

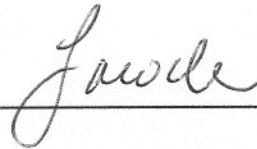
WOODLOT LICENCE W2045

WOODLOT LICENCE PLAN #1

First Term
2011 to 2021

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Print Name

M.D. Larock, RPF

Date

June 21, 2011

District Manager Signature

Signature

Name

Date

Registered Professional Forester

E. M. Hughes, RPF #1664

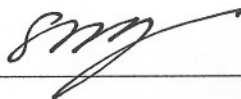


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I. CONTENT FOR A WOODLOT LICENCE PLAN (WLP)

PLAN AREA

This plan covers the entire Woodlot Licence (WL) area.

Woodlot Licence W2045 (W2045) is composed of the Gold River unit of approximately 800 hectares (ha). The Schedule 'B' land (Gold River unit Provincial Forest Crown) is located east of Gold River between the White Ridge Provincial Park and the Town of Gold River. Along the north boundary is W2044 and the south is W2046. There is no Schedule "A" land (private forest land) within W2045.

Vehicle access to the W2045 is via Highway 28 to Muchalat Drive to Ucona Road to Road Permit R06780. The general location of W2045 and the woodlot unit is outlined on the WLP map in Appendix III.

MAP AND INFORMATION

The WLP map includes (information required in section 8(1) of the Woodlot Licence Planning and Practice Regulation (WLPPR)) forest cover; topography; location of streams; wetlands; terrain; resource inventory; fish and fish habitat; riparian classification of streams and wetlands; identification of fish streams; biogeoclimatic zones and subzones; public utilities; existing roads; community watersheds; contiguous areas of sensitive soils; permanent barricades to restrict vehicle access; and private property within or adjacent to the WL area.

The information required to be addressed in Section 8(1) WLPPR is found in the document and attachments as follows:

Map and Information Content

Information Item	Map	Text	N/A
Forest cover	√		
Topography;	√		
Location of streams, wetlands and lakes (source gov't resource inventory)	√		
Riparian classification of streams, wetlands and lakes	√		
Biogeoclimatic zones and subzones (unless exempted by DM)		√	
Public utilities (transmission lines, gas & oil pipelines, and railways)	√		
Existing roads	√		
Special Situations that may not Apply to the WL area			
Resource Management Zones, Landscape Units or Sensitive Areas	√	√	
Wildlife Habitat Areas (unless exempted by DM)			√
Scenic Areas	√	√	
Ungulate Winter Ranges			√
Community Watersheds		√	
Fisheries Sensitive Watersheds			√
Community and domestic water supply intakes that are licensed under the Water Act and any related water supply infrastructures			√
Contiguous areas of sensitive soils	√	√	
Temporary or permanent barricades to restrict vehicle access	√	√	
Private property within or adjacent to the woodlot licence area	√		
Resource features other than wildlife habitat features and archaeological sites (unless the location of the resource feature is not to be disclosed)			√

All of the applicable information required to be addressed under section 8(1) of the Woodlot Licence Planning and Practices Regulation (WLPPR), and checked above, is discussed in the following text of this section and/or is identified on the WLP maps in Appendix 2, 3 and 4.

Biogeoclimatic zones and subzones:

Woodlot W2045 is dominantly western facing, moderately sloped to very steep topography and extends from 80 meters elevation to 1100 meters. As a result, the woodlot is located within the Coastal Western Hemlock zone (CWH) and the Mountain Hemlock (MH) Biogeoclimatic Zones (BEC). The lower elevation forests are described by the CWH xm2 subzone and the forest ecology transitions to the CWH vm1 and vm2 subzones. The very steep eastern forests of the woodlot transition into the MH mm1 subzone. The WLP map in Appendix III contains the BEC subzone lines. The lines are approximations based on a review of the coastal region of BC. Site-specific information is required to identify the characteristics typical of each of the subzones on the ground.

Resource Management Zones, Landscape Units or Sensitive Areas¹:

The Vancouver Island Summary Land Use Plan ²(VILUP) was presented in Feb 2000. The Summary of the VILUP has been given a higher level plan status by government endorsement and identifies woodlot 2045 within Resource Management Zone (RMZ) #22 – Gold –as a General Management Zone. The RMZ is not part of a government order in Oct 2000 establishing objectives or actions for various zones.

The overall management direction for this zone recognizes high fish, wildlife and biodiversity values as well as significant timber values. The VILUP contains objectives related to retention of old forest attributes, seral stage distribution and diversity that provide a guide to the development and conservation on resource values on the woodlot.

Wildlife Habitat Areas:

There are no known Wildlife Habitat Areas (WHA) within W2045.

Scenic Areas:

There are known Scenic Areas within W2045 outlined within the WLP map identifying partial retention within portions of the area.

Ungulate Winter Ranges:

There are no known Ungulate Winter Ranges within W2045.

Community Watersheds:

W2045 is not within a Community Watershed.

Fisheries Sensitive Watersheds:

There are no known Fisheries Sensitive Watersheds within W2045.

Community and domestic water supply intakes that are licensed under the Water Act and any related water supply infrastructures:

Consistent with Woodlot Licence Planning and Practices Regulation 8(1)(l), there are no community and domestic water supply intakes that are licensed under the water Act and

¹ Under Section 8(1) of the WLPPReg Resource Management Zones, Landscape units and Sensitive Areas are continued or established under the Land Act.

² Endorsement of the VILUP summary February 2000.

any related water supply infrastructures³ within the *woodlot licence plan area*. The closest point of diversion is in Gold River.

Contiguous Areas of Sensitive Soils:

*“sensitive soil” means an area with one or both of the following:
a slope greater than 60% or indicators of potential slope instability.*⁴

The sensitive soils have been identified using regional soil and topographic maps that approximate the sensitive soil class. Slope used was determined from trim data to provide slope class designations which are greater than 60% to indicate areas of potential sensitive soils. The areas of sensitive soils are indicated on the WLP Map in Appendix III. Slopes over 60 percent (highest stability risk) are scattered throughout W2045, but are concentrated within the eastern section of W2045 adjacent to White Ridge Park.

A greater level of refinement using site-specific fieldwork is required to identify the sensitive soil area boundaries on the WL area. The fieldwork identification will occur during operation planning.

Temporary or permanent barricades that restrict vehicle access:

There are no gates located on W2045, but old historic access from the south and north is restricted due to bridge and road deactivation by the previous licensee.

Private property within or adjacent to the woodlot licence area:

The location of adjacent private property owners, Town of Gold River and Resource owners (Other woodlot holders or Provincial park) are outlined on the WLP Map.

Resource features other than wildlife habitat features and other features where the location must not be disclosed:

At the time of preparing this WLP no resource features have been established within the WL area under the Government Actions Regulation. There were also no resource features within the WL area that were made “known” by the district manager under the regulations of the *Forest Practices Code of BC Act*.

Karst potential within or adjacent to W2045:

There is the potential for Karst features within the steeper sloped units of the eastern portion of W2045 adjacent to White Ridge Park.

An Order to Identify Karst Resource Features for the Campbell River Forest District was established in June 2007 through the Government Actions Regulation of FRPA. The order relates to the identification of “surface or subsurface elements of a karst system”.

³ Community watersheds and points of diversion are referenced from the Land Data warehouse.

⁴ WLPPR, Part 1, BC Reg 21/2004

AREAS WHERE TIMBER HARVESTING WILL BE AVOIDED

There are no specific areas where timber harvesting will be avoided on W2045.

AREAS WHERE TIMBER HARVESTING WILL BE MODIFIED

There are areas where timber harvesting will be modified to protect and manage resource features on the woodlot including:

Wildlife Tree Retention Areas (WTRA):

Anchored WTRA will have harvest modified as described in the WTRA Strategy.

Riparian Management Areas:

Harvesting will be modified within the area of the Riparian Management Area's (RMA's). Riparian Management Areas are comprised of a riparian management zone (RMZ) and a riparian reserve zone (RRZ). Unless exempted by the district manager, or the harvesting of a road clearing width is required, the WL holder will retain the post harvest stand structure for the RMZ noted in Table 1.

The retention level will be determined based on field assessments considering the site classification, species composition, age classes and wildlife values of stratified units where there is a potential to modify harvesting. It is expected that retention of residual trees will be highest for an S2-4 stream classification. Steams classified as S5/6 will have a standard of management to minimise debris transportation to lower reaches of the streams.

Retention levels by area description:

The WL holder will ensure that the required riparian forest cover retention is consistent with Table 1. For the purposes of forest health (root disease treatment) and windthrow abatement (or recovery) harvesting in the RMA will consider the results of a windthrow assessment and forest health survey.

The measurement for the determination of riparian retention requires a length in order to derive the percent basal area retained. For the purposes of measure, the greater of the RMZ area within the harvest block or RMZ area for 150 meters stream length, will be used to determine the basal area retained.

The percentage of the total basal area within the RMZ specified in Table 1 will be left as standing trees at the completion of harvesting:

Table 1: Basal Area retention by Riparian Class.

Riparian Class	Basal Area Retained (%)	Management Intent	Retained Species ⁵
S1 & 2 streams	≥20	Maintain Riparian and Wildlife values	Fd, Dr, Mb, Cw, Hw, Act, Ba, Ss, Pw
S3 stream	≥10		
S4 stream	0-10	Maintain Stream bank integrity	
S5 & 6 streams	0-10	Minimise Debris Transportation	
All wetland classes	≥10	Maintain RRZ, Wildlife Habitat, Coarse Woody Debris (CWD)	

The basal area retained within Table 1 is a different requirement from the Alternative Performance Requirement for Riparian Reserve Zones. Both requirements will be achieved.

Karst Resource Features:

The WL holder will, through the course of field planning, observe whether karst is visible within the boundaries of the woodlot. If Karst features are observed then the WL holder will determine the significance and vulnerability of the karst features and will assess the potential impact of the planned forest management on those features. Forest management will then be modified based on the significance and vulnerability of the karst.

Experimental Plot EP0599.03:

The WL holder will, through the course of field planning, confirm the location of EP0599.03 within the boundaries of the woodlot. Prior to harvesting in the area of EP0599.03 consultation with the holder of the EP will be completed. Forest management will then be modified based on the significance and vulnerability of the experimental plot.

⁵ Tree species labels are listed within Appendix IIA footnotes section.

CONSERVING AND PROTECTING CULTURAL HERITAGE RESOURCES

The following strategy is proposed to conserve and protect cultural heritage resources that are the focus of a traditional use by an aboriginal people and of continuing importance to them. This strategy applies to cultural heritage resources (CHR) that are not protected under the **Heritage Conservation Act**. Huock Forests Ltd. (HF) the WL holder is committed to carrying out forest practices at a time and in a manner that is unlikely to damage or harmfully alter CHR.

Consultation with First Nations (FN) to review plans and to participate in the information sharing process is included in section II. W2045 is within the asserted traditional territory of the Mowachaht/Muchalaht FN.

A strategy to conserve and protect the CHR on W2045 has and will continue to incorporate any existing⁶ or new information (when it becomes available) on CHR. The original Overview Assessment covered a large area and may not have incorporated the area of the woodlot. Therefore, an Archaeological Site Potential Assessment was completed by Heather Pratt, MA, RPCA in 2010 for the WL holder. Although the original overview Assessment was not completed over W2045, it remains a relevant information source describing such areas that are further inland and away from the shoreline. The Archaeological Site Potential Assessment determined that W2045 has low potential for the presence of Archaeological sites, and that no additional field assessments are required.

Discussions with the FN are in progress and are expected to continue into the future. There are no known Archaeological features on W2045⁷. The strategies and results for traditional plants, western red cedar and the steps necessary when new information on CHR becomes known are as follows:

Traditional Plants

Facilitating opportunities for FN to harvest and use plants for traditional use will require the following steps:

- Identify specific traditional use plants of continuing interest by local FN⁸.
- Where specific plants other than western red cedar trees are identified by the applicable FN, notification will be provided by the WL holder prior to timber harvesting activities on stands or sites likely to contain the traditional plants. The time frame for notification will be determined in consultation between FN's and HF, when specific plants are identified by FN's.

Traditional Use of Western Red Cedar

A common FN traditional use throughout the coastal region is the use of western red cedar. The opportunity for traditional use of western red cedar will continue on W2045 by utilising the following steps.

- When requested by the applicable FN, a reasonable opportunity for traditional use of western red cedar trees for bark striping and

⁶ An Archaeological Overview Assessment was completed over the West coast portion of the Campbell River Forest District in 2007 by Millennia Research Limited.

⁷ MOFR November 2009.

⁸ When FN have identified a specific traditional use plant.

monumental logs, will be made available, if they are not available from other sources.

- Western red cedar will be planted, where it is ecologically suited to any site, as a mixture with other preferred or acceptable trees species in order to build a future supply of cedar.
- As part of the retention strategy for specified areas within W2045 western red cedar will be retained as a component of the stand structure. When available, reliable and feasible, western red cedar will also be retained within clearcut openings.
- HF is committed to involvement in any cedar strategies adopted by the local woodlot association.

New Information on CHR

All plans and activities will consider CHR and when field surveys indicate a potential traditional use, the location will be made available to local FN and the MFR.

- Any potential traditional use sites will be protected from alteration or disturbance, whenever practicable and feasible.
- If new information on CHR's become available, HF will contact the FN and endeavour to understand the concerns and ensure the CHR in question is protected and/or conserved wherever practicable and feasible.

WILDLIFE TREE RETENTION STRATEGY

The proportion of W2045 that is occupied by WTRA is specified in the “PERFORMANCE REQUIREMENTS” section of this plan. The performance requirement for the proportion of W2045 that is occupied by Wildlife Tree Retention (WTR) areas will not be less than 8 percent of the total woodlot area of 800 ha. The minimum area of WTR will be achieved either as ecologically anchored stands of medium to high value wildlife tree's (WT's), as dispersed stands or individual WT's. Only those trees or areas specifically identified and documented to meet the performance requirement of 8% are required to meet the WTR strategy. Other areas of the woodlot, although they also provide wildlife value are not required or restricted to meet the WTR requirement as per WLPPR s.52 (1) or this strategy.

There is no known identified wildlife on the woodlot and none has been observed to our knowledge. Wildlife that are generally observed on W2045 may include the Great blue heron, American dipper, Pileated Woodpeckers, birds, kinglets, frogs, black-tailed deer, wolf, owl, bear, cougar and Roosevelt elk.

WT and coarse woody debris (CWD) retention are important tools for managing biodiversity at the stand level and will be the main techniques employed on W2045. These tools have the virtues of being practical and measurable over a small land-base, and are included as part of the overall WTR strategy.

A specific map of WTRA has not been included as part of this WLP. A map will be retained on file at the HF (W2045) field office to demonstrate how the WTR requirements are achieved (WLPPR Section 52).

The two types of WTRA's, are Anchored or Dispersed, with contribution measured as described within the performance requirement section of this plan.

Anchored WTRA

Ecologically anchored WTRA are expected to be integral to a permanent or fixed feature such as a wetland or group of trees with unique wildlife characteristics. Anchored WTRA's will usually be located adjacent to any den or nest, be part of the RMA for streams and wetlands, or where existing veteran trees or snags have medium to high wildlife value. Anchored WTR will be normally preferred for meeting the performance requirements.

As operational planning is completed anchored WTRA will be selected as medium and high WT trees and wildlife attributes are located within appropriate areas. Areas of W2045, which currently exhibit the ecological features of a typical anchored WTRA, are described in Table 2.

Dispersed WTRA

When ecological anchors are absent or widely spaced, other areas will be retained as dispersed WTRA. Dispersed WTR will include scattered units (groups of trees within units less than .5 ha), a specified area or individual suitable (medium or high value) WT's. A dispersed retention strategy, using basal area retention equivalence will be used to verify results (i.e. 50 percent basal area retention on one hectare is equivalent to .5ha of WTR). It is expected that dispersed WTRA's will be replaced over time.

Examples of dispersed WTRA's include the following:

- Specified area's (treated or untreated) where there are greater than 200 stems/ha (SPH) of a preferred or acceptable tree species. Treated areas

are required to have similar or future potential of medium or high WT characteristics in a similar proportion to untreated stands.

- Individual trees retained within clearcuts that have medium or high wildlife value.
- Minor tree species retained to achieve biodiversity objectives, including Aspen, Cascara, Yew, Cherry, Willow or Hawthorne.
- Contained⁹ forest health incidences, such as root disease or mistletoe, where the risk of spread is limited.

INDIVIDUAL WILDLIFE TREES

a) Species and Characteristics:

The species and characteristics of WT's will be representative of the current stands, with a priority for selection based on high or medium value classification. Trees with wildlife values will be selected based on species preference from high to low as follows: Fd, Cw, Hw, Ss, Ba, Hm, Yc, Bl, Tw, Pl, Pw, Act, Dr, Mb and At.

Wildlife tree characteristics¹⁰ for medium and high value include:

- Pathological indicators – scars, internal decay, cracks, loose bark, cavities, contained areas of root disease or mistletoe;
- Evidence of current or future wildlife use;
- Existing nest or den;
- Veterans greater than 250 years old;
- Large open grown trees with large branches (more than 5cm in diameter) and having multi-tops and stem distortions (sweeps or crooks);
- Value for wildlife (berries, insects, perch to view prey);
- Locally important WT.

WT trees will be assessed for windthrow risk and safety prior to selection. Once selected, WT's will be retained for as many years as practical and left where they fall if windthrow occurs. Generally, WT will be selected outside of the hazard zone of roads or trails¹¹.

b) Conditions Under Which Individual Wildlife Trees May Be Removed:

Individual specifically identified WT's may be removed if they become a safety hazard or they become infested with insects, which threaten the health of adjacent trees. Individual WT's could be removed under the following circumstances:

- Compromises the safety of workers or the public;
- Risk of significant forest damage (i.e. localised insect and disease outbreaks);
- When there is available WTRA replacement;
- To improve wildlife function of other WT's.

c) Replacement of Individual Wildlife Trees:

If individual WT's are removed they will be replaced with trees of comparable WT tree value. It is expected that there will always be stands of large trees and older forests within close proximity to each other, including anchored WTRA's on W2045.

⁹ Contained: The risk of spread to healthy stands is low.

¹⁰ Any individual characteristic indicates a medium/high value, when it is >12.5cm and ecologically suited to the site.

¹¹ Road hazard zone of 40 m, on both sides.

WILDLIFE TREE RETENTION AREAS

a) Forest Cover Attributes

The W2045 WTR strategy for the identification of WTRA's will utilise a selection process. Those forest types, which have large numbers of medium and high WT characteristics, will have the attributes of a WTRA. Preference for selecting WTRA will be stands anchored ecologically to streams, lakes, swamps/wetlands, or existing veteran trees. WTRA's will usually contain a mixture of coniferous and deciduous trees. WTRA's will be dispersed throughout the woodlot area, selecting areas where wildlife and biodiversity values are present. A WTRA will be comprised of trees with a minimum age of 30 years, tree diameters greater than 12.5cm and heights greater than 15meters.

Forest health incidence and risk of spread will be evaluated for an area considered for WTR. When veteran or older trees are selected for WTR they often have forest health factors. The overarching goal is to develop strategies to prevent their spread that are supported by a rationale and monitored for effectiveness.

There are potential Anchored WTRA, which have been identified, with the forest cover attributes and resource values listed in Table 2.

Table 2: Forest cover attributes of WTRA

Location Description	Forest Cover	Site Index	Function and Value
Lakes Polygons #11, 20, 24-27, 50, 68, 69 & 71	Fd, Cw, Hw	22-27	Riparian/Diverse forest
Swamps Polygons #49, 51	Fd, Cw, Hw	22-27	Riparian/Diverse forest
North Star Lake	HwFdCw	22-27	Riparian/Diverse forest
Little Star Lake	Fd, Cw, Hw	22-27	Riparian/Diverse forest
Streams	Fd, Cw, Hw	22-27	Riparian/Diverse forest

The WRTA map will be supported with documentation of the contribution as per WLPPR s.52(1) following operational planning, including consultation with Qualified Professionals, when required.

b) Conditions Under Which Trees May Be Removed from Wildlife Tree Retention Areas:

Trees may be removed from a WTRA under the following circumstances:

- If they become a safety hazard, or worker or public safety is compromised;
- If they become infested with insects or diseases which threaten the health of adjacent trees or spread is likely to occur (species specific), based on an assessment by a qualified professional;
- To provide access to adjacent stands. To construct access roads and trails, where no other practicable option exists. Access construction will avoid removal of high and medium value WT's. The number of quality WT trees removed will be no more than reasonably needed to provide the access;
- Any tree which is not a high or medium value WT and does not damage the WTRA function, based on an assessment by a qualified professional;

- Where more than 50% of the trees within a WTRA are damaged by natural causes.

c) Replacement of Trees Removed from Wildlife Tree Retention Areas:

If WT's with high or medium wildlife value are removed from a WTRA, they will be replaced with comparable trees from a nearby location. If there is significant damage (>50% tree damage) to a WTRA it will be replaced with a similar area, unless the damage is determined to contribute to achieving the performance requirements of the Wildlife Tree Retention Strategy (ie:CWD, elevated root structures).

d) Wildlife Notices outside of W2045

This Wildlife Retention Strategy contributes to the intent of the Wildlife Notice, which does not specifically apply to W2045, but it is important to be aware of when considering the selection of WTRA's. A WILDLIFE NOTICE UNDER SECTION 9(3) OF THE WLPPR INCLUDES INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF THE SPECIES AT RISK¹² covering the Campbell River Forest District (CRFD). The CRFD is setting aside areas required to meet the notice within the larger forest land base, and will not likely require any portion of the woodlot for future WHA's. The amount of area required for each wildlife species is relatively small in proportion to the entire TSA, where adequate areas should be available outside of W2045.

The specific species included in the notice are listed.

Coastal Tailed Frog, Red-Legged Frog, Keen's Long eared Myotis

None of the habitats of Coastal Tailed Frog, Red-Legged Frog, or Keen's Long eared Myotis are known to occur in W2045. Material to support the notice for species at risk in the CRFD did not propose any WHA's on the woodlot¹³.

Queen Charlotte Goshawk and Marbled Murrelet nesting habitat

The WHA's selected for nesting habitat within the CRFD are not in close proximity to W2045. Although no nests have been located on W2045 the management and WTR strategies provide for abundant Goshawk and Marbled Murrelet nesting habitat availability.

Great Blue Heron

There are no known nesting areas for the Great Blue Heron that have been identified on W2045.

¹² Signed July 27, 2004 for the CRFD.

¹³ Search of the CRFD web site June 2008 indicated no WHA's within W2045.

MEASURES TO PREVENT INTRODUCTION OR SPREAD OF INVASIVE PLANTS

It is likely that the forest practices of a WL holder may cause the introduction or spread of species of plants described in the MFR Invasive Plants-List (Appendix IV). The best future approach is to prevent the introduction or spread of invasive plants (stop it from happening).

HF commits to carry out the following measures to prevent the introduction and spread of invasive plants that are likely the result of the WL holder's forest practices:

- Areas of new disturbance (i.e.: new construction where there is significant mineral soil exposure resulting from timber harvesting) will be seeded as soon as practicable. Reseeding will be done at an acceptable rate, with an appropriate mix of fast growing grasses and legumes (using seed of the grade Canada Common #1 or better), if natural plant revegetation and growth is unlikely;
- Minimise the transport of invasive plant seed by removing invasive plant seeds or vegetative material (i.e.: burrs) from the WL holder's clothing and equipment. Checking the undercarriage of the WL holder's vehicles and remove invasive plant material before leaving an infested area.

Other activities that are good practice, **but are not required**, are:

- Invasive plant identification training of employees.
- Annual inspections to identify any areas where invasive plants are present.
- Control measures to prevent the spread of invasive plant will be part of operational planning.
- Gravel quarried for road construction will be kept clean of invasive plants and seeds by clearing topsoil where invasive plants are present. Wherever invasive plants are present the distribution and spread will be avoided.
- Revegetation with native tree and brush species usually occurs within a growing season. If there is a risk of invasive plant introduction, revegetation will be prescribed to minimise the spread. Both reforestation and reseeded will occur at the first practicable time frame.
- Maintaining a closed canopy by commercial thinning practices practically eliminates all invasive plants, due to the low light levels. Narrow road corridors will also maintain low light levels discouraging invasive plants.

An assessment of any treatment will incorporate mapping to document the change over time following an adaptive management approach using ecological characteristics to manage invasive species. Treatments, either by hand or with power tools, will be employed as part of a standard brushing regime with an emphasis on effective implementation and monitoring when invasive plant species are present.

Range barriers are not applicable on W2045.

STOCKING INFORMATION FOR SPECIFIED AREAS

For the purposes of section 12 and 34(3) of the WLPPR the Uneven-aged Stocking standards for singletree selection are adopted, as found in the MFR publication "Reference Guide for FDP Stocking Standards". A copy of these stocking standards is included in Appendix I.

The specified areas (SA) stocking standards indicated in Appendix I apply to areas where the establishment of a free growing stand is not required and harvesting is limited to commercial thinning, removal of individual trees, intermediate cutting, single or group selection, or harvesting special forest products.

SA's could be located anywhere within W2045. Where more than 50% of the stand volume is harvested during a single entry there will be a regeneration strategy planned to meet the Stocking Standards (SS) as noted in Appendix IIA.

Commercial thinning on W2045 will target a harvest basal area, and/or stems per hectare (SPH), estimate based on an evaluation of stand stocking characteristics. A stand assessment, tree marking and evaluation methodology is developed for the practice of commercial thinning. The commercial thinning regime plans for re-entry every 10 years until such time as the Current Annual Increment begins to decline due to gaps developing in the stand.

When stocking is less than 150 SPH the units will be excluded from the specific area designation. Opening size and configuration will be reviewed and documented to ensure reliability of achieving SS (Appendix IIA), within an appropriate sized unit for reforestation success. The type of commercially valuable and ecologically suited trees and their character, quantity and distribution is described in Appendix IA, for specified areas. The SS for (free growing obligations) for the purposes of section 12 and 34(3) of the WLPPR are found in the Appendix IIA.

PERFORMANCE REQUIREMENTS

SOIL DISTURBANCE LIMITS

Alternative WLPPR s.24(1)(a):

Soil disturbance limits will be less than eight percent of net area to be reforested, except for situations where site preparation activities (scalps and gouges) are described within this Alternative Performance Requirement (APR).

The soil disturbance limits for Wide Scalps and Deep Gouges will be as follows:

Wide scalps - Maximum 30% of site prepared area.

Deep gouges - Maximum 15% of site prepared area.

A rationale in support of this APR for Soil Disturbance limits and how to meet WLPPR s9 objectives is included within Section II.

PERMANENT ACCESS STRUCTURES

Default: WLPPR s.25:

The maximum area occupied by permanent access structures is as follows:

For Cutblocks \geq 5 ha – 7% of the total cutblock area

For Cutblocks $<$ 5 ha – 10% of the total cutblock area

For the Total WL Area – 7% of the total Woodlot Licence area

STOCKING STANDARDS

Alternative WLPPR s. 35(1)(a):

The SS, regeneration dates and free growing dates are indicated in Appendix IIA.

The SS listed in Appendix IIA include Biogeoclimatic Classification, conifer and broadleaf species for regeneration, stocking targets, latest free growing date and minimum heights by species.

The specific alternatives to the SS (rules for modification) are listed within appendix IIA for circumstances as follows:

- -Mosaic/Complexes;
- -Transition Sites;
- -Minimum Intertree Distances;
- -Heavy Elk/Deer Browse and vandalism;
- -Latest Free Growing period is 20 years;
- -MSS are reduced by the NPNAT % .

A rationale to describe circumstances where SS will apply and how they meet WLPPR s9 objectives is included within section II.

WIDTH OF STREAM RIPARIAN AREAS

Default WLPPR s.36(4)(b):

The minimum width of the riparian reserve zone, riparian management zone and riparian management area are as described in WLPPR s.36 (4)(b).

WIDTH OF WETLAND RIPARIAN AREAS

Default: WLPPR s.37(3)(b)

The minimum width of the riparian reserve zone, riparian management zone and riparian management area are as described in WLPPR s.37 (3)(b).

WIDTH OF LAKE RIPARIAN AREAS

Default: WLPPR s.38(2)(b)

The minimum width of the riparian reserve zone, riparian management zone and riparian management area are as described in WLPPR s.38 (2)(b).

RESTRICTIONS IN A RIPARIAN RESERVE ZONE

Alternative WLPPR s.39(2.1):

Stream crossings or roads paralleling a stream could be constructed which may cut, modify or remove trees in an RRZ.

Alternative WLPPR Section 39(1)

Trees may be cut, modified or removed in a riparian reserve zone specified as a) to h) and for the following purposes:

I) Commercial thinning, intermediate cutting, removal of individual trees, single or group selection, or harvesting special forest products where a majority of the canopy trees are maintained;

J) Openings occupying less than a 30 meter length of the stream, wetland or lake.

RESTRICTIONS IN A RIPARIAN MANAGEMENT ZONE

Default: WLPPR s.40(1)(b)(c) or (d):

Construction of a road in a riparian management zone is limited to the conditions described in Section 40(1) of the WLPPR without additional conditions to allow road construction being provided in the WLP.

WILDLIFE TREE RETENTION

The proportion of the Woodlot Licence area that will be occupied by wildlife tree retention is:

Default WLPPR s.52(1)(c): 8 % of the woodlot licence area

There are three methods for measurement of the WTRA for meeting WLPPR s52 (1)(c) as follows:

Option A-Anchored WTRA

Anchored WTR contribution is based on the area designated on maps and documented.

Option B-Individual Tree contribution

For the purpose of measuring the contribution of individual WT's, 30m² of individual WT's is deemed to represent 1ha of WTR. Each individual WT contributes a unique basal area (m²). As an example, 54 medium and high WT's, with an average diameter of 60cm (30m²/ha), will be the equivalent of 1ha of WTR.

Option C-Retention Equivalence (Untreated or Specified areas)

For the purpose of measuring the WTRA contribution within an untreated forest type, or commercial thinning, intermediate cutting, removal of individual trees, single or group selection, or harvesting special forest products where a majority of the canopy trees are maintained the equivalent percentage basal area retention will represent the area of

WTR. There will be an equal proportional representation of tree species, size and wildlife tree value following any commercial thinning or partial cutting treatment.

As an example, of measuring the WTRA contribution if 80% of the basal area of a stand is retained during a commercial thinning (based on a reasonably completed sample), this will be the equivalent of .8ha of WTR contribution. An untreated area contributes 100% of the occupied area if it is documented as a WTRA.

COARSE WOODY DEBRIS

Unless exempted by the district manager or the WLPPR, the minimum amount of coarse woody debris to be left on areas where there is a requirement to establish a free growing stand is:

Default: WLPPR s.54(1)(b)

Minimum retention of 4 logs per ha ≥ 5 m in length and ≥ 30 cm in diameter at one end.

RESOURCE FEATURES

Default WLPPR s.56(1)(b):

Ensure that forest practices do not damage or render ineffective a resource feature.

CHIEF FORESTER'S STANDARDS FOR SEED USE

Default WLPPR s.32:

Adopting the Chief Forester's standards for seed use effective on the date of the approval of this plan.

APPENDICES

Appendix I: Stocking Standards for Specified Areas

Partial cutting, such as patch cuts and commercial thinning, provide greater opportunities to undertake forest health treatments. The W2045 partial cutting strategy, including commercial thinning, will continue to be planned and implemented. In addition, the removal of individual trees, single or group selection, or harvesting special forest products where a majority of the canopy trees are maintained could be included within the specified area designation to maintain visual quality, riparian or recreational objectives. The effect of this strategy will be to lengthen rotations and maintain older forest attributes on the woodlot.

Planning of silviculture system locations will be prioritised on the basis of incidence of forest health factors, visual quality, recreation, intermediate cutting cycles and species improvements. The harvest systems utilise a network of permanent access trails for intermediate cut areas and ground based forwarding for patch cuts. The SS for SA's (SSSA) utilises the Uneven-aged SS for singletree selection, as found in the MFR publication "Reference Guide for FDP SS" modified to include (table 3) only layer 1 (>12.5cm dia) trees. Other layers (2-4) will only be considered for stocking within areas where reforestation is required.

The stand structure retained following the completion of a harvest entry within a specified area is expected to have a species composition substantially the same as the original stand and have the following characteristics:

- Higher composition of preferred tree species;
- Improved spacing and form (straight stems, fewer multiple tops, forks or crooks) on trees, except when classified as a medium or high value WT;
- Improved individual residual tree vigour (crown height, height/diameter ratio and colour) and growth;
- Greater than the minimum preferred and acceptable stocking from Table 3;

The priority for harvesting individual trees follows the selection order of mortality, less vigorous trees, off-site species, acceptable species and then those trees (preferred or acceptable) which, when removed, provide the greatest gain to the retained trees, all subject to a limited maximum harvest percentage.

Trees species and character to meet target stocking in Table 3.

Preferred (p) Species:

Species listed in Appendix IIA by Site Series (Variant) will comprise 80% of the Layer 1 Stocking.

All species listed as acceptable (only trees without any pathological incidences or quality concerns¹⁴), will comprise 20% of the layer 1 stocking.

¹⁴ As per MOF 2008 Cruising Manual.

Acceptable (a) Species:

Acceptable species listed are those likely to be present in a natural stand including Fd, Cw, Hw, Ba, Ss, Pw, Dr, Act, and Mb. During any of the multiple stand entries tree species could be retained to a similar level (tree species percentage) as was found in the original natural stand¹⁵. During any single stand entry some trees, which would not be acceptable (or preferred) at the time of reforestation, could be left unharvested (i.e.: Pw, Mb). After the completion of multi stand entries the selection criteria will have encouraged preferred species composition or openings would be created where reforestation obligation (preferred species establishment) will apply.

Especially, during the first commercial thinning entry there will be tree species variability and situations where a portion of the stand is comprised entirely of only acceptable tree species. Within a larger timber type comprised primarily of preferred species, small units containing pure stands of acceptable tree species will also occur. During the first thinning entry there will continue to be post harvest intertree competition, due to individual tree cutting priorities over multiple entries. During post stand surveys, it is important to recognise that acceptable trees will continue to grow and qualify for meeting SS, within a SA, for up to 20% of the stocking levels. Upon final harvest, where the majority of trees are removed, the Stocking standards (Appendix IIa) will apply.

Character:

Tree layer 1 is comprised of trees with diameters >12.5cm expected to be dominant by size (heights ranging from 20-55m, dia from 12.5 to >100cm), and vigour (crown development, colour and spread) contributing to maintaining and enhancing the economically valuable supply of commercial timber from ecologically suitable tree species. The four layers are described in Table 4, but only layer 1 is included.

Other layers could exist as an understory composition of ecologically suited trees of varying form and vigour. After more than one stand entry it is expected that understory trees (not meeting layer 1 description) will be either harvested or have improved vigour, capable of continued individual tree growth.

WT and minor species¹⁶ will be retained to avoid species sanitation.

¹⁵ Trees species composition W2045 by percent: Fd54, Hw 25, Cw9, P19, and Dr3.

¹⁶ Minor tree species list: Yew, cascara, dogwood, hawthorne, crab apple, willow, and cherry.

Table 3: Stocking Standards Specified Area¹⁷

Total SPH¹⁸	Layer¹⁹	Target pa SPH	Minimum pa SPH	Minimum p SPH
900	1	400	200	200
800	1	300	150	150

Notes:

The Unevenaged SS have been modified by removing reference to layers 2-4. The description for layers 2-4 is included for clarification purposes only. Regeneration delay is immediately following harvest when the residual stand has no significant damage or pest problems and meets the min SS. When regeneration is achieved, the earliest free growing date is 12 months and the latest is 24 months after completion of harvesting. Preferred and acceptable species and "Target and Minimum Standards" for total SPH are as specified in Table IIA by BEC site series.

Table 4: Layer 1-4 Size Description

Layer #	Description	Size
Layer 1	Mature	trees >=12.5cm
Layer 2	Pole	trees 7.5cm to 12.4cm
Layer 3	Sapling	trees 1.3m height to 7.4cm
Layer 4	Regeneration	trees <1.3m height

SSSA has been proposed within this WLP supported by the following rationale concerning preferred and acceptable tree species. Any existing tree species can be counted towards SSSA's (Table 3) listed as acceptable (to a max of 20%) or preferred. The species composition that currently exists on W2045 will be modified during the various entries when operating within the SA's. It is intended that the existing tree composition of a mixture of species will continue, either as small patches of preferred species and/or within a closely monitored stand management regime. It is estimated that 517 ha of older forest types could be designated as specified areas.

When applying the SSSA to any stand within the woodlot area, the species composition following treatment will provide for diversity with a priority placed on preferred species forming the dominant stand structure over a number of entries. At the conclusion of any single entry stands can contain the full range of existing tree species supported by the current stocking levels within Table 3.

¹⁷ Source of table 4 is MFR Reference Guide for FDP stocking standards.

¹⁸ Target Stocking standards from table 5 (Appendix IIA).

¹⁹ Table 4 describes layer 1-4.

Appendix IIa: Stocking Standards W2045

Appendix IIa: Stocking Standards W2045

As an alternative performance requirement under WLPPR s.35 (1)(a) the SS for W2045 include an introduction, Table 5: Regeneration Guide/Stocking Standard detail, Footnotes, and Modification rules as an APR. This APR was prepared utilising the "Introduction to the Reference Guide for FDP SS" (01/20/2008 –updated Nov 10, 2010). Common stocking requirements for specific locations and conditions for areas where the establishment of a free growing stand is required include:

Minimum inter-tree distance

Trees must be greater than the approved minimum inter-tree distance apart in order to be well spaced as follows:

Min inter-tree distance (m)	Location/condition
1.0	Modifying Rule Number Three (Hygric, sub-hydric or site prepared areas);
1.5	Modifying Rule Number Four (Heavy Deer/Elk Browse and Vandalised areas);
2.0	All other areas.

Height of trees above brush

In addition to being at least the required minimum height, trees must be greater than a minimum 150% height above competing vegetation (brush) in order to be free growing (FG) for all areas of W2045.

Where appropriate and practicable

- A) Areas will be reforested with a mixture of desirable species, and
- B) On sites with more than one "preferred species more than one preferred species (and where practicable, all of the preferred species) will be planted".

Assessment for Latest Free Growing date

Assessment for Latest Free Growing date is 20 years.

Tree Species listed as preferred for Root Rot or Broadleaf management

In certain circumstances, such as management of riparian zones or wildlife habitat, site restoration, or for forest health reasons, species are proposed as acceptable and as preferred species in Table 5. Tree species listed in Table 5 as Root rot and broadleaf will apply to any unit where there has been no destumping and/or root disease is present.

Table 5: Regeneration Guide/Stocking Standard Detail W2045

Series	Regeneration Guide CWHVM1						Free Growing Guide				
	Species			Stocking			Assessment	Min. Height		Min. Height	
	Conifer		Broadleaf	Target	MIN pa	MIN p		Species	Ht	Species	Ht
	Preferred (p)	Acceptable (a)		(w s/ha)			(yrs)		(m)		(m)
01	Cw Hw Fd ^{9,16} Ba ¹⁹	Pw ^{23,12}	Act ^b Dr ^{7,20,a} Mb ^b	900	500	400	20	Fd, Hw, Ss Ba	3.00 1.75	Cw	1.50
02*	PI Cw Fd ^{9,16}	Hw Pw ^{23,12}		400	200	200	20	Fd, Hw Cw	2.00 1.00	PI	1.25
03	Cw Hw Fd ^{9,16}	PI5 Pw ^{23,12}	Act ^b Dr ^b Mb ^b	800	400	400	20	Fd, Hw Cw	2.00 1.00	PI	1.25
04	Cw Hw Fd ^{9,16}	Pw ^{23,12}	Act ^b Dr ^b M ^{b16,a}	900	500	400	20	Fd, Hw, Ss Cw	3.00 1.50	Ba	1.75
05	Cw Hw Fd ^{1,9,16}	Ss ¹¹ Pw ^{23,12}	Act ^a Dr ^a M ^{b16,a}	900	500	400	20	Fd, Hw, Ss Cw	3.00 1.50	Ba	1.75
06	Ba ¹⁹ Cw Hw	Pw ^{23,12}	Act ^b Dr ^{7,20,3,a} Mb ^b	900	500	400	20	Fd, Hw, Ss Cw	3.00 1.50	Ba	1.75
07	Cw Fd ^{1,9,21} Hw ²	Ss ¹¹ Pw ¹²	Act ^{3,a} Dr ^{3,a} M ^{b16,3,a}	900	500	400	20	Fd, Hw, Ss Ba	4.00 2.25	Cw	2.00
08	Cw Hw ²	Ss ¹¹	Act ^{3,a} Dr ^{3,a}	900	500	400	20	Hw, Ss Cw	4.00 2.00	Ba	2.25
09	Cw Hw		Act ^{3,a} Dr ^{3,a} M ^{b16,41,a}	900	500	400	20	Hw, Ss Cw	4.00 2.00		
10	Cw ¹	Ba ¹ Ss ^{1,11}	Act ^{3,a} Dr ^{3,a} M ^{b16,41,a}	900	500	400	20	Hw, Ss Ba	4.00 2.25	Cw	2.00
11	no conifers		Act ^b Dr ^b Mb ^b	-	-	-	-				
12	Cw ¹ Hw ¹ Yc ¹	PI ¹	Dr ^b	800	400	400	20	Fd, Hw Cw, Yc	2.00 1.00	PI	1.25
13*	PI ¹	Cw ¹		400	200	200	20	Fd, Hw Cw	2.00 1.00	PI	1.25
14	Cw ¹	Hw ¹ Ss ^{1,11}	Act ^b Dr ^b Mb ^b	800	400	400	20	Fd, Hw, Ss Cw	3.00 1.50	PI	2.00

Series	Regeneration Guide CWHVM2						Free Growing Guide					
	Species			Stocking			Assessment	Min. Height		Min. Height		
	Conifer		Broadleaf	Target	MIN pa	MIN p		Species	Ht	Species	Ht	
	Preferred (p)	Acceptable (a)		(ws/ha)			(yrs)		(m)		(m)	
01	Fd ^{1,9,21} Hw Cw Yc ¹⁰	Ss ^{7,15,11}	N/A	900	500	400	20	Ss Hw Fd	3.00 2.50 2.25	Cw, Yc Hm	1.50 1.00	
02*	Pl Cw Fd ^{9,16} Yc ¹⁰	Hw	N/A	400	200	200	20	Pw Ss Hm, Hw Fd	2.50 2.00 1.75 1.50	Pl Cw, Yc Hm	1.25 1.00 0.75	
03	Cw Hw Fd ^{9,16} Yc ¹⁰	Pw ^{16,12}	N/A	800	400	400	20	Pw Ss Hm, Hw Fd	2.50 2.00 1.75 1.50	Pl Cw, Yc Hm	1.25 1.00 0.75	
04	Cw Hw Fd ^{9,16} Yc ¹⁰	Ba Pw ^{16,12}	N/A	900	500	400	20	Pw Ss Hm, Hw Ba, Fd	2.50 2.00 1.75 1.50	Pl Cw, Yc Hm	1.25 1.00 0.75	
05	Cw Hw Yc ¹⁰	Fd ^{1,8,9,21} Ss ^{15,11}	N/A	900	500	400	20	Ss Hw Fd	3.00 2.50 2.25	Cw, Yc Hm	1.50 1.00	
06	Cw Hw Yc ¹⁰		N/A	900	500	400	20	Ss Hw Fd	3.00 2.50 2.25	Ba Cw, Yc Hm	1.75 1.50 1.00	
07	Cw Hw ² Yc ¹⁰	Ss ^{15,11}	N/A	900	500	400	20	Ss Hw Fd	4.00 3.50 3.00	Cw, Yc Hm	2.00 1.00	
08	Cw ¹⁴ Hw ^{2,17} Yc ¹⁰	Ss ^{17,11}	N/A	900	500	400	20	Ss Hw	4.00 3.50	Cw, Yc Hm	2.00 1.00	
09	Cw ¹ Hw ¹ Yc ^{1,10}	Ba Hm ¹³	N/A	800	400	400	20	Pw Ss Hm, Hw Ba, Fd	2.50 2.00 1.75 1.50	Pl Cw, Yc Hm	1.25 1.00 0.75	
10*	Pl ¹ Yc ^{1,10}	Hm	N/A	400	200	200	20	Pw Ss Hm, Hw Ba, Fd	2.50 2.00 1.75 1.50	Pl Cw, Yc Hm	1.25 1.00 0.75	
11	Cw ¹ Yc ^{1,10}	Hw ¹	N/A	800	400	400	20	Pw Ss Hm, Hw Ba, Fd	2.50 2.00 1.75 1.50	Pl Cw, Yc Hm	1.25 1.00 0.75	

Series	Regeneration Guide CWHxm						Free Growing Guide					
	Species			Stocking			Assessment	Min. Height		Min. Height		
	Conifer		Broadleaf	Target	MIN pa	MIN p		Species	Ht	Species	Ht	
	Preferred (p)	Acceptable (a)		(w s/ha)		(yrs)		(m)		(m)		
01	Fd	Hw ⁵ Cw Pw ^{21,12}	Dr ^{7,4,a} Mb ^b Ra ^b	900	500	400	20	Fd 3.00 Pw 2.50	Hw 2.00 Cw, Lw 1.50			
02*	PI Fd		Qg ^b Ra ^a	400	200	200	20	Pw 2.50 Fd 2.00 Lw, Ss 1.50	PI 1.25 Cw 1.00			
03	Fd PI ⁶	Cw	Act ^b Dr ^b Mb ^b Ra ^b	800	400	400	20	Pw 2.50 Fd 2.00 Lw, Ss 1.50	Hw, PI 1.25 Cw 1.00			
04	Fd	Cw Pw ¹²	Act ^b Dr ^b Mb ^a	900	500	400	20	Fd 3.00 Pw 2.50	Hw 2.00 Cw, Lw 1.50			
05	Cw Fd	Pw ¹²	Act ^{4,a} Dr ^{3,a} Mb ^a	900	500	400	20	Fd 4.00 Bg 3.50 Pw 2.50	Cw 2.00 Hw 1.75			
06	Cw Hw Fd ¹⁸		Act ^b Dr ^{7,3,a} Mb ^b	900	500	400	20	Bg, Fd 3.00 Pw 2.50	Hw 2.00 Cw, Lw 1.50			
07	Cw Fd	Bg	Act ^{3,a} Dr ^{3,a} M ^{b41,a}	900	500	400	20	Fd 4.00 Bg 3.50 Pw 2.50	Cw 2.00 Hw 1.75			
08	Cw Ss ¹¹	Bg	Act ^{3,a} Dr ^{3,a} M ^{b3,a}	900	500	400	20	Fd, Ss 4.00 Bg 3.50	Pw 2.50 Cw 2.00			
09	Cw ¹	Bg ¹	Act ^{3,a} Dr ^{3,a} M ^{b3,a}	900	500	400	20	Fd 4.00 Bg 3.50	Pw 2.50 Cw 2.00			
10	no conifers		Act ^b Dr ^b Ep ^b Mb ^b	-	-	-	-					
11*	PI ¹	Cw ¹	N/A	400	200	200	20	Pw 2.50 Fd 2.00 Lw, Ss 1.50	PI 1.25 Cw 1.00			
12	Cw ¹	Hw ¹ Pw ¹²	Act ^b Dr ^b Ep ^b Mb ^b	800	400	400	20	Pw 2.50 Fd 2.00 Lw, Ss 1.50	PI 1.25 Hw 1.25 Cw 1.00			
13	Cw Bg Fd		Act ^{3,a} Dr ^{3,a} Ep ^{18,a} M ^{b3,a}	900	500	400	20	Fd 4.00 Bg 3.50	Pw 2.50 Cw 2.00			
14	Bg ¹ Cw ¹		Act ^{3,a} Dr ^{3,a} Ep ^{18,a} M ^{b3,a}	900	500	400	20	Fd 4.00 Bg 3.50	Pw 2.50 Cw 2.00			
15	Cw ¹		Act ^b Dr ^b Ep ^b Mb ^b	800	400	400	20	Fd 4.00 Bg 3.50	Pw 2.50 Cw 2.00			

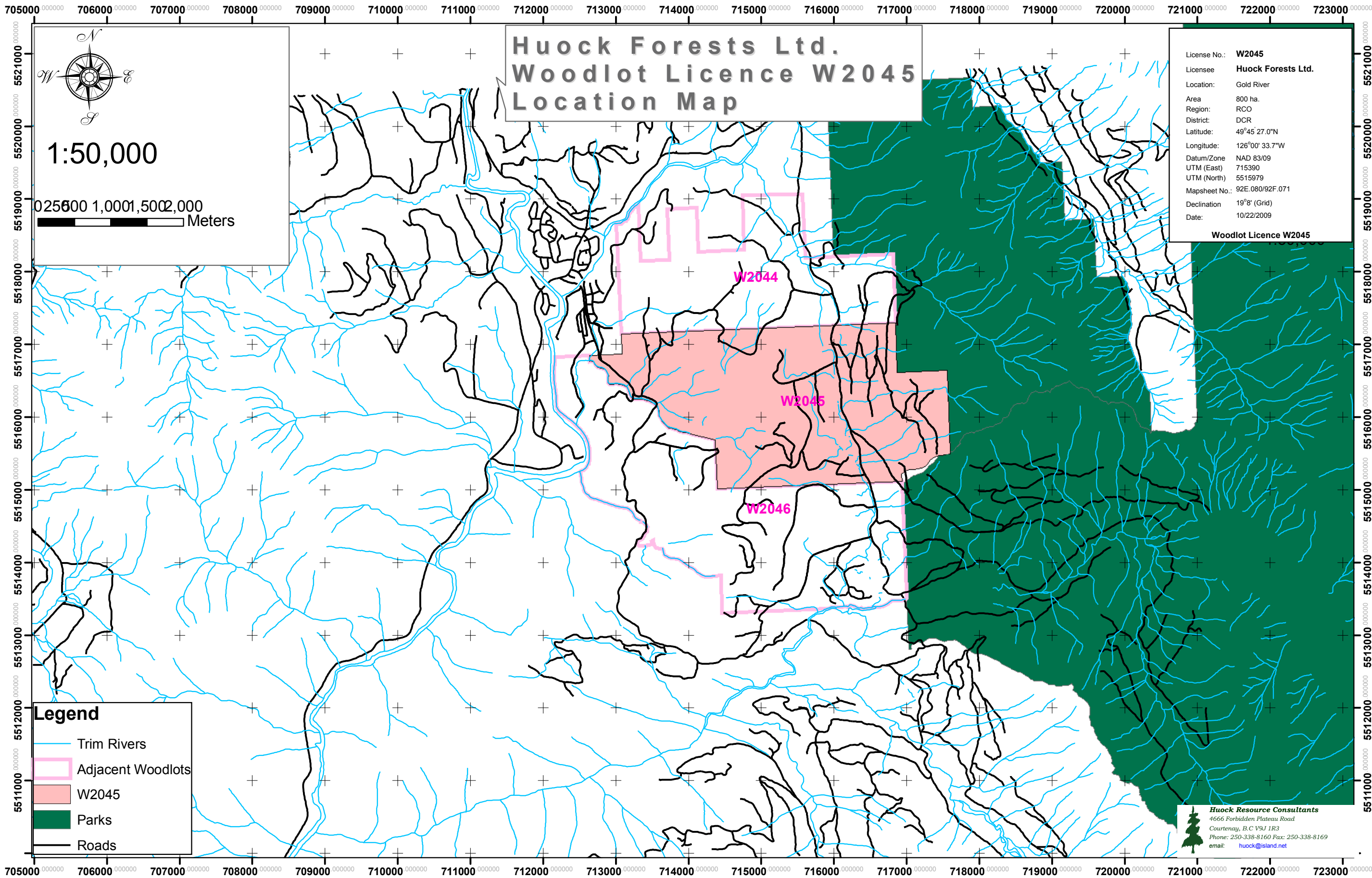
Series	Regeneration Guide MHmm1						Free Growing Guide		
	Species			Stocking			Assessment	Min. Height	
	Conifer		Broadleaf	Target	MIN pa	MIN p	(yrs)	Species	Ht (m)
	Preferred (p)	Acceptable (a)		(w s/ha)					
01	Ba Hm Yc	Se ²¹	N/A	900	500	400	20	Bp 1.25 Hm, Hw, Yc 1.00 Sw/Se/Sx 1.00 Ba 0.60	
02	Hm Yc	Ba Se ²¹	N/A	800	400	400	20	Hm, Yc 0.75 Sw/Se/Sx 0.75 Ba 0.60	
03	Ba Hm Yc		N/A	900	500	400	20	Bp 1.25 Hm, Hw, Yc 1.00 Sw/Se/Sx 1.00 Ba 0.60	
04	Ba Hm Yc		N/A	900	500	400	20	Bp 1.25 Hm, Hw, Yc 1.00 Sw/Se/Sx 1.00 Ba 0.60	
05	Ba Yc	Hm	N/A	900	500	400	20	Bp 1.25 Hm, Hw, Yc 1.00 Sw/Se/Sx 1.00 Ba 0.60	
06	Hm ¹ Yc ¹	Ba ¹	N/A	800	400	400	20	Hm, Yc 0.75 Sw/Se/Sx 0.75 Ba 0.60	
07	Ba ¹ Yc ¹	Hm ¹	N/A	900	500	400	20	Hm, Yc 0.75 Sw/Se/Sx 0.75 Ba 0.60	
08*	Hm ¹ Yc ¹		N/A	400	200	200	20	Hm, Yc 0.75 Sw/Se/Sx 0.75 Ba 0.60	
09	Yc ¹	Hm ¹	N/A	800	400	400	20	Hm, Yc 0.75 Sw/Se/Sx 0.75 Ba 0.60	

Footnotes referenced to Stocking Standards for W2045		
Conifer Tree Species	Footnote #	Footnote
"Ba" means amabilis fir;	1	elevated microsites are preferred
"Bg" means grand fir;	2	suitable on thick forest floors
"Pl" means lodgepole pine;	3	limited by poorly drained soils
"Pw" means white pine;	4	restricted to fresh soil moisture regimes
"Cw" means western red cedar;	5	suitable (as a major species) in wetter portion of Biogeoclimatic zone
"Fd" means Douglas-fir;	6	restricted to nutrient-very-poor sites
"Hm" means mountain hemlock;	7	restricted to nutrient-medium sites
"Hw" means western hemlock;	8	restricted to steep slopes
"Se" means Engelmann spruce;	9	restricted to southerly aspects
"Ss" means Sitka spruce;	10	Species is restricted to upper elevations
"Yc" means yellow cedar.		
Broadleaf Tree Species	11	Use of resistant stock mitigates risk of spruce weevil damage. Use stock with the highest resistance rating for your area.
"Act" means black cottonwood;	12	Use of resistant stock mitigates risk of white pine blister rust. Use stock with the highest resistance rating for your area.
"Dr" means red alder;	13	restricted to upper elevations of biogeoclimatic unit
"Mb" means bigleaf maple;	14	restricted to lower elevations of biogeoclimatic unit
"Qg" means garry oak;	15	restricted to northern portion of biogeoclimatic unit in region
"Ra" means arbutus;	16	restricted to southern portion of biogeoclimatic unit in region
	17	risk of porcupine damage
Notes	18	restricted to eastern portion of biogeoclimatic unit in region
"MIN" or "Min" means minimum.	19	suitable minor species on salal-dominated sites
ws/ha means well spaced/ha	20	suitable on sites lacking salal
Assessment means the years from harvest to FGC	21	restricted to trial use
"Biogeoclimatic unit" or "BGC classification"	22	minor component
means the zone, subzone, variant, and site series	23	included for treatment of root disease alternative to destumping
described in the most recent field guide published	#	Broadleaf Management Constraints
by the Ministry of Forests and Range for the	a	productive, reliable, and feasible regeneration option
identification and interpretation of ecosystems,	b	limited in productivity, reliability and/or feasibility
as applicable to a harvested area.		

Rules for Modifying Stocking Standards (Table 5) on W2045²⁰
<p align="center">RULE NUMBER ONE - Site Series Mosaics/Complexes</p> <p>Where more than one site series is located within a logical standards unit area the standard that applies will be that of the dominant site series. This standard can be modified with the inclusion of additional species selected from the standard of the subdominant site series for those specific areas of the mosaic or complex. These additional components to the standard will be supported by a rationale, and documented.</p>
<p align="center">RULE NUMBER TWO - Transitional Sites</p> <p>On transitional sites occurring between two BEC units the standard that applies will be that of the dominant BEC unit. This standard can be modified with the inclusion of components of the standard with the sub-dominant BEC unit. These additional components to the standard will be supported by a rationale and documented.</p>
<p align="center">RULE NUMBER THREE - Minimum Intertree Distance (MITD)</p> <p>The general MITD of 2.0 meters can be reduced down to 1.0 meter for any given site where productive and plantable sites are limited by pre-harvest site characteristics. These can include but are not limited to colluvial, hygic and subhygic sites. Also included are areas immediately adjacent to a stream (within a RMA), NPNAT, mechanically mounded site or unplantable slash piles. Justification for a reduced MITD will be supported by a rationale and documented.</p>
<p align="center">RULE NUMBER Four - Heavy Elk/Deer Browse or Vandalised Areas (HEDBV)</p> <p>In HEDBV the intertree spacing is reduced to 1.5 m and MSS is 50% of normal standards. HEDBV are defined as units where browse or damage is chronic and ongoing. HEDBV will include more than 50 damaged trees per hectare or standard unit. The HEDBV designation will be supported by a rationale and documented.</p>

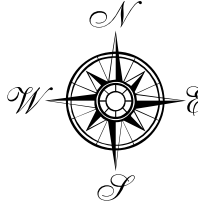
²⁰ Rules for Modifying stocking standards developed from the Sunshine Coast Forest District approved stewardship plans.

Appendix III: The Woodlot Licence Plan Maps



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 email: huock@island.net

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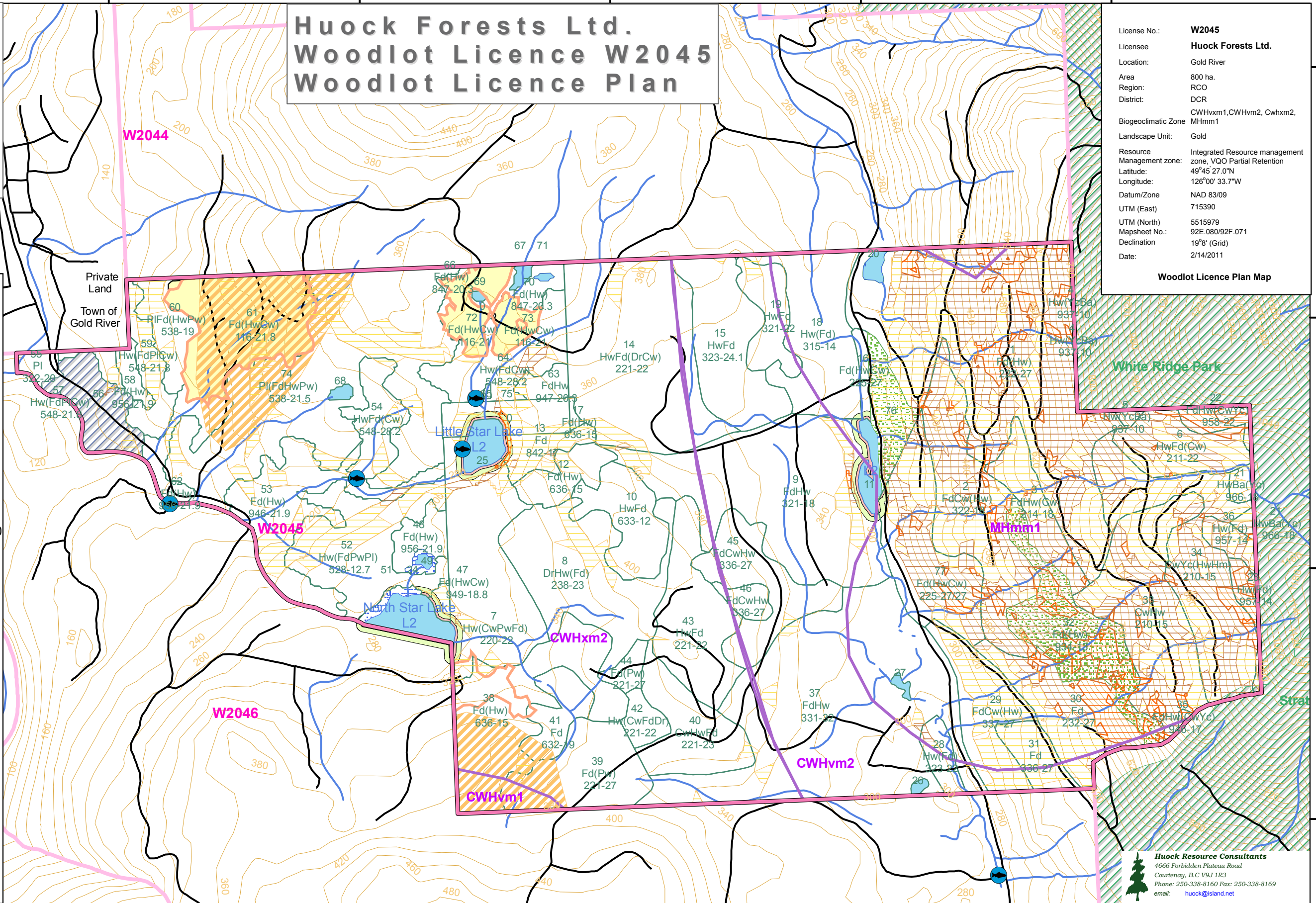
Huock Forests Ltd. Woodlot Licence W2045 Woodlot Licence Plan

License No.:	W2045
Licensee:	Huock Forests Ltd.
Location:	Gold River
Area:	800 ha.
Region:	RCO
District:	DCR
Biogeoclimatic Zone:	CWHvxm1,CWHvm2, Cwxhm2, MHmm1
Landscape Unit:	Gold
Resource Management zone:	Integrated Resource management zone, VQO Partial Retention
Latitude:	49°45' 27.0"N
Longitude:	126°00' 33.7"W
Datum/Zone:	NAD 83/09
UTM (East):	715390
UTM (North):	5515979
Mapsheet No.:	92E.080/92F.071
Declination:	19°8' (Grid)
Date:	2/14/2011

Woodlot Licence Plan Map

Legend

- Adjacent Woodlots
- W2045
- Parks
- Forest
- 1-20 year old Forest
- Lake
- NP
- Rock,
- Swamp,
- Watershed: WA2 WA 25100110
- Ungulate Winter Range
- Streams (TRIM)
- Wildlife Habitat
- Contours
- Roads
- VQO-PR
- Cutblocks
- Slope Classes**
- 30-60%
- 61-90%
- 91+ %
- BEC
- Fish Observed (FISS)
- RRZ
- RMZ



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 4666 Forbidden Plateau Road
 Courtenay, B.C V9J 1R3
 Phone: 250-338-8160 Fax: 250-338-8169
 email: huock@island.net

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Appendix IV: Invasive Plant List

For the purposes of section 47 of the Forest and Range Practices Act, the prescribed species of invasive plants are as follows:

Weed Species	Scientific name
Anchusa	<i>Anchusa officinalis</i>
Baby's breath	<i>Gypsophila paniculata</i>
Black knapweed	<i>Centaurea nigra</i>
Blueweed	<i>Echium vulgare</i>
Brown knapweed	<i>Centaurea jacea</i>
Bull Thistle	<i>Cirsium vulgare</i>
Canada Thistle	<i>Cirsium arvense</i>
Common Burdock	<i>Arctium minus</i>
Common Tansy	<i>Tanacetum vulgare</i>
Dalmatian Toadflax	<i>Linaria dalmatica</i>
Diffuse Knapweed	<i>Centaurea diffusa</i>
Field Scabious	<i>Knautia arvensis</i>
Giant Knotweed	<i>Polygonum sachalinense</i>
Gorse	<i>Ulex europaeus</i>
Hoary Alyssum	<i>Berteroa incana</i>
Hoary Cress	<i>Cardaria draba</i>
Hound's-tongue	<i>Cynoglossum officinale</i>
Japanese Knotweed	<i>Polygonum cuspidatum</i>
Leafy spurge	<i>Euphorbia esula</i>
Marsh Thistle	<i>Cirsium palustre</i>
Meadow Hawkweed	<i>Hieracium pilosella.</i>
Meadow Knapweed	<i>Centaurea pratensis</i>
Nodding Thistle	<i>Carduus nutans</i>
Orange Hawkweed	<i>Hieracium aurantiacum</i>
Oxeye Daisy	<i>Chrysanthemum leucanthemem</i>
Perennial pepperweed	<i>Lepidium latifolium</i>
Plumeless Thistle	<i>Carduus acanthoides</i>
Puncture vine	<i>Tribulus terrestris</i>
Purple Loosestrife	<i>Lythrum salicaria</i>
Rush Skeletonweed	<i>Chondrilla juncea</i>
Russian Knapweed	<i>Acroptilon repens</i>
Scentless Chamomile	<i>Matricaria maritima</i>
Scotch broom	<i>Cytisus scoparius</i>
Scotch Thistle	<i>Onopordum acanthium</i>
Spotted Knapweed	<i>Centaurea maculosa</i>
St. John's-wort	<i>Hypericum perforatum</i>
Sulphur Cinquefoil	<i>Potentilla recta</i>
Tansy ragwort	<i>Senecio jacobaea</i>
Teasel	<i>Dipsacus fullonum</i>
Yellow Iris	<i>Iris pseudacorus</i>
Yellow starthistle	<i>Centaurea solstitialis</i>
Yellow toadflax	<i>Linaria vulgaris</i>

[Provisions of the *Forest and Range Practices Act*, SBC 2002, c. 69, relevant to the enactment of this regulation: sections 47 and 141]

INVASIVE PLANTS REGULATION

B.C. Reg. 18/2004[effective Jan. 31, 2004]