LOUISIANA-PACIFIC CANADA Ltd.

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Golden, BC

V0A 1H0

FOREST STEWARDSHIP PLAN

2017-2021

DRAFT

This Forest Stewardship Plan is applicable to LP's operations on Forest Licenses A17645 & A82664 and Shuswap Indian Band's FL A92559 within the Golden TSA

Table of Contents

1. SIGNATURES OF PERSONS REQUIRED TO PREPARE PLAN

Preparing Forester: *"I certify that I have determined that this work was performed to an acceptable standard"*	
	TIM ARNETT, RPF Planning Superintendent

Authorized Licensee Signature:	
	BERNIE HEUVELMAN, RPF Area Forest Manager Golden Forest Resources Division Louisiana-Pacific Canada Ltd. Signing Authority

2. INTERPRETATION

2.1 Definitions

"agreement holder" for the purposes of this FSP means Louisiana-Pacific Canada Limited for FLs A17645 & A82664 and Shuswap Indian Band for NRFL A92559.

"Cultural Heritage Resource" refers only to those resources that are the focus of a traditional use by an aboriginal people that is of continuing importance to that people, and not regulated under the Heritage Conservation Act.

"Declared" means a block or road that has required assessments complete and is ready for CP or RP submission;

"Info" means roads and cutblocks that are in the initial stages of the planning and approval process.

"Objective" means an objective set by government for managing and protecting forest and range values. Legally established land use plans, legislation and regulations drive the objectives.

"Result" means a measurable or verifiable outcome for a particular objective. Includes the circumstances or situations that determine where the outcome will apply.

"Measure" means an action or plan to achieve a particular purpose – i.e. measure taken to prevent or limit the spread of invasive plants.

"Minister" means the person who has, on behalf of government, approved this FSP, or such other person as that person may delegate.

2.2 Acronyms used in this FSP:

BEC: Biogeoclimatic Ecosystem Classification

CP: active Cutting Permit

DDM: Delegated Decision Maker

FDU: Forest Development Unit

FPPR: Forest Planning and Practices Regulation

FRPA: Forest and Range Practices Act

FSP: Forest Stewardship Plan

GAR: Government Actions Regulation(s)

KBHLPO: Kootenay Boundary Higher Level Plan Order

LP: Louisiana-Pacific Canada Ltd.

LU: Landscape Unit

MFLNRO: Ministry of Forests, Lands and Natural Resource Operations

MFZ: Machine Free Zone

NDT: Natural Disturbance Type.

OGMA: Old Growth Management Area

QRP: Qualified Registered Professional

RPF: Registered Professional Forester

RP: active Road Permit

RMZ: Riparian Management Zone

RRZ: Riparian Reserve Zone

TSA: Timber Supply Area.

UWR: Ungulate Winter Range

WTRA: Wildlife Tree Retention Area(s)

VIA: Visual Impact Assessment

VQO: Visual Quality Objective

Where references are made to FRPA, FPPR, GAR or objectives set by government, those references are applicable to the statute, regulation or objective that was in existence on the submission date of this FSP.

Where references are made to the KBHLPO, those references are applicable to the order that was in existence on the submission date of this FSP.

The purpose of the FSP is to link the government objectives with LP's measures, results and strategies that meet these objectives. The purpose of the FSP is not to detail individual cutblocks and roads.

3 TERM OF THE FOREST STEWARDSHIP PLAN

The term of this FSP is 5 years, commencing on the day the Delegated Decision Maker approves the FSP document.

4 FOREST DEVELOPMENT UNITS

The FDUs under this FSP are contained entirely within the Golden TSA of the Selkirk Resource District. There are two main FDUs, named North and South respectively, which are identified in Appendix A. There are also several dispersed FDUs encompassing single blocks and roads outside of the main FDU's – these are located within LU G11 of BCTS operating areas. The dispersed FDUs can be seen on the FSP maps (1:50,000 scale). The South FDU contains Shuswap Indian Band's FL A92559 which is limited to an area designated in the northern half of the Blaeberry Valley.

The requirements under section 14 (2) and (3) of the FPPR apply to each of the maps (scale 1:50,000) attached to this FSP.

5 RESULTS AND STRATEGIES

5.1 KBHLP Objectives

The results or strategies for the applicable objectives in Part 2 of the KBHLPO are set out below in Column 2 opposite the objective in Column 1 to which the results or strategies relate:

Objective	Result or Strategy Listed in the KBHLPO
Objective 1, Biodiversity Emphasis	Map 1.1 (Appendix B)
Objective 2, Old and Mature Forest	Tables 2.1-2.6 and sub-sections 1-5, and as amended through variance KBHLP-06 effective September, 2004 sub-section 9
Objective 4, Green-up	sub-section 1
Objective 5, Connectivity Corridors	Map 5.2 (Appendix B) and sub-sections 3-6
Objective 6, Consumptive Use Streams	Map 6.1 (Appendix B) and sub-section 1
Objective 7, Enhanced Resource Development Zones - Timber	Map 7.1 (Appendix B) and sub-sections 1-4

The Result or Strategy for each of the KBHLPO Objectives is per the KBHLPO document found at the website address listed below. "Sub-sections" refer to the text detailed in the KBHLPO.

https://www.for.gov.bc.ca/tasb/slrp/lrmp/cranbrook/kootenay/pdf/KBHLPOrder0925.pdf

5.2 Objective Set By Government for Soils

Legal References: FPPR sections 5 and 12.1(1)

Objective 5: "*The objective set by government for soils is without unduly reducing the supply of timber from British Columbia's forests, to conserve the productivity and the hydrologic function of soils".*

Practice Requirements - Result

LP adopts sections 35 and 36 of the FPPR as the intended result for the objective set by government for soils.

5.3 Objective Set By Government for Wildlife

Legal References: FPPR section 7 and GAR sections 9 to 13

Objective 7: *"The objective set by government for wildlife is, without unduly reducing the supply of timber from British Columbia's forests, to conserve sufficient wildlife habitat in terms of amount of area, distribution of areas and attributes of those areas, for the survival of species at risk, the survival of regionally important wildlife, and the winter survival of specified ungulate species.*

Practice Requirements – Results and Strategies

Species at Risk – Strategies for SAR are found in the FSP Background Document under "Information Concerning Wildlife Habitat for the Survival of Species at Risk in the Columbia Forest District".

A section 7 notice of the Forest Planning and Practices Regulation was issued in the Columbia Forest District for Coeur d' Alene Salamander. The Ministry of Environment, provided a map of the Potential Habitat of the Salamander which did not encompass FL A17645 or FL A82664. Additionally, we referred to the "Accounts and Measures for Managing Identified Wildlife", Species Information for Coeur d' Alene Salamander and noted the habitat distribution does not

occur on either FDU.

Therefore, a Result or Strategy is not necessary for this species under this FSP.

Ungulate Winter Range – Mountain Caribou - GAR sections 9(2) and 12(1)

LP's strategy for Mountain Caribou UWR is detailed in GAR orders #U-3-005 and #U-4-010. See Appendix C for Caribou winter range maps. http://www.env.gov.bc.ca/wld/documents/uwr/u-3-005_order_09Dec09.pdf and http://www.env.gov.bc.ca/wld/documents/uwr/u-4-010_order_09Dec09.pdf

Ungulate Winter Range – Moose, Whitetail Deer, Mule Deer and Elk

In respect of section 7 of the FPPR and the notice entitled "Indicators of the Amount, Distribution, and Attributes of Wildlife Habitat Required for the Winter Survival of Ungulate Species in the Golden Timber Supply Area", issued in December 2004, the results or strategies that apply to the FDUs are:

LP will ensure that the amounts, distributions and attributes of forest cover as specified in schedule 1 of the notice are achieved on a prorated share of the Golden TSA based on the amounts of UWR as indicated on the map in paragraph (a) that is applicable to the FDUs of this plan. The UWR requirements under Section 7 will be recalculated on a cutting permit by cutting permit basis – where the blocks within the CP are located in UWR. See Appendix C for ungulate winter range maps.

These results or strategies do not apply for the purposes of timber salvage to address wildfire, community interface wildfire protection, serious forest health issues or windthrow. However, where timber salvage results in a deficit of cover requirements, LP will submit a notification to the appropriate DDM.

5.4 Objective Set By Government for Water, Fish, Wildlife and Biodiversity within Riparian Areas

Legal References: FPPR sections 47 to 51, 52(2) and 55 to 57

Objective 8:" *The objective set by government for water, fish, wildlife and biodiversity within riparian areas is, without unduly reducing the supply of timber from British Columbia's forests, to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas".*

Practice Requirements – Results and Strategies

LP adopts as a strategy the requirements of sections 47 to 51 and 53 of the FPPR.

LP's strategy to meet with section 52 of the FPPR is as follows:

Each Riparian Management Zone (RMZ) associated with a cutblock and/or road will be assessed by a QRP. The QRP will prescribe a site specific management regime for each RMZ and include the regime in the applicable Site Plan(s). Safety considerations and adherence to the Workers Compensation Act and Regulations will be incorporated into the retention prescription. The RMZ management regime will include strategies to address (1) Wildlife Tree retention, (2) stream-side bank and vegetation protection.

1. **Wildlife Tree Retention** (cut blocks only)

Riparian Class	Target Level of Stems/ha or Basal Area/ha (m^2)
S1A, S1B, S2, S3	20 – 100%
W1, W3, W5, L3	10-100%
S4, S5, S6	0-100%

Retention will not be uniformly distributed throughout the RMZ.

2. **Stream-side Protection –** where a riparian feature does not have a RRZ, LP will establish a MFZ on each side of the classified riparian feature within a cutblock where ground based harvesting is proposed. Where a stream crossing is required within a cutblock, a designated crossing(s) will be located. The crossing will be removed post-harvest and natural drainage re-established. Any debris associated with crossing construction and deactivation will be placed outside of the MFZ in a manner that does not allow the material to erode into the stream channel.

Objective 8.1 Fisheries Sensitive Streams

There are no defined fisheries sensitive streams in the FDUs under this FSP.

Objective 8.2 Community Watersheds

There are no defined Community Watersheds in the FDUs under this FSP.

5.5 Objective Set By Government for Wildlife and Biodiversity – Landscape Level

Legal References: FPPR sections 9, 64 and 65

Objective 9: "*The objective set by government for wildlife and biodiversity at the landscape level is, without unduly reducing the supply of timber from British Columbia's forests and to the extent practicable, to design areas on which timber harvesting is to be carried out that resemble, both spatially and temporally, the patterns of natural disturbance that occur within the landscape."*

Practice Requirements – Results and Strategies

In relation to the objective set by government for wildlife and biodiversity set out in section 9 of the FPPR, the intended results or strategies are:

(a) the requirements of section 64 of the FPPR; and,

(b) the requirements of section 65 of the FPPR except that the reference to 3 m in subsection (3) (a) and (4) (a) of that section is replaced with a reference to 2.5 m.

Patch-Size Analysis: A patch-size distribution analysis will be done for each CP with blocks/combined patches exceeding 40 ha. The analysis will be used to ensure recommended landscape level biodiversity opening size percentages are managed for each Natural Disturbance Type within each LU – per Biodiversity Guidebook.
https://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/biodiv/biotoc.htm

Old Growth Management Areas: The KBHLPO specifies target amounts of Old and Mature forests that are required to be maintained to meet landscape level biodiversity objectives. The targets in the HLP are aspatial, meaning that the amounts of Old and Mature are specified, but the spatial location is not. The HLP objectives were applied for both Old and Mature Biodiversity and Caribou objectives spatially throughout the Golden TSA. LP has adopted the spatial allocation of the OGMA's and currently applies these designations in our planning. The procedures used to spatially allocate these resources are detailed in the FSP Background

document. The document details not only the Old and Mature forest allocation, but also the rationale used for recruitment in areas where the Old and Mature forest is not available.

OGMAs will be replaced occasionally. Replacement OGMAs will be within the same LU and BEC zone and have a similar age class and timber type as the original OGMA. Replacement OGMAs will be tracked and stored on a GIS layer file.

5.6 Objective Set By Government for Wildlife and Biodiversity – Stand Level

Legal References: FPPR sections 9.1, 66 and 67

Objective 9.1: "*The objective set by government for wildlife and biodiversity at the stand level is, without unduly reducing the supply of timber from British Columbia's forests, to retain wildlife trees.*"

Practice Requirements – Results and Strategies

In relation to the objective for wildlife and biodiversity at the stand level set out in section 9.1 of the FPPR, the intended results or strategies that apply to the areas of primary forest activity for each FDU are:

(1) when LP completes harvesting on a cutting permit, LP will ensure that the total area covered by WTRAs at the completion of harvesting that relate to the cutblocks within the cutting permit is a minimum of 7% of the gross cutting permit area; and,

(2) LP will ensure that, at the completion of harvesting, the total amount of WTRA area that relates to the cutblocks is a minimum of 3.5% of the gross cutblock area; and,

(3) A WTRA may relate to more than one cutblock if all of the cutblocks that relate to the WTRA collectively meet the applicable requirements of paragraphs (1) and (2).

LP will only harvest timber from a WTRA if:

(a) the trees on the net area to be reforested of the cutblock to which the wildlife tree retention area relates have developed attributes that are consistent with a mature seral condition; or

(b) the trees to be harvested from within the wildlife tree retention area are danger trees; or,

(c) LP specifies one or more wildlife tree retention areas that provide an area, number of trees or habitat that is equivalent to, or greater than, the portion of the wildlife tree retention area from which the timber is being harvested; and,

(d) the DDM has granted an exemption to harvest under section 92.1 of the FPPR.

WTRAs will be located in areas such as Riparian Management Areas, OGMAs, or stands representative of the harvest area. Priority for WTRAs will be given to those areas with identified wildlife features such as, but not limited to, bear dens, mineral licks, stick nests, or areas where SARA listed species have been identified.

Where present, large diameter Douglas-fir, western hemlock, western red cedar or western white pine and deciduous tree species may be left on ground based harvest blocks. Preferred leave trees are any deciduous tree species and conifer trees exhibiting poor form –scars, forks, crooks, multiple or broken tops. Individually prescribed wildlife tree retention will be on a cutblock by cutblock basis. If the combined retention of individual trees is equal to or greater than 3.5% or 7% of the gross block area or the gross merch block volume, basal area or stems/ha count, the WTRA retention requirements set out in section 66 of the FPPR will be considered satisfied.

5.7 Objective Set By Government for Visual Quality

Legal References: FPPR sections 9.2, GAR 7(1) & 7(2)

Objective 9.2: "*This objective does not apply to LP as Visual Quality Objectives have been legally determined through Government Actions Regulation Order."*

Practice Requirements – Results and Strategies

In relation to the Visual Quality Objective Order set forth under GAR 7(1) and 7(2), LP's cutblocks and roads will be consistent with the GAR Order.

In areas where the removal of timber is required to address community interface wildfire protection, wildfire, serious forest health issues and/or windthrow damage;

(a) LP will make all reasonable efforts to be fully consistent with the established VQO; however,

(b) where (a) is not practicable, the visual condition to be achieved may be greater in scale and visual acuity than that specified for the established VQO, and the design of the cutblock and road, to the extent practicable, will mimic naturally occurring landscape characteristics and exhibit elements of appropriate visual design for the landscape. Specifically,
   (i) cutblocks will not be rectilinear or geometric in shape where practicable; and,
   (ii) block design will prescribe internal structure comprised of unaffected trees where safety, stocking standards and operational constraints allow; and,
   (iii) LP will submit a notification to the appropriate Delegated Decision Maker(s).

5.8 Objective Set By Government for Cultural Heritage Resources

Legal References: FPPR sections 10

Objective 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."

Practice Requirements – Results and Strategies

(a) LP will by April 1st annually make reasonable efforts to communicate with appropriate First Nations the approximate locations of proposed block and road development (layout). A written or electronically submitted 30-day notification with a map, shapefiles and kmz (Google Earth) files detailing location of planned forest development will be referred to applicable Indian Bands or Nation Alliances as indicated in the Consultative Areas Database (CAD); and,

(b) if at any time LP receives site specific information concerning a cultural heritage resource to which the objective applies, that is in or adjacent to a proposed cutblock or road, LP will:

   (i) record the location of the cultural heritage resource,
   (ii) evaluate the direct impact of the road or cutblock on the cultural heritage resource,
   (iii) modify the cutblock or road to ensure that the cultural heritage resource is conserved, or if necessary protected, considering:
      (A) the relative value or importance of the cultural heritage resource to a traditional use by an aboriginal people; or
      (B) the relative abundance or scarcity of the cultural heritage resource; or
      (C) the historical extent of the traditional use of the cultural heritage resource; and

(D) the impact on LP's timber harvesting rights in conserving or protecting the cultural heritage resource, and

(iv) communicate the outcomes of clause (i) to (iii) to the affected First Nations,

(c) Subject to paragraph (d), all primary forest activities will be consistent with any outcomes described in paragraph (b), and

(d) if a previously unidentified cultural heritage resource to which the objective applies is encountered during harvesting, road construction or mechanical site preparation, operations will:

(i) cease to the extent necessary to protect the feature, until an assessment as described in paragraph (b) can be carried out; and

(ii) continue in a manner that is consistent with the recommendations given in paragraph (b).

Any identified cultural heritage information will remain confidential between LP and the individual Indian Band whos cultural heritage feature is identified.

5.9 Recreation Resources Objectives

In relation to the objectives for recreation sites, trails and interpretive sites, listed in Appendix D and indicated on the FSP maps (scale 1:50,000), the results or strategies are:

(a) When harvesting in Recreation Sites listed in Appendix D, LP will adhere to the recreation site specific objectives and Section 16 of the Forest Recreation Regulation, where applicable.

(b) if, as a result of harvesting timber or road construction under paragraph (a), LP damages existing infrastructure within a recreation site, trail or interpretive site, LP will repair or mitigate the damage, whichever is practicable, and

For Recreation Sites not listed in Appendix D, LP will harvest in a recreation site only when authorization under Section 16 of the Forest Recreation Regulation has been granted by the recreation officer. The conditions set forth in the recreation officer's authorization letter will be considered as strategies specific to the Recreation Site or Trail described in LP's authorization application letter.

5.10 Lakeshore Management Zones Objectives

In relation to established objectives for lakeshore management zones, the results or strategies are that a 10 m riparian reserve zone and a 100m lakeshore management zone will apply to the following L3 lakes:

(a) Cedar Lakes, Big and Small Canyon, Abitibi, Moose, Wells and Dainard, and

(b) all L1 lakes in each FDU >5ha and <1000ha.

6 MEASURES

6.1 Invasive Plants

Legal References: FRPA section 47 and FPPR section 17

Measures

LP will identify sites within active road or cutting permit areas that are known to contain high priority invasive plants and report any of the high priority invasive plants to Report-A-Weed (www.reportaweed.bc.ca) in the IAPP database within 30 days of discovery.

High Priority invasive plants will identified during Site Plan data collection. If any priority invasive plants are found on or adjacent to the Site Plan area, they will be recorded in the Site Plan.

Within two years of completing timber harvesting or road construction on an area, LP will seed road side and landing areas with grass seed that meets or exceeds Canada Common #1 Specifications as defined by the *Canada Seeds Act*; if all of the following conditions apply:

(i) the area contains high priority invasive plants or is within 500 metres of an identified site with high priority invasive plants; and,
(ii) the area was disturbed through LP's forest practices and has not been reforested; and,
(iii) grass will likely grow on the disturbed area and will materially reduce the likelihood of invasive plant germination.

On sites with high priority invasive plants, all equipment will be visually inspected and any lodged plant parts will be removed prior to leaving the site.

All contractors supplying equipment for harvesting, road construction and road maintenance on high priority invasive plant sites will be informed of the priority invasive plant(s) and will be provided with plant identification tools.

LP will annually inform contractors of the high priority invasive plants and provide information and on the identification of the high priority invasive plants.

Grass seeding for high priority invasive plant control will be scheduled when climatic and soil conditions are condusive to successful germination of the seed. It will not be done during the winter or extended period of hot dry weather.

6.2 Natural Range Barriers

Legal References: FRPA sections 48 and 51, FPPR section 18

Measures
No measures have been specified as no known natural range barriers exist within the identified FDUs.

6.3 Cumulative Effect of Multiple FSP's

There are two other FSPs within the Golden TSA. BCTS currently operates exclusively within the Golden TSA in LUs G11, G15, G16, G17, G19, G25, G27 and G29. Downie (Gorman Bros.) operates exclusively in LUs G1, G2 and G3.

6.4 Review and Referral

6.4.1 First Nations
Louisiana-Pacific Canada is completing a 60-day First Nations information sharing process with affected First Nations. Comments will be reviewed, assessed and incorporated into the final support document if applicable.

6.4.2 Public Review of Proposed Development
The block and road plan (FN Info Share) will be made available to the public, through local newspaper advertising, concurrently with the yearly First Nations Info Sharing referral.

6.4.3 Licenced Water Users
As per section 21(c) of the FPPR, LP will refer block and road plans to the 'affected' holders of domestic water licenses that are within LP FDUs prior to layout. The referals will include a letter to the affected domestic water licensees and the posting the block and road plan on the LP website. The FSP replacement has also been referred to domestic water licensees.

6.4.4 Commercial Helicopter and Backcountry Recreation
There are several commercial helicopter skiing and outdoor recreation companies operating within LP's FDUs.

LP will:

1. Refer for comment, any cutblocks that are within/adjacent recreation features such as ski runs, skier drop-off or pick-up points.
2. Refer the FSP renewal and/or replacements to the recreation companies.

LP will also refer the FSP to recreation clubs/societies such as the Golden Cycling Club, the Golden Snowmobile Club and the Golden Nordic Ski Club.

6.4.5 Trap Licenses and Guide Outfitters

There are fifteen active trap licenses and four guide outfitters operating within the FDUs. The Trappers and guide outfitters have each been sent a referral letter regarding the FSP replacement.

6.5 Forest Health Strategy

LP works with the MFLNRO to manage a forest health strategy. LP conducts yearly inspection reviews where forest health issues are noted. Annual detection flights are also conducted by the MFLNRO and the results are shared with LP.

7 STOCKING REQUIREMENTS

Legal References: FRPA section 29(2), FPPR sections 16 and 44

7.1 General Standards

For the purposes of section 16 (1) of the FPPR, section 44 (1) of that regulation will apply to every area where LP is required to establish a free growing stand.

For the purposes of section 16 (3) of the FPPR, for each FDU in this plan where LP is required to establish a free growing stand

(a) the applicable stocking standards and applicable regeneration date referred to in section 44 (1) (a) of the FPPR, and

(b) the applicable stocking standards and applicable free growing height referred to in section 44 (1) (b) of the FPPR are as set out in Appendix E.

During the term of this plan, if LP carries out timber harvesting that is restricted to commercial thinning, removal of individual trees or a similar type of intermediate cutting, the stocking standards referred to in section 16 (4) the FPPR have been included in the regeneration and free growing stocking standards in Appendix E.

7.2 Specific Standards

Unless otherwise specified, in addition to Appendix E the following standards apply in all of the FDU's Louisiana Pacific manages under.

7.2.1 Vole Damage to Plantations

Situations and Circumstances where these clauses are intended to apply:

These clauses are intended to be used within Louisiana-Pacific Canada Ltd.'s (LP) operating area within drainages where there are high populations of voles causing significant damage to cut block plantations. The standards are not intended to be applied automatically to blocks post-harvest. Cutblocks must first be planted to a minimum of 1200 stems/ha in all LU's except G28 where a minimum of 1100 stems/ha will be planted. Plantation tree species that are a less preferred food source for voles should be considered. Blocks must be surveyed post planting and where greater than 30% of the well-spaced trees have unacceptable vole damage then clause 1 or 2 may be used. Note: In those instances where voles remove the seedlings proper, some professional reliance will be required.

The drainages named in clause 1 were identified in 2009 by a qualified Small Mammal Researcher Dr. Tom Sullivan (see background information in FSP) as having a high population build-up of voles. Drainages may be deemed to be added to clause 1 should they be identified by a qualified Wildlife Ecologist (or like professional) as having a high population build-up of voles. A letter providing their professional opinion will be added to the FSP background information. Clause 2 is intended for use in cut blocks where there is a localized high vole population. Clauses 1 and 2 will not be applied after vole populations' return to endemic levels in these areas.

(1) In FL A17645, within Landscape Unit G26, within cutblocks in the ICHmk1, ICHmw1 and MSdk within the Glenogle, Roth and Palliser drainages:

  (i) where a silviculture survey has determined that vole damage has occurred to the extent that the number of well-spaced preferred and acceptable stems/ha falls below the minimum stocking standard - Balsam Fir (Bl) may be considered a preferred tree species.

  (ii) the regeneration delay can be extended up to 7 years after the commencement of harvest.

(2) In FL A17645 within Landscape Units G10, G18, G21 and G28 within cutblocks in the ICHmk1, ICHmw1 and MSdk

  (i) where a silviculture survey has determined that vole damage has occurred to the extent that the number of well-spaced preferred and acceptable stems/ha falls below the minimum stocking standard - Balsam Fir (Bl) may be considered a preferred tree species for up to 50% of the stems/ha of the minimum stocking standard.

7.2.2 Free Growing Assessment of Trees with a Visible Stem Wound

This clause is intended to be used within LP's operating area where there is an obligation to establish a free growing stand, the type of Free Growing Damage being assessed is a wound, the tree is at least 15 years old and greater than 4 meters in height.

The tree being assessed is unacceptable if:

- the tree has any wound which is greater than 50% of the stem circumference, or
- the tree has a wound which is greater than 20% of the total length of the stem, or
- the tree has a wound centered on an infection caused by stem rust, canker, or dwarf mistletoe.

Comments:

- A wound is defined as an injury in which the cambium is dead or completely removed from the tree.
- Measure the wound across the widest point of the exposed sapwood (or dead cambium when the tree is damaged by sunscald).

Healed over wounds are acceptable.

7.2.3 Stocking Standards and Free Growing Assessment

Free Growing survey stratification, free growing survey statistical summaries and the resulting free growing declarations will be made on a Standard Unit basis. If, after completing a Free Growing assessment based on the procedures outlined in section 46.11 of the FPPR, a Standard Unit is determined to be not free growing, but, on a prorated basis, the sum of the various strata associated with the SU have a mean Free Growing stems per hectare of 850 or greater, then the SU will be considered a free growing stand for the purpose of free growing obligations acquired by Louisiana-Pacific Canada Limited through:

(a) Section 29 of the *FRPA* in accordance with *section 44* or *46.2(5)* of the *FPPR,* or

(b) *Part 11* of the *FRPA* in accordance with *section 69.1* or *section 70* of *the Forest Practices Code Act of B.C.*, or

(c) *Section 46(1)* or *section 111(4)* of the *FPPR*.

7.2.4 Dispersed Strata

On standards units where dispersed, un-mappable complexes of differing site series are noted, the preferred and acceptable species for the applicable site series shall apply. The target and minimum stocking standards shall be based on the dominant site series.

7.2.5 Species Footnote Restrictions and Qualifiers

If a species is prohibited due to its footnote restriction(s), but comprises over 15% of the pre-harvest stand volume, the footnote restriction will no longer apply. The species can be counted up to a maximum of 30% of the total well-spaced and free growing stems per hectare.

7.2.6 Stocking Standards in Primary Management Objectives

In identified areas on a site plan where biodiversity, riparian, wildlife habitat or visual concerns have been identified as a primary management objective, the acceptable species will be considered a preferred species for all BEC zones where these species are considered acceptable and the applicable footnotes have been adhered to.

7.2.7 Armillaria ostoyae Root Disease

Brushing deciduous species is not recommended on DRA sites as brushed stumps increase the inoculum on site and contribute to the spread of DRA.

This clause is intended to be used within the ICHmw1 of LP's operating area. A survey must determine that a minimum of 20% of the SU area contains Armillaria (*Armillaria ostoyae*) Root Disease (DRA) infestations. Plantation tree species that have a low-moderate host susceptibility rating (Cw, Lw, Pli, Sx, Pw, Ep, At, Ac) for DRA should be considered first.

This clause is limited to not more than 100 hectares of the NAR managed at one time by LP.

Within LP's operating area, the following standards apply:

(a) Where stump removal is not a treatment option:

- Up to 25% of any mixture of the following deciduous species (At, Ep, Ac) will be considered preferred well-spaced and free growing trees;
- Cw and up to 20% of Sx will be considered preferred well-spaced and free growing trees.
- Coniferous trees with high host susceptibility (Fdi, Bl, Hw) should not individually contribute to more than 50% of the initial planting species mix.

(b) Where stump removal is a treatment option:

- Cw and up to 20% of Sx will be considered preferred well-spaced and free growing trees.

(c) The free growing surveyor will employ the following when assessing the acceptability of deciduous species:

- The surveyor will track the well-spaced deciduous trees in the survey plot;
- The surveyor will track preferred deciduous trees that meet the free growing or potentially free growing criteria. Preferred deciduous trees will be treated exactly as conifers (i.e. consider their competitive effects on other trees); and

- Free growing or potentially free growing deciduous trees will not contribute to the number of "countable" deciduous trees for the purpose of determining if potential free growing trees may be accepted as free growing.
- The surveyor will use the Free Growing Damage Criteria for Deciduous Trees outlined in Appendix 11 of the Free Growing Procedures Manual (April 2013).

Adjustment to Stocking Standards ID/ 1033753.

This clause is intended to be used within LP's operating area where a survey determines that within the standards unit the dominant Soil Moisture Regime in the ESSF wc2 06/07 is subhygric.

The following per hectare well-spaced and free growing Stocking Standards will apply:

Target	MIN pa	MIN p
1000	500	400

7.2.8 Snow Press, Snow Creep and Snow Slide Damaged Plantations:

Conifer establishment in areas affected by snow press, snow creep and/or snow slides establish in clumps (i.e. uniform spacing is atypical).

This clause is intended to be used within LP's operating area where a survey determines that within a standards unit snow press, snow creep, and/or snow slides have rendered at least 30% of the preferred well-spaced and/or free growing trees as unacceptable.

The inter-tree spacing in these areas will be treated in the same manner as the "problem vegetation types" noted in version 3.0 of the Selkirk Forest District FSP Stocking Standards. The inter-tree spacing will be reduced to 1.3 meters.

7.2.9 Considering Balsam Fir a Preferred Species

Anecdotal evidence indicates that Balsam Fir is not being damaged by snow press/snow creep/snow slide. Young Balsam Fir trees are more malleable and able to bend (as opposed to break) under these heavier than normal snow load events.

Situations and Circumstances where this clause is intended to apply:

This clause is intended to be used within LP's operating area where a survey determines that within a standards unit snow press, snow creep and/or snow slides have rendered at least 30% of the preferred well-spaced and/or free growing trees as unacceptable.

Up to 50% of the Balsam Fir may be considered a preferred species.

7.2.10 Regeneration Delay Extension

This clause is intended to be used within LP's operating area where LP was granted permission to postpone a Cutting Permit under section 58.21 subsection 1 of the *Forest Act* and harvesting has commenced on the setting. On the unharvested portion of the setting the Regeneration Delay will be rounded up to the number of years the postponement was granted. For example, if the CP was postponed for 9 years and three months, the Regeneration and Free Growing Extension will equal 10 years.

7.2.11 Retention of windrows and slash piles:

This clause is intended to be used throughout LP's operating area where douglas-fir bark beetle and spruce bark beetle infestations are not present – if leaving Douglas-fir or Spruce in the piles.

Coarse woody debris (CWD) on the floor of coniferous, deciduous, and mixed-wood forests provides many important components:

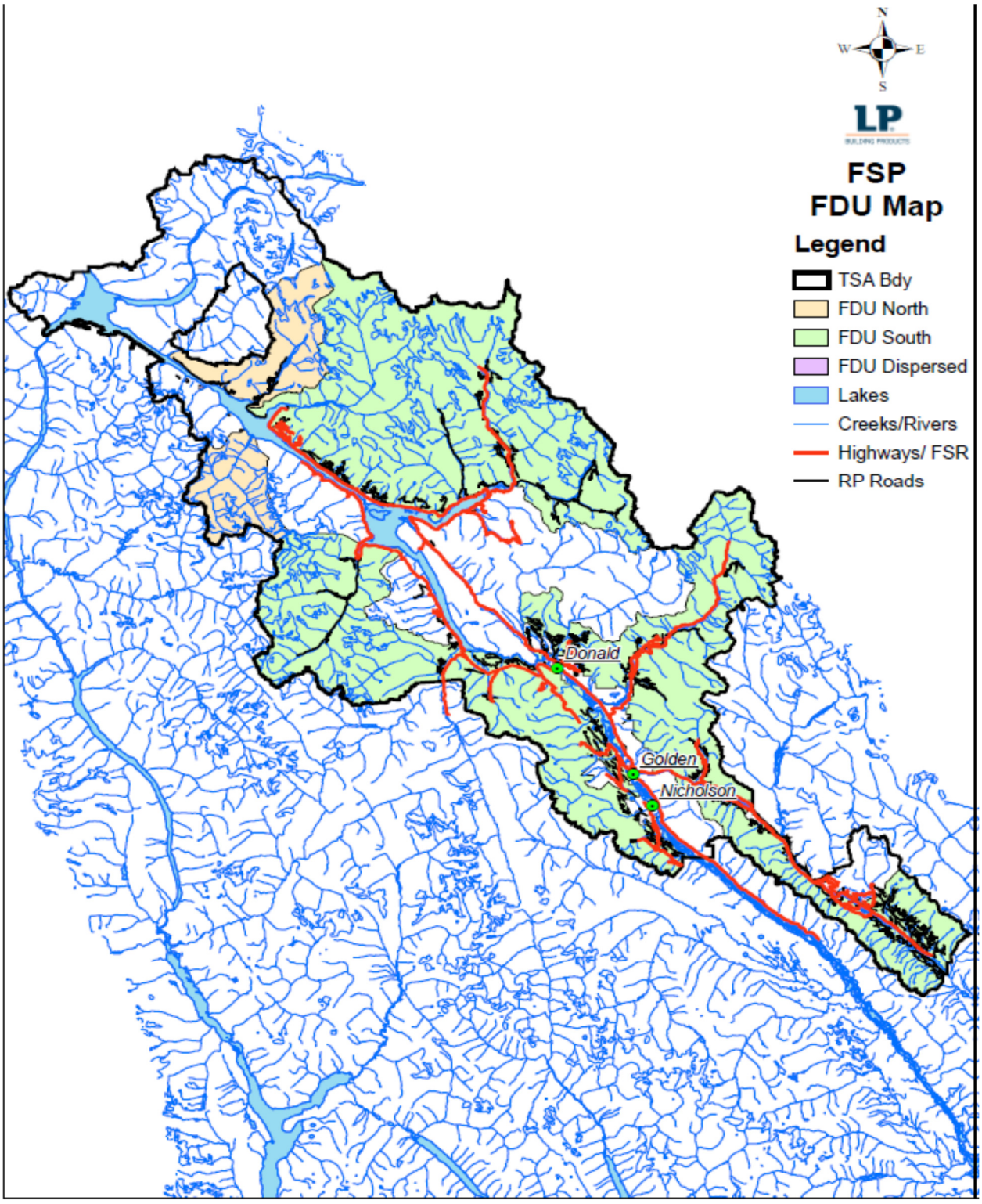
- Wildlife habitat;
- Reservoir of nutrients + water;
- Microsites and substrates for seedlings and fungi;
- Long-term site productivity;
- Biodiversity and sustainability.

These attributes of woody debris have major roles in ecosystem function and are essential to maintenance of forest biodiversity and long-term productivity. Woody debris is created by natural and human disturbances and may affect ecosystem response to disturbance, particularly the timing and severity of wildfire and insect outbreaks. It is this role in disturbance regimes, and our utilitarian outlook, that has generated a definition of woody debris as "wood waste", particularly the residue (slash) occurring after conventional and salvage harvesting of forests.

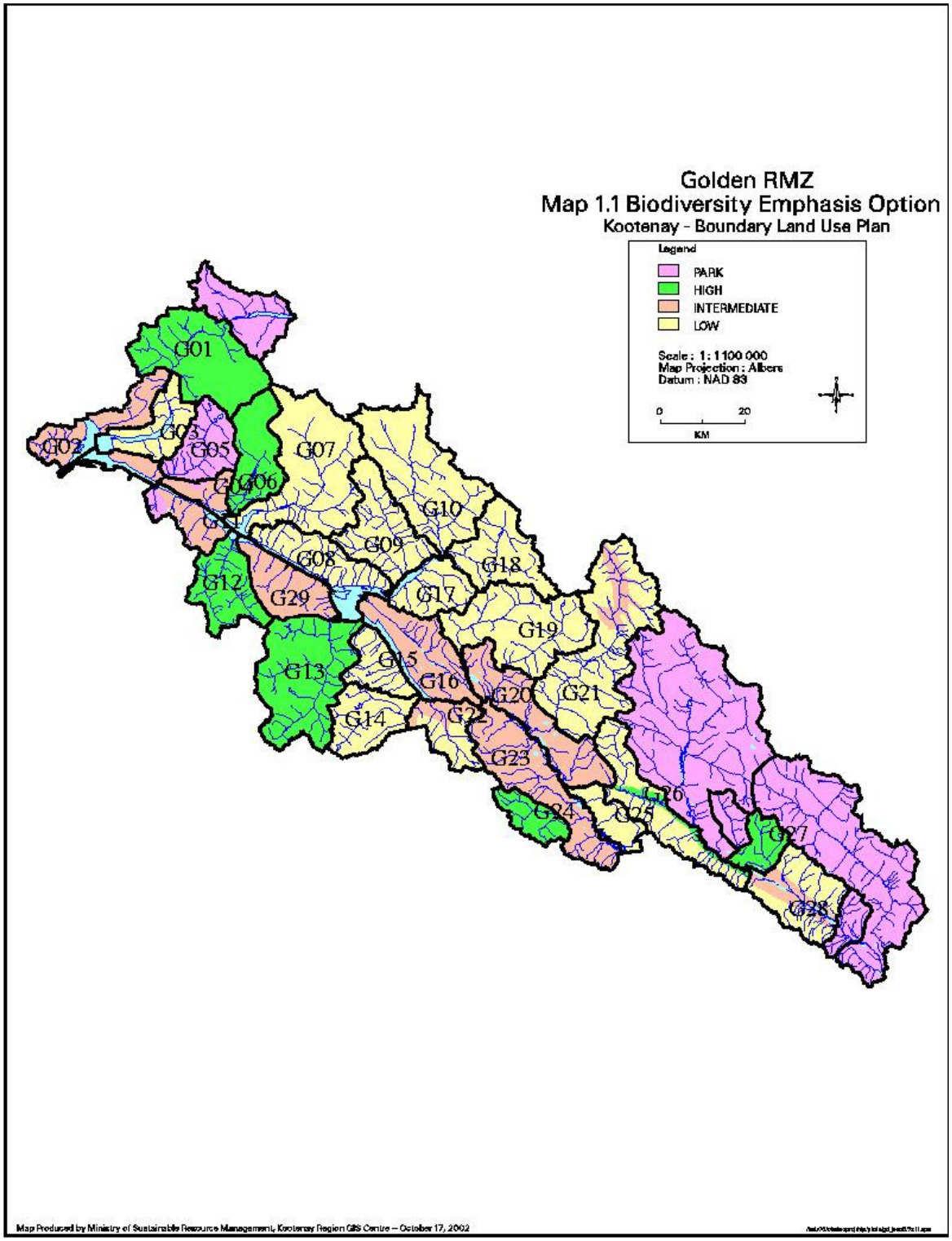
Piles and windrows (structures) are planned for habitat structure and connectivity:

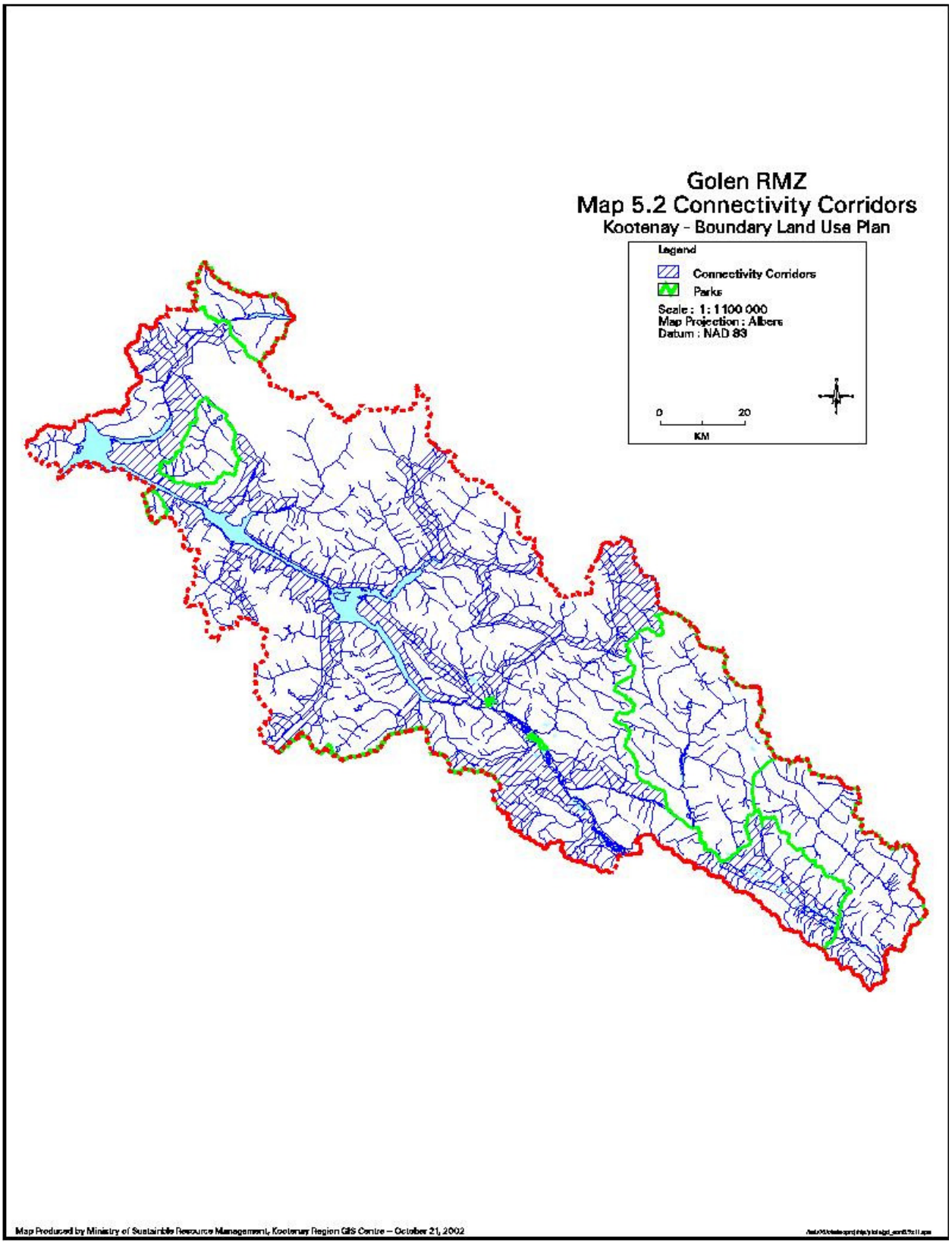
- Structures are created around forest harvest activities to reduce costs, maintain continuity of habitat, and provide sufficient woody debris;
- Structures will be between 2-3 m in height and 5-7 m in width or diameter;
- Not more than 175 piles shall be retained over a 5-year period;
- Not more than 35 structures shall be retained in one calendar year;
- As a minimum leave 5-7 larger pieces of coarse woody debris proximal to the retained structures;
- Structures will occupy less than 0.5% of a setting's Net Area to Reforest;
- Structures will be positioned where possible on sites with a reduced chance of human caused fires;
- At least one windrow or a series of piles should *connect* patches of mature forest and riparian areas to allow marten, fisher, small weasels, and prey species to access and traverse clear-cut openings;
- Windrows should have openings about every 100 m to allow passageways for ungulates and silviculture activities;
- Where possible, retention of piles and windrows will be maximized when operational roads are *perpendicular* to the main haul road system;
- Strategic need for habitat particularly important on large openings (> 10 ha) on conventional harvest systems.

