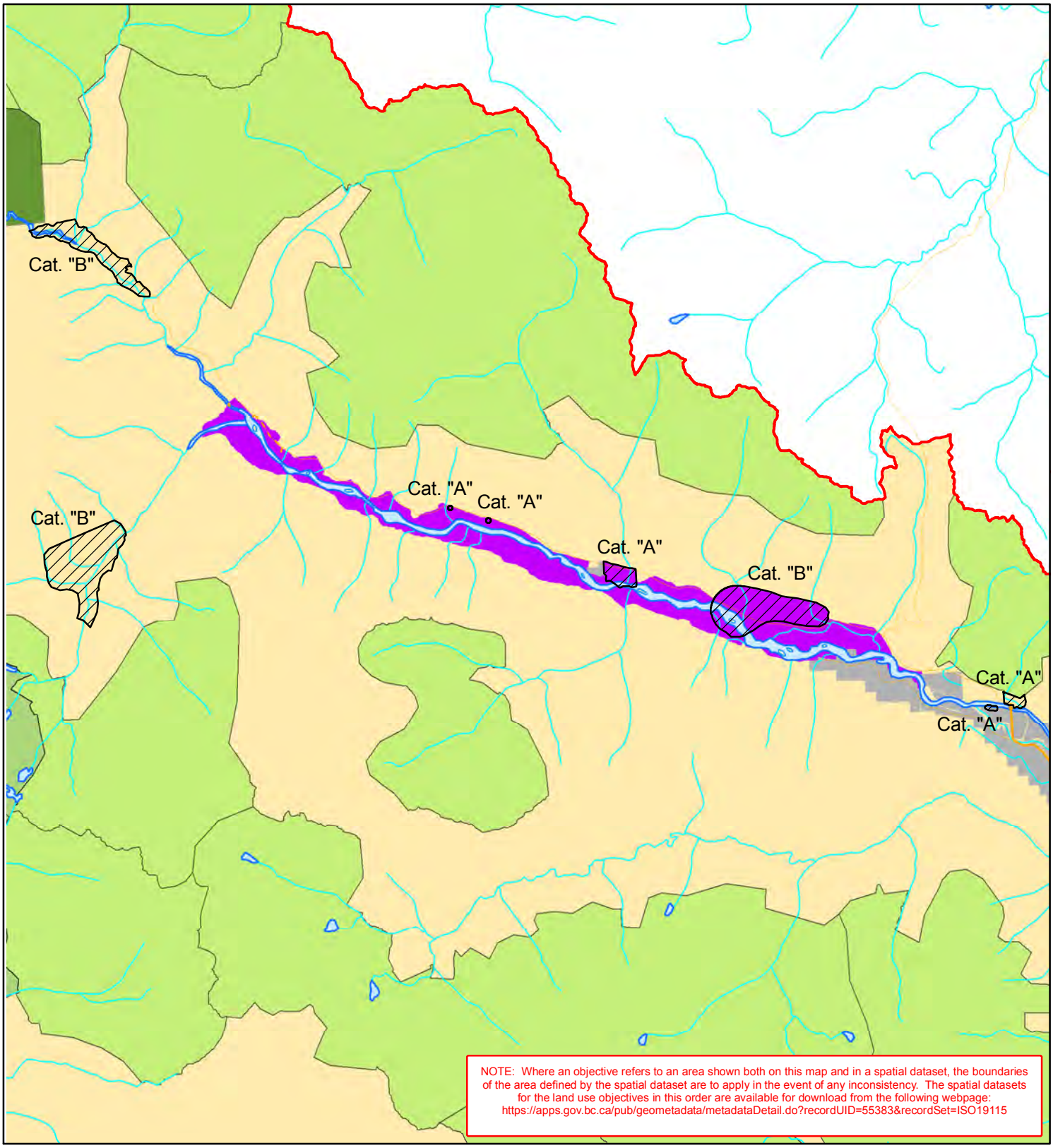
- Squamish Cultural Sites
- Squamish River Floodplain Management Area
- Estetiwilh/Westside Squamish River Cultural Management Area
- West Side of Squamish River Floodplain Management Area
- Wildlands
- Conservancies
- Provincial Parks
- Private Land

N
W E
S

0 0.5 1 2 3 Km

Scale: 1:125,000

SEA-TO-SKY MINISTERIAL ORDER
MAP 11: Upper Lillooet River Riparian Area



NOTE: Where an objective refers to an area shown both on this map and in a spatial dataset, the boundaries of the area defined by the spatial dataset are to apply in the event of any inconsistency. The spatial datasets for the land use objectives in this order are available for download from the following webpage: https://apps.gov.bc.ca/pub/geometadata/metadataDetail.do?recordUID=55383&recordSet=ISO19115

