WHISTLER

MINUTES

REGULAR MEETING OF FOREST & WILDLAND ADVISORY COMMITTEE
WEDNESDAY, SEPTEMBER 13, 2017, STARTING AT 3:00 P.M.
In the Flute Room
4325 Blackcomb Way, Whistler, BC V0N 1B4

File: 8221.03

Name	**Meetings to Date: 8**
Present:	
AWARE, Claire Ruddy, Chair	6
Council, John Grills	1
Member at Large, Derek Bonin	8
Member at Large, Arthur DeJong	7
Member at Large, Johnny Mikes	6
Member at Large, Candace Rose-Taylor	4
Regrets:	
Member at Large, Mac Lowry	3
Member at Large, Trevor Burton	5
Member at Large, Colin Rankin	5
WORCA, Todd Hellinga	4
Member at Large, Kathi Bridge	4
Recording Secretary	
Heather Beresford	8

Adoption of Agenda

ADOPTION OF AGENDA

Moved by D. Bonin
Seconded by J. Mikes

That the Forest & Wildland Advisory Committee adopt the Forest & Wildland Advisory Committee agenda for September 13, 2017 with the presentation by S. Bickerton postponed until October.

CARRIED

Adoption of Minutes

ADOPTION OF MINUTES

Moved by A. DeJong
Seconded by C. Ruddy

That the Forest & Wildland Advisory Committee adopt the Forest & Wildland Advisory Committee minutes for July 12, 2017.

CARRIED

Verbal Reports

Council:

- Councillor John Grills replaces Andree Janyk. Councillor Grills is also on the Cheakamus Community Forest Board.
- Noted that tourism accommodation, solid waste bylaw update and housing task force are current priority topics at Council.

C. Rose-Taylor arrived at 3:10 p.m.

- UBCM funding approved for Alpine Meadows/CCF5 fuel thinning projects. RMOW will raise provincial funding at upcoming UBCM conference.
- Discussion: Reminder to Council that bothbb Whistler Bear Advisory Committee and FWAC made motions to coordinate alpine trail planning with environmental/wildlife values and concerns.

AWARE

- 50 volunteers participated in Corporate Giving Day.

WORCA:

- N/A

RMOW:

- Callaghan FSR, Wedge, Alpine Meadows and CCF#5 fuel thinning projects scheduled for autumn 2017
- Firesmart public program progressing.
- Trail Planning Working Group – next meeting in autumn
- Discussion re: CCF Board process for capturing community input around access and recreation planning.

Crown Land Tenure Application

Presentation by H. Beresford regarding the Ride With Chris Brown crown land recreation tenure application.

FWAC reviewed the tenure application and made the following comments:

- Application should identify specific access points. Using existing access is preferable to creating new access routes.
- Clarify the year round access plan.

- Concerns expressed regarding impacts on wildlife and glaciers due to year round snowmobile use. Recommended implementing “black out” dates similar to closures identified in Sea to Sky Land & Resource Management Plan for grizzly bears.
- Crown should retain ability to introduce future restrictions on use and timing as necessary.
- Some areas in application (Meager, Cadwallader, for e.g.) are adjacent to Wildlife Habitat Areas (WHA). FWAC recommends buffers between the tenure and the WHA. Also, Lone Goat Creek is known grizzly bear habitat.
- Recommend applicant confer with MOE biologist Steve Rochetta regarding grizzly bear use in the tenure application areas.
- Safety concerns regarding applicants ability to operate with no intensive use areas. No emergency shelters are identified either.
- Add wording to RMOW’s response, Point 1, page 2, to request that applicant move to lowest emission option including electric as soon as possible.

CCF Annual Report

FWAC reviewed the final draft 2016 CCF Annual Report attached as Appendix 1 to these minutes.

Moved by D. Bonin
Seconded by C. Rose-Taylor

That the Forest & Wildland Advisory Committee approved the 2016 Cheakamus Community Forest annual report.

CARRIED

Other Business

OTHER BUSINESS

October field trip – schedule for last half of October.

Future Agenda Items:

- October - presentation by Sean Bickerton and/or Bob Cunneyworth, FLNRO Compliance and Enforcement Officer
- November – presentation by Tom Cole on CCF 2018 plans
- Whistler Interpretive Forest – discuss who is responsible make recommendation for future management.

ADJOURNMENT

Moved by D. Bonin

That the Forest & Wildland Advisory Committee adjourn the September 13, 2017 meeting at 4:27 p.m.