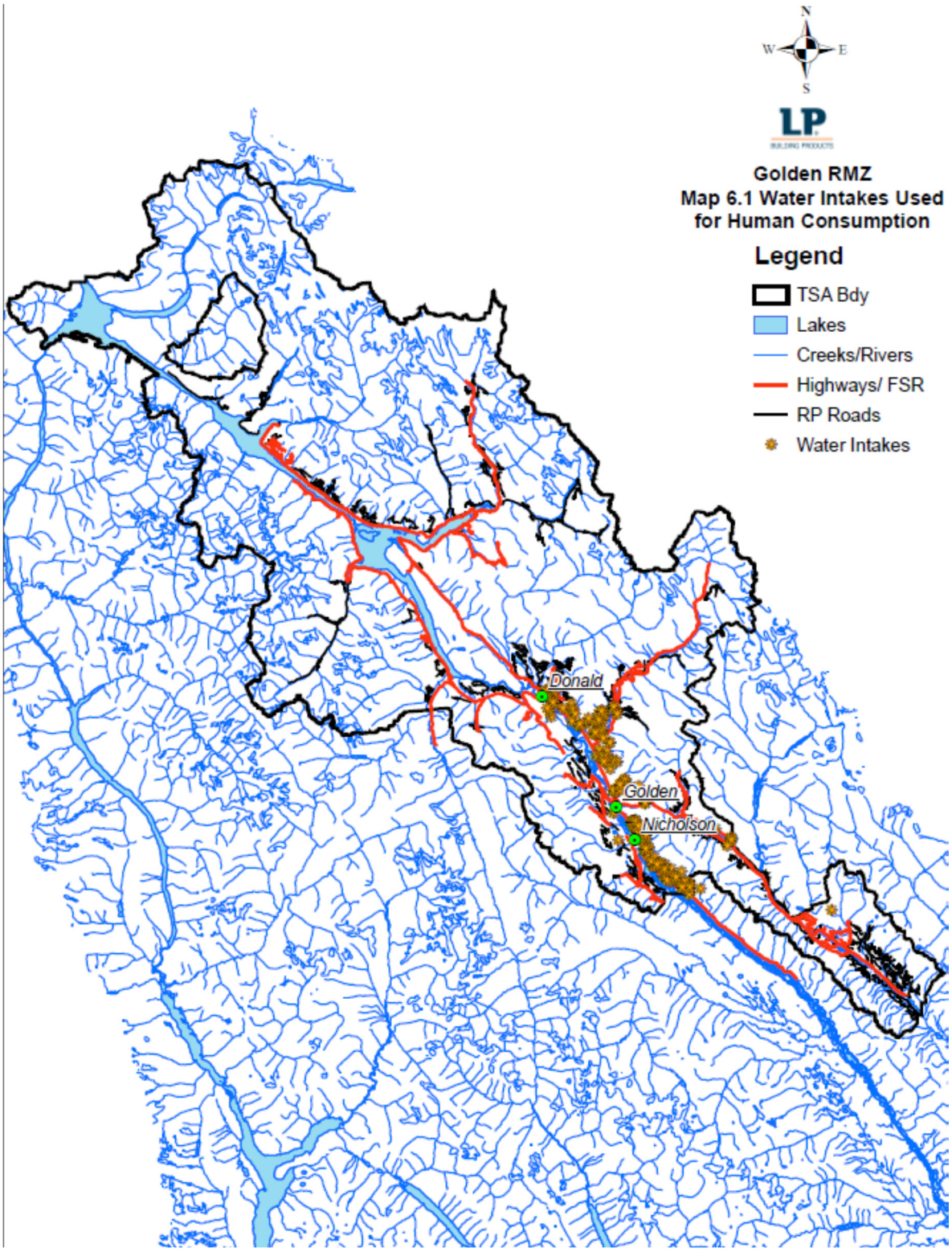
Appendix A: Forest Development Units

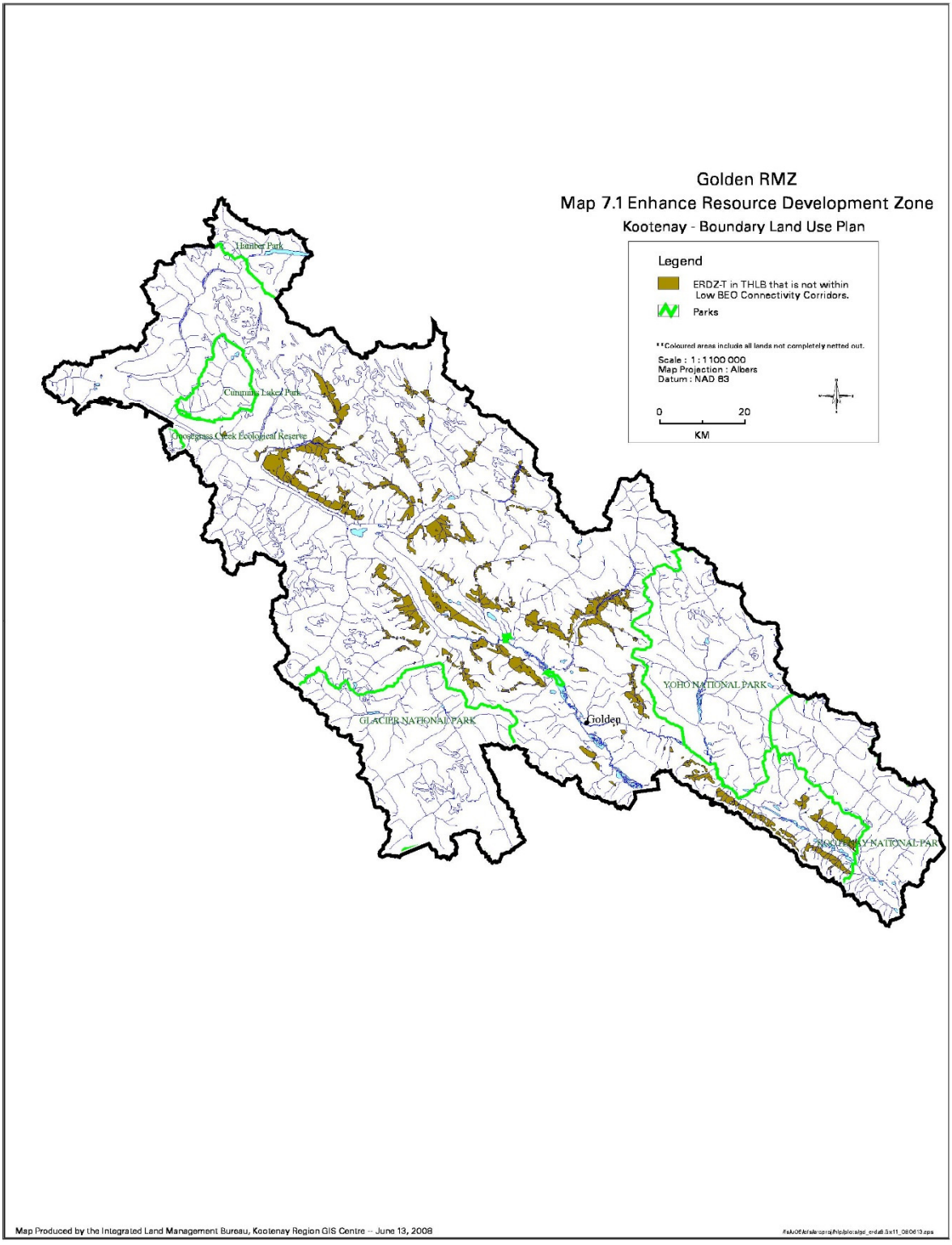


Appendix B: Kootenay-Boundary Higher Level Plan Maps

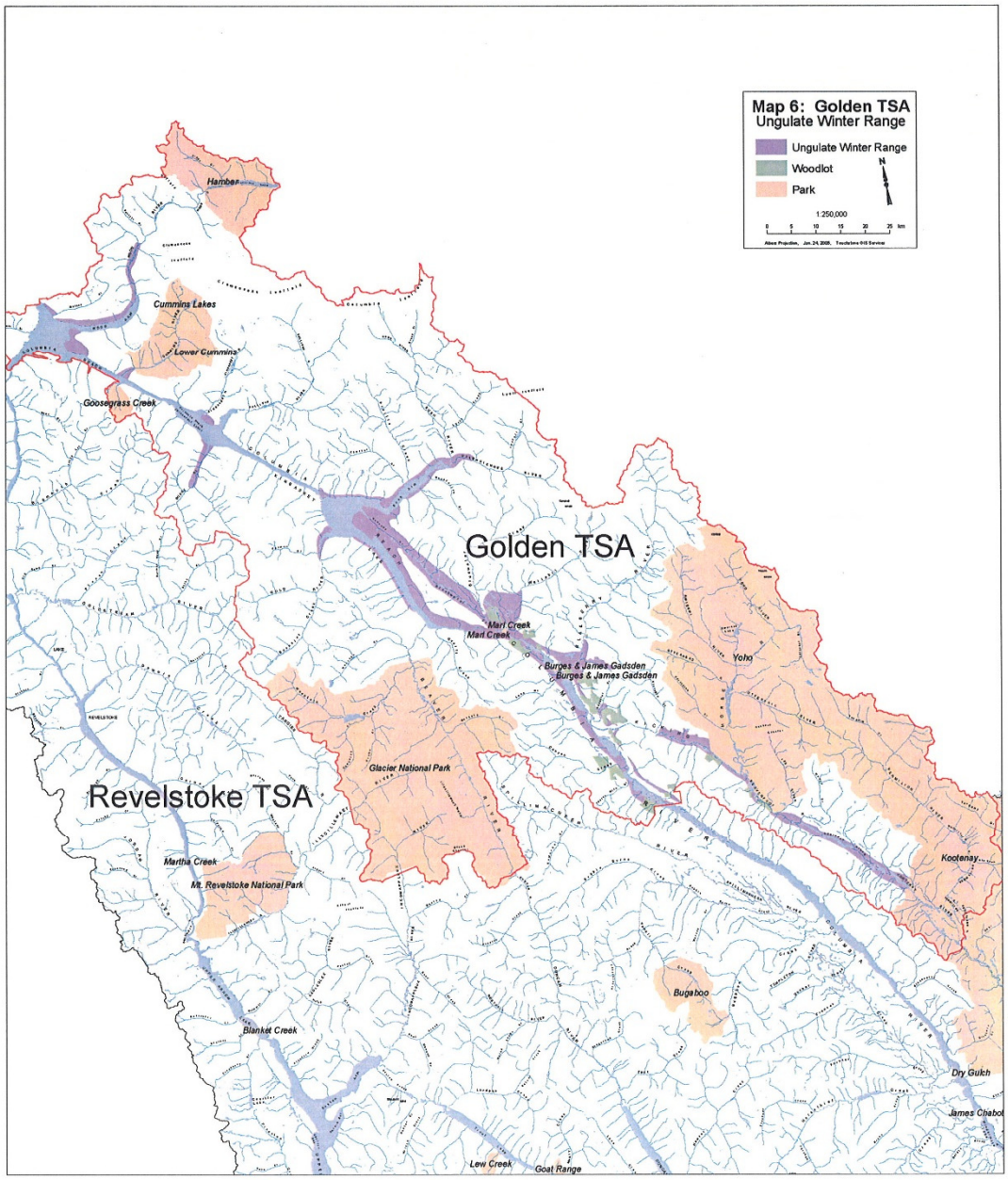


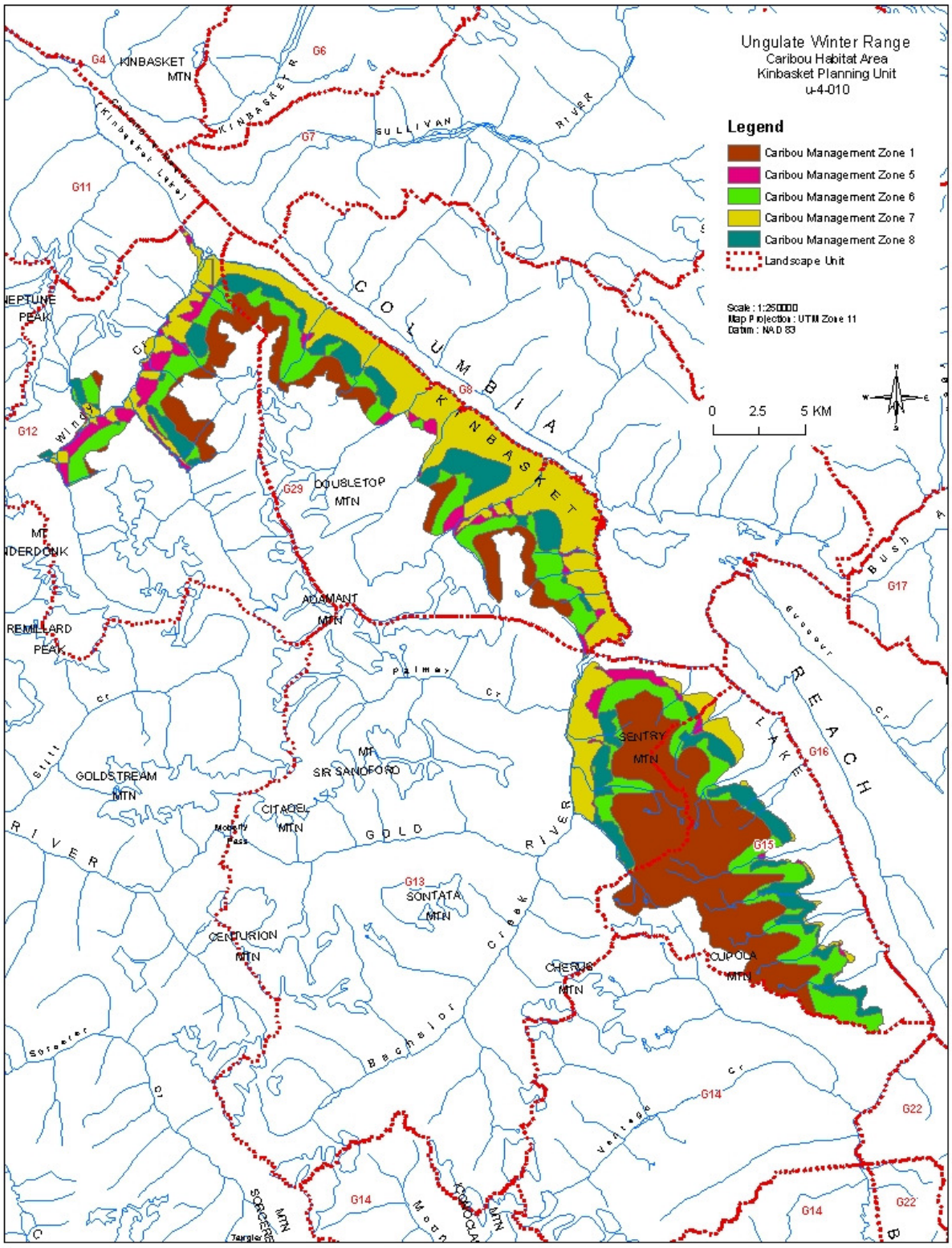

Golen RMZ
Map 5.2 Connectivity Corridors
Kootenay - Boundary Land Use Plan
Legend
Connectivity Corridors
Parks
Scale : 1: 1100 000
Map Projection : Albers
Datum : NAD 83
0
20
KM
Map Produced by Ministry of Sustainable Resource Management, Kootenay Region GIS Centre – October 21, 2002


N
W
E
S
Golden RMZ
Map 6.1 Water Intakes Used for Human Consumption
Legend
TSA Bdy
Lakes
Creeks/Rivers
Highways/ FSR
RP Roads
Water Intakes
Donald
Golden
Nicholson


Golden RMZ
Map 7.1 Enhance Resource Development Zone
Kootenay - Boundary Land Use Plan
Legend
ERDZ-T in THLB that is not within Low BEO Connectivity Corridors.
Parks
**Coloured areas include all lands not completely netted out.
Scale : 1 : 1 100 000
Map Projection : Albers
Datum : NAD 83
0
20
KM
Hamber Park
Cummins Lakes Park
Dogtooth Creek Ecological Reserve
GLACIER NATIONAL PARK
Golden
YOHO NATIONAL PARK
Map Produced by the Integrated Land Management Bureau, Kootenay Region GIS Centre -- June 13, 2008

Appendix C: Ungulate Winter Range Maps




Ungulate Winter Range
Caribou Habitat Area
Kinbasket Planning Unit
u-4-010
Legend
Caribou Management Zone 1
Caribou Management Zone 5
Caribou Management Zone 6
Caribou Management Zone 7
Caribou Management Zone 8
Landscape Unit
Scale : 1:250000
Map Projection : UTM Zone 11
Datum : NAD 83
0 2.5 5 KM
KINBASKET MTN
COLUMBIA
KINBASKET
DOUBLETOP MTN
ADAMANT MTN
SENTRY MTN
BEACH
LAKE
GOLDSTREAM MTN
MT SIR SANDFORD
CITADEL MTN
GOLD RIVER
SONTATA MTN
CENTURION MTN
CUPOLA MTN
CHERUB MTN
SORCERER MTN
REMILLARD PEAK
NEPTUNE PEAK
SULLIVAN RIVER
KINBASKET LAKE
G4
G6
G7
G8
G11
G12
G13
G14
G15
G16
G17
G22
G29

Appendix D: Recreation Sites and Trails with Objectives

Table E1. Recreation Sites and Trails with Objectives

FDU	Mapsheet	Proj No.	Project Name	Objectives
North	82M100	5062	Windy Island	98/01/30. The objective is to manage the Windy Island recreation site for a semi primitive motorized recreation experience. The campsite will be maintained; the island-lake shoreline and natural vegetation will be conserved. Opportunities for camping, picnicking, and boating will be available at the site. Access is by water.
South	82K099	2062	Paul Creek	1998/01/30. The objective is to manage the Paul Creek recreation site for a roaded recreation experience. The campsite will be maintained; the creek shoreline and natural vegetation will be conserved. Opportunities for camping and picnicking will be available at the site.
South	82N009	2066	Marion Lake	1998/01/30. The objective is to manage the Marion Lake recreation site for a roaded recreation experience. The campsite will be maintained; the lake shoreline and natural vegetation will be conserved. Opportunities for camping, picnicking, and boating will be available at the site.
South	82N009	2079	Kootenay Crossing	1998/01/30. The objective is to manage the Kootenay Crossing recreation site for a roaded recreation experience. The campsite will be maintained; the river shoreline and natural vegetation will be conserved. Opportunities for camping and picnicking will be available at the site.
South	82N016	5061	Mulligan Slough	98/01/30. The objective is to manage the Milligan Slough recreation site for a roaded recreation experience. The campsite will be maintained; the slough shoreline and natural vegetation will be conserved. Opportunities for camping, picnicking, boating, and swimming will be available at the site.
South	82N016	6497	South Dogtooth	2001/03/22 In the summer, during the snow free season, the objective is to manage the South Dogtooth Recreation Site for an alpine/subalpine, semi primitive, non motorized recreation experience; in the winter, when snow is on the ground, the objective is to manage for a semi primitive motorized recreation experience. The natural vegetation will be conserved. In summer, opportunities for dispersed, primitive camping and hiking will be available. In winter, opportunities for ski touring and snowmobiling will be available. To preserve wilderness values, recreation infrastructure will not be built unless deemed absolutely necessary.
South	82N018	2065	Wapta Falls	1998/01/30. The objective is to manage the Wapta Falls recreation site for a roaded recreation experience. The campsite will be maintained and the natural vegetation ill be conserved. Opportunities for camping, and picnicking will be available at the site.
South	82N018	6661	Fraser Creek	2001/03/22 The objective is to manage the Fraser Creek Recreation Site for a creek side, day use, roaded recreation experience. The natural vegetation will be conserved and day use facilities will be maintained. Opportunities for parking vehicles will be available.
South	82N026	2057	Cedar Lake	1998/01/30. The objective is to manage the Cedar Lake recreation site for a roaded recreation experience. The campsite will be maintained; the lake shoreline and natural vegetation will be conserved. Opportunities for camping, picnicking, electric-powered boating, and swimming will be available at the site.
South	82N026	2480	Moonraker X-Country Trails	2001/03/22 The objective is to manage the Moonraker Trails Recreation Site for a semi primitive, non motorized recreation experience. The trail system will be maintained and adjacent vegetation conserved. Opportunities for hiking, mountain biking, and equestrian use are available, no motorized uses permitted. Lake shorelines and natural vegetation will be conserved, and campsite opportunities will be provided.
South	82N027	5059	Kicking Horse	98/01/30. The objective is to manage the Kicking Horse recreation site for a roaded recreation experience. The campsite will be maintained; the river shoreline and natural vegetation will be conserved. Opportunities for camping and picnicking will be available at the site.
South	82N027	6496	Palliser Station	2001/03/22 The objective is to manage the Palliser Station Recreation Site for a roaded recreation experience. The river shoreline and natural vegetation will be conserved. Opportunities for camping, and canoe/kayak launching will be available.
South	82N034, 35	5066	Gorman Lake & Trail	2001/03/22 In the summer, during the snow free season, the objective is to manage the Gorman Lake and Trail Recreation Site for an alpine/subalpine, semi primitive, non motorized recreation experience; in the winter, when snow is on the ground, the objective is to manage for a semi primitive motorized recreation experience. The natural vegetation will be conserved. In summer, opportunities for managed camping, picnicking, and hiking will be available. The campsite, trail, and associated facilities will be maintained, and adjacent vegetation will be conserved. In winter, opportunities for snowmobiling will be available.
South	82N034, 35	6506	Holt Lake	2001/03/22 In the summer, during the snow free season, the objective is to manage the Holt Lake Recreation Site for an alpine/subalpine, semi primitive non motorized recreation experience; in the winter, when snow is on the ground, the objective is to manage for separated semi primitive, motorized and semi primitive, non motorized recreation experiences. The natural vegetation will be conserved. Opportunities for dispersed and managed camping, hiking, and mountaineering will be available. In winter, opportunities for ski touring, mountaineering, and snowmobiling will be available. To preserve wilderness values, recreation infrastructure will not be built unless deemed absolutely necessary.
South	82N034, 44	2074	Quartz Creek	2001/03/22 In the summer, during the snow free season, the objective is to manage the Quartz Creek Recreation Site for an alpine/subalpine, semi primitive non motorized recreation experience; in the winter, when snow is on the ground, the objective is to manage for a semi primitive, motorized recreation experience. The natural vegetation will be conserved. In summer, opportunities for dispersed, primitive camping, and hiking will be available. In winter, opportunities for snowmobiling will be available.
South	82N034, 44	2389	Prairie HIlls Trail	2001/03/22 The objective is to manage the Prairie Hills Recreation Trail for a forested, roaded, and semi primitive motorized recreation experiences. The trail will be maintained and adjacent vegetation conserved. In the summer, during the snow free season, opportunities for vehicular use will be permissible to the first groomer bridge. ATV use only is permitted past this point to the snowmobile cabin. In the winter, when snow is on the ground, opportunities for snowmobiling will be available.
South	82N044	5084	Quartz Lake	2001/03/22 The objective is to manage the Quartz Lake Recreation Site for a semi primitive, non motorized experience in summer, and a semi primitive, motorized experience in the winter. In summer, opportunities for dispersed and managed camping, hiking, and mountaineering will be available. In winter, opportunities for ski touring, mountaineering and snowmobiling will be available. The campsite and trail will be maintained and the adjacent natural vegetation conserved.
South	82N054	2056	Bluewater Bridge	1998/01/30. The objective is to manage the Bluewater Bridge recreation site for a moving water recreation experience. The campsite will be maintained; the river shoreline and natural vegetation will be conserved. Opportunities for camping, picnicking, and river boating will be available at the site