Legend

- Lil'wat Nation A7x7ūlmecw (spirited ground) areas
- Sea-to-Sky LRMP Boundary
- Upper Lillooet River Riparian Area
- Wildlands
- Conservancies
- Provincial Parks
- Private Land

N
W E
S

0 1.5 3 6 9 Km

Scale: 1:210,000

PROVINCE OF BRITISH COLUMBIA

ORDER OF LIEUTENANT GOVERNOR IN COUNCIL

Order in Council No. 109 *, Approved and Ordered* MAR 2 4 2011

Lieutenant Governor

Executive Council Chambers, Victoria

On the recommendation of the undersigned, the Lieutenant Governor, by and with the advice and consent of the Executive Council, orders that the attached Sea to Sky Wildland Order is made.

Minister of Forests, Lands and Natural Resource Operations

Presiding Member of the Executive Council

(This part is for administrative purposes only and is not part of the Order.)

Authority under which Order is made:

Act and section: *Environment and Land Use Act*, R.S.B.C. 1996, c. 117, s. 7

Other:

March 15, 2011 **Resub 2/O/945/2010/48**

SEA-TO-SKY WILDLAND AREA ORDER

Definitions

1 In this order:

"commercial logging" means harvesting timber for the primary purpose of disposing of the timber for compensation;

"compensation" means a rate, remuneration, gain or reward of any kind paid, payable, promised, demanded, received or expected, directly or indirectly;

"Crown land" means land, whether or not it is covered by water, that is owned by the government;

"natural boundary" means the visible high water mark of any lake, river, stream or other body of water where the presence and action of the water are so common and usual, and so long continued in all ordinary years, as to mark on the soil of the bed of the body of water a character distinct from that of its banks, in vegetation, as well as in the nature of the soil itself;

"power development" means the works, as defined in section 4, developed or to be developed for a power purpose;

"power purpose" means the use of water or wind in the production of electricity or other power;

"wildland area" means Crown land that is established as a wildland area under section 2.

Establishment of wildland areas

2 (1) Subject to this section, the area described in column 3 of an item set out in the Schedule to this order is established as a wildland area with the name set out in column 2 opposite that description.

(2) A wildland area does not include the following:

(a) a park, recreation area or conservancy;

(b) an ecological reserve named and described in Schedule A or Schedule B to the *Protected Areas of British Columbia Act*;

(c) an area that is established as a protected area by an order in council under the *Environment and Land Use Act*.

(3) For the purposes of subsection (2), a **"park"**, **"recreation area"** and **"conservancy"** means a "park", "recreation area" and "conservancy" as defined in section 1 of the *Park Act*.

Wildland areas – commercial logging

3 (1) In this section, **"regional manager"**, **"district manager"** and **"timber sales manager"** means "regional manager", "district manager" and "timber sales manager", as defined in section 1 of the *Forest Act*.

(2) The minister who is responsible for the administration of section 12 of the *Forest Act*, a regional manager, a district manager or a timber sales manager must not invite applications for, offer to enter into or enter into an agreement

referred to in section 12 of the *Forest Act* with respect to commercial logging in a wildland area.

(3) For greater certainty, subsection (2) does not apply to a road permit for the construction, maintenance or use of a road in a wildland area.

Wildland areas – hydroelectric and wind power

4 (1) In this section:

"comptroller" means comptroller as defined in the *Water Act*;

"minister" means the minister responsible for the administration of the *Land Act*;

"regional water manager" means regional water manager as defined in the *Water Act*;

"water licence" means a licence as defined in the *Water Act*;

"works" means

(a) anything capable of or used for

(i) diverting, storing, measuring, conserving, conveying, retarding, confining or using water,

(ii) producing, measuring, transmitting or using electricity,

(iii) collecting, conveying or disposing of sewage or garbage, or

(iv) preventing or extinguishing fires,

(b) booms and piles placed in a stream,

(c) obstructions placed in or removed from streams or the banks or beds of streams,

(d) changes in and about a stream, and

(e) access roads to any of the works referred to in paragraphs (a) to (d).

(2) Subject to subsections (4), (5), (6) and (7), the minister must not, under section 11, 38, 39 or 40 of the *Land Act*, do any of the following for or in relation to works for a power purpose or proposed works for a power purpose that are or are to be located wholly or partially in a wildland area:

(a) dispose of Crown land in the wildland area;

(b) grant a right of way or easement over Crown land in the wildland area;

(c) grant a licence to occupy Crown land in the wildland area;

(d) grant an option to purchase Crown land in the wildland area.

(3) Subject to subsections (4), (5), (6) and (7), the comptroller and a regional water manager must not grant all or part of an application for a water licence, issue to an applicant a conditional or final water licence under section 12 of the *Water Act* or issue a permit under section 26 of the *Water Act* for any of the following purposes:

(a) the diversion, use or storage of water from a stream if the diversion, use or storage, as the case may be,

(i) is for a power purpose, and

(ii) is located wholly or partially in a wildland area;

(b) the construction of works that are a part of a power development located wholly or partially in a wildland area, whether or not the works are in relation to a diversion, use or storage of water referred to in paragraph (a).

(4) Subsections (2) and (3) do not prohibit a disposition of Crown land or the granting or issuance of a document referred to in subsection (2) or (3), as the case may be, if the disposition is made or the document is granted or issued on condition that the electricity or other power generated from the power development to which the disposition or document relates is only used and disposed of in accordance with subsection (5).

(5) For the purposes of subsection (4), the electricity or other power generated from a power development in a wildland area must

(a) be used exclusively for activities that are carried on wholly or partially in the wildland area,

(b) be used exclusively by the holder of the water licence as described in subsection (3) or the person that receives a disposition of Crown land as described in subsection (2) for that power development or the immediate family members, employees or tenants of the holder of the water licence or of the person that receives a disposition of Crown land, and

(c) not be disposed of for compensation, except to a person referred to in paragraph (b).

(6) Subsections (2) and (3) do not prohibit a disposition of Crown land or the granting or issuance of a document referred to in subsection (2) or (3), as the case may be, if the disposition is made or the document is granted or issued for the purpose of authorizing works within a wildland area, subject to the following conditions:

(a) the works are completely below the surface of the land in the wildland area;

(b) the works, or construction of the works, do not at any time disturb the surface of the land in the wildland area.

(7) Subsections (2) and (3) do not prohibit a disposition of Crown land or the granting or issuance of a document referred to in subsection (2) or (3), as the case may be, for the flooding of a portion of a wildland area for storage of water associated with a water intake on a stream for a power development provided

(a) the power development is or will be run-of-the-river,

(b) the storage is only associated with the water intake, and

(c) the works of the power development, including the water intake, are located wholly outside the wildland area.

SCHEDULE

Column 1 Item No.	Column 2 Name of wildland area	Column 3 Description of wildland area
1	Blanca Lakes Sḵwx̱wú7mesh-úlh	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan

Column 1 Item No.	Column 2 Name of wildland area	Column 3 Description of wildland area
	Sneváyelh (Cultural Training Area)	for the Blanca Lakes Skwxwú7mesh-úlh Sneváyelh (Cultural Training Area) Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: blanca_lakes_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 906 hectares.
2	Tricouni Lakes Skwxwú7mesh-úlh Sneváyelh (Cultural Training Area)	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the Tricouni Lakes Skwxwú7mesh-úlh Sneváyelh (Cultural Training Area) Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: tricouni_lakes_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 774 hectares.
3	Nexw Áyantsut / Lower Sims	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet and New Westminster Range Districts and contained within the boundaries as shown on the official plan for the Nexw Áyantsut / Lower Sims Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: lower_sims_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 16 742 hectares.
4	Lizzie Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet and New Westminster Range Districts and contained within the boundaries as shown on the official plan for the Lizzie Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: lizzie_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 10 539 hectares.
5	Upper Elaho	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Upper Elaho Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: upper_elaho_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 6 399 hectares.
6	Qwalímak / Birkenhead Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Qwalímak / Birkenhead Headwaters Wildland Area, deposited

Column 1 Item No.	Column 2 Name of wildland area	Column 3 Description of wildland area
		in the Media Vault, GeoBC, Victoria as Official Plan: birkenhead_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 12 560 hectares.
7	Úll'us / Ryan Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Úll'us / Ryan Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: ryan_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 18 856 hectares.
8	Skelulátkwa / Owl Creek	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Skelulátkwa / Owl Creek Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: owl_creek_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 4 270 hectares.
9	St'uqál'ts / Lillooet Glacier	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the St'uqál'ts / Lillooet Glacier Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: lillooet_glacier_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 23 641 hectares.
10	Soo Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet and New Westminster Range Districts and contained within the boundaries as shown on the official plan for the Soo Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: soo_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 5 368 hectares.
11	Blanca Lakes II	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet and New Westminster Range Districts and contained within the boundaries as shown on the official plan for the Blanca Lakes II Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: blanca_lakes_II_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately

Column 1 Item No.	Column 2 Name of wildland area	Column 3 Description of wildland area
		2 244 hectares.
12	Place Glacier Ridge	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Place Glacier Ridge Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: place_glacier_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 6 203 hectares.
13	Tricouni Peak	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the Tricouni Peak Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: tricouni_peak_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 1 433 hectares.
14	Elaho Glacier	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Elaho Glacier Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: elaho_glacier_wildland.pdf, dated October 27, 2010 The whole wildland area containing approximately 4 868 hectares.
15	Mount Currie	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Mount Currie Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: mt_currie_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 3 379 hectares.
16	Mount Jimmy Jimmy	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the Mount Jimmy Jimmy Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: mt_jimmy_jimmy_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 6 387 hectares.
17	Pebble Creek	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained

Column 1 Item No.	Column 2 Name of wildland area	Column 3 Description of wildland area
		within the boundaries as shown on the official plan for the Pebble Creek Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: pebble_creek_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 22 933 hectares.
18	Phelix Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Phelix Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: phelix_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 3 815 hectares.
19	Powder Mountain	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet and New Westminster Range Districts and contained within the boundaries as shown on the official plan for the Powder Mountain Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: powder_mtn_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 7 069 hectares.
20	Rutherford Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Rutherford Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: rutherford_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 19 208 hectares.
21	Sky Pilot	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the Sky Pilot Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: sky_pilot_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 2 155 hectares.
22	South Creek	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the South Creek Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: south_creek_wildland.pdf, dated October 27, 2010.

Column 1 Item No.	Column 2 Name of wildland area	Column 3 Description of wildland area
		The whole wildland area containing approximately 4 020 hectares.
23	Rainbow Mountain	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the Rainbow Mountain Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: rainbow_mtn_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 9 060 hectares.
24	Twin One Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Twin One Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: twin_one_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 6 087 hectares.
25	Barr Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Barr Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: barr_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 7 823 hectares.
26	Westside Elaho	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the Westside Elaho Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: westside_elaho_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 4 922 hectares.
27	Birkenhead Peak	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Birkenhead Peak Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: birkenhead_peak_wildland.pdf, dated October 27, 2010. The whole Wildland Area containing approximately 2 545 hectares.

Column 1 Item No.	Column 2 Name of wildland area	Column 3 Description of wildland area
28	Gowan Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the Gowan Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: gowan_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 9 702 hectares.
29	Athelney Pass	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Athelney Pass Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: athelney_pass_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 2 988 hectares.
30	South Tantalus	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the South Tantalus Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: south_tantalus_wildland.pdf, dated October 27, 2010. The whole Wildland Area containing approximately 3 028 hectares.
31	Twin Two Peak	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Twin Two Peak Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: twin_two_peak_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 1 151 hectares.
32	Ashlu Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the Ashlu Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: ashlu_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 3 832 hectares.
33	Twin Lakes	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Twin Lakes Wildland Area, deposited in the Media Vault,

Column 1 Item No.	Column 2 Name of wildland area	Column 3 Description of wildland area
		GeoBC, Victoria as Official Plan: twin_lakes_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 2 001 hectares.
34	Meager Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Meager Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: meager_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 5 990 hectares.
35	East Upper Sloquet	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the East Upper Sloquet Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: east_upper_sloquet_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 2 837 hectares.
36	West Upper Sloquet	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the West Upper Sloquet Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: west_upper_sloquet_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 1 309 hectares.
37	Wolverine Creek	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Wolverine Creek Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: wolverine_creek_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 3 720 hectares.
38	Sockeye Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Sockeye Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: sockeye_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately

Column 1 Item No.	Column 2 Name of wildland area	Column 3 Description of wildland area
		2 736 hectares.
39	Scout Peak	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Scout Peak Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: scout_peak_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 1 131 hectares.
40	Rogers-Nahatlatch Divide	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the Rogers-Nahatlatch Divide Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: rogers_nahatlatch_divide_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 282 hectares.
41	Northwest Salal	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Northwest Salal Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: northwest_salal_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 4 520 hectares.
42	Falk Creek	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the Falk Creek Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: falk_creek_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 2 629 hectares.
43	Douglas Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the New Westminster Range District and contained within the boundaries as shown on the official plan for the Douglas Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: douglas_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 3 699 hectares.
		All those parcels or tracts of Crown land that on October 27,

Column 1 Item No.	Column 2 Name of wildland area	Column 3 Description of wildland area
44	Haylmore Headwaters	2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Haylmore Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: haylmore_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 9 438 hectares.
45	Sims Headwaters	All those parcels or tracts of Crown land that on October 27, 2010 are situated in the Lillooet Range District and contained within the boundaries as shown on the official plan for the Sims Headwaters Wildland Area, deposited in the Media Vault, GeoBC, Victoria as Official Plan: sims_headwaters_wildland.pdf, dated October 27, 2010. The whole wildland area containing approximately 19 358 hectares.