CARRIED

_____
CHAIR: C. Ruddy

_____
RECORDING SECRETARY: H. Beresford

WHISTLER

Appendix 1

FOREST & WILDLAND ADVISORY COMMITTEE ANNUAL REPORT ON 2016 CHEAKAMUS COMMUNITY FOREST HARVESTING

Photo Credit: Bob Brett

Contents

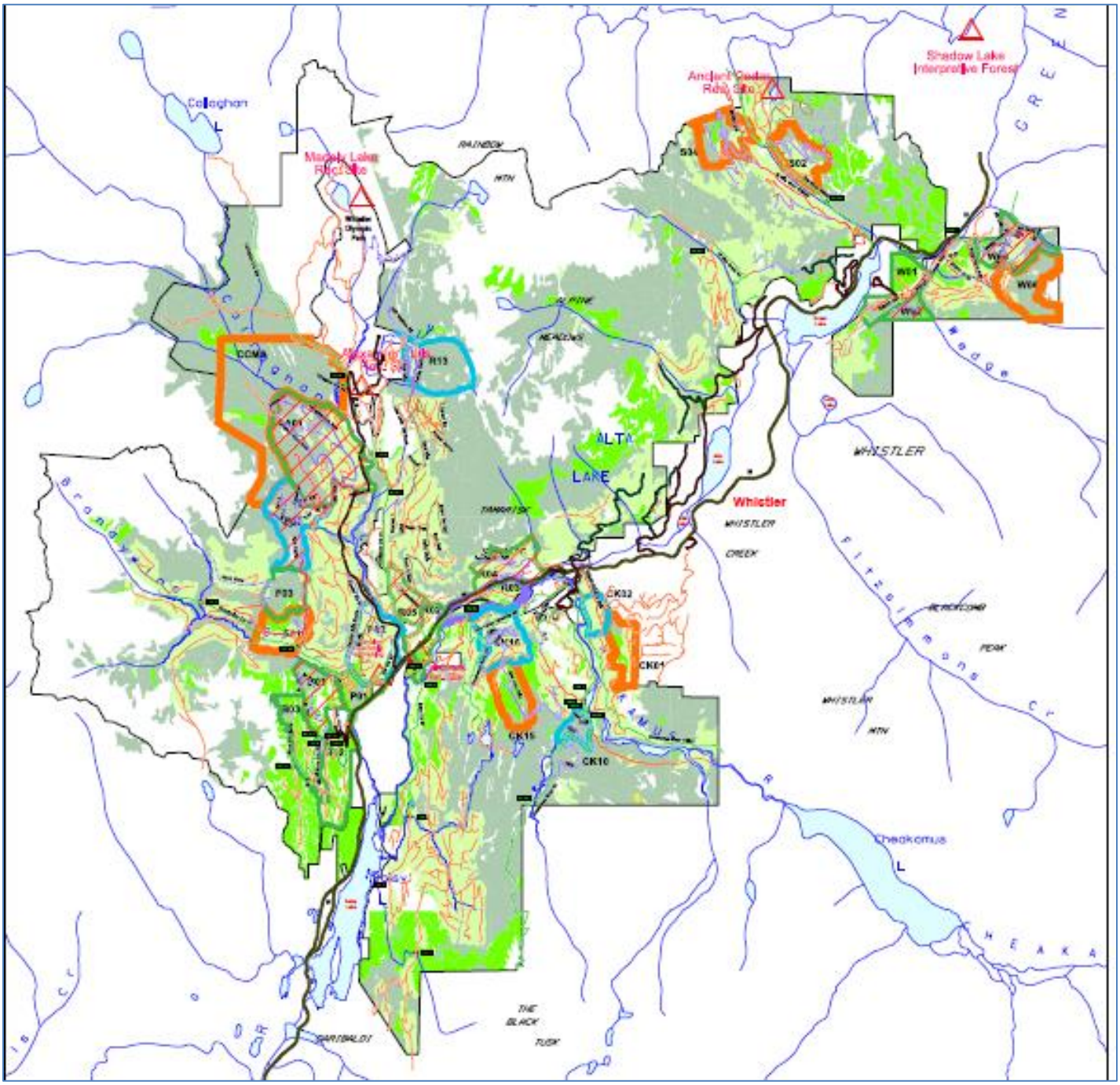
1. Compartment Area Key Map 9
2. Introduction and Summaries of Harvesting Information, Key Comments and Recommendations .. 10
   2.1 Introduction 10
   2.2 Summary of Harvesting Information 10
   2.3 Summary of Key Questions and FWAC Comments 11
   2.4 Overall Recommendations and Comments 12
3. Cheakamus 16 Field Observations (October 27, 2016) 13
   3.1 Overview 13
   3.2 Spotted Owl Management 15
   3.3 Residue Sampling 15
   3.4 Training 15
   3.5 Riparian Areas 15
   3.6 Visuals 16
   3.7 Roads 16
   3.8 Access Management Principles 16
   3.9 CCF Silviculture Plan 16
   3.10 Market Conditions 16
4. Wedge 02 Field Observations (May 31, 2017) 17
   4.1 Overview 17
   4.2 Wedge Visual Analysis 18
   4.3 Spotted Owl Management 19
   4.4 Old Growth 19
   4.5 Debris Piles 20
   4.6 Roads 20
   4.7 Carbon Project 21
5. Brio Fuel Management Project 21
   5.1 Fuel Management Objectives 22
   5.2 Fuel Management Strategies 22
6. Specific Comments 24
   6.1 Cheakamus 16 24
   6.2 Wedge 02 24
   6.3 Brio Fuel Management 24
   Appendix A: Visual Landscape Inventory Objectives 25
   Appendix B: Cheakamus 16 Visual Impacts 26

List of Tables and Figures

Table 1: Harvesting Summary 2016 10
Table 2: Cut Control Information as per MFLNRO Cut Control Statement, year end 2016 10
Table 3: Harvesting Unit Rating according to adherence to silviculture strategy 10
Table 4: Summary of Key Questions and FWAC Comments 11
Figure 1: Cheakamus 16 Logging Plan Map 14
Table 5: Wedge Units Size 17
Figure 2: Wedge Openings Locations 17
Figure 3: Wedge Logging Plan 18
Figure 4: Wedge 02 Visual Analysis 19
Figure 5: Wedge 02 (D3) Debris Piles 20
Figure 6: Wedge 02 Road Deactivation Plan 21

Figure 7: Brio Fuel Management Site (treatment area downslope of orange line) 22
Figure 8: FWAC at Brio site 23
Figure 9: Wood Being Removed from Brio site 23

Compartment Area Key Map



1. Introduction and Summaries of Harvesting Information, Key Comments and Recommendations

1.1 Introduction

The Cheakamus Community Forest (CCF) operates under the K3V forest license and is one of 60 community forests in British Columbia. Situated on more than 33,000 hectares surrounding Whistler, the CCF was established in 2009, when the Lil'wat Nation, Squamish Nation and Resort Municipality of Whistler (RMOW) jointly signed a 25-year tenure with the provincial Ministry of Forests and Range. Together, these three equal partners oversee the management and operation of the forest under the auspices of the Cheakamus Community Forest Society, an independent not-for-profit organization.

The purpose of the Forest and Wildland Advisory Committee's (FWAC) annual report is to provide recommendations for forest management improvements to the RMOW Council, the CCF Board of Directors and forestry manager, and to the forestry operations contractor. Field observations are drawn from a field trips held in October 2016 and May 2017.

1.2 Summary of Harvesting Information

Table 1: Harvesting Summary 2016

Unit	Harvested by	Cubic Metres Harvested
Rainbow 01	Lil'wat Forestry Ventures LP	105.9
Rainbow 05	Sqomish Forestry LP	1254.1
Powder 02	Sqomish Forestry LP	331.4
Cheakamus 16	Lil'wat Forestry Ventures LP	5199.3
TOTAL		**6890.8**

Table 2: Cut Control Information as per MFLNRO Cut Control Statement, year end 2016

	2014 (m^3)	2015 (m^3)	2016 (m^3)
Cut Control Period 2014 - 2018			
Harvested Timber (Billed)	21477	2571	8085
Timber Wasted or Damaged	0	2502	0
Unbilled Timber Scaled	529	1385	168
Credit Previous year Unbilled Scaled	(324)	(529)	(1385)
Volume of Timber Harvested	21683	5929	6869
Total of Volume of Timber Harvested Statement Year End			34480
Overcut/Undercut Carry Forward			0
Total Volume Attributed to Licensee Cut Control Period			34480
Cumulative AAC to Year End			60000
Percent of Harvest to Year End			57.5%

Table 3: Harvesting Unit Rating according to adherence to silviculture strategy

Unit Name	Comments
Rainbow 01 (Callaghan Road fuel thinning)	Silviculture strategy in CWH second growth is commercial thinning to remove 1/3 basal area and an extended rotation. - Comment requires a comparison of pre and post harvest data (not provided to date)
Rainbow 02 (Callaghan Road fuel thinning)	Silviculture strategy in CWH second growth is commercial thinning to remove 1/3 basal area and an extended rotation. - Comment requires a comparison of pre and post harvest data (not provided to date).
Powder 02 (near Callaghan transfer station)	Excessive basal area removed (visual estimate) from second growth stands. - Did not appear to adhere to silviculture strategy.
Cheakamus 16 (southwest of Cheakamus Crossing neighbourhood)	Utilized the prescription for managing spotted owl habitat within a special resource management zone that exceeds the low retention level outlined in the silviculture strategy for old growth forest within the CWH. - Achieved and exceeded silviculture strategy.

1.3 Summary of Key Questions and FWAC Comments

The Forest & Wildland Advisory Committee considered six key questions in its analysis and associated comments, listed in Table 4 below.

Table 4: Summary of Key Questions and FWAC Comments

Key Questions	FWAC Comments
1. Is the CCF using best management practices to respect ecological principals and maintain biodiversity?	Concerns regarding logging of old growth forests continue to be expressed in the community (letters to editor in Pique, open house and individual comments to FWAC members). - CCF Ecosystem Based Management (EBM) Plan (Dec 2012) includes monitoring and reporting on area of old forest logged. CCF 2017 Road and Logging Development Plan identifies seven compartments of stand age >250 yrs – with a total harvest volume of 29,370 m^3 and four compartments of mixed stand age (including mature and old forest types) with a total volume of 7,700 m^3 (area of individual compartments proposed for 2017 logging provided for 2016 December open house). - CCF logging development plans are heavily dependent on logging of old forest types (i.e., old growth) – with no clear timeframe for transition to logging of second growth forests – leaving the CCF open to continued negative comments from community members.

Key Questions	FWAC Comments
2. Do the CCF operations match the annual harvesting plans and other guiding documents?	Annual harvest volume has been well below allowable annual cut for several years. - CCF could consider review of cut levels relative to economic costs, ecosystem values and economic values of unlogged areas (i.e., associated with tourism & recreation) for potential revision. - Comments on harvesting plans for individual compartments provided in body of this report.
3. Are the harvesting operations sensitive to visual impacts? And were other measures applied to minimize impacts on the shared use of the forest, particularly regarding tourism?	- VQO review comments provided by FWAC in 2017 – generally positive (e.g., Wedge blocks from hwy 99) - Harvesting plans need to consider visual impacts from key recreational features (e.g. trails and viewpoints, such as Hanging Lake Trail), as well as from roads
4. Does the fuel management harvesting bring the CCF closer to community FireSmart objectives?	No fuel management projects in 2016. FWAC field trip in May 2017 included visit to Brio fuel management site which is an RMOW project funded through the Union of BC Municipalities' program – see comments in body of report.
5. Does the harvesting balance access with protecting habitat and managing species of special concern?	- Access planning is still in development. Progress on roads framework is positive. - An access management plan that includes road head parking and signage, trail types and uses, existing and potential trail proposals, proposed campsites and other recreation infrastructure – within a natural and EBM values framework – is needed for the Whistler area - Wedge 02 created potential for sediment/erosion issues for onsite water courses.
6. Does the harvesting maintain other values (e.g., water, recreation, GHG emissions, fuel management)?	Additional measures during operations could be employed to protect other values (e.g., to lessen footprint and impacts of machinery on ground cover and water values).

1.4 Overall Recommendations and Comments

The question of "why" we are harvesting timber in the CCF, as well as "what, how much and where", needs to be explicit and communicated among CCF partners and community interests. As well as employment and revenue for CCF partners, and attempting to meet harvesting quotas – economic return to partner communities and impacts on values such as recreation and tourism (as well as biodiversity values) – influence management assumptions and harvesting plans. Trends, economic context and community interests that should be integral to CCF plans and activities include: continued limited market and low prices for different timber types within CCF; alternative employment and training opportunities for CCF partners (including thinning, fuel management and forest-based tourism); increasing attention to fuel management and FireSmart strategies; increasing recreation and tourism demand and use along

the Sea to Sky corridor and CCF region; and continued community concern for natural values, including old growth timber and wildlife.

1. FWAC recommends that CCF review its annual harvesting against the 1-3 and 4-10 year plans created in 2015 and report on any changes or differences.
2. FWAC recommends that the CCF update its long term plans to show recent harvesting.
3. FWAC recommends that the CCF assess the pros and cons of meeting AAC targets and to consider a more realistic AAC if CCF is continually undercutting. FWAC understands that the AAC is a legal agreement with the province but appears to still be too high given the CCF's harvesting history. FWAC also recommends that for such an analysis, recreation/tourism economic values are taken into consideration when weighing off against the value of logging.
4. FWAC is encouraged to see cooperative wildfire fuel reduction projects being undertaken between CCF and RMOW. FWAC recommends a formal assessment, and if appropriate development, of a strategic harvesting plan that blends fuel reduction with meeting the AAC (i.e., incorporates thinning associated with fuel reduction measures into AAC calculations). For the fuel reduction projects to reduce costs and extend the return cycle of the project, more stems could be removed to open up the canopy, further reduce crown fire hazard and increase opportunity for costs to be offset by the removal of some merchantable wood. The public seems to be more positive about wildfire management and FireSmart work, and RMOW/CCF could likely thin more than currently.
5. Harvesting practices in CCF appear to be tied to legacy (i.e., heavy footprint) equipment. FWAC recommends review of options for harvesting that have potential for thinning of second growth stands and/or have lower impact for mixed older forest types. This could involve: 1) specifying lower impact practices (i.e., machine types and harvesting methods) in harvesting requirements; and 2) including more comprehensive second growth thinning (in association with fuel reduction strategies) in harvest development plans.

2. Cheakamus 16 Field Observations (October 27, 2016)

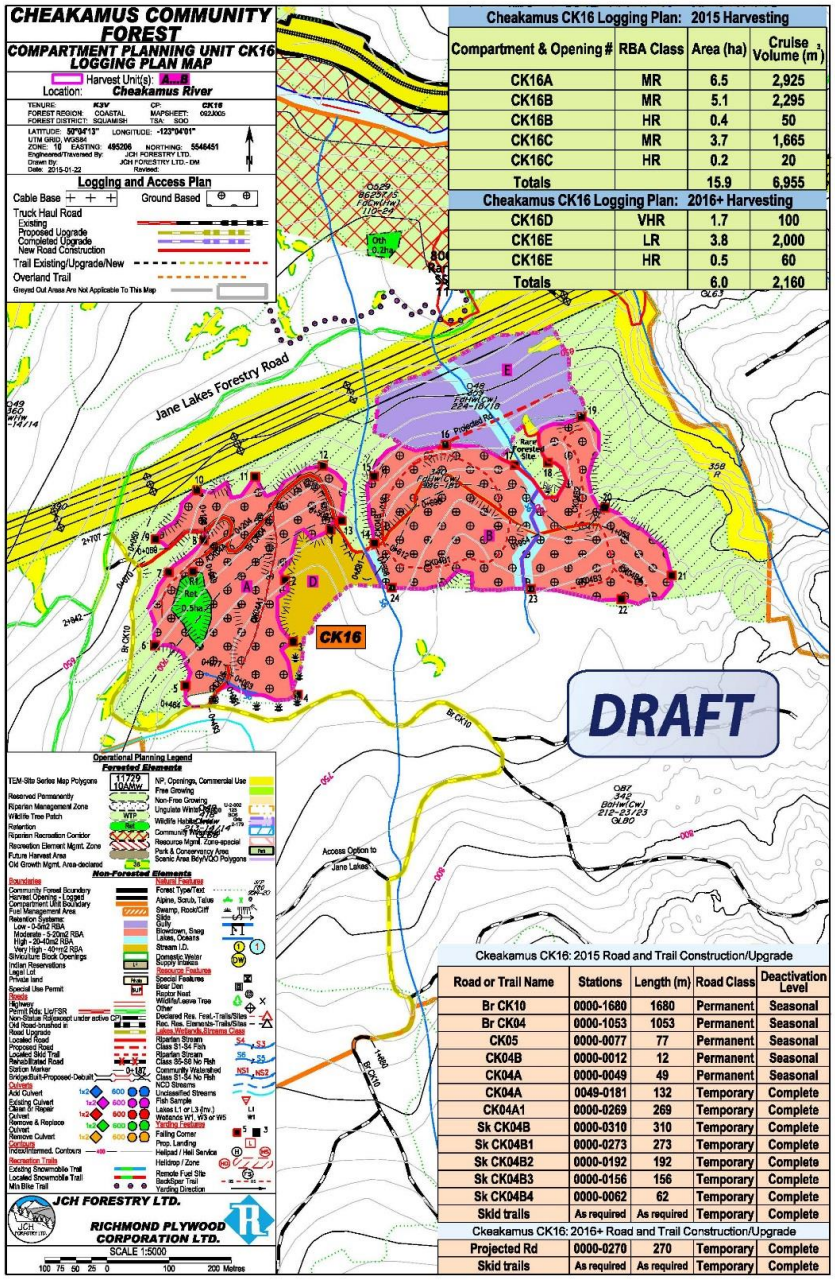
2.1 Overview

Cheakamus 16 contains five openings (A, B, C, D & E) that range from 1.7 hectares to 6.5 hectares with moderate, high and very high retention. It is a single entry site with 14.9 hectares total openings. The unit was previously deferred due to sensitivities about impacts on the nearby Cheakamus Crossing neigbhourhood. In 2016, BC Hydro upgraded access along Jane Lake road with brushing roadside vegetation. The work included an upgrade to the existing access to Cheakamus 16. Cedar and fir were replanted with 10% white pine in 2017.

The unit is managed as future habitat area for spotted owl with high to moderate permanent retention. Harvesting plans indicate no conflict with Old Growth Management Areas (OGMA) or Ecosystem-based Management (EBM) reserves. The site provides options of re-gaining access into the Jane Lakes region. The Jane Lake Forestry Road requires minimal upgrade. The visual quality objective from Highway 99 is retention. Coarse woody debris targets were determined using existing downed cedar. The site contains Big Tree-Rare Ecosystem with a small area of cedar, devils club-oakfern that is protected in a reserve area. The area of 2nd growth was thinned to 250 stems per hectare.

Cheakamus 16 harvesting yielded ~5300 m^3 and 1100 m^3 from thinning.

Figure 1: Cheakamus 16 Logging Plan Map



Cheakamus CK16 Logging Plan: 2015 Harvesting			
Compartment & Opening #	RBA Class	Area (ha)	Cruise Volume (m^3)
CK16A	MR	6.5	2,925
CK16B	MR	5.1	2,295
CK16B	HR	0.4	50
CK16C	MR	3.7	1,665
CK16C	HR	0.2	20
Totals		15.9	6,955
Cheakamus CK16 Logging Plan: 2016+ Harvesting			
CK16D	VHR	1.7	100
CK16E	LR	3.8	2,000
CK16E	HR	0.5	60
Totals		6.0	2,160

Ckeakamus CK16: 2015 Road and Trail Construction/Upgrade				
Road or Trail Name	Stations	Length (m)	Road Class	Deactivation Level
Br CK10	0000-1680	1680	Permanent	Seasonal
Br CK04	0000-1053	1053	Permanent	Seasonal
CK05	0000-0077	77	Permanent	Seasonal
CK04B	0000-0012	12	Permanent	Seasonal
CK04A	0000-0049	49	Permanent	Seasonal
CK04A	0049-0181	132	Temporary	Complete
CK04A1	0000-0269	269	Temporary	Complete
Sk CK04B	0000-0310	310	Temporary	Complete
Sk CK04B1	0000-0273	273	Temporary	Complete
Sk CK04B2	0000-0192	192	Temporary	Complete
Sk CK04B3	0000-0156	156	Temporary	Complete
Sk CK04B4	0000-0062	62	Temporary	Complete
Skid trails	As required	As required	Temporary	Complete
Ckeakamus CK16: 2016+ Road and Trail Construction/Upgrade				
Projected Rd	0000-0270	270	Temporary	Complete
Skid trails	As required	As required	Temporary	Complete

(Note: RBA Class refers to retention level: Moderate Retention (MR); High Retention (HR); Low Retention (LR); Very High Retention (VHR))

2.2 Spotted Owl Management

The northern spotted owl (Strix occidentalis) is designated as Endangered by COSEWIC and is Red-listed by the B.C. Wildlife Branch. In May 1997 the provincial government approved the Spotted Owl Management Plan for the Chilliwack and Squamish forest districts. The long-term management of the species will occur within 21 areas that total approximately 363,000 hectares distributed throughout the range of spotted owls in the Chilliwack and Squamish Forest Districts.

For more information, see the Government Actions Regulation, Order – Wildlife Habitat Areas http://www.env.gov.bc.ca/wld/documents/wha/SPOW_2-494-510_Order.pdf

Cheakamus 16 is in a spotted owl management zone. It is not current spotted owl habitat but must be managed so that if spotted owls returned in the future, the remaining habitat would be suitable.

The Cheakamus 16 logging plan called for 50 trees per hectare be retained in accordance with spotted owl guidelines. The operator used a combination of “owl trees” which are largest diameter trees on site with trees that met the Ecosystem Based Management (EBM) Reserve guidelines.

Large Douglas firs were left on the ground for extra owl or habitat trees but since logging, the public has come in and cut out many of the trees left behind. The CCF will leave such trees further from the road side in future and consider putting up signs explaining that the trees are left behind for habitat purposes and should not be removed by public.

2.3 Residue Sampling

FLNRO operates under a “take or pay” system meaning that the downed wood must be removed or the operator pays a waste fee. The operator sampled the biggest unit and applied the same methodology to the other two units. Road side areas and debris piles were sampled. FLNRO later directed to sample debris piles and logs separately. Debris within the unit is considered as a dispersed stratum, while debris at roadside is waste. Dispersed stratum was measured at 91m^3/hectare which is considered high. Approximately 500m^3 of firewood was left at road side. CCF is waiting for FLNRO to decide if calculations used to determine waste are acceptable. Piles scheduled to be burned in November weather and venting permitting.

2.4 Training

Lil’wat Forestry Ventures completed the harvesting. They received federal funding to also conduct training focused on falling, loading and safety for new forestry workers using the Cheakamus 16 site. A report is expected.

2.5 Riparian Areas

The CCF is managing creeks to the Forest Stewardship Council standards. The creek on site has a 15m no harvest riparian area zone. This management approach also helps to provide trees for spotted owl and carbon requirements.

2.6 Visuals

Cheakamus 16 was managed to partial retention as per district visual objectives. The CCF forest manager calculated retention at 3-7% level of alteration from Highway 99.

See Appendix A and B for images.

2.7 Roads

All roads are temporary and will be deactivated (see road/trail status table in Figure 1), but could be used as base for bike trails. CCF will discuss opportunities around collaborating on trail routes with WORCA.

FWAC would like to see more road information forthcoming from CCF. The committee learned that the site broke even because the road costs were so high. Why is CCF choosing sites where expensive road needs to be built rather than using existing road systems? It also begs the question of why log that site if it is not profitable?

2.8 Access Management Principles

CCF should consider the access management principles developed by FWAC when thinking about future of roads. FWAC continues to monitor and review the developing CCF access plan noting that it predominantly focuses on roads and is not a comprehensive access management plan. FWAC recommends changing the title to reflect the focus on roads.

2.9 CCF Silviculture Plan

The CCF silviculture plan does not include spotted owl requirements and should consider adding a reference. CCF appears to be following CCF silviculture plan in this block.

The CCF needs to have a long term plan for managing multiple values, and provide ongoing investment into the stand for monitoring, to thin regrowth to meet wildfire management goals and for the carbon project.

2.10 Market Conditions

FWAC held a discussion regarding pressure to harvest full 21,000 m3 Annual Allowable Cut (AAC). The CCF is market driven and the EBM and carbon rules reduce opportunities to cut. The pulp market is very low with no buyers. Typically, 30% of CCF stands are sold as pulp but that's too much to leave behind so CCF is not pushing to log.

Entering second growth stands less than 100 years old would mainly be done for fuel management, but still needs a subsidy as it is costly. This may be the case for a stand at 40 years old but not the case for a stand at 80 years old. An analysis is required but in general terms, thinning a second growth stand requires minimum road building costs, reduces the fuel hazards, has little pulp and consistent wood size and quality. There may be some merchantable wood at certain sites. An 80 year old stand will have significant merchantable wood pending on the site quality.

It will be 40-50 years before the second growth could be cut at its maximum return (optimum growth versus maximum return). The carbon project requires that a significant portion is left to grow to at least

100 years old. Logging second growth doesn't mean there will nothing left to cut in future but that the trees left behind will grow better and almost offset the early harvesting loss. Thinning to ~200 stems per hectare with an extended rotation will increase the value of the stand. Scaling up the thinning program to 40+ hectares per year lowers the operating cost to break even.

3. Wedge 02 Field Observations (May 31, 2017)

3.1 Overview

The Wedge 02 harvesting units are located on the south branch of the Wedge Forest Service Road. FWAC visited Wedge 02: D1, D2, D3 and E. Wedge 02 A was logged in 2013.

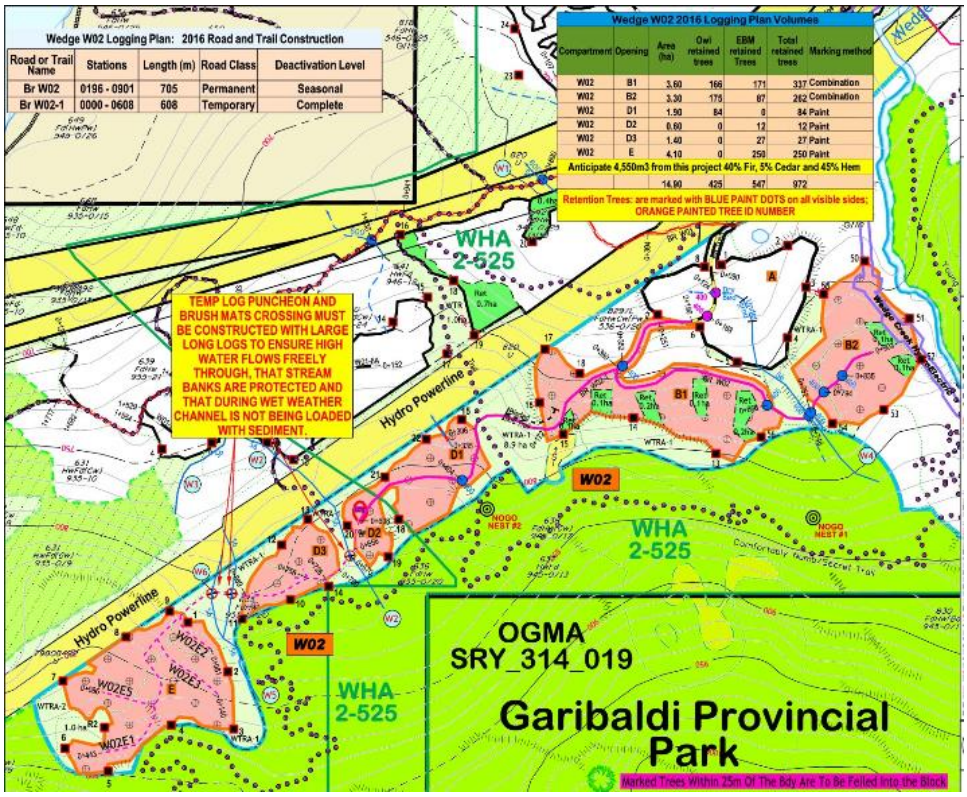
Table 5: Wedge Units Size

Unit	Size
Wedge 02 (D1)	1.9 hectares
Wedge 02 (D2)	0.6 hectares
Wedge 02 (D3)	1.4 hectares
Wedge 02 (E)	4.1 hectares

The Wedge units are next to an EBM Reserve and an area managed for Spotted Owl future habitat. The access to the units also affected Jeff's Trail, a connector mountain bike trail between Comfortably Numb and the Sea to Sky Trail. The access road/trail will be deactivated and leave the trail intact.

Figure 2: Wedge Openings Locations

Figure 3: Wedge Logging Plan



All work was finished in the first week of April 2017. The roads have been affected by the wet spring and need to be fixed and culverts replaced. The main branch will be deactivated and rehabilitated below the intersection after the creek crossing. No further blocks are planned for harvesting above Wedge 02 (E). All skid trails will be decommissioned. Approximately 6000 m3 were harvested from these sites by Skytech Yarding.

A goshawk nest caused a timing constraint so the crew continued logging into April even though the road was wet. Clean up is postponed until the chicks fledge, and the replanting will occur in the fall.

The ground is left in varying states depending on location. Some sites are “cleaner” and very little debris is on the ground while some have more debris left behind. Some sites may be more pleasing to the eye but debris also acts as habitat. There was low disturbance to the ground due to harvesting in the winter over the snow, and overall not much coarse woody debris is left. FWAC may find it low. Tom Cole noted that there was no blowdown as a result of the big windstorm recently.

3.2 Wedge Visual Analysis

Driving north, FWAC stopped at the north end of Green Lake to observe the visual impact of the harvesting blocks from Highway 99. CCF considered highway views and views from the lake. The silviculture regime is retention defined as alteration that is easy to see, small to medium in scale, and

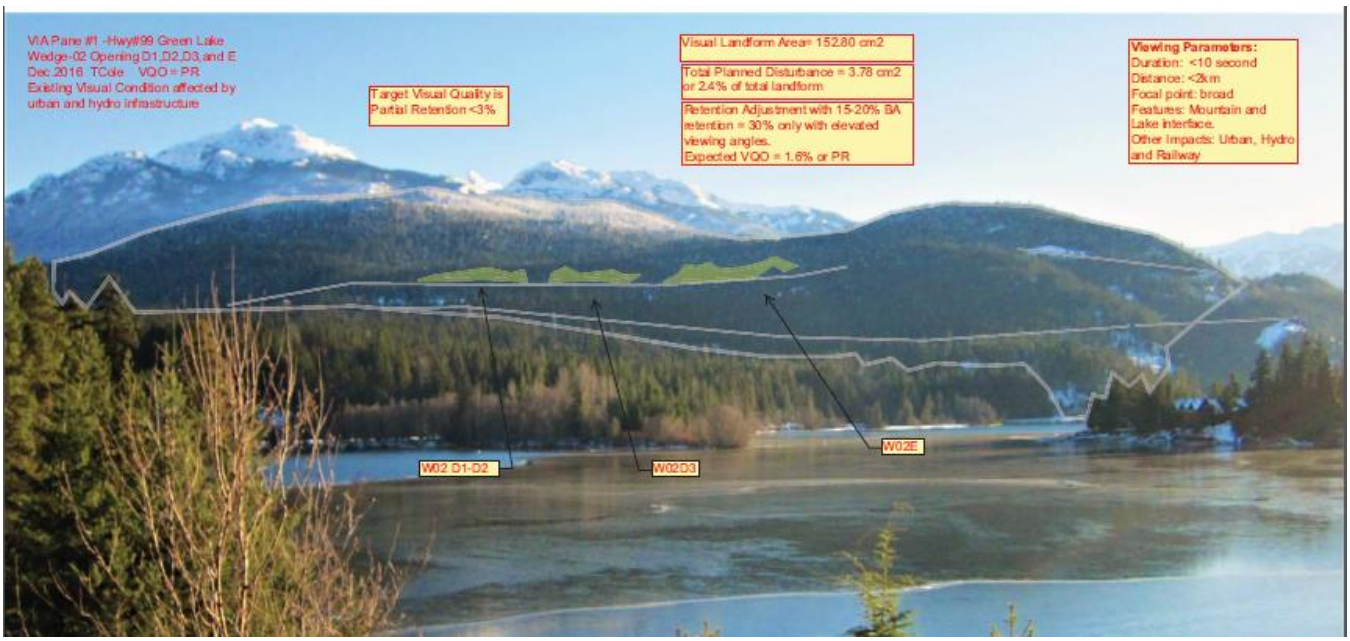
natural (not rectilinear or geometric) in shape. Percent alteration allowed is 1.6 – 7%, and Wedge targeted less than 3% alteration.

FWAC noted that the harvesting blends into the power line clearings and didn't appear out of scale or more noticeable that other openings in the area. CCF confirmed that more areas would be harvested between the power lines in the future.

The harvesting target was moderate retention and the retention is permanent. A second pass in the future will only take place on the lower units.

FWAC member and WORCA representative, Todd Hellinga, walked along a short section of Comfortably Numb and noted that the logging in that area is not very visible from the mountain bike trail. The temporary access across Jeff's Trail will be rehabbed.

Figure 4: Wedge 02 Visual Analysis



3.3 Spotted Owl Management

Similar to Cheakamus 16, the Wedge units are in a spotted owl management zone. It is not current spotted owl habitat but must be managed so that if spotted owls returned in the future, the remaining habitat would be suitable.
The Wedge logging plan left 40 of the largest trees plus 30 additional trees per hectare be in accordance with spotted owl guidelines. Operator used a combination of "owl trees" which are largest diameter trees on site with trees that met Ecosystem Based Management (EBM) Reserve guidelines.

3.4 Old Growth

A sub-committee of the Cheakamus Community Forest Board of Directors and staff was formed to complete several major projects. These include the establishment of Old Growth Management Areas,

the Integrated Resource Mapping Project (IRMP) in 2015, and creating an Access Management Plan in 2016. These projects provide clear direction for the CCF and the public on future plans.

See the Integrated Resource Mapping Project final report for more information on how the CCF manages old growth. http://www.cheakamuscommunityforest.com/wp-content/uploads/Integrated_Resource_Mapping_Final_Report.pdf

The CCF's carbon project discourages harvesting trees that are less than 100 years old. This impacts how long the CCF has to continue to harvest old growth by extending the rotation age of trees. The CCF can still do commercial thinning that targets second growth and avoids old growth.

FWAC noted some damage to remaining trees but were advised that old Douglas firs are resistant. They act as legacy or wildlife trees and are not targets for future harvesting.

3.5 Debris Piles

FLNRO operates under a "take or pay" system meaning that the downed wood must be removed or operator pays a waste fee. Three debris piles on site will be trucked down to a lower area in order to manage the burn more safely and be burned in the autumn at a cost of $5-6,000. Alternatively, the piles may be chipped and trucked to the Callaghan transfer station composter at a cost of $14,000 - $18,000.

Figure 5: Wedge 02 (D3) Debris Piles

3.6 Roads

All upper roads are temporary and will be deactivated.
Tom Cole reviewed the CCF's draft road decision matrix to share how the road future is decided.

Figure 6: Wedge 02 Road Deactivation Plan

Wedge W02 Logging Plan: 2016 Road and Trail Construction

Road or Trail Name	Stations	Length (m)	Road Class	Deactivation Level
Br W02	0196 - 0901	705	Permanent	Seasonal
Br W02-1	0000 - 0608	608	Temporary	Complete

3.7 Carbon Project

The carbon offsets generated by the Cheakamus Community Forest project are created by improved forest management actions on the 33,000 hectares it manages. They are quantified with the BC Forest Carbon Offset Protocol, and verified to the BC Emissions Offset Regulation. These actions are guided by the community forest's Ecosystem Based Management plan, and delivered on the land through reduced harvest volumes, extended harvest rotations, expanded reserves, and protection of old growth forests and other important wildlife habitat. These voluntary actions go above and beyond regulatory requirements

See Brinkman Climate's Cheakamus Community Forest carbon offsets brochure: http://ecotrust.ca/wp-content/uploads/2015/05/Briefing_CheakamusCarbon.pdf

A carbon offset is an independently verified credit for net greenhouse gas reductions achieved by one party that can be used to compensate (or offset) the emissions of another party. Carbon offsets are typically measured in tonnes of carbon dioxide-equivalents (or CO2e), transacted through carbon registries, and bought and sold for voluntary or regulated emissions reductions.

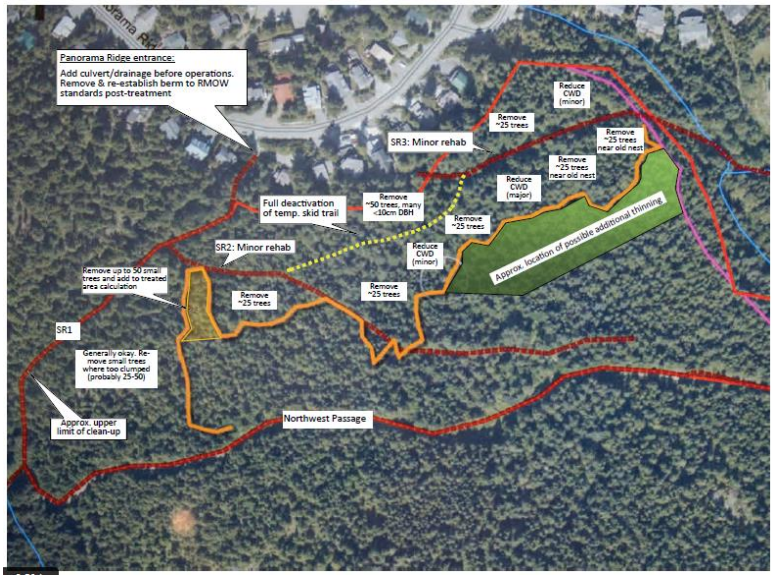
4. Brio Fuel Management Project

FWAC visited the Brio Fuel Management project as a learning opportunity even though it is not a CCF site. The Brio fuel management project is managed by the RMOW and is largely funded through the Union of BC Municipality's Strategic Wildfire Protection Initiative. The prescription was prepared by B.A. Blackwell & Associates (Appendix 1). Work began in 2016 on 4.6 hectares of the 8.8 hectare site, and was discontinued in June. Work recommenced in May 2017 to remove the remaining downed wood and bring the 4.6 hectares up to the prescription standards.

The prescription addresses hazardous forest fuel types above the Brio neighbourhood within the Resort Municipality of Whistler (RMOW) and the Whistler Blackcomb Controlled Recreation Area tenure. Most of the treatment area is second growth forest, dominated by amabilis fir (Abies amabilis) and western hemlock (Tsuga heterophylla), with a secondary component of Douglas-fir (Pseudotsuga menziesii). There are old skid roads throughout that have been converted to use as mountain bike and walking/hiking trails that provide access into the unit. The Whistler Mountain Bike Park is adjacent to the southeast corner of the block.

Field reconnaissance identifