WOODLOT LICENCE #W1640

WOODLOT LICENCE PLAN

Proposed First Term

2007 to 2017

1355Evergreen RoadCampbell River, B.C.V9W 3S3E-mail: blr@uniserve.comPhone: 250 286 4699Fax: 250 286 4699

Authorized Licencee Signature:

John and Irene Ross

IRENE ROSS

[Print Name]

Irene Ross

[Signature]

Dec. 3, 2007

[Date]

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DISCLAIMER

- Recognizing the special nature of management on a woodlot licence, this disclaimer forms part of the Woodlot Licence Plan (WLP) for Woodlot Licence Number W1640 and advises that:
 - the decision to operate under one or more of the Default Performance Requirements provided in the Woodlot Licence Planning and Practices Regulation (WLPPR) is the sole responsibility of the woodlot licence holder, and involved no detailed oversight or advice from the prescribing registered professional forester. This disclaimer is signed on the explicit understanding and information provided by government that, the use and achievement of a Default Performance Requirement, meets the expectations of government with respect to the management of woodlot licences;
 - the undersigned Registered Professional Forester has been retained to provide advice on the practice of professional forestry with regard to items such as alternative performance requirements, applicable results and strategies and other required measures that do not have a default performance requirement provided in the WLPPR.



Signed

Name (Print) Nigel Ross

RPF # 2304

Contact phone number 250 286 4699

Email blr@uniserve.com Seal:

I Content for a Woodlot Licence Plan (WLP)

1. Plan Area

This plan covers the entire Woodlot Licence area.

This plan covers a portion of the Woodlot Licence area.

The Schedule A land of W1640 is located at 1355 Everegreen Road, Campbell River. The Schedule B lands are located in the John Hart and Lower Cambell Lake areas. The original crown area of W1640 in located northwest of Ladore Dam and the recently aquired top up area is located north of Elk Falls Provincial Park.

2. Map and Information

Information Item	Мар	Text	N/A
Forest cover	Х		
Topography; (unless exempted by DM)	Х		
Location of streams, wetlands and lakes as shown on forest cover maps,	Х		
terrain resource inventory maps and fish and fish habitat inventory maps.			
Riparian classification of streams, wetlands and lakes if shown on maps	Х		
Identification of fish streams	Х		
Biogeoclimatic zones and subzones (unless exempted by DM)	Х		
Public utilities (transmission lines, gas & oil pipelines, and railways)	Х		
Existing roads	Х		
Special Situations that may not Apply to the WL area			
Resource Management Zones, Sayward Landscape Unit Plan or Sensitive	Х	Х	
Areas			
Government Action Regulation Identified Recreation Resource Features	Х	Х	
Wildlife Habitat Areas (unless exempted by DM)			Х
Scenic Areas	Х		
Ungulate Winter Ranges	Х		
Fisheries Sensitive Watersheds			Х
Community Watersheds	Х		
Community and domestic water supply intakes that are licenced under the	Х		
Water Act and any related water supply infrastructures			
Contiguous areas of sensitive soils	Х		
Temporary or permanent barricades to restrict vehicle access	Х		
Private property within or adjacent to the woodlot licence area	Х		
Resource features other than wildlife habitat features and archaeological	Х		
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) is identified on the map in Appendix III.

Biogeoclimatic Zones and Subzones:

The entire woodlot licence area is within the CWH xm biogeoclimatic subzone.

Resource Management Zones, Sayward Landscape Unit Plan or Sensitive Areas:

The crownland portion of the Woodlot Licence area falls within the Vancouver Island Landuse Plan (VILUP) Resource Management Zone (RMZ) #31. The Sayward Landscape Unit Plan has been prepared for RMZ 31. This WLP attempts to meet the goals and objectives set out in this landscape unit plan.

The Schedule A lands are not within any Landscape Unit but are located on the rural/ forest land interface of Campbell River. This Woodlot Licence Plan is consistent with the applicable government objectives specified for this Resource Management Zone.

Government Action Regulation (GAR) – Recreation Features

A GAR Order was prepared to identify recreation resource features within the Sayward Landscape Unit. Within Woodlot Licence W1640 two recreation resource feature areas have been identified. The largest recreation resource feature area is found in the Campbell Lake block along the northwest boundary of the Woodlot and a smaller area is located in the Elk Falls block. A Recreational Plan has been prepared for the zone occupied by the larger recreation resource feature area (see Appendix IV).

Established Recreation Site:

The Big Bay Recreation Site is within Woodlot W1640 and has been established for a number of years. This recreation site is within Recreation Lot REC0156.

Wildlife Habitat Areas:

No Wildlife Habitat Areas have been identified within Woodlot Licence W1640.

Scenic Areas:

Scenic areas were established for this Woodlot Licence in 2005. The scenic areas on the map within Appendix III represent the 2005 updated inventory.

Ungulate Winter Ranges:

There are four separate polygons of Ungulate Winter Range (UWR) within W1640. In total these UWRs make up 75.9 hectares. These polygon are a mix of old growth Fd (CwHw) and second growth Fd (50 to 60 years old). As per the original Woodlot Licence tender document harvesting is allowed within the UWR portions that are composed of second growth. For greater detail on the harvesting within these UWRs see Section 4 (Areas Where Harvesting Will be Modified).

Fisheries Sensitive Watersheds:

There are no Fisheries Sensitive Watersheds within Woodlot Licence W1640.

