

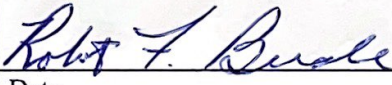
WOODLOT LICENCE W2002

WOODLOT LICENCE PLAN

2023 to 2033

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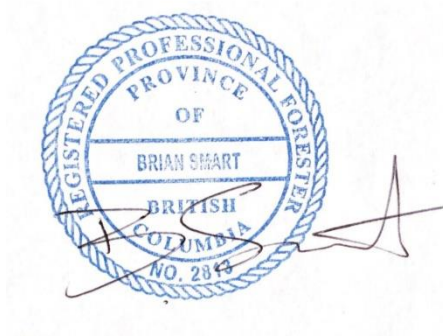
Authorized Licensee Signature:

Print Name Robert F. Beede Pres./Sole Owner
Signature 
Date June 22, 2023

DISCLAIMER

This disclaimer forms part of the Woodlot Licence Plan (WLP) for Woodlot Licence # W2002 and advises that:

- The decision to operate under one or more of the Practice Requirements provided in the Woodlot Licence Planning and Practices Regulation (WLPPR) is the sole responsibility of the woodlot licence holder.
- This disclaimer is signed on the explicit understanding that abiding by the Practice Requirements stated in Parts 3 and 4 of the WLPPR meets the expectations of government with respect to the management of woodlot licences;
- The undersigned Registered Professional Forester has been retained with respect to the practice of professional forestry as it pertains to alternative performance requirements, results, strategies, standards and measures presented in this WLP.



Brian Smart, RPF # 2813

Peer review by Len Apedaile, RPF# 2324, Econ Consulting Ltd.

Contact phone number: 250-337-5588 Email: mail@econ.ca

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I. WOODLOT LICENCE PLAN (WLP) REQUIRED CONTENT

PLAN AREA

☒ This plan covers the entire Woodlot Licence area.

This plan covers the entire 548.6 ha included in Woodlot License W2002. The woodlot licence area consists entirely of Crown land and is located approximately 30 km northwest of Campbell River, in the vicinity of Pye Lake. The woodlot is bounded by the Pye West Forest Service Road to the west, Pye Lake to the North, Mackie Lake to the east and Highway 19 (Island Highway) to the south.

MAP AND INFORMATION

Information Item	Map	Text	N/A*
Forest cover	X		
Topography (unless exempted by DM)	X		
Location and riparian class of streams, wetlands and lakes as shown on government endorsed forest cover maps, terrain resource inventory maps, & fish habitat inventory maps	X		
Identification of fish streams on government endorsed maps	X		
Biogeoclimatic zones and subzones (unless exempted by DM)		X	
Public utilities (transmission lines, gas & oil pipelines, and railways)	X		
Special Situations that may not apply to the WL area			
Resource Management Zones, Landscape Units or Sensitive Areas	X	X	
Wildlife Habitat Areas (unless exempted by DM)			X
Scenic Areas	X	X	
Ungulate Winter Ranges			X
Community Watersheds			X
Fisheries Sensitive Watersheds			X
Community and domestic water supply intakes that are licensed under the <i>Water Act</i> and any related water supply infrastructures			X
Contiguous areas of sensitive soils	X		
Existing roads	X		
Temporary or permanent barricades to restrict vehicle access		X	
Private property within or adjacent to the woodlot licence area			X
Resource features other than wildlife habitat features and archaeological sites (unless the location of the resource feature is not to be disclosed)		X	

* N/A is “not applicable” as these features are not within or do not apply to W2002.

BIOGEOCLIMATIC ZONES AND SUBZONES

☒ The entire woodlot licence area is in the, Very Dry Maritime variant of the Coastal Western Hemlock biogeoclimatic zone or CWHxm2.

RESOURCE MANAGEMENT ZONES, LANDSCAPE UNITS OR SENSITIVE AREAS

☒ The entire woodlot licence area is within the Vancouver Island Land Use Plan Zone 31 which is General Resource Management and has no specific management objectives.

The entire woodlot licence area is within the **Sayward Landscape Unit Plan (SLUP)**.

The SLUP objectives were legally established under the *ORDER TO ESTABLISH A LANDSCAPE UNIT AND OBJECTIVES SAYWARD LANDSCAPE UNIT* July 1, 2003. Established legal objectives can be found here: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/land-use-plans-and-objectives/legal-orders/campbellriver_lu_sayward_fpc_1jul2003.pdf.

The results and strategies to meet the SLUP objectives that are applicable to W2002 are as follows:

Objective 1:

There are no OGMAs within W2002.

Objective 2:

Strategy: The Woodlot Licence holder will retain wildlife tree retention areas to a level of 8% as per the WLPPR section 52 (1) (c).

Wildlife Objectives 3 and 4 of the SLUP which are to provide for ungulate winter range, visual cover and spring forage for elk and black-tailed deer through seral stage management does not apply to woodlots as per FRPA Section 13(3).

Objective 5:

Result: The W2002 holder will meet these objectives to protect the Critical Stream Reaches within W2002.

Objective 6

As per FRPA 13(3) this objective, relating to cutblock size, is not applicable to a woodlot licence.

Marbled Murrelet

BC Woodlot Licence Planning and Practices Regulation Section 9 Notice – Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Marbled Murrelet (Brachyramphus marmoratus) December 2, 2021

Land Act s.93.4 Order for the Recovery of Marbled Murrelet (Brachyramphus marmoratus) December 2, 2021

There is no Marbled Murrelet suitable nesting habitat within W2002 so no result or strategy has been developed to meet the Order and Notice.

WILDLIFE HABITAT AREAS

☒ There are no WHAs located in whole or in part within the WLP area.

SCENIC AREAS

☒ There are scenic areas located within the WLP area. They are identified on the map in Appendix 3. They include Visual Quality Objectives (VQO) of Retention, Partial Retention and Modification as. The woodlot licence holder will ensure these VQOs, as defined in FPPR section 1.1, are met.

UNGULATE WINTER RANGES

☒ There are no Ungulate Winter Ranges located in whole or in part within the WLP area.

COMMUNITY WATERSHEDS

☒ There are no Community Watersheds located in whole or in part within the WLP area.

FISHERIES SENSITIVE WATERSHEDS

☒ There are no Fisheries Sensitive Watersheds located in whole or in part within the WLP area.

COMMUNITY AND DOMESTIC WATER SUPPLY INTAKES THAT ARE LICENSED UNDER THE WATER SUSTAINABILITY ACT AND ANY RELATED WATER SUPPLY INFRASTRUCTURES

☒ There are no community or domestic water supply intakes or related water supply infrastructures within the WLP area or nearby that could be affected by operations carried out under this plan.

CONTIGUOUS AREAS OF SENSITIVE SOILS

☒ The locations of contiguous areas of sensitive soils are identified on the map in Appendix 3 as class 4 and 5 terrain.

TEMPORARY OR PERMANENT BARRICADES THAT RESTRICT VEHICLE ACCESS

- ☒ At the time of preparing this woodlot licence plan there were no permanent or temporary barricades on the WLP area to restrict vehicle access.

PRIVATE PROPERTY WITHIN OR ADJACENT TO THE WLP AREA

There is no private land adjacent to W2002.

RESOURCE FEATURES OTHER THAN WILDLIFE HABITAT FEATURES AND OTHER FEATURES WHERE THE LOCATION MUST NOT BE DISCLOSED

- ☒ The following resource features are found within the woodlot license area:

Karst

A Government Actions Regulation (GAR) order to identify karst resource features was established in the Campbell River Forest District on May 30, 2007. This order identified karst caves, significant surface karst features, and important features and elements within very high or high vulnerability karst terrain as resource features.

The BC iMap karst layer does not show karst potential within W2002 or nearby. If karst features are identified in the woodlot during field surveys and engineering the licensee will consult the *Karst Management Handbook for British Columbia (May2003)* and the Provincial guidance document *Karst Inventory Standards and Vulnerability Assessment Procedures for British Columbia version 2.0* (January 2003) to ensure that forest operations will not damage or render ineffective any karst resource feature as specified in the GAR order.

Old Growth Deferral Polygons

There is one old growth forest polygon of the “remnant” variety within the W2002 tenure area that is being voluntarily deferred from harvesting pending the outcome of the Provincial Old Growth Strategic Review planning process. It is identified on the WLP map as “Old Growth Deferral”.

Growth and Yield Plot

There is one active Provincial growth and yield plot (G&Y) partially within the W2002 tenure area in the southeast corner of the woodlot. This plot has a 300 m protective buffer around it. This G&Y plot is shown on the WLP map.

The W2002 licence holder will check with Ministry research staff when planning development in the areas near this plot and buffers to ensure that the development does not disturb it.

- ☒ The following resource features are found within the woodlot license area:

The GAR Order, *Order to Identify Recreation Resource Features For the Campbell River Forest District* April 12, 2006 designated recreation resource units within W2002. Areas around Mackie Lake are designated as “Roaded Natural” and areas around Pye Lake as “Developed”. The SLUP further designates an area around the Southern bay of Pye Lake as a “100% Recreation Netdown”. Objective 7 of the SLUP states that these areas are to be managed by:

- Prohibiting timber harvesting, including salvage, unless such activities are complementary to the recreation setting and experience as determined by the Statutory Decision Maker and
- Avoiding road construction unless no other practicable option exists as determined by the Statutory Decision Maker.

The 100% recreation netdown areas are shown on the WLP map in Appendix 3 as “Recreation Resource Feature”.

AREAS WHERE TIMBER HARVESTING WILL BE AVOIDED OR MODIFIED

Areas where timber harvesting will be AVOIDED:



Timber harvesting will be avoided on the following areas:

- Within the Recreation Resource Feature surrounding the Southern bay of Pye Lake, as shown on the WLP map in Appendix 3.
- Within the Old Growth Deferral “remnant” variety polygon until the Provincial Old Growth Strategic Review planning process has been completed and the final conservation status of the polygon has been determined.

Areas where timber harvesting will be MODIFIED:



Areas within the woodlot where timber harvesting will be modified to protect and manage resources include the following:

Scenic areas

Timber harvesting may be modified to meet the VQOs established within scenic areas in the Woodlot tenure area. VQOs of Modification and Partial Retention have been designated and are shown on the woodlot Plan Map in Appendix 3.

Buffer around G&Y plot.

The G&Y plot buffer may have some levels of modified harvesting within it for salvage, access, forest health harvesting or full harvesting if the harvesting is permitted by the Forest Sciences Officer monitoring the plot.

Areas of Sensitive Soils,

Harvesting may be modified in areas of steep slopes or of dispersed rock.

Critical Stream Reaches

Critical stream reaches have been established by legal order and are identified in the Sayward Landscape Unit Plan. They are shown on the woodlot licence plan map. Timber harvesting may be modified to protect them. The management objective for them is to:

- retain all windfirm trees with roots embedded in the stream bank and
- for S4 streams, retain 50% of the stems, representative of species age and size, within 10 m of the channel.

Cultural Heritage Resources

If cultural heritage resources are identified within the woodlot tenure area their appropriate management may result in the modification of timber harvesting operations. See the section Conserving and Protecting Cultural Heritage Resources, below.

Riparian Management Zones

Harvesting within Riparian Management Zones may be modified to retain trees as described in the section *Retention of Trees in a Riparian Management Zone*, below.

RETENTION OF TREES IN A RIPARIAN MANAGEMENT ZONE



Unless exempted or as provided for under WLPPR section 40, the following describes the retention of trees in a riparian management zone following timber harvesting:

Trees of any species, age, size or form that are present within a Riparian Management Zone (RMZ) may be acceptable as retention trees. To the extent practicable, non-merchantable trees and understory vegetation will be retained within 5 meters of the channel or wetland where there is no reserve zone.

Retention levels in Riparian Management Zones will be as follows:

Riparian Class	Management Intent	Minimum Basal Area to be Retained Within RMZ (%)
S1-A or S1-B stream	<ul style="list-style-type: none">• Maintain integrity of the RRZ• Assist in maintaining wildlife habitat attributes within the RMA such as wildlife tree cover, nesting and perching habitat and diversity of vertical forest structure	≥20
S2 stream	<ul style="list-style-type: none">• Maintain integrity of the RRZ• Assist in maintaining wildlife habitat attributes within the RMA such as wildlife tree cover, nesting and perching habitat and diversity of vertical forest structure	≥20
S3 stream	<ul style="list-style-type: none">• Maintain integrity of the RRZ• Assist in maintaining wildlife habitat attributes within the RMA such as wildlife tree cover, nesting and perching habitat and diversity of vertical forest structure	≥20
S4 stream	<ul style="list-style-type: none">• Maintain stream bank integrity	≥10

	<ul style="list-style-type: none"> Minimize introduction and transport of deleterious material to lower reaches of stream Provide shade cover, CWD and litter inputs 	
S5 stream	<ul style="list-style-type: none"> Maintain stream bank integrity Minimize introduction and transport of deleterious material to lower reaches of stream Provide litter inputs 	≥ 0
S6 stream	<ul style="list-style-type: none"> Maintain stream bank integrity Minimize introduction and transport of deleterious material to lower reaches of stream Provide litter inputs 	≥ 0
Classified wetlands and lakes	<ul style="list-style-type: none"> Maintain integrity of the RRZ where applicable Assist in maintaining wildlife habitat attributes within the RMA such as wildlife tree cover, nesting and perching habitat and diversity of vertical forest structure 	≥ 10

Levels of retention in Riparian management Areas will depend on factors such as:

- Physical features – slope, aspect, soil,
- Stream morphology and stream bank characteristics,
- Downstream values,
- Length of stream with altered riparian area from previous harvesting, considering both sides of stream,
- Length of stream in a block and size of harvest area,
- Existing forest cover, wildlife trees and understory vegetation in riparian area,
- Wind firmness of retained trees, existing and potential coarse woody debris and
- Use of streamside area by wildlife.

CONSERVING AND PROTECTING CULTURAL HERITAGE RESOURCES

☒ Strategy:

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 that are not protected under the *Heritage Conservation Act*. The woodlot licence holder is committed to carrying out forest practices at a time and in a manner that is unlikely to damage or harmfully alter cultural heritage resources.

The licensee supports ongoing information sharing and to do so will, in addition to the information sharing process required for the creation and approval of this plan, continue to provide information to the Wei Wai Kum, We Wai Kai, and K'omoks First Nations of any planned road and block development. This information will be shared at the early operational planning stage; when initial road and block locations have been determined.

The Wei Wai Kum, We Wai Kai, and K'omoks First Nations will be consulted with through operational planning information sharing to ensure that the Woodlot Licensee knows of CHRs in areas planned for development. If a new CHR is made known to the licensee the Ministry of Forests will be informed and a strategy to manage the CHR appropriately will be developed with the First Nation. Planned operations will not commence until this strategy is implemented.

The only CHR known to be of importance to First Nations at the time of this Woodlot Licence Plan submission is Large Cultural Cedar, (formerly referred to as monumental cedar) as described by the Nanwakolas Operational Protocol for Large Cultural Cedar.

Cultural Heritage Value	Strategy
Large Cultural Cedar:	The Woodlot Licensee will notify the Wei Wai Kum, We Wai Kai, and K'omoks First Nations of the presence of large Western Redcedar and yellow cedar, over 100cm DBH, in areas planned for development so that it can be managed as per the Nanwakolas Operational Protocol for Large Cultural Cedar.
Procedure if Cultural Heritage Resources are Identified	If cultural heritage resources are identified through fieldwork applicable First Nations will be notified. Assessment of and mitigation strategies for the cultural heritage resources identified will be developed through consultation with local First Nations and, where necessary, a professional archaeologist.

WILDLIFE TREE RETENTION STRATEGY

The proportion of the woodlot licence area occupied for wildlife tree retention purposes is 8%, or 43.9, ha as defined in the Performance Requirements section of this WLP.

The proportion of the woodlot licence area occupied by wildlife trees will be achieved through:

- ☒ Patch retention (intact areas of forest)
- ☒ Areas where harvesting will be avoided

Trees that pose a safety hazard or are damaged by insects or disease and pose a forest health risk to adjacent trees or forests may not be retained either as an individual wildlife tree, in a patch or in an area where harvesting will be avoided or modified.

DISPERSED RETENTION

- ☒ Not applicable (dispersed retention of individual wildlife trees **will not** be used)

PATCH RETENTION

- ☒ Applicable (patch retention of wildlife trees **will** be used)

(a) Forest Cover Attributes:

Wildlife Tree Retention Areas (WTRA) will be productive, well-stocked and representative of the forest cover attributes present across the productive areas of the woodlot. Coniferous species will include Douglas-fir, Western hemlock Western redcedar and possibly small components of Western white pine and lodgepole pine. Where possible WTRAs will include ecologically important sites such as riparian areas, old growth patches, veteran trees, ecosystem complexes and trees exhibiting characteristics that are supportive of biodiversity such as:

- Internal decay (heart rot or natural/excavated cavities present),
- Crevices present (loose bark or cracks suitable for bats),
- Large brooms,
- Active or recent wildlife use,
- Current insect infestations and
- Tree structure suitable for wildlife use (e.g. large nest, hunting perch, bear den, etc.)

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

Wildlife trees patches and/or individual wildlife trees in WTR areas may be removed if they are:

- A safety hazard;
- Infested with insects or pathogens which threaten the health of adjacent trees; and/or
- Wind thrown or damaged to the extent that the identified wildlife objectives cannot be met.

- If they become an obstacle or impediment to access or operations.

(c) Replacement of Trees Removed from Wildlife Tree Retention Patches:

The woodlot owner will ensure that the proportion of the woodlot licence area occupied for wildlife tree retention that is defined in the Performance Requirements section of this WLP will be maintained over time. Replacement of WTR areas will be designated prior to harvest of the original patches and will be recorded in the Pre Harvest Prescription and other supporting documents. The woodlot owner will replace the portion of the WTR area from which the timber is being harvested with one or more WTR areas that provide an equivalent area, number of trees or habitat.

MEASURES TO PREVENT THE INTRODUCTION OR SPREAD OF INVASIVE PLANTS

The woodlot licence holder commits to carrying out the following measures to prevent the introduction or spread of invasive plants listed in the Invasive Plant Regulation that is likely the result of the woodlot licence holder's forest practices:

- To the extent possible, not park or stage equipment or vehicles, or sort logs on large concentrations or infestations of invasive plants;
- To the extent practicable, begin work in un-infested areas before moving to infested areas;
- Inspect and remove invasive plant parts or propagules from clothing and vehicle/equipment undercarriages if working in an area known to contain prescribed invasive plants; and/or
- As soon as practicable or within one year following the completion of operations, all newly constructed roads, landings, pits, and quarries that are greater than 0.25 hectare and have exposed mineral soil that will support vegetation will be seeded at an industry acceptable rate using Canada Common #1 Forage Mixture as defined by the *Seed Act*.

The following are invasive species of special concern and will be reported by the licensee to the Ministry via the provincial "Report Invasives" App or using the online form:

- Japanese knotweed (*Fallopia japonica*)
- Giant knotweed (*Fallopia sachalinensis*)
- Bohemian knotweed (*Fallopia x bohemica*)
- Himalayan knotweed (*Polygonum polystachyum*).

MEASURES REGARDING NATURAL RANGE BARRIERS

There are no rangelands present on or adjacent to the Woodlot area and no measures or activities are proposed.

STOCKING INFORMATION FOR SPECIFIED AREAS

☒ The stocking standards for the purposes of WLPPR sections 12 and 34(3) are found in Appendix 1A.

PRACTICE REQUIREMENTS

Soil Disturbance Limits

- ☒ Default: WLPPR section 24(1)(b)
8% of net area to be reforested.

Permanent Access Structures

- ☒ Alternative: WLPPR section 25:
The maximum area occupied by permanent access structures is:
- For Cutblocks ≥ 5 ha: 7% of the total cutblock area.
 - For Cutblocks < 5 ha: 10% of the total cutblock area.
 - For the WL Area: 7% of the total Woodlot Licence area.

Unless additional permanent access structures are necessary to provide access beyond the cutblock, in which case the limit will be exceeded as little as practicable and remain below 7% for the Woodlot Licence area.

Stocking Standards

- ☒ Alternative #2: WLPPR section 35(1)(a)
The stocking standards, regeneration dates and free growing dates are indicated in Appendix 2B.

Note: These Stocking Standards are carried forward from the previous WLP and have been approved with Stocking Standards IDs listed.

Width of Stream Riparian Areas

- ☒ Default: WLPPR section 36(4)(b)
The minimum widths of the RRZ, RMZ and RMA are as described in WLPPR section 36(4)(b).

Width of Wetland Riparian Areas

- ☒ Default: WLPPR section 37(3)(b)
The minimum widths of the RRZ, RMZ and RMA are as described in WLPPR section 37(3)(b).

Width of Lake Riparian Areas

- ☒ Default: WLPPR section 38(2)(b)
The minimum widths of the RRZ, RMZ and RMA are as described in WLPPR section 38(2)(b).

Restrictions in a Riparian Reserve Zone

- ☒ Default: WLPPR section 39(1)
Cutting, modifying or removing trees in a RRZ is limited to the purposes described in WLPPR section 39(1).

Restrictions in a Riparian Management Zone

- ☒ Default: WLPPR section 40(1)(b)(c) or (d)
The construction of a roads in a riparian management zones will be limited to the conditions described in WLPPR sections 40(1)(b), (c) and (d).

Wildlife Tree Retention

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

Coarse Woody Debris

- ☒ Coastal Default: WLPPR section 54(1)(b)
A minimum retention of 4 logs per ha ≥ 5 m in length and ≥ 30 cm in diameter at one end.

Resource Features

- ☒ Default: WLPPR section 56(1)(b)
Ensure that forest practices do not damage or render ineffective a resource feature.

II. APPENDICES

APPENDIX 1A: STOCKING STANDARDS FOR SPECIFIED AREAS

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.

SU	Biogeoclimatic Ecosystem Classification			Preferred Species	Acceptable Species	Layer	TSS (sph)	MSSpa (sph)	MSSp (sph)
	Zone	Subzone	Variant Site Series						
1						1	400	200	200
	CWH	xm	1, 4, 5, 6, 7, 13, 14	Fd, Cw	Hw, Ba, Pw	2	500	300	250
						3	700	400	300
						4	900	500	400
2						1	300	150	150
	CWH	xm	3, 12, 15	Fd, Cw	Pw, Hw	2	400	200	200
						3	600	300	300
						4	800	400	400
3						1	400	200	200
	CWH	mm	1, 4, 5, 6, 7, 8, 9	Fd, Cw	Hw, Ba, Pw	2	500	300	250
						3	700	400	300
						4	900	500	400
						1	300	150	150
	CWH	mm	2, 3	Fd	Cw	2	400	200	200
						3	600	300	300
						4	800	400	400

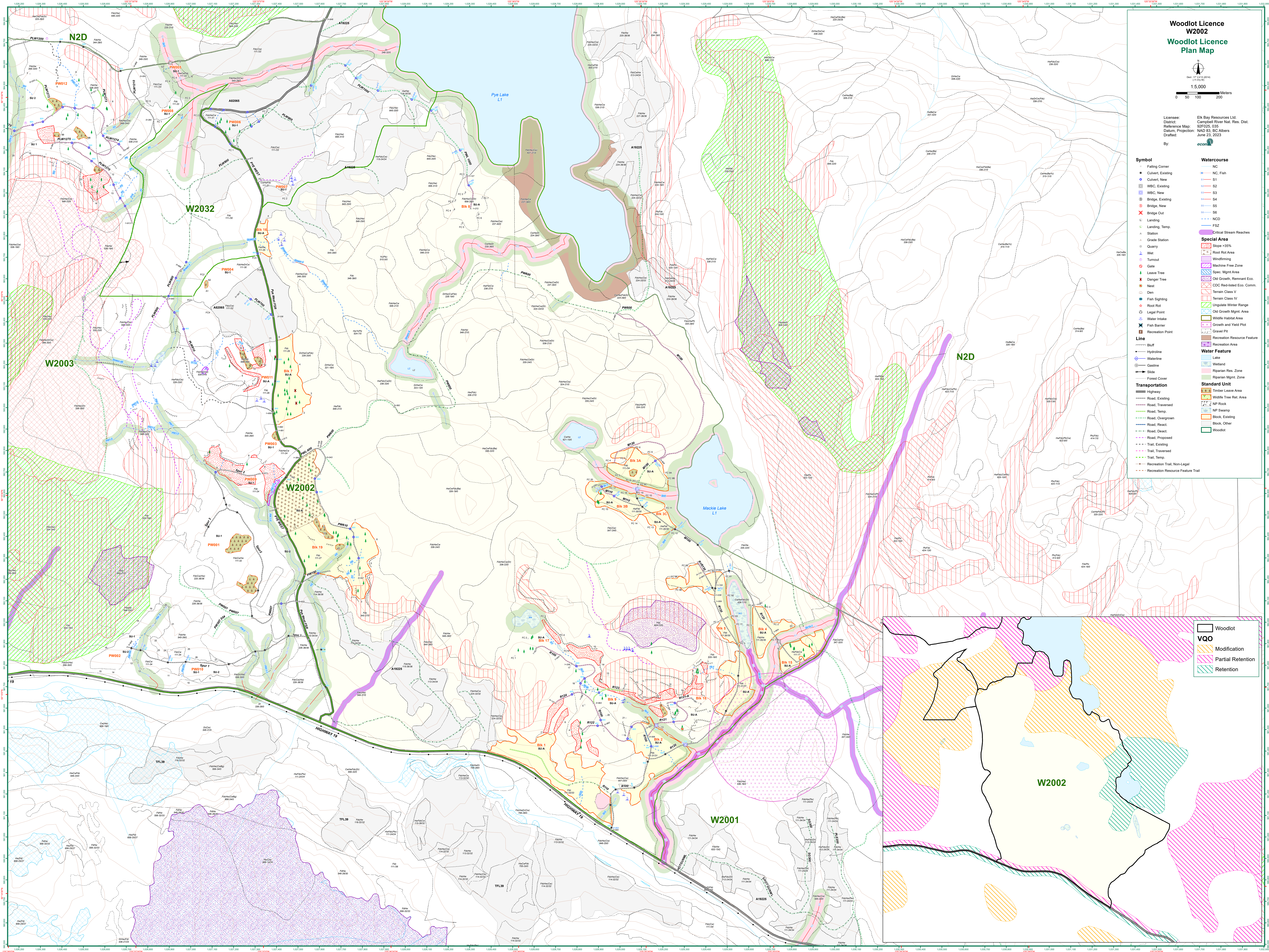
SU = Standards Unit = a harvested area with the same stocking standards TSS = Target Stocking Standard (sph) = healthy well-spaced trees/ha	Minimum Distance Between Well-spaced Trees = 2.0 meters except all healthy trees in the mature layer are considered well-spaced	MSSpa = Minimum Stocking Standard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

APPENDIX 2B: STOCKING STANDARDS, REGENERATION DATES AND FREE GROWING DATES FOR FREE GROWING STANDS

ADMINISTRATION																								
Vancouver Forest Region			Campbell River Forest District			Licensee: Robert and Machele Beede												Woodlot Licence #W2002				July 1, 2023		
ID #	BEC		Preferred Species						Acceptable Species								Stocking (w/s)			Min Inter Tree Dist (m)	Regen Delay	FG Date	Tree Ht > Brush (min %)	Comments:
	Zone & variant	Site Series	1	Ht (min)	2	Ht (min)	3	Ht (min)	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	Target P&A (sph)	Min P&A (sph)	Min P (sph)	MITD (m)	Max (yrs)	Late (yrs)		
	CWHxm	01/04	Fd	3.0	Cw	1.5			Pw ⁵	2.5	Hw ⁸	2.0					900	500	400	2.0	3	20	150	Zonal site
	CWHxm	02	Fd	2.0					Pw ⁵	2.5	Pl	1.25					400	200	200	2.0	3	20	150	Avoid logging – xeric site, shallow soils
	CWHxm	03	Fd	2.0					Cw	1.0	Pw ⁵	2.5	Pl ⁶	1.25			800	400	400	2.0	3	20	150	Dry site
	CWHxm	05/07	Fd	4.0	Cw	2.0			Pw ⁵	2.5	Ba ⁹	1.0					900	500	400	2.0	3	20	150	Rich and moist site
	CWHxm	06	Fd	3.0	Cw	1.5	Hw	2.0	Pw ⁵	2.5							900	500	400	2.0	6	20	150	Wet site
	CWHxm	11 ¹	Cw	1.0					Pl	1.25							400	200	200	1.5	3	20	150	Avoid logging – wet and very poor
	CWHxm	12 ¹	Cw	1.0					Hw ⁴	1.5	Pw ⁵	2.5	Ss ⁷	1.5			800	400	400	1.5	3	20	150	Organic soils - avoid ground based equipment
	CWHxm	13/14 ²	Fd ¹	4.0	Cw	2.0			Ss ⁷	3.5	Ba ⁹	1.0					900	500	400	1.5	3	20	150	Fluctuating water table
	CWHxm	15 ²	Cw	2.0					Ss ⁷	3.5							800	400	400	1.5	3	20	150	Fluctuating water table
	CWHxm	01/06	Dr ⁴	3.0	Mb	3.0											1200	1000	800	1.5	3	20	150	High density deciduous management
	CWHxm	05/07/13/14 ² /15 ²	Act	4.0	Dr ⁴	4.0	Mb	4.0									1200	1000	800	1.5	3	20	150	High density deciduous management
	CWHxm	01/04/06	Cw	1.5	Pw ⁵	2.5			Fd	3.0	Hw ⁸	2.0					900	500	400	2.0	3	20	150	Alternate species root rot treatment
	CWHxm	02	Pw ⁵	2.5					Fd	2.0	Pl ⁶	1.25					400	200	200	2.0	3	20	150	Avoid logging – xeric site, shallow soils
	CWHxm	03	Cw	1.0	Pw ⁵	2.5			Fd	2.0	Pl ⁶	1.25					800	400	400	2.0	3	20	150	Alternate species root rot treatment
	CWHxm	05/07	Cw	2.0	Pw ⁵	2.5			Fd	4.0	Ba ⁹	1.0					900	500	400	2.0	3	20	150	Alternate species root rot treatment
	CWHxm	12	Cw	1.0	Pw ⁵	2.5			Hw	1.5	Ss ⁷	1.5					800	400	400	1.5	3	20	150	Alternate species root rot treatment
	CWHxm	13/14 ²	Cw	2.0					Fd	4.0	Ss ⁷	3.5	Ba ⁹	1.0			900	500	400	1.5	3	20	150	Alternate species root rot treatment

- 1 Elevated microsites are preferred.
- 2 These sites represent areas with strongly fluctuating water tables. They are often found as mosaics in combination with other sites. Elevated microsites are preferred.
- 4 Avoid gleyed soils and in frost pockets.
- 5 Pw must be free of blister rust within 10 cm of the stem and be pruned as per ministry guidelines or be blister rust resistant stock ($\geq 50\%$ resistance). Pw may occupy 5% on all sites except sites 04 & 05 where 20% will be the upper limit of the Free-Growing composition. When used for root rot treatment no limit on percent composition is set.
- 6 Restricted to nutrient-very-poor sites.
- 7 Risk of weevil damage, use resistant stock where possible. Ss will not exceed 20% of the free growing stand or 5% of the free growing stand on site series 13, 14, & 15 on a dispersed basis. Clumps not to exceed 0.1ha in size.
- 8 Hw is not acceptable on site series 04. The proportion of the free-growing stand comprised of Hw will not exceed 20%.
- 9 Limit to 20% of the free growing stand due to risk of balsam woolly adelgid.

APPENDIX 3: THE WOODLOT LICENCE PLAN MAP



Woodlot Licence
W2002

Woodlot Licence
Plan Map



Scale: 1:5,000

0 50 100 200

Licensee: Elk Bay Resources Ltd. Res. Dist.
District: Campbell River Nat. Res. Dist.
Reference Map: 92P025, 036
Datum: Projection: NAD 83, UTM
Drafted: June 23, 2023
By: ecom

Symbol	Watercourse
● Falling Corner	NC
● Culvert, Existing	NC, Fish
● Culvert, New	S1
● WBC, Existing	S2
● WBC, New	S3
● Bridge, Existing	S4
● Bridge, New	S5
● Landing	S6
● Landing, Temp.	NCD
● Station	FSZ
● Grade Station	Critical Stream Reaches
● Turnout	Quarry
● Gate	Wet
● Fish Sighting	Turnout
● Root Rot	Gate
● Legal Point	Danger Tree
● Fish Intake	Need
● Fish Barrier	Den
● Recreation Point	Fish Sighting
	Root Rot
	Legal Point
	Water Intake
	Fish Barrier
	Recreation Point
Line	Special Area
--- Buff	Slope >35%
--- Hydroline	Root Rot Area
--- Waterline	Windfelling
--- Gasline	Machine Free Zone
--- Slide	Spec. Mgmt Area
--- Forest Cover	Old Growth, Remnant Eco.
	CDC Red-listed Eco. Comm.
	Terrain Class V
	Terrain Class IV
	Ungulate Winter Range
	Old Growth Mgmt. Area
	Wildlife Habitat Area
	Growth and Yield Plot
	Gravel Pit
	Recreation Resource Feature
	Recreation Area
	Water Feature
	Lake
	Wetland
	Riparian Res. Zone
	Riparian Mgmt. Zone
Transportation	Standard Unit
--- Highway	Timber Leave Area
--- Road, Existing	Wildlife Tree Ret. Area
--- Road, Traversed	NP Swamp
--- Road, Temp.	Block, Existing
--- Road, Overgrown	Block, Other
--- Road, Road	Woodlot
--- Road, Dead	
--- Road, Proposed	
--- Trail, Existing	
--- Trail, Traversed	
--- Trail, Temp.	
--- Recreation Trail, Non-Legal	
--- Recreation Resource Feature Trail	

Woodlot
VQO
Modification
Partial Retention
Retention

APPENDIX 4: REVIEW AND COMMENT

a) Advertising

See the newspaper tear sheet below.

b) Referrals

See the Summary of First Nations Consultation below.

c) Copy of Written Comments Received

See the Summary of First Nations Consultation below.

d) Revisions Made Because of Written Comments Received

There were no revisions made because of written comments received.

e) Efforts Made to Meet with First Nations

See the Summary of First Nations Consultation below.



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Needs some work
\$2,500. or trade
250-871-5559

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Davidson**
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inch, 6 speed.
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one owner.
\$ 10,000. Firm
250-871-5559

Legal Notices

**Proposed Woodlot Licence Plans for
Woodlot Licences #W2002 and W2003**

Notice is hereby given that Robert and Machele Beede, licensees for Woodlot Licences W2002 and W2003, will make proposed Woodlot Licence Plans (WLP) for each woodlot available for public viewing and comment. These WLPs have been developed under the *Forest and Range Practices Act* and *Woodlot Licence Planning and Practices Regulation*.

Woodlot Licences W2002 and W2003 are adjacent to each other and located approximately 35 km Northwest of Campbell River along Highway 19.

A WLP sets the legal requirements for how activities in the woodlot will be carried out. The WLP shows the areas where timber harvesting will be avoided, modified or allowed and also includes information on results and strategies designed for the maintenance and protection of non-timber resources in the tenure area. A WLP plan also includes designated Wildlife Tree Retention Areas where harvesting will not occur. All harvesting activities will be subject to the WLP and Annual Allowable Cut and associated Cut Control Regulation. The term of the WLP is ten years.

The plans are available for review prior to the determinations of the District Manager of the Campbell River Natural Resources District and can be made available to interested parties. The plans will be made available during regular business hours from June 15, 2022 to July 15, 2022. To request a copy of either WLP please call Brian Smart at Econ Consulting 250-337-5588 or email to brian@econ.ca. Additional information related to the woodlot may be provided upon request.

Comments upon the plans must be received in writing by July 22, 2022, 2022 at the following address: Econ Consulting, 2-8268 Island Hwy, Black Creek, BC, V9J 1H6, attn: Brian Smart, RPF, or by email to brian@econ.ca. Please note that comments that do not directly bear upon the plans themselves will be forwarded to the District Manager, but may be outside of the jurisdiction of the licensee to address.



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Licensee Summary of First Nations Information Sharing Campbell River Natural Resource District

Check box and specify applicable names/numbers		Applicant:	Robert and Machel Beede
Cutting Permit #:	<input checked="" type="checkbox"/> draft WLP2 for each	Tenure #:	W2002 and W2003
Road Permit #:	<input type="checkbox"/>	Block(s):	
WLP:	<input checked="" type="checkbox"/> WLP 2	Road(s):	
WLP Extension:	<input type="checkbox"/>	Section(s):	
Licence Replacement:	<input type="checkbox"/>		
Date:	June 1, 2022	Completed by:	Brian Smart, R.P.F.

Y/N

Archaeology and Aboriginal Interests Information [Attach comments if necessary]

1. Is the application area(s) the same as that which was referred to the First Nation(s)?	Y
2. Is the area under application in or adjacent to an area of "moderate" or "high" archaeological potential as indicated on the relevant AOA?	N/A
3. Was the area reviewed by:	
a. A professional archaeologist (office or field)? (summarize/comment if so)	N
b. A First Nation field assessor(s)? (summarize if so)	N
4. Is the area in the vicinity (~1km) of:	
a. A specific known aboriginal interest (cultural, traditional, Indian Reserve, Active Treaty interest (if known), etc.) or one communicated by a FN in consultation?	N
b. A "point", "line" or "polygon" feature identified on the "Aboriginal Interests" shape files provided by the Resource District? (discuss with District Staff if necessary)	N
c. An existing archaeological site (data available through Archaeology Branch or archaeology professionals)?	N
Comments related to points 1-4	

Communication/Event Log Summary

FN (Please sort)	Date	Event/Result
We Wai Kai FN	June 1, 2022	Both WLPs, maps, .kmz, letter sent to Nanwakolas
Wei Wai Kum FN	June 1	Both WLPs, maps, .kmz, letter sent to Nanwakolas
K'omoks FN	June 1	Both WLPs, maps, .kmz, letter sent to Nanwakolas
Nanwakolas	June 2, 2022	Email received confirming receipt of referral package, due date set for Aug 30, 2022
K'omoks FN	July 14, 2022	Response from K'omoks for W2002 and W2003 no comment .
We Wai Kai FN	July 19, 2022	Response from Chief Ronnie Chickite - mistakenly responding to two new woodlot licenses not WLPs.
We Wai Kai FN	July 19, 2022	Email sent to Nanwakolas requesting clarification on response above.
	Sept 13, 2022	Email sent again to Casey Inrig of Nanwakolas requesting clarification on WWKai response
Wei Wai Kum	Sept 13, 2022	Email sent to Nanwakolas Erica Haunch of Nanwakolas asking for WWKum Response.
Wei Wai Kum	Sept 13, 2022	Email from Art Wilson of Nanwakolas informing me Erica Haunch no longer an employee. Ashley Drake now handling WWKum files
We Wai Kai FN	Sept 13, 2022	Response from Chief Ronnie Chickite – reworded but not completely correct – however there is no comment . Emails attached.
Wei Wai Kum	Sept 19, 2022	Called Ashley Drake – she said she is still waiting on Chief's response. She has notified him of overdue referrals.
Wei Wai Kum	Sept 19, 2022	Letter from Chief Roberts (Dated June 23) forwarded by Ashley Drake requesting a meeting.
Wei Wai Kum	Dec 6, 2022	Email to Jen Cooley to ask about meeting regarding W2002 W2003 WLPs. Who to attend? What are concerns?
Wei Wai Kum	Dec 12, 2022	Call to Chief Roberts - message left -to ask him about meeting Meet with who? can we discuss on the phone? – explained that it is just a WLP replacement with no new issues.
Wei Wai Kum	Dec 15, 2022	Call from Jen Cooley informing me that Chief Roberts got my message and that I answered his questions so there is no need for a meeting or phone call. A no comment letter will come from WW Kum FN via Ashley Drake at Nanwakolas soon.

To: Nanwakolas Council
1441 16th Ave
Campbell River, B.C. V9W 2E4

June 1, 2022

Via email to: referrals@nanwakolas.com

RE: New Woodlot Licence Plans for Woodlots W2002 and W2003

ATTN: Wei Wai Kum, We Wai Kai and K'omoks First Nations

Dear Sir/Madam,

I would like to inform the Wei Wai Kum, We Wai Kai and K'omoks First Nations that Robert and Machele Beede, Licensees of Woodlot W2002 and W2003, intend to submit new Woodlot Licence Plans (WLP) for both woodlot tenures. W2002 and W2003 are adjacent to one another and are located approximately 35 km northwest of Campbell River, along Highway 19. Please note that the WLP for W2003 no longer applies to the private land section of the woodlot in Elk Bay as it is being proposed for removal from the woodlot.

Of particular interest to the licensees is obtaining a better understanding of what cultural heritage values may be within the tenure areas that are of interest and of management concern to the Wei Wai Kum, We Wai Kai and K'omoks First Nations in addition to Large Cultural Cedar.

We would like to know if you have any comments regarding this application including questions or concerns that you would like to discuss. I am available to meet in person, by web meeting (Zoom), or by telephone to discuss any aspects of the private land removal application. I can be contacted at (250) 337-5588 or by e-mail at: brian@econ.ca. Alternatively a written response may be submitted via email or to the Econ Consulting mailing address above. Any comments received will be submitted with the new WLPs to the District Manager of the Campbell River Natural Resources District, Ministry of Forests, Lands, Natural Resource Development and Rural Development. Depending on responses received the Ministry may contact respondents to conduct follow-up consultation.

With best regards,



Brian Smart, RPF 2813 Econ Consulting

Attachments:

.kmz files of W2002 and W20033 tenures for locating tenures on Google Earth
Draft WLPs for W2002 and W2003





K'ómoks First Nation

3330 Comox Road, Courtenay BC V9N 3P8 Tel: (250) 339-4545 Fax: (250) 339-7053

July 13, 2022

Brian Smart, RPF
ECON Consulting
8268 Island Hwy,
Black Creek BC V9J1H6
brian@econ.ca

Re: New Woodlot License Plans for W2002 & W2003 - Northwest of Campbell River
Agency File No: N/A
Nanwakolas File: IF 22-090F

Mr. Smart,

The K'ómoks First Nation is in receipt of the above-mentioned Information Sharing Request regarding New Woodlot License Plans for Woodlot W2002 & W2003 located 35 km northwest of Campbell River, along Highway 19. The application areas are located within the K'ómoks statement of intent area; it is the interest of the K'ómoks Nation to respectfully maintain our rights and access to the lands and resources throughout our territory.

The K'ómoks First Nation does not have any comments to provide at this time. Please note that this "No Comment" letter is specifically intended for this application and is without prejudice to all future consultation with our Nation regarding not only the renewal of this application but any other application or decision within the K'ómoks traditional territory.

However, since we were never consulted on the original issuance of this woodlot, we may choose in the future to address the issues of Aboriginal rights and/or title infringement and compensation through the treaty process, the courts or other dispute resolution processes. We also reserve the right to raise objections if any cultural use, archaeological sites or environmental impacts are identified when the above project is being carried out or if we discover impacts on our rights or interest that we had not foreseen.

Should you require any further information, please do not hesitate to contact our office.

Sincerely,

Nicole Rempel,
Chief Councillor



We Wai Kai Nation

690 Headstart Cres
Campbell River, BC
Phone: (250) 914 - 1890

September 13th, 2022

Brian Smart
ECON Consulting
brian@econ.ca

Re: W2002 and W2003 new WLP referral
Agency File No: File: N/A
Nanwakolas File: IF 22-091F

The above application is located within the traditional territory of the We Wai Kai Nation. We have very strong evidence of aboriginal rights and title and historic use and occupation. As holders of Aboriginal Title to these territories, the We Wai Kai First Nation maintains the right to make decisions concerning the use and protection of all lands, waters and resources within our territories.

The We Wai Kai Nation has reviewed the above-mentioned application regarding an information sharing request from Robert and Machele Beede regarding new Woodlots near Pye Lake. After further discussion, We currently have no comments to provide at this time. Please note that this "no comment" letter is specifically intended for this application and is without prejudice to any and all future consultation with our Nation regarding not only this application but any other application or decision within the We Wai Kai traditional territory.

In the event this application is altered in any way the We Wai Kai Nation will require readdress on all amendments of the existing plans. The We Wai Kai Nation also reserves the right to raise objections if any cultural use or archaeological sites are identified when this project is being carried out. The We Wai Kai Nation takes both the Declaration on the Rights of Indigenous Peoples (UNDRIP) and the Provinces "Consultation process" very serious and trust that your government will continue negotiating and acting in "Good Faith" and this application will not proceed until are requests are met.

If you have any questions or concerns or would like to set up a meeting, please contact Casey Inrig at 250-286-7200 or email at caseyinrig@nanwakolas.com

Regards,

Chief Councillor Ronnie Chickite
We Wai Kai First Nation

Telephone: (250) 914-1890 Fax: (250) 914-1891



CAMPBELL RIVER INDIAN BAND

1650 Old Spit Road, Campbell River, BC, V9W 3E8

Tel-250-286-6949

Fax-250-287-8838

Toll Free-1-877-286-6949

June 23, 2022

Brian Smart, RPF
ECON Consulting
ph: 250-337-5588

Re: New Woodlot License Plans for W2002 & W2003 - Northwest of Campbell River

Agency File No: File: N/A

Nanwakolas File: IF 22-092F

The above application is located within the traditional territory of the Wei Wai Kum Nation. We have very strong evidence of aboriginal rights and title and historic use and occupation. We assume the provincial government accepts our strong strength of claim and acknowledges that this area is part of our aboriginal title lands. If the Province doubts or disputes this in any way, we ask you to respond in writing explaining why. As holders of Aboriginal Title to these territories, the Wei Wai Kum First Nation maintains the right to make decisions concerning the use and protection of all lands, waters and resources within our territories.

Wei Wai Kum has reviewed the above-mentioned application regarding an information sharing request ECON Consulting c/o Brian Smart (on behalf of Robert and Machele Beede) regarding a New Woodlot License Plans (WLP's) for W2002 & W2003 located 35 km northwest of Campbell River, along Highway 19. We would like to schedule a meeting to further discuss this application. As noted above Wei Wai Kum have very strong evidence of aboriginal rights and title with historic use and occupation in our traditional territory. There is well documented traditional use activity and harvesting which occur within the proposed project area and therefore warrants further discussion on the proposed interest.

The Wei Wai Kum Nation may choose in the future to address the issues of Aboriginal rights and title infringement and the requirements for accommodation, compensation or consent through the treaty process, the courts or other dispute resolution processes. We also reserve the right to raise objections if any cultural use, archaeological sites or environmental impacts occur beyond what was addressed in the application, or when the above development is being carried out and we discover impacts on our rights, title or interests that we had not foreseen. If any of the above are identified, we will require all work to stop until trained Wei Wai Kum members are on site.

Furthermore, the Nation would like to reaffirm that Archaeological sites in British Columbia are protected under our law and under the Heritage Conservation Act (HCA). Disturbances to or alterations of archaeological, cultural or heritage sites cannot proceed unless they are jointly approved by the Archaeology Branch under appropriate Heritage Conservation Act permits held by professional archaeologists and by our Nation in accordance with appropriate assessment guidelines, work plans and avoidance, mitigation and monitoring measures in place.



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1650 Old Spit Road, Campbell River, BC, V9W 3E8

Tel-250-286-6949

Fax-250-287-8838

Toll Free-1-877-286-6949

If you have any questions or concerns or would like to set up a meeting, please contact Jen Cooley at (250)286-6949 or by email referrals@weiwaikum.ca

Regards,

Chief Councillor Chris Roberts
Wei Wai Kum First Nation

III. SUPPLEMENTAL INFORMATION

Stocking Standards

Stocking Standards have been developed from the *Reference Guide for FDP Stocking Standards*. Where site series have similar stocking standards they have been combined. The first 9 rows are the general stocking standards followed by deciduous stocking standards and those for sites affected by root rot.

Site series with the comment of ‘avoid logging’ and sites with strongly fluctuating water tables have been included, however, management on these sites will be limited and will generally be included within a mosaic of better sites.

Where standards units (SUs) are comprised of an un-mappable mosaic of site series, the practice will be to manage for the stocking standards, noted by the ID#, of the dominant site series provided that the tree species are suitable (i.e. preferred and acceptable) in all site series contained within the SU.

A limited number of scattered deciduous trees will be tolerated on all conifer plantations, to promote nutrient cycling and for general biodiversity objectives. Allow up to 50 trees/ha as deciduous ghost trees during surveys on all sites so that these deciduous ghost trees have no impact on the free growing status of the crop trees. Where deciduous trees are within 10m of each other they are not to be regarded as ghost trees due to increased competitive density effects (The deciduous stems in question would impact the free growing status of sample trees).

The minimum inter-tree spacing is generally reduced to 1.5 m under the following site-specific conditions: frequent bedrock, large blocky colluvium, hygric sites, and disturbed roadside areas amongst slash accumulations (up to 10 m from the travelled portion of the road).

RATIONALE IN SUPPORT OF PROPOSED ALTERNATIVE PERFORMANCE REQUIREMENTS - STOCKING STANDARDS

Alternative stocking standards are proposed given the location and the licensee’s full intent to facilitate intensive forest management and to improve site productivity and species/product diversity. Additionally, existing standards with respect to the use of broadleaf species lack measurable and enforceable standards for implementation and are therefore defined further within the alternative stocking standards.

All areas of harvest will undergo pre-harvest mapping as per Section 33 of the Woodlot Licence Planning and Practices Regulation. At that stage the fundamental decision will be made as to whether a conifer or a broadleaf standard will apply and the Standard Unit ID will be assigned. Forest health concerns raise additional issues as to the appropriateness of the defaults in areas where root rot (e.g. *Phellinus weirii*) impacts the regeneration and long-term health and productivity of the preferred species. The proposed alternative stocking standards enable the production of healthy stands that protect adjacent resources and values. For example, on an infected zonal site (01) adjacent to an S4 creek or recreational trail stumping is not appropriate due to sedimentation concerns or to visual appearance. In these cases the establishment of Douglas-fir (preferred) may prove difficult and unsuited in the long-term due to re-infection.

Recommended Regime: The product objective is to manage for high quality knot-free sawlogs on a 40 - 50 year rotation. Stand-establishment with high densities (1500 sph) is required to achieve a target of 1200 stems/ha at free growing. At approximately age 10, but not before stand height 12 to 16 m, space to 900 stems/ha. Dead branch prune the crop trees early and continue density regulation treatments approximately every 10 years to maintain good crown forms and eliminate low quality stems.

The Chief Forester's stocking standards indicate black cottonwood (Act), red alder (Dr) and bigleaf maple (Mb) as being a productive, reliable and feasible regeneration option on several site series within the CWHxm. The attached Alternative Stocking Standards will be used and include the standards for both pure broadleaf stands and mixed woods regeneration. The use of broadleaf species is proposed in consideration of the Chief Foresters memorandum dated August 22nd, 2000 and the supporting note 'Common Principles for the Management of Red Alder within the Coast Forest Region' dated August 2004. The management for broadleaf species is proposed on a limited scale and is consistent with the management assumptions adopted in the last Annual Allowable Cut (AAC) calculation.

The minimum density post-spacing shown corresponds to the values recommended in the Establishment to Free-growing Guidebook for the Vancouver Forest Region - i.e. the same as the minimum-stocking standard for conifer stands.

However, the maximum post-spacing density is set higher than the recommended 600spha above the target density due to the fact that the woodlot licence is located in a snow belt with frequent heavy snow and freezing rain loads. If the density of a juvenile stand would be reduced too drastically, then there would be a high risk of snow press and stem breakage. This will allow for two-stage spacing entries in order to manage the described risks and it also provides the opportunity to capture the small-diameter products.

Higher stocking is noted for the deciduous stands to ensure self-pruning and may include a conifer component. The minimum height criterion is based on the tallest conifer standard of the particular site series since the listed hardwoods are at least as rapidly growing as their coniferous counterparts. If a cedar or Sitka spruce understory is planted in addition to the full hardwood stocking, then the natural pruning of the alder would be enhanced. However, the stand's status will only be measured using the broadleaf standards. The removal of the alder at harvest age and the retention of a fully stocked, semi-mature conifer pole stand is operationally feasible.

Damage criteria for broadleaf species have not been established. No significant insect or disease outbreaks have been recorded for existing alder trials to date. General free-growing criteria will be adopted and damage assessed by the survey technician at the time of the survey. Well-spaced stems will be of good form, health and vigour. Species-specific damage criteria will be used upon development.

The stocking standards for specified areas are as per the default standards with the exception of deciduous stands with initial stocking densities greater than 900 stems per hectare (sph). For these stands the target and minimum stocking standards for tree layer 1 have been reduced from the default coniferous standards to reflect the difference in deciduous stand development and management regimes. Under a deciduous management regime initial densities will be higher than those for a coniferous stand and target thinning densities will be relatively lower. Higher initial densities are prescribed to promote self-pruning and stem development prior to thinning. The broadleaf standards are also supported by the following research literature:

- Hibbs *et al.* The Biology and Management of Red Alder (1994),
- E.B. Petersons *et al.* FRDA Report 250 – Black Cottonwood and Balsam poplar manager's handbook for British Columbia (1996).
- L. Sigurdson *et al.* 2nd draft report on Weyerhaeuser's Red Alder Management Practices (1998),
- P.J. Courting *et al.* Forest Research Extension Note 016 - Red Alder management trials in the Vancouver Forest Region (2002).