Appendix E: Stocking Standards

Stocking Standards - Version 3.0

A person required to prepare a Forest Stewardship Plan (FSP) must include stocking standards as per Section 16 or the Forest Planning and Practices Regulation (FPPR).

The DCO Stocking Standards have been developed to ensure that the objectives set by government for timber [FPPR 6 (a)] are met. That is: the standards are designed to maintain or enhance an economically valuable supply of commercial timber from British Columbia's forests. The remaining values of government as outlined in the FPPR should be achievable without compromising timber production.

These standards should be applied to an area based on the Silviculture System chosen for the site and the biogeoclimatic ecological classification zone (BEC Zone) that the area falls in.

Definitions

Silviculture Systems
Silviculture systems terminology and definitions are as per the Silviculture Systems Guidebook April 1995 and the Silviculture Systems Handbook for British Columbia – October 2001.

The definition of an even-aged stand and an uneven aged stand is currently contained in the FPPR:

"Even-aged stand means a stand of trees consisting of only one or two age classes"
"Uneven-aged stand means a stand of trees consisting of three or more age classes"

Even-aged Silviculture Systems are:
Clear Cut, Patch Cut, Seed Tree, and Shelterwood

Even aged Silviculture Systems have regeneration objectives. The intent is to remove enough of the existing stand so that an adequate density of regeneration may be achieved either naturally or artificially over a relatively short period of time. A new stand (crop) is created and managed for a future date (rotation). Table A contains stocking standards developed for areas managed with even aged Silviculture Systems. The stocking standard, regeneration date, free-growing date and free growing height apply to the new crop of trees. In the stocking standard, density is a measure of trees per hectare.

Reserves may form a component of any even aged Silviculture System, but they do not contribute to crop tree stocking.

A Clear Cut with Dispersed Retention cannot have more than 8M² BA in the MSdk, IDFdm2, ICHmw1, ICHmk1 and ESSFdk BEC Zones and still be classified as a Clear Cut. A Clear Cut with Dispersed Retention cannot have more than 12m² BA in all other BEC Zones and still be classified as a Clear Cut.

Dispersed retention is defined in the October1, 2008 RESULTS INFORMATION SUBMISSION SPECIFICATIONS as: "trees that are retained individually or in unmapped groups (e.g., small clusters<0.25ha) but are enclosed within the boundaries of the mapped polygon.

Uneven-aged Silviculture Systems are:
Single Tree Selection, Group Selection and occasionally Irregular Shelterwood

Uneven aged Silviculture Systems depend on the recruitment of trees into successive age classes over time (>3 age classes), including a regeneration layer. The stand is managed using regular, sustained harvesting entries in perpetuity by managing towards a balanced uneven-aged structure. The crop is made up of trees from several age classes of the existing stand, plus either artificial or natural

regeneration. Table B stocking standards are developed for areas with Single Tree Selection systems in the IDF BEC Zone. The standards are layered, and the stocking level applicable to each layer is shown in Table B. The density is a measure of trees per hectare.

The groups within a Group Selection system should be large enough that they can be tracked within the stand and managed using even aged stocking standards and measured with classic stocking and free growing surveys. Groups are openings with a width of less than two times the height of adjacent mature trees.

Reserves may form a component of any Uneven-aged Silviculture System, but they do not contribute to crop tree stocking.

Intermediate Cut
Partial Cutting and Intermediate Cutting are not Silviculture Systems; they refer to harvesting methods and are generic to a stand entry that forms part of a Silviculture System. These cuts generally occur in even aged stands and imply even aged management objectives. However, they may be part of a plan to create an uneven aged stand which will eventually be managed using a selection system. An Intermediate Cut entry has no regeneration objectives; the crop is the existing stand as modified by the harvest entry. Table C contains standards for Intermediate Cuts with no Regeneration Obligation. There is no regeneration date, free growing date or free growing height. The stocking density is measured in terms of Basal Area per hectare. To qualify as an IC, a minimum of 40% of the stands original BA must be retained or the minimum BA required by BEC zone whichever is greater. Minimum BA requirements by BEC zone are: 18m² BA of **merchantable** crop trees in the MSdk, IDFdm2, ICHmk1, ICHmw1 and ESSFdk BEC zones and greater than 24m² BA of **merchantable** crop trees in all other BEC zones.

Beetle Proofing
To reduce the susceptibility of a stand to mountain pine beetle the merchantable BA of the stand may be reduced to 15m2 in the following circumstances:

The stand is dominated by Pli – i.e. the Pli is >75% of the volume of the Layer 1 trees.
The stand is 80-120 yrs. old and has reasonable vigour
The average stand diameter is >20cm dbh
The stand density is between 750 and 1500 total stems/ha
The stand is thinned from below
The height diameter ratio will not apply to these stands

Height to Diameter Ratio (HDR)
The HDR is calculated by taking the total height of the tree in meters and dividing it by the 1.3 m diameter (dbh) of the tree in centimetres. For example a 16 m tall tree that is 20.0 cm dbh has a HDR of 16/20 = 0.8

Additional DCO Standards

This text portion of these standards constitutes approved variations to the Stocking Standards in the Tables that may be entered directly into RESULTS.

Note: in the FPPR the regeneration date, free growing date and free growing height are 'separate' from the stocking standard. The stocking standard will include: The BEC Zone, the preferred and acceptable crop tree species; the stocking densities (target, minimum preferred and minimum preferred and acceptable) as either stems/ha or Basal Area (BA)/ha; the minimum inter-tree distance for well-spaced crop trees; maximum density requirements, post spacing densities minimums and maximums; and height of trees relative to competing vegetation.

Regeneration Period
The period to calculate the Regeneration Date is 4 years for Artificial Regeneration and 7 years for Natural Regeneration

Free Growing Period
The period to calculate the Free Growing Date is 20 years.

Free Growing Height
Minimum free growing heights are shown in Table A.

Maximum Density (all areas)
As per the Regional Executive Director's letter dated February 8, 2006
Re: Revised Maximum Density Number for Lodgepole Pine in the Southern Interior Forest Region
Max (countable sph) Pli = 25,000

Max (countable sph) all other species = 10,000
Post Spacing (sph) Min=1000, Max =4000

Minimum Inter-tree Distances (MITD)
Trees must be greater than or equal to the approved minimum inter-tree distance apart in order to be well spaced.

Minimum inter-tree distance (m)	Location/Condition
1.00	Planting on mechanically mounded sites
1.30	Planting on sites with elevated microsites (natural hummocks and mounds), problem vegetation areas (woody brush; Douglas maple; willow; alder), very rocky sites and planting on hygric or wetter sites,
1.50	Fill plants, areas with a significant number of advance regen, and areas with significant accumulations of untreatable slash.
1.70	Planting in the ICHwk1, ICHvk1, ICHmw1, ICHmw2, ICHmw3, ESSFvc, ESSFwc1, ESSFwc2 and ESSFwc4.
2.00	All other areas

Height of Trees Relative to Competing Vegetation
In addition to being the required minimum height, tree height must be greater than the following % relative to competing vegetation within a one metre radius of the trunk:

% Ht above competing veg	BEC Zone
125%	ESSF IDF MS
150%	all other areas

Note: Free growing status will be evaluated using the MOF procedures in place at the time of assessment. Current procedures are defined in Appendix 9 of the Establishment to Free Growing Guidebook: Nelson Region, May 2000. Use Appendix 9 as revised October 2007

Adjustments to Stocking Standards
Changes to target/minimum stocking levels will be considered as separate amendments to the forest stewardship plan on a site specific basis (one off). The amendment will be submitted using the MOF procedures in place at the time of the amendment submission. The current method for submitting a one off stocking standard is through the FSP Tracking System.

Free Growing Damage Criteria
For even aged Silviculture Systems, damage to FG trees will be evaluated using the MOF procedure in place at the time of assessment. Current procedures are as per the April 2008 Free Growing Damage Criteria. These criteria are contained within Appendix 10 of the Stocking and Free Growing Survey Procedures Manual, April 2009.

For uneven aged Silviculture Systems damage to FG trees will be evaluated using the MOF procedure in place at the time of assessment. Current procedures are as per the May 16th 2008 Multi-Layer Free Growing Damage Criteria.

Further leave tree criteria for mature trees are listed in Tables A, B and C.

Minimum Leave Tree Characteristic for Advance Regeneration
Advance regeneration must meet the requirements of Appendix 10 of the Establishment to Free Growing Guidebook: Nelson Region, May 2000 to be acceptable. In addition to Appendix 10:

When employing an Even aged Silviculture System with even-aged stocking standards (Table A) – to be an acceptable crop tree - advance regen are:

- Trees that existed in the under-story in the pre-harvest stand and were not removed during harvest
- No more than 40 years old at the time of harvest at dbh in all BEC zones except in the ESSF to be acceptable.

Dispersed retention of trees that were in the over-story in the pre-harvest stand are not considered to be advance regen.

Wildlife Trees
Dispersed wildlife trees in a block that contribute to Wildlife Tree Retention Areas required by the FSP to meet biodiversity requirements do not count towards crop tree stocking.
Dispersed Veteran Deciduous Wildlife Trees will not count as impeding to crop trees when conducting a Free Growing Survey where the BA of the total dispersed retention in the blocks is less than 8M2 in the MSdk, IDFdm2, ICHmk1, ICHmw1 and ESSFdk BEC Zones and less than 12 m2 BA in all other BEC Zones.

Dispersed Strata
On standards units where dispersed, non-mappable complexes of differing site series are noted, the preferred and acceptable species for the applicable site series (as per table A) shall apply. The target and minimum stocking standards shall be based on the dominant site series.

ESSF/ICH Transition Sites
Where it is not practical to separate a transitional site into standards units applicable to two BEC Zones the Stocking Standards from either BEC Zone may be used or a combination of both.

Whitebark Pine
Whitebark pine (Pa) is a blue listed species. Pa will be considered a preferred species wherever it is found naturally. Minimum leave tree characteristics for advance regeneration do not apply to Pa.

Addition of new Biogeoclimatic zones in Golden
Until new stocking standards have been developed use the Table A, B and C stocking standards for the new BEC zones.
ICHdk5 – Use IDFdm2 standards
ICHmk4 – Use ICHmk1 standards
MSdk2 – Use the MSdk standard
ESSFdk2 – Use the ESSFdk standards or the ESSFwm (as per BEC Version 5) whichever is the best fit.

Relationship of Stocking Standards to Silviculture System

Even aged Silviculture systems

When denudation is reported into RESULTS, any area reported as an even aged Silviculture System must have Table A stocking standards. The exception is a Shelterwood preparatory cut which may have Intermediate Cut – No Regeneration Obligation Standards.

Classic stocking and free growing surveys should be used to measure even aged regenerated stands against the stocking standard. Where there is dispersed retention an even aged layered survey may be used.

Uneven aged Silviculture Systems

When denudation is reported into RESULTS, any area reported as an uneven aged Silviculture System in the IDF must have Table B stocking standards.

Multi story survey methodology should be used to measure the stand against the standard. The basal area may be collected for layer 1 trees. For all other BEC Zones, Table B densities may be modified to fit existing stand conditions if the densities are developed using stand/stock tables and the BDq methodology outlined in the Silviculture Systems Handbook for British Columbia 2001.

The exception may be group selection where the groups are mappable and managed as small even aged areas with Table A standards. If any harvesting occurs outside the groups but within the block (i.e. skid roads between groups) the area must have an Intermediate Cut Standard from Table C.

Intermediate Cuts

When denudation is reported into RESULTS, any area reported as an Intermediate Cut must have Table C stocking standards.

The post-harvest survey must measure the basal area of the crop trees for compliance with the standard. The stand description should not be layered – it should resemble the pre-harvest inventory label with an accurate portrayal of what the stand looks like post-harvest.

When reporting the Forest Cover Inventory for an Intermediate Entry, report the **Total** BA retained in the Inventory label and the **Crop Tree** BA in the Silviculture Label.

FSP Even-Aged Stocking Standards**
Table A

BGC Classification		ID#	Regeneration and Free Growing Stocking Standards					Min FG Height	
			Species		Stocking				
			Conifer		Well-spaced/ha				
Zone/SZ	Series	ID#	Preferred p	Acceptable a	Target	**MIN**pa	**MIN**p	Species	Ht m
ESSFdk	01,03,04	1033743	Pl Sx (Fd Lw)[14]	Bl	1200	700	600	Pl, Lw Fd Others	1.6 1.0 0.8
	02	1033744	(Fd Lw)[9,14] Pl	Sx	1000	500	400	Pl, Lw Fd Others	1.2 0.8 0.6
	05,06	1033745	(Bl Sx)[32] Pl		1200	700	600	Pl Others	1.6 0.8
ESSFvc	01, 04	1033746	Sx Bl Hm[71,34]		1200	700	600	All	0.8
	02, 03, 05	1033747	Sx Bl Hm[71,34]		1000	500	400	All	0.8
ESSFwc1	01, 03, 04	1033748	Bl Sx Pl[23,34]	(CwHw)[9,32] Hm	1200	700	600	Pl Others	1.6 0.8
	02	1033749	Pl[34] Sx Bl	Cw[55] Hm Hw	1000	500	400	Pl Others	1.2 0.6
ESSFwc2	01, 04, 05,	1033750	Bl Sx	Pl[23,34] Hm	1200	700	600	Pl Others	1.6 0.8
	02	1033751	Pl Sx[10,13]	Bl[10] Hm	1000	500	400	Pl Others	1.2 0.6
	03	1033752	Sx Bl Pl[23,34]	Hm	1000	500	400	Pli Others	1.2 0.6
	06 07	1033753	(Sx Bl)[32] Pl[23,34]	Hm	1200	700	600	Pli Others	1.6 0.8
	08	1033754	(Bl Sx)[1,32] Pl[23,34]	Hm	1000	500	400	Pl Others	1.2 0.6
	09*	1033755	Pl[1] Sx[1,32]	Bl[1,32] Hm	400	200	200	Pl Others	1.2 0.6
	1,2 etc. – see "Footnotes" Brackets indicate the footnote applies to all species within the brackets e.g. (Fd Lw)[9,14] *Avoid Logging **Additional information or requirements may be found in the text portion of these standards and/or in the FSP Stocking Standard Section								

FSP Even-Aged Stocking Standards**
Table A

BGC Classification		ID#	Regeneration and Free Growing Stocking Standards					Min FG Height	
			Species		Stocking				
			Conifer		Well-spaced/ha				
Zone/SZ	Series	ID#	Preferred p	Acceptable a	Target	**MIN**pa	**MIN**p	Species	Ht m
ESSFwc4	01 04 05	1033756	Bl Sx Pl[23,34]	Hm	1200	700	600	Pl Others	1.6 0.8
	02 03	1033757	Sx Bl[54] Pl[23,34] [54] 02 only	Hm	1000	500	400	Pli Others	1.2 0.6
	06	1033758	(Sx Bl)[1,32]	Hm	1200	700	600	All	0.8
	07	1033759	(Sx Bl)[1] Pl[23,1,34]	Hm	1000	500	400	Pli Others	1.2 0.6
ESSFwm	01	1033760	Bl Sx (FdLw)[14]	Pl[34]	1200	700	600	Lw,Pl Others	2.0 1.0
	02	1033761	Sx Pl[34]	Bl Hw[14]	1200	700	600	Pl Others	2.0 1.0
	03	1033762	(Fd Lw)[9,32]Sx	Bl Pl[34] Pw[9,31,32,57] Hw	1200	700	600	Lw Pl Pw Fd, Others	2.0 1.4 1.0
	04	1033763	Bl Sx	Pl[34]Hw[14]	1200	700	600	Pl Others	2.0 1.0
ESSFmm1	01, 04, 05, 06	1033764	Bl Sx	Pl	1200	700	600	Pl Others	1.6 0.8
	02, 03	1033765	(Bl Sx)[28] Pl		1000	500	400	Pl Others	1.2 0.6
	07*	1033766	(Bl Sx)[1,32]	Pl[1]	400	200	200	Pl Others	1.2 0.6
	1,2 etc – see "Footnotes" Brackets indicate the footnote applies to all species within the brackets e.g. (Fd Lw)[9,14] *Avoid Logging **Additional information or requirements may be found in the text portion of these standards and/or in the FSP Stocking Standard Section								

FSP Even-Aged Stocking Standards**
Table A

BGC Classification		ID#	Regeneration and Free Growing Stocking Standards					Min FG Height	
			Species		Stocking				
			Conifer		Well-spaced/ha				
Zone/SZ	Series	ID#	Preferred p	Acceptable a	Target	**MIN**pa	**MIN**p	Species	Ht m
ICHmk1	01	1033767	(Fd Lw)[9, 14, 32] Pl Sx[10,13]	Bl[10,13] Cw[10,13,32]	1200	700	600	Pl Lw Fd Others	2.0 1.4 1.0
	02	1033768	Fd Pl	(Sx Bl)[10,13] Py[9,14]	600	400	400	Pl Fd Others	1.4 1.0 0.8
	03	1033769	Fd Lw Pl Sx[10,13]	(Cw Bl)[10,13]	1000	500	400	Pl Lw Fd Others	1.4 1.0 0.8
	04	1033770	(Fd Lw)[32] Pl Sx[10, 13]	Bl[10, 13] Cw[10. 13, 32]	1200	700	600	Pl Lw Fd Others	2.0 1.4 1.0
	05, 06	1033771	Pl Sx Fd[9, 14, 32]	Bl Lw[9,14,32] Cw[32]	1200	700	600	Pl Lw Fd Others	2.0 1.4 1.0
	07	1033772	Pl[1] Sx[1] Fd[1, 32]	Bl[1]Cw[32] Lw[1,32]	1000	500	400	Pl Lw Fd Others	1.4 1.0 0.8
ICHmw1	01	1033773	Fd Pl Cw Sx· Lw[23] Hw[71]	Bl Pw[31,57]	1200	700	600	Pl Lw Pw Fd, Others	2.0 1.4 1.0
	02, 04	1033774	Fd Pl Lw[23]	(Cw Sx)[28] (Bl Hw)[28] Pw[31,57]	1200	700	600	Pl Lw Pw Fd, Others	2.0 1.4 1.0
	03	1033775	Fd Pl Hw[71] Sx[10, 13, 28] Lw[23] Cw[28]	Bl[28] Pw[31, 57]	1200	700	600	Pl Lw Pw Fd Others	2.0 1.4 1.0
	05	1033776	Cw[32] Fd[1, 32, Hw[32] Sx Lw[9,14,23]	Bl Pl Pw[1, 32, 57]	1200	700	600	Pl Lw Pw Fd, Others	2.0 1.4 1.0
	06	1033777	Cw Fd[9, 14] Bl Hw Sx Lw[9, 14,23]	Pl Pw[31, 57]	1200	700	600	Pl Lw Pw Fd Others	2.0 2.0 1.4 1.0
	07	1033778	(Cw Hw)[32] Sx Fd[1,14,32]	Bl Pl	1000	500	400	Pl Fd Others	1.4 1.0 0.8
	1,2 etc – see "Footnotes" Brackets indicate the footnote applies to all species within the brackets e.g. (Fd Lw)[9,14] *Avoid Logging **Additional information or requirements may be found in the text portion of these standards and/or in the FSP Stocking Standard Section								

FSP Even-Aged Stocking Standards**
Table A

BGC		ID#	Regeneration and Free Growing Stocking Standards					Min FG Height	
Classification			Species		Stocking				
			Conifer		Well-spaced/ha				
Zone/SZ	Series	ID#	Preferred p	Acceptable a	Target	**MIN**pa	**MIN** p	Species	Ht m
ICHmw2	01, 04	1033779	Fd Lw Pl[71] Sx[10,13]Cw Hw	Pw[31,57] Bl[10,13] Py[9,14,23]	1200	700	600	Pl Lw Pw Fd Others	2.0 1.4 1.0
	03	1033780	Fd Lw Pl Cw	Pw[31, 57] (SxBl)[10, 13] Hw Py[9, 14 23]	1200	700	600	Pl Lw Pw Fd, Others	2.0 1.4 1.0
	05	1033781	Cw Sx Pl[71]Hw (Fd Lw)[9,14,]	Bl Pw[31,57] Py[14,23]	1200	700	600	Pl Lw Pw Fd, Others	2.0 1.4 1.0
	06	1033782	Cw[32] Sx Pl[71] Hw[32](Fd Lw)[1,32]	Bl Pw[31,57] Py[14,23]	1200	700	600	Pl Lw Pw Fd, Others	2.0 1.4 1.0
	07 08	1033783	(Cw Hw)[1, 32] Sx[1] Fd[23]	(Bl Pl)[1] Pw[1, 31, 57]	1000	500	400	Pl Pw Others	1.4 0.8
ICHmw3	01 04 05	1033784	Fd Pl[71] Lw[23] (Cw Sx Hw)[10, 13]	Pw[31, 57]Bl	1200	700	600	Pl Lw Pw Fd Others	2.0 1.4 1.0
	02	1033785	Fd Pl Lw[23]	Py[9,14,23] Pw[31,57]	1000	500	400	Pl Lw Pw Fd Py	1.4 1.0 0.8
	03	1033786	Fd[32] Pl Lw[23,32]Hw[23] Cw[10,13]	Pw[31,57] (Sx Bl)[10,13]	1000	500	400	Pl Lw Pw Fd Others	1.4 1.0 0.8
	06	1033787	Fd[14] Pl[71] Lw[23] Cw Sx Hw	Pw[31,57] Bl	1200	700	600	Pl Lw Pw Fd Others	2.0 1.4 1.0
	07	1033788	(Cw Hw)[32]Sx Fd[1,32] Pl[71]	Bl Pw[31,57] Lw[1,23,32]	1200	700	600	Pl Lw Pw Fd Others	2.0 1.4 1.0
	08	1033789	(Cw Hw)[1,32] (Sx Pl)[1]	Bl[1] Pw[57]	1000	500	400	Pl Pw Others	1.4 0.8
	1,2 etc – see "Footnotes" Brackets indicate the footnote applies to all species within the brackets e.g. (Fd Lw)[9,14] *Avoid Logging ** Additional information or requirements may be found in the text portion of these standards and/or in the FSP								

FSP Even-Aged Stocking Standards**
Table A

BGC		ID#	Regeneration and Free Growing Stocking Standards					Min FG Height	
Classification			Species		Stocking				
			Conifer		Well-spaced/ha				
Zone/SZ	Series	ID#	Preferred p	Acceptable a	Target	**MIN**pa	**MIN** p	Species	Ht m
ICHvk1	01 04	1033790	(Cw Hw)[32] Sx Bl[23] Fd[1,9,14,32,34,71] Lw[9, 14, 23]	Pw[31,57] Yc[23]	1200	700	600	Pw Lw Fd Others	2.0 1.4 1.0
	03	1033791	Fd[9,] Cw Sx Hw Bl[23] Lw[9,14,23]	Pw[31,57]	1200	700	600	Lw Pw Fd Others	2.0 1.4 1.0
	05 06	1033792	(Cw Hw)[1,32] Sx[1]	Bl[1] Pw[1,31,57] Yc[23]	1000	500	400	Pw Others	1.4 0.8
ICHwk1	01 04	1033793	Cw Hw Sx[10,13] Fd[9,14,] Bl[23] Lw[9,14,23,32]	Pw[31,57] (Yc Pl)[23]	1200	700	600	Pl Lw Pw Fd Others	2.0 1.4 1.0
	03	1033794	Fd Pl	Bl Cw Hw Pw[57] Sx	1000	500	400	Pl Pw Fd Others	1.4 1.0 0.8
	05	1033795	(Cw Hw)[32] Sx Bl[23] Fd[1,9,14,32] Lw[1,14,23,32]	Pw[31,57] (Yc Pl)[23]	1200	700	600	Pl Lw Pw Fd Others	2.0 1.4 1.0
	06 07 08	1033796	(Cw Hw)[1,32] Sx[1] Bl[1,23]	Pw[1,31,57] Pl[1,23,34]	1000	500	400	Pl Pw Others	1.4 0.8
	1,2 etc – see "Footnotes" Brackets indicate the footnote applies to all species within the brackets e.g. (Fd Lw)[9,14] *Avoid Logging ** Additional information or requirements may be found in the text portion of these standards and/or in the FSP								

FSP Even-Aged Stocking Standards**
Table A

BGC		ID#	Regeneration and Free Growing Stocking Standards					Min FG Height	
Classification			Species		Stocking				
			Conifer		Well-spaced/ha				
Zone/SZ	Series	ID#	Preferred p	Acceptable a	Target	**MIN**pa	**MIN** p	Species	Ht m
IDFdm2	01	1033797	(Fd Lw)[32] Py	Pl[10,13]	1000	500	400	Pl Lw Fd Py	1.0 0.8 0.6
	03	1033798	Fd[27] Py Lw[10,13]		600	400	400	Lw Fd Py	1.0 0.8 0.6
	04	1033799	(Fd Lw)[32] Pl Sx		1200	700	600	Pl Lw Fd Others	1.4 1.0 0.8
	05 07	1033800	Pl Sx (Fd Lw)[1,32]		1000	500	400	Pl Lw Fd Others	1.0 0.8 0.6
MSdk	01 05	1033801	(Fd Lw)[32] Pl Sx	Bl	1200	700	600	Pl Lw Others	1.4 0.8
	03	1033802	Fd Lw Pl	Bl Sx	1000	500	400	Pl Lw Others	1.0 0.6
	04	1033803	Fd Lw Pl	Bl Sx	1200	700	600	Pl Lw Others	1.4 0.8
	06	1033804	Sx (Fd Lw)[1,32]	Pl[1] Bl	1200	700	600	Pl Lw Others	1.4 0.8
	1,2 etc – see "Footnotes" Brackets indicate the footnote applies to all species within the brackets e.g. (Fd Lw)[9,14] *Avoid Logging ** Additional information or requirements may be found in the text portion of these standards and/or in the FSP								

FSP Stocking Standards Definitions and Footnotes for Table A B and C Stocking Standards

Conifer Tree Species	#	Footnotes
"Ba" means amabalis fir	1	Elevated microsites are preferred
"Bg" means grand fir	2	Suitable on thick forest floors
"Bl" means subalpine fir	3	Recommended for coarse-textured soils
"Bp" means noble fir	4	Recommended for medium-textured soils
"Cw" means western red cedar	6	Recommended on nutrient-very-poor sites
"Fd" means Douglas-fir	7	Recommended on nutrient-medium sites
"Hm" means mountain hemlock	8	Recommended on steep slopes
"Hw" means western hemlock	9	Recommended on southerly aspects (SSE to WSW)
"Lt" means tamarack	10	Recommended on northerly aspects (NW to ENE)
"Lw" means western larch	11	Recommended to crest slope positions
"Pa" means whitebark pine	12	Suitable on cold air drainage sties
"Pl" means lodgepole pine	13	Recommended in upper elevations of BGC Unit
"Pw" means white pine	14	Recommended on lower elevations of BGC Unit (species not recommended within 200m vertical of max elevation)
"Py" means ponderosa pine	15	Recommended in northern portion of BGC unit in region
"Sb" means black spruce	16	Recommended in southern portion of BGC unit in region
"Se" means Engelmann spruce	17	Recommended in western portion of BGC unit in region
"Ss" means Sitka spruce	18	Recommended in eastern portion of BGC unit in region
"Sw" means white spruce		19-22 Coastal only
"Sx" means hybrid spruce or interior spruce	23	Restricted to max 20% of well-spaced P&A
"Sxs" means hybrid Sitka spruce	24	Suitable (as a major species) in wetter portion of BGC Unit
"Sxw" means hybrid white spruce	25	Suitable on sites lacking salal
"Yc" means yellow cedar	26	Suitable minor species on salal-dominated sites
Broadleaf Tree Species	27	Partial canopy cover required for successful establishment
"Acb" means balsam poplar	28	Limited by moisture deficit
"Act" means black cottonwood	29	Risk of heavy browsing by moose
"At" means trembling aspen	30	Risk of porcupine damage
"Dr" means red alder	31	Risk of white pine blister rust
"Ep" means common paper birch	32	Limited by growing –season frost
"Mb" means big leaf maple	34	Risk of snow damage
"Qg" means garry oak	35	Risk of weevil damage
"Ra" means arbutus	36	Suitable major species on salal-dominated sites
Definitions	37	Risk of heart rots
"**MIN**" or "**Min**" means minimum	39	Avoid exposed and windy sites
"**P**" means Preferred	40	Risk of redheart
"**A**" means Acceptable	41	Limited by poorly drained soils
"**Biogeoclimatic unit**" or "**BGC classification**" means the zone, subzone, variant and site series described in the most recent field guide published by the MOF for the Identification and interpretation of ecosystems as applicable to a harvest area. Abbreviated BEC Zone in most of the DCO standards.	42	Restricted to fresh soil moisture regimes
		43-46 – Coastal only

FSP Stocking Standards Definitions and Footnotes for Table A B and C Stocking Standards

Definitions	#	Footnote
	47	Risk of balsam woolly adelgid
	48	Risk of heavy browsing by deer
	49	Applies only to rust resistant, planted stock
Footnotes # 5, 33, and 38 retired	50	Restricted to sites where the species occurs as a major species in a pre-harvest, natural stand
Any reference to well-spaced stems in the footnotes also applies to free growing stems	51	Restricted to areas with proven Pl performance
	52	Restricted to sheltered microsites with deep soil
	53	minor component
	54	Risk of unsuccessful release of advance regeneration
	55	Acceptable in sx-sm portion of site series

#	Localized Footnotes
57	**Selkirk Forest District** – Pw rust-resistant stock may be preferred to a max 50% of preferred and acceptable well-spaced stems. Natural provenance Pw – acceptable to a maximum of 50% per plot and 10% well-spaced P&A. Minimum pruning height of 1.0 m applies to natural Pw if required to meet MSS P&A
69	Species is restricted to upper elevations when used in the southern portion of the BGC Unit
70	Restricted to a maximum of 20% of preferred and acceptable well-spaced stems on northerly aspects
71	Restricted to a maximum of 50% of preferred and acceptable well-spaced stems
	Broadleaf Management Constraints
a	Productive, reliable, and feasible regeneration option
b	Limited in productivity, reliability and/or feasibility
	Additional information or requirements may be found in the text portion of these standards and/or in the FSP

Table B Stocking Standards

Uneven Aged Stocking Standards – Single –tree selection for the IDF BEC Zone only				
Target from Table A Standards*	Layer**	Stocking		
Stems/ha (Standards ID#)		Target pa***	MIN pa	MIN p***
		Well-Spaced /ha		
1200	1	600	300	250
	2	800	400	300
IDF dm2 04 (1033933)	3	1000	500	400
	4	1200	700	600
1000	1	400	200	200
	2	600	300	250
IDF dm2 01 (1033931)	3	800	400	300
IDF dm2 05 07 (1033934)	4	1000	500	400
900	1	400	200	200
	2	500	300	250
No IDF with 900 target	3	700	400	300
In DCO	4	900	500	400
800	1	300	150	150
	2	400	200	200
No IDF with 800 target	3	600	300	300
In DCO	4	800	400	400
600	1	300	150	150
	2	400	200	200
IDF dm2 03 (1033932)	3	500	300	300
	4	600	400	400
400	1	200	100	100
No IDF with 400 target	2	300	125	125
In DCO	3	300	150	150
	4	400	200	200

*Regeneration delay can be met immediately following harvest if the residual stand has no significant damage or pest problems and meets minimum stocking standards. If regeneration is achieved immediately following harvest, earliest free growing date is 12 months after completion of harvest.

**Stand Layer Definition

Layer 1	Mature	Trees > 12.5cm dbh
Layer 2	Pole	Trees 7.5cm to 12.4 cm dbh
Layer 3	Sapling	Trees >= 1.3 m ht to 7.4 cm dbh
Layer 4	Regeneration	Trees < 1.3 m ht

***pa and ***p Preferred and acceptable species and Target are as specified in Table A by Biogeoclimatic Ecosystem Classification (BEC) site series.

Table B Stocking Standard Definitions

For all BEC Zones except IDF:

Table B densities may be modified to fit existing stand conditions if the densities are developed using stand/stock tables and the BDq methodology outlined in the Silviculture Systems Handbook for British

Columbia 2001. Target pa, min pa and min p must be achieved in each layer and measured with "non-nested" survey methodology.

Minimum Leave Tree Characteristics

Trees Age Class 6 and Younger
Layer 1 trees must meet limits defined in the Tree Wounding and Decay guidebook (Feb 97)-Long Term Retention Objective to be acceptable.
Crop trees of all species must have a height to diameter ratio (HDR) of 1.0 or less to be acceptable - except Pli which must have a HDR of 1.2 or less to be acceptable.
All trees must meet criteria defined in Appendix 10, Establishment to Free Growing Guidebook: Nelson Region - May 2000.

Trees Age Class 7 and Older
Layer 1 trees must meet the limits defined in the Cruising Manual (effective June 1, 2008) for tree classes 1, 2, 5, and 8.
Crop trees of all species must have a height to diameter ratio of 1.0 (HDR) or less to be acceptable - except Pli which must have a HDR of 1.2 or less to be acceptable.
All trees must meet criteria defined in Appendix 10, Establishment to Free Growing Guidebook: Nelson Region - May 2000.

Trees Age Class 1
Note: Damage to FG trees will be evaluated using the MFLNRO procedure in place at the time of assessment. Current procedures are as per the Multi-layer Free Growing Damage Criteria May 16, 2008

Additional information or requirements may be found in the text portion of these standards and/or in the FSP.

Table C Stocking Standards

Intermediate Cut - No Regeneration Obligation – Standards		
Minimum Crop Tree Basal Area Retained (M2/ha)	Standards ID	Additional Criteria (all areas)
50	1033935	To meet the minimum BA standard - retained crop tree basal area must be comprised of merchantable trees (Pli 12.5 cm DBH, other species 17.5 cm DBH) that meet or exceed the minimum leave tree characteristics outlined below. To qualify as an IC a minimum of 40% of the stands original BA must be retained or the minimum BA by BEC zone whichever is greater.
45	1033936	
40	1033937	
35	1033938	
30	1033939	
26	1033940	
24 min for all other BEC Zones	1033941	"No Regen" Obligation Window is early 1 year and late 4 years
18 min for the MSdk, IDF dm2, ICHmk1, ICHmw1, ESSFdk BEC Zones only	1033942	
15 min for Beetle Proofing. HDR does not apply	1033943	When reporting the Forest Cover Inventory for an Intermediate Entry report the Total BA retained in the Inventory label and the Crop Tree BA in the Silviculture Label

Preferred and acceptable species to be retained are as specified in Table A by biogeoclimatic ecosystem classification (BEC) site series.

Table C Stocking Standard Definitions

Minimum leave tree characteristics

Stands Age Class 6 and Younger
Crop trees must meet limits defined in the Tree Wounding and Decay guidebook (Feb 97)-Long Term Retention Objective to be acceptable.
Crop trees of all species must have a height to diameter ratio (HDR) of 1.0 or less to be acceptable - except Pli which must have a HDR of 1.2 or less.
All trees must meet criteria defined in Appendix 10, Establishment to Free Growing Guidebook: Nelson Region - May 2000.

Stands Age Class 7 and Older
Crop trees must meet the limits defined in the Cruising Manual (effective June 1, 2008) for tree classes 1, 2, 5, and 8.
Crop trees of all species must have a height to diameter ratio of 1.0 (HDR) or less to be acceptable - except Pli which must have a HDR of 1.2 or less.

All trees must meet criteria defined in Appendix 10, Establishment to Free Growing Guidebook: Nelson Region - May 2000.

Minimum Strata Size for Reforestation Obligations

Any contiguous strata greater than one hectare, that as a result of harvesting have a basal area less than 18 m2 per ha for the MSdk, IDFdm2, ICHmk1, ICHmw1and ESSFdk BEC Zones, and 24 m2 for all other BEC Zones shall be reforested as specified in Table A by BEC site series.

Additional information or requirements may be found in the text portion of these standards and/or in the FSP.