Community and Domestic Water Supply Intakes that are Licenced Under the Water Act and any Related Water Supply Infrastructures:

Approximately one third of the Lower Campbell block is located within the community watershed of Campbell River (eastern portion of area). There are no licenced community or domestic water

intakes within 1 km of any part of the Woodlot Licence. There are a number of water supply infrastructures within and adjacent to the Woodlot Licence. There is a municipal water storage tank located beside Camp Road. This tank is connected to a water line that runs the length of Camp Road from John Hart Lake to a subdivision on Gordon Road. Connecting to this waterline at the Camp/ Devlin Road junction is a private waterline. This private waterline follows Devlin Road.

There is also a water supply structure located outside of the Woodlot Licence. A reservoir is located north of the Elk Falls block. This reservoir is located within the private property of PRT Nurseries and is approximately 250 m north of the Woodlot Licence.

Contiguous Areas of Sensitive Soils

Parts of W1640 have been assessed by Maritime Pacific Engineering (J. Alquire, R.P.F., P. Eng) for Sensitive Soils. Sensitive Soils exist along the John Hart Lake/ Campbell River shoreline but Alquire indicated that these areas could be harvested if certain operational constraints are followed.

These Sensitive Soils are located within the Campbell River Community Watershed. They are on steep slopes (50 to 60 %) and are directly adjacent and upslope of John Hart Lake. This WLP was referred to the District of Campbell River especially for these Sensitive Soils as well as for all activities within the Community Watershed. A response letter was received from R. Neufeld, City Engineer indicating that harvesting could occur within the Community Watershed (and on the Sensitive Soils) as long as the conditions outlined in his letter of May 28, 2007 are followed. These conditions included: operating under best management practices, all activities to follow Maritime Pacific Engineering's recommendations, an Emmergency Response Plan be developed and supplied to the City, harvesting limited to periods of low rainfall and prohibit public access to John Hart Lake.

In addition to this the Woodlot Licence Planning and Practices Regulation (S. 73) states that the Licencee must notify the District of Campbell River at least 48 hours before road construction or deactivation begins.

Temporary or Permanent Barricades to Restrict Vehicle Access

A number of gates have been installed within W1640. Within the Campbell Lake block there are three gates and within the Elk Falls block there is one. Most of the gates the Licencee installs are for the prevention of wood theft, vandalism and garbage dumping. A barricade/gate has been installed on John Hart Road to comply with a Ministry of Forests Order. This Order states "... to Prohibit Camping on Crown Land Within the John Hart Lake Community Watershed." The objective for barricading roads leading to John Hart Lake is the protection of the Municipality of Campbell River's water supply.

The Licencee may apply for authority to install additional gates on the main access roads into the Elk Falls block of the Woodlot Licence. This gate(s) will most likely be located on Devlin Road or on spurs leaving Devlin Road. The purpose of these gates would be to reduce vandalism, garbage dumping and wood theft. Other users of this road (Duncan Devlin) have been consulted and they would like to see public access restricted on Devlin Road.

There is an exsiting gate on Lookout Road. This gate is owned by the Canadian Broadcasting Corporation in order to protect a radio tower. The Licencee requests permission for the existence of this gate within the Woodlot Licence.

Private Property Within or Adjacent to the Woodlot Licence Area

There are a number of private land parcels adjacent to the Woodlot Licence. See the maps in Appendix III for the locations of these parcels of private property.

Resource Features Other than Wildlife Habitat Features, Archaeological Sites, and Other Features Where the Location Must not be Disclosed

The Licencee is not aware of any Resources Features within Woodlot Licence W1640 whose location must not be disclosed.

3. Areas Where Timber Harvesting Will be Avoided

Harvesting will be avoided in a number of areas with W1640. These areas include:

- Ungulate Winter Ranges composed of old growth,
- A 50 m reserve along John Hart Lake (community watershed)

In isolated cases roads may be needed to pass through these reserves if there is no other practical alternative.

4. Areas Where Timber Harvesting Will Be Modified

Locations/Situations Where Timber Harvesting Will be Modified

- 1. Harvesting will be modified to protect specific resource features (bear dens, raptor nest trees).
- 2. Harvesting will be modified in the scenic areas established within the woodlot licence area.
- 3. Harvesting will be modified adjacent to licenced water intakes.
- 4. Harvesting will be modified within riparian management zones as specified in the regulations.
- 5. Harvesting will be modified adjacent to some parcels of private land and Elk Falls Park.
- 6. Harvesting will be modified on areas that have slope angles between 40 and 100 %, have an aspect from 90 to 270 degrees and are located within 2 km of an identified ungulate winter range (UWR).
- 7. Modified harvesting is permitted within UWRs that are composed of second growth. The objectives of harvesting is to enhance the second growth attributes for ungulate winter range. Currently these stands are 60 70 years old Fd (CwHwPl) stands. Generally the CwHw are understorey or intermediate trees and are at low densities. The Pl are found as scattered intermediates trees or clumps of dominants on rock knolls. The Ministry of Environment has agreed to a harvesting trial within the UWR to see if their habitat objectives can be met by a stand thinning entry.
- 8. Harvesting will be modified on the areas identified as having sensitive soils.
- 9. Harvesting will be modified within the identified recreation feature.

Modified Harvesting Where Practice Requirements Do Not Apply in the WLPPR

Specifc Resources Features Bear Dens/Raptor Nest Trees

Certain resource features will require harvesting practices to be modified. The type of feature referred to could include bear dens or raptor nesting trees. Harvesting will be modified in a manner to prevent the feature from being rendered ineffective. This will include ensuring the feature is windfirm (in the case of a nesting tree). Windfirming may be accomplished by harvest block configuration or by buffering the feature with leave trees. Other types of harvesting modification could include buffering the feature to provide for thermal or visual cover.

Scenic Area

Much of W1640 has been classified to have scenic values that are meant to protect the views from the adjacent water bodies. A Government Action Regulation (GAR) was passed on December 14, 2005 specifying the Visual Quality Objectives for the areas covered under this WLP. Visual Quality Objectives are divided into five categories. These divisions and their corresponding definitions are:

VQO	Definition							
Preservation	Consisting of an altered forest landscape in which the alteration, when							
	assessed from a significant public viewpoint, is							
	(i) very small in scale, and							
	(ii) not easily distinguishable from the pre-harvest landscape							
Retention	Consisting of an altered forest landscape in which the alteration, when							
	assessed from a significant public viewpoint, is							
	(i) difficult to see,							
	(ii) small in scale, and							
	(iii) natural in appearance							
Partial	Consisting of an altered forest landscape in which the alteration, when							
Retention	assessed from a significant viewpoint, is							
	(i) easy to see,							
	(ii) small to medium in scale, and							
	(iii) natural and not rectilinear or geometric in shape							
Modification	Consisting of an altered forest landscape in which the alteration, when							
	assessed from a significant public viewpoint, is							
	(i) is very east to see, and							
	(ii) is							
	(A) large in scale and natural in its appearance, or							
	(B) small to medium in scale but with some angular characteristics							
Maximum	Consisting of an altered forest landscape in which the alteration, when							
Modification	assessed from a significant public viewpoint, is							
	(i) is very easy to see, and							
	(ii) is							
	(A) very large in scale,							
	(B) rectilinear and geometric in shape, or							
	(C) both							

Within scenic areas harvesting will be modified to achieve the VQO objectives. Harvesting will be modified by:

- cut block size and design
- utilizing dispersed and group retention to screen openings
- retaining trees along lake riparian areas to act as a screen
- scheduling of harvesting in visible areas. Defer harvesting adjacent to previously cut areas until adjacent areas are sufficiently "greened up"
- Manage for windthrow so that damage to leave areas does not result in the VQO being exceeded.

Private Land/ Provincial Park

Harvesting will be modified adjacent to some private land and Elk Falls Park. Harvesting modification could involve:

- Leaving a buffer
- Utilize a silvicultural system other than clearcut
- Block and road design
- Crown modification to reduce the risk of blowdown on the non woodlot tenure
- Visual screens to account for scenic values

Second Growth Ungulate Winter Ranges (UWRs)

Right from the original tendering of this Woodlot Licence there has been an understanding that harvesting would be allowed within the UWRs composed of second growth. The first harvesting of this nature was conducted during the last Forest Development Plan (FDP #2). The objective of conducting this harvesting was to improve the short and longterm habitat quality of the UWRs.

Presently these second growth UWRs are even aged (60 to 70 years old) Douglas fir (Fd) stands that have higher stocking and very little species variety. Douglas fir makes up approximately 95%⁺ of the stocking. There are some red cedar (Cw) and hemlock (Hw) intermediates and some thickets of cedar/hemlock understorey. The occasional white pine (Pw) is found within the stand and some lodgepole pine (Pl) are also present. Pl can be found in higher concentrations on some of the rockier knolls but these are generally considered non productive.

The Ministry of Environment feels the habitat of these UWRs can be improved in a number of ways:

- Increase the snow interception potential of these stands. This can be achieved by giving the dominant trees within the stand more room to expand their crowns.
- Maintaining/enhancing undertorey conifer thickets to improve hiding cover and thermal insulation. For visual cover, understorey thickets along roads or beside rock bluffs are very important.
- Create a greater diversity of conifer species on site. Harvesting a proportion of the Fd will increase the relative abundance of the other species.

- Create a multilayered stand.
- Promote understorey vegetation growth.
- Identifying and preserving less common tree species (Pw,Pl, Dr, cherry, maple)
- Preserving trees with the following characteristics :
 - Heavy branching
 - Trees with distorted stems
 - Trees with broken tops
 - o Understorey Hw or Cw that have heavy branching (good for lower canopy nesters)
 - Trees with large scars.
- increase light to Vaccinium patches in order to promote growth
- manually scar healthy leave trees to promote the development of wildlife habitat
- plant rehabilitated temporary skid trails with vaccinium species
- cut off salix species in order to promote regrowth within browse height
- Create a stand with a multilayered canopy, achieved by preserving some low, mid and high crown trees
- preserving first growth coarse woody debris where possible.
- Piling not burning logging slash in order to create mounds of small diameter woody debris

Harvesting will occur within the second growth UWRs. The primary objective of this harvesting will be to improve the UWR habitat as identified in the above bullets. The development of these habitat objectives, post harvest stand characteristics and stocking standards have been developed in consultation with the Ministry of Environment (Dave Donald, Ron Diederichs, Erica McClaren).

Post harvest stand characteristics of the UWR will have the following attributes:

- No old growth veterans are to be felled. Old growth snags greater than 3 meters in height to be preserved.
- 10 to 15 dominant Fd/ha to be scarred and left standing (future wildlife tree recruitment).
- Understorey conifer thickets to be preserved/enhanced, especially along roads/ rock bluffs. These thickets provide visual screens from road hunters.
- Legacy coarse woody debris greater than 75 cm in DBH to be preserved.
- Dominant/ co dominant stocking density of 250 to 500 stems per ha
- Skid trails can be built within UWR, no roads allowed.

Stocking standards for thinned UWRs can be found in Appendix IA.

The AAC of the Woodlot was calculated not considering the possible volume contribution of the UWR polygons. This was done because it would be very difficult to model infrequent thinning volumes to an annual cut. It has been proposed that any harvesting within the UWR will be above and beyond the AAC for Woodlot W1640. In order for this to happen the preferred way for the Ministry of Forest to administer this additional harvested volume is to authorize it under an Innovative Forest Practices Agreement (IFPA). An IFPA is being developed in consultation with the Ministry of Environment.

Sensitive Soils

When the 2004 Forest Development Plan was developed for W1640 an area of sensitive soil was identified. This area was assessed by J. Alquire, R.P.F., P. Eng of Maritime Pacific Engineering.

In his report Alquire indicates that slope stability should not be compromised if mid slope roads on steep sidehills are avoided and cable yarding is utilized. The soils in this area are dry gravely sand tills and are highly erosive. The risk of erosion can be minimized if cable harvesting is utilized and the harvesting crew is instructed to minimize ground disturbance. This area could be prone to damaging winds out of the south east. Feather the edges or prune trees on the wind throw susceptible edges.

Post harvest Stand Conditions

- Windfirm boundaries
- No mid slope roads
- No ground lead
- Ground disturbance not to exceed 2 %

Recreation Resource Features

On April 6, 2006 a GAR Order was created that identified Recreation Resource Features within the Campbell River District. A number of these Recreation Resource Features are found within Woodlot W1640. The largest area of these recreation features is found along the shoreline of the Lower Campbell block. These recreation features are found in an area from McCallum Point north to the boundary of Woodlots W1640 and W1641. This area is very similar to the 100% Recreation Netdown Area that was identified within the Sayward Landscape Unit Plan.

Within this Recreation Feature area there is the Big Bay Campsite that is managed by the Ministry of Tourism, Sports and the Arts. In addition to this organized camping area there are also numerous beaches and shorelines suitable for recreational use. A Recreation Plan has been prepared for this area and has been submitted to the Ministry of Tourism, Sports and the Arts. The objective of this Recreation Plan is to provide guidance to the Licencee for forest management activities within the Recreation Resource Feature area.

Within this WLP the Licencee has two options in seeking approval to harvest within the Recreation Feature area. Approval can be sought on a block by block consultation basis with the Ministry of Tourism, Sports and the Arts (MTSA) or a Recreation Plan can be developed for the entire Recreation Area. The Licencee has selected to prepare a Recreation Plan and it can be found within Appendix IV. Harvesting in the Recreation Area will follow the standards set out in the Recreation Plan.

The other area the GAR Order identified as having Recreation Resource Features within Woodlot W1640 was in the Elk Falls block. The potential Recreation Feature found in this area appears to be elk viewing. Harvesting with a pattern of small (less than 2.0 hectares) dispersed openings will most likely be beneficial to elk populations.

Retention of Trees in Riparian Management Zones

Unless exempted by the district manager, the woodlot licence holder is committed to retaining the following post harvest stand structure in riparian management zones:

Description of	of Post Harvest Stand	Structure to be Retained	ed in Riparian Management Zones			
A mix of de significant within the V understorey to 20 m in I Taxus, will	eciduous and conif levels of Cw under Woodot Licence. I v Cw will be the pr height and 25 cm in ow, cherry) will al	Terous trees will be le rstorey. Larger Cw (In order to increase the referred retention trees n DBH. In addition to so be targeted for ret	eft. Many of the stands within the Woodlot Licence have (heights of 30 m, DBH of 40 cm) are relatively rare the presence of Cw within the Woodlot these ewithin RMZs. These understorey Cw range in size up to the Cw other less common species (Pw, Mb, Dr, Ac, etention.			
S5 and S6 c	creeks may have th	eir riparian managen	ement zones clearcut.			
Trees	Species	Cw, Pw, Dr, Mb, A	Ac, Vb, W, T , Fd, Hw, Pl			
to be	Characteristics Windfirm, free of root rot, safe to work around					
Retained						
Range of R	esidual Basal Area	1	Range of Residual Trees/ha 10 - 20			
(m^2/ha)						

5. Strategy to Conserve and Protect Cultural Heritage Resources

An ongoing relationship will continued to be built with the various First Nations that claim this part of Vancouver Island as their traditional area. Referral with the affected First Nations will be an ongoing procedure. Formal referral will occur at the time of Management and Woodlot Licence Plans but informal discussions may occur at any time during the course of operations.

Information available on cultural heritage resources for this area can be found within two reports:

- Campbell River Forest District Woodlots, Archaeological Review (Arcas Consulting Archeologists, 1996)
- Archaeological Overview Assessment, (Arcas Consulting Archeologists, 2004). This report basically provides some clarification on the 1996 document.

No evidence of cultural heritage resources have been identified from local knowledge or First Nation referral or consultation. It is not felt that there are any areas within the Woodlot Licence that additional archaeological assements are warranted. No culturally modified trees or recent traditional use has been observed.

A conversation was held with Ron Franks, representing the Comox First Nation, over the phone. During this conversation it was stated by Ron that even though this area does not have some of the features that are more commonly associated with First Nation Use (stands of cedar close to an ocean or navigable river, salmon rivers), there are other features that could have been used. These features could include plant/ berry collection areas or trails along ridges.

First Nations Contacted

The First Nations contacted through the Woodlot Licence Plan were the Hamatla Treaty Society,

Campbell River Indian Band, Cape Mudge First Nation and Comox First Nation. A letter was sent to the appropriate First Nations outlining the Woodlot Licence Plan Process. This letter was followed up by phone calls for a request to meet with them personally.

None of the contacted First Nations requested a meeting with the Licencee or provided any input.

Cultural Heritage	Results and Strategies
Value	
Cedar	Result
	First Nations will have access to red cedar from W1640.
	Strategy
	A cedar component will be managed for in the regenerated forests of W1640.
	retained post harvest. Approximately 25 stems per ha of understorey CW is
	nreserved nost harvest. These Cw range in height from 4 to 15 m. These Cw
	could provide First Nations with an immediate source of raw material for a variety
	of their cedar needs. Monumental cedar may be produced from this woodlot
	over the next 150 to 250 years. This long time frame is due to the relative lack of
	larger second growth Cw and the long time period required to produce a
	monumental cedar. Other cedar use needs can be met within the Woodlot Licence
	(cedar bark, roots, foliage) in the immediate and near term.
Traditional Plants	Result
	First Nations will continue to be able to access traditional plants from W1640.
	Strategy If First Nations express interest in collecting appual /nerappial shrubs or herbs the
	Licencee will work with them to help identify where these plants may be located
	and access through the gates will be provided.
Hunting	Result
	First Nations will have access to this area for hunting.
	Strategy
	I he enhancement of large game is being managed for within the Woodlot Licence
	Nations request it
Cultural Heritage	Result
Resources	If a feature within W1640 has First Nation cultural value the issue will be
	brought to the attention of the appropriate groups. Consultation will continue
	with First Nations to understand their needs/ interests are.
	Strategy
	Before any harvesting or road building occurs the area will be inspected for
	Cultural neritage reatures. The participation in the development of the District
	Heritage Resource issues and needs are. Once these issues and needs are known
	the Licencee with deal with various First Nations that have concerns
Comments.	

Results and Strategies for Cultural Heritage Values

District Cedar Strategy

The Ministry of Forest, in conjunction with a number of forest industry participants, is developing a cedar strategy. This strategy is just in the formulation stage and no details are available yet. John

and Irene Ross are supportive of this concept and are willing to contribute to its development. It is thought the involvement in the development of this strategy will aid in identification and management of cultural hertitage resources within Woodlot Licence W1640.

6. Wildlife Tree Retention Strategy

Woodlot Licence W1640 has a significant amount of the land within reserves (mainly UWRs). These reserves will form the basis of the Woodlot Licence's wildlife tree strategy. Within the Schedule A lands no Wildlife Tree Retention Areas (WTRA) have been designated but the general theme of forest management within this area has been wildlife management.

Within the Schedule B lands no additional WTRA are required to be established in order to achieve the requirements as per the Woodlot Licence Planning and Practices Regulation. Presently 24.5 % of the Woodlot Licence's gross area has been set aside for various reasons. Table 1 lists the various areas within the Woodlot Licence that contribute to the wildlife tree strategy. This table also provides forest cover attributes for these areas.

Table 1. Whenne Tree Area Summary					
Area	На	Forest Cover Attributes			
WTP1	1.0	Fd(Pl) 6405 - 12			
WTP2	1.6	F(H) 6405 - 18			
UWR Old Growth	9.7	F 9414 - 20			
UWR Second Growth	66.1	F(HPL) 4306 - 18			
RRZ	19.6	F 4406, 4306, 4307, D(FH) 2208			
Total	98.0				
Gross WL ha	400				
% WTP	24.5				

Table 1: Wildlife Tree Area Summary

a) Individual Wildlife Trees

In addition to the areas permanently set aside as wildlife tree areas, individual wildlife trees will also be identified and set aside throughout the rest of the woodlot. These individual wildlife trees will have attributes as listed in table 2. The density of these individual wildlife trees will vary. Factors affecting the density of individual wildlife trees can include: stand type, age, location within woodlot, silvicultural system being employed, forest health and other management objectives.

 Table 2: Individual Wildlife Trees

Species	Characteristics
All species	Old growth trees
Fd, Cw, Hw, Bg,	All age classes, coarse branching, broken tops, poor form
Pl	
Dr, Mb V, Tw, W	All age classes, good or bad form

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

Individual wildlife trees may be removed if they are considered a safety hazard or they become infested with insects/pests which threaten the health of adjacent trees.

c) Replacement of Individual Wildlife Trees:

If individual wildlife trees are removed they will be replaced with trees of comparable wildlife tree value from a nearby location.

Wildlife Tree Retention Areas

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

Trees may be removed if they are considered a safety hazard, if they become infested with insects/pests which threaten the health of adjacent trees or there is a need to remove the trees to provide access to adjacent stands. If providing access to adjacent stands the number of high quality wildlife trees removed will be kept to a minimum.

Replacement of Trees Removed from Wildlife Tree Retention Areas:

The most likely reason that some trees may be required to be removed from a wildlife tree retention area is they have become too dangerous to work around or the wildlife tree area has been severely damaged. If wildlife trees are removed for any reason they will be replaced with trees of similar nature.

7. Measures to Prevent Introduction or Spread of Invasive Plants

The following measures will be implemented to reduce the introduction and spread of invasive plants that may result from the Woodlot Licence holders' forest practices:

- Minimize soil disturbance
- Seed disturbed areas as soon as practicable with an appropriate mix of fast growing species of grasses and legumes,
- Minimize the transport of invasive plant seed by removing burrs from clothing and equipment, and by checking the undercarriage of vehicles and removing invasive plants before leaving an infested area.
- Learn to identify invasive plants and recognize early stages of invasive plant development
- Establish well stocked stands of trees that will eventually suppress invasive plants
- Annually monitor invasive plants and carry out control measures, before invasive plants reproduce, on road edges and other areas where the primary forest activities of the woodlot licence holder have created favourable seedbed for the spread of invasive plants.

The most likely invasive plant to be ecountered within the Woodlot Licence area is Scotch Broom. Broom has been seen along the Brewster Lake Road but has not yet been seen within the Campbell Lake block. Broom is most likely established along Camp Road within the Elk Falls block. Minimizing soil disturbance and aggressive grass seeding will occur in the Elk Falls block.

8. Measures to Mitigate Effect of Removing Natural Range Barriers

Not applicable.

9. Stocking Information for Specified Areas

The stocking standards for the purposes of section 12 and 34(3) of the Woodlot Licence Planning and Practices Regulation are found in the Appendix I-B. These stocking standards apply to all thinning in the Ungulate Winter Ranges.

Clearcut and non clearcut silvicultural systems will be used outside of the Ungulate Winter Range. Within the Recreation Zone some areas will be managed with uneven aged management. For uneven and even aged management stocking standards see Appendix I-C.

10. Performance Requirements

Soil Disturbance Limits

- Default WLPPR s.24(1)(b):
 - 8% of Net Area to be Reforested

Permanent Access Structures

Default: WLPPR s.25:

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

- 1. For Cutblocks \geq 5 ha 7% of the total cutblock area
- 2. For Cutblocks < 5 ha 10% of the total cutblock area
- 3. For the Total Woodlot Licence Area 7% of the total Woodlot Licence area

Use of Seed

The defaults as specified in Section 32 of the WLPPR, which requires the adoption of the Chief Forester's standards for Seed Use are adopted.

Stocking Standards

Default: WLPPR s.35(1)(b): Adopt the stocking standards, regeneration dates and free growing dates described in the MoF publication "Reference Guide for Forest Development Plan Stocking Standards", as they exist at the time of this WLP approval. A copy of these standards are attached in Appendix I-A. See <u>http://www.for.gov.bc.ca/hfp/forsite/stocking_stds.htm</u>

For deciduous management the stocking standards as found in the Forest Practices Code Guidebook "Establishment to Free Growing Guidebook – Vancouver Forest Region, Revised Edition Version 2.2, May 2000 will be used. See Appendix I-A.

Width of Stream Riparian Areas

 \Box 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

Default: WLPPR s.39(1) Cutting, modifying or removing trees in a riparian reserve zone is limited to the purposes described in Section 39(1) of the WLPPR.

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 is Section 40(1) of the WLPPR without additional conditions to allow road construction being provided in the woodlot licence plan.

Wildlife Tree Retention

Unless exempted by the district manager, the proportion of the Woodlot Licence area that will be occupied by wildlife tree retention is:

Default WLPPR s.52(1)(a): minimum of 14 % as specified for the area in a land use objective.

The Sayward Landscape Unit Plan indicates that the CWHxm will have a minimum of 14 % of the landbase set aside for wildlife tree retention areas. Out of the 400 gross hectares that make up W1640, 98 ha have been set aside for various non timber values. Many of these areas will act as wildlife tree areas. Expresed as a percentage these set aside areas account for more than 24 % of the Woodlot Licence's gross area.

Coarse Woody Debris

Unless exempted by the district manager, 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)
 - Area on <u>Coast</u> minimum retention of 4 logs per ha \ge 5 m in length and \ge 30 cm in diameter at one end.

Resource Features

Unless exempted by the district manager, the woodlot licence holder will Default WLPPR s.56(1)(b): Ensure that forest practices do not damage or render ineffective a resource feature.

<u>Note:</u> Only the performance requirements in Part 3 (Practice Requirements) of the WLPPR for which an alternative can be proposed are shown in this Woodlot Licence Plan. The remaining performance requirements in Part 3 are not shown, nor are the performance requirements in Part 4 (Roads).

		Regeneration Guide							Free	Growin	g Guide	
BGC			Species		Stoc	king		Regen	Assess	ment	Min. He	eight
Classification			Conifer	Broadleaf	Target	MIN pa	MIN p	Delay	Earliest	Latest	Species	Ht
Zone/SZ	Series	Pref (p)	Accep (a)		(well-spa	aced/ha)		(Max yrs)	(yrs)	(yrs)		(m)
CWHxm	01	Fd	Hw ²⁴ Cw Pw ³¹	Dr ^{7,42,a} Mb ^b	900	500	400	3	8	11	Fd	3.00
											Pw Hw	2.50
											Cw, Lw	1.50
	02*	PI Fd			400	200	200	3	8	11	Pw	2.50
											Fa Lw, Ss	2.00 1.50
											PI	1.25
				Act ^b Dr ^b Mb ^b		100	400				Cw	1.00
	03	FUFI	Cw	ACI DI IVID	800	400	400	3	8	11	Pw Fd	2.50
											Lw, Ss	1.50
											Hw, Pl Cw	1.25 1.00
	04	Fd	Cw Pw ³¹	Act ^b Dr ^b Mb ^a	900	500	400	3	8	11	Fd	3.00
											Pw	2.50
											гw Cw, Lw	2.00 1.50
	05	Cw Fd	Pw ³¹	Act ^{42,a} Dr ^{42,a}	900	500	400	3	8	11	Fd	4.00
				Mb ^a							Bg	3.50
											Pw Cw	2.50 2.00
											Hw	1.75
	06	Cw Hw Fd ¹⁸		Act ^b Dr ^{7,41,a}	900	500	400	6	11	14	Bg, Fd	3.00
				Mb ^b							Pw	2.50
											Cw, Lw	1.50
	07	Cw Fd	Bg	Act ^{41,a} Dr ^{41,a}	900	500	400	3	8	11	Fd	4.00
				M ^{b41,a}							Bg	3.50
											Pw Cw	2.50 2.00
											Hw	1.75

Appendix I-A: Stocking Standards for Clearcut Silvicultural Systems

Foot Notes Appendix I: Stocking Standards, Regeneration Dates and Free Growing Dates for Free Growing Stands

- 1 elevated microsites are preferred
- 6 restricted to nutrient very poor sites
- 7 restricted to nutrient medium sites
- 16 restricted to southern portion of biogeoclimatic unit in region
- 18 restricted to eastern portion of biogeoclimatic unit in region
- 24 suitable (as a major species) in wetter portion of biogeoclimatic unit
- 31 risk of white pine blister rust
- 35 risk of weevil damage
- 41 limited by poorly drained soils
- 42 restricted to fresh soil moisture regimes
- 44 only preferred or acceptable when at least 5 m from and infected trees/stump
- 45 within hardwood plantations there are likely to be small areas that hardwoods are not suitable, conifers will fill these niches
- 46 will act as an understorey/intermediate tree
- a productive, reliable, and feasible regeneration option
- b limited in productivity, reliability and/or feasibility

Regen date = Regeneration Date F G Date = Free Growing Date	MITD = Minimum distance between well spaced trees of the preferred and acceptable species	Crop Tree to Brush % = the height of free growing trees relative to the competing vegetation within a 1 m radius cylinder around the tree.
TSS = Target Stocking Standard (sph = healthy well spaced trees /	MSSpa = Minimum Stocking Standard of well spaced trees of	MSSp = Minimum Stocking Standard of well spaced trees of preferred species
ha)	preferred and acceptable species	

Notes:

Woodlots generally have smaller opening sizes which creates a lot of edge affect. Edges that are located on south and southwest timber edges can have a significant amount of shade. This "edge zone" is defined by being within 10 m of a south or southwest timber face. This shading influence can be detrimental to species requiring higher sunlight levels. To account for this Cw is requested to be a preferred species within the edge zone on site series 03, 01 and 04. Hw is requested to be a preferred species within the edge zone on site series 01, 05 and 07.

There is a significant amount of root rot within Woodlot Licence W1640. Not all root rot centres are stumped due to site limiting conditions (steepness, too rocky or too wet). If a root rot centre is not stumped then the following amendments to the stocking standards are requested:

Site Series	Preferred	Acceptable	Comments
01	Fd, Cw,Pw	Hw	Susceptible species must be at least 5 m from infected stump. Edge zone applies to Hw
02	PI, Fd, Pw		Susceptible species must be at least 5 m from infected stump.
03	PI,Fd,Cw,Pw		Susceptible species must be at least 5 m from infected stump
04	Fd, Cw, Pw		Susceptible species must be at least 5 m from infected stump
05	Fd, Cw, Pw		Susceptible species must be at least 5 m from infected stump. Edge zone applies to Hw
06	Cw,Hw,Fd,Pw		Susceptible species must be at least 5 m from infected stump
07	Cw,Fd,Pw	Bg	Susceptible species must be at least 5 m from infected stump. Edge zone applies to Hw

1/23/2009

Appendix I-B: Stocking Standards for Specified Areas (Ungulate Winter Range)

These stocking standards apply for the purposes of sections 12 and 34(3) of the Woodlot Licence Planning and Practices Regulation to specified areas where the establishment of a free growing stand is not required and harvesting is limited to commercial thinning, removal of individual trees, or a similar type of intermediate cutting, or the harvesting of special forest products. These stocking standards only apply to the thinning that will occur within the Ungulate Winter Ranges (UWRs). The thinning that will occur within these UWRs have habitat enhancement as the primary objective and therefore conventional stocking standards are not relevant.

Description of Post Harvest Stand Structure Presently the second growth stands within the Ungulate Winter Ranges are very uniform. They are all 60 to 70 years old and are 95 % plus Fd. Harvesting will focus on the prevalent Fd and retain the less common features within the stand. Less common features include: understorey conifer thickets, Mb, Dr, Pw, Pl Cw, Hw, large dominant Fd with heavy coarse branching, snags, large coarse woody debris, small openings, layered canopy, deformed trees. Trees Species Fd Cw Hw Pl Pw Dr Mb Good snow interception capability, variety of sizes, thickets, heavy branching, visual screening along roads and bluffs, deformed trees snags

Retained		•		
Minimum Residual Basal Area (m²/l	ha)	or	Target # of Residual Trees/ha	350 - 500

Appendix I-C: Stocking Standards for Uneven Aged Silvicultural Systems

These layered stocking standards apply for the purposes of sections 12 and 34(3) of the Woodlot Licence Planning and Practices Regulation to areas where the establishment of a free growing stand is not required and harvesting is limited to commercial thinning, removal of individual trees, or a similar type of intermediate cutting, or the harvesting of special forest products.

These standards apply to all non clearcut systems but do not apply to the thinning in the Ungulate Winter Range.

Target Stocking	Layer**	Stocking***			Target Stocking	Layer**	Stocking***			
Standards		Target pa	a MIN pa	MIN p		Standards		Target pa	MIN pa	MIN p
(stems/ha)		(well-	(well-spaced/ha)			(stems/ha)		(well-spaced/ha)		a)
1200	1	600	300	250		800	1	300	150	150
	2	800	400	300			2	400	200	200
	3	1000	500	400			3	600	300	300
	4	1200	700	600			4	800	400	400
1000	1	400	200	200		600	1	300	150	150
	2	600	300	250			2	400	200	200
	3	800	400	300			3	500	300	300
	4	1000	500	400			4	600	400	400
900	1	400	200	200		400	1	200	100	100
	2	500	300	250			2	300	125	125
	3	700	400	300			3	300	150	150
	4	900	500	400			4	400	200	200

SU = Standards Unit = a	Minimum Distance Between Well	MSSpa = Minimum Stocking	Layer 1 = Mature trees \geq 12.5 cm dbh
harvested area with the same	Spaced Trees = 2.0 meters except	Standard of well spaced trees of	Layer 2 = Pole trees \geq 7.5 to < 12.5 cm dbh
stocking standards	all healthy trees in the mature	preferred and acceptable species	
TSS = Target Stocking Standard	layer are considered well spaced	MSSp = Minimum Stocking	Layer 3 = Sapling Trees >1.3 m tall & < 7.5 dbh
(sph) = healthy well spaced trees /		Standard of well spaced trees of	Layer 4 = Regeneration trees < 1.3 m tall.
ha		preferred species	

Note: Guidelines for determining preferred and acceptable species for a given site series will be taken from the table in Appendix I-A " Stocking Standards for Clearcut Silvicultural Systems".

W1640 Woodlot Licence Plan

Appendix III: The Woodlot Licence Plan Map

W1640 Woodlot Licence Plan

Appendix IV: Recreation Plan

Appendix V: Innovative Forest Practices Agreement

II Supplemental Information Required to be Submitted in Support of the Proposed Woodlot Licence Plan

1. Review and Comment

a) Advertising

b) Referrals		
Referral	Date, Method	Comments
Jennifer Brunn,	Jan 18/07,	Letter sent, email follow up, phone call follow up. J. Brunn has left
Water Specialist	Canada Post	DCR. Original letter faxed to Truss Lang (Feb 13/07). Truss called
		on March 12/07. Called again on Mar 13. Original Brunn letter faxed
		to her again. Approval letter (with conditions) received from DCR
		May 2007
Hamatla Treaty	Jan 17/07	See consultation log for more details
Society	Canada Post	
Comox First	Jan 17/07	See consultation log for more details
Nation	Canada Post	
Campbell River	Jan 17/07	See consultation log for more details
First Nation	Canada Post	
Cape Mudge First	Jan 17/07	See consultation log for more details
nation	Canada Post	
Duncan Devlin	Jan 31/07	Phone call to determine other property owners, explained process.
	Canada Post	Copy of plan sent to Duncan and 1:5000 map of Elk Falls block. Told
		him that we would talk to him prior to any layout at Elk Falls.
Robert Damer	Jan 31/07	Phone call to get address, talked to his wife, expalined process
	Canada Post	
PRT Nursery	Jan 31/07	
	Canada Post	

Referral Table (con	ntinued)		
Earl Devlin	Jan 31/07	Phone to find out mailing address, message left what phone call and	
		letter about	
Don Neill	Jan 31/07	Phone call to get address, talked to Don about process. 1:5000 WLP	
	Canada Post	map taken to Don and plan process discussed.	
Charlie Cornfield,	March 13/07	Discuseed Elk Falls Block trails and Recreation Area around Big Bay	
MTSA	meeting	Rec Site	
Ministry of	Emails, onsite	UWRs walked with Donald and McLennan. Looked at past thinning	
Environment	Mar 9	in UWR, critique of it. Ongoing consultation is occurring with the	
Donald/McLennan		Ministry of Environment in the development of an Innovative Forest	
		Practices Agreement.	

b) Copy of written comments received

The only written comments received for the WLP were from the Ministry of Forests and the Municipality of Campbell River. For the changes for the comments from the Ministry of Forests see the WLP submission letter. The comments received from Municipality of Campbell River did result in changes to the WLP. On page 6 of the WLP it now states that the Licencee will comply with the conditions identified by the Municipality's engineer.

This WLP refers to and is closely related to two separate plans: the Innovative Forest Practices Agreeement (IFPA) (prepared for thinning in the UWR) and the Recreation Plan for the 100 % Recreation Netdown Polygon. The IFPA was referred to the Ministry of Environment and the Recreation Plan was referred to the Ministry of Tourism, Sports and the Arts. Both of these plans generated comments from their respective Ministries and changes were made accordingly. The WLP did not need to be changed to account for the edits made to the IFPA and the Recreation Plan.

2. Efforts Made To Meet With First Nations

Registered letters explaning the Woodlot Licence Plan referral process sent to Comox First Nation, Hamatla Treaty Society, Campbell River First Nation and the Cape Mudge First Nation. Follow up phone calls made to determine if any of the First Nations want to meet and review the WLP. The Cape Mudge and Campbell River First Nation indicated that this matter should be dealt with by the Hamatala Society. Repeated phone calls and emails to Art Wilson of the Hamatal Society did result in a verbal approval of the Plan but no formal response letter was ever received. On June 19, 2007 a registered letter was sent to the Hamatla Society indicating that without a formal response from them Woodlot Licence Plan approval was being sought from the Ministry of Forests.

After the first registered letter was sent to the Comox First Nation on January 17, 2007 phone calls to the Band were made to determine if they wanted to get together to discuss the Woodlot Licence Plan. Repeated phone calls and emails to the Band office/ Ron Franks did not result in a meeting or a formal response being received. On June 19, 2007 a registered letter was sent to the Comox First Nation indicating that without a formal response from them Woodlot Licence Plan approval was being sought from the Ministry of Forests.

See Section 5 Comments Received for the First Nation Correspondence.

3. Exemptions

No exemptions were requested or received.

4. Rationale In Support Of Proposed Alternative Performance Requirements

No proposed alternative performance requirements applied for.

W1640 Woodlot Licence Plan

5. Comments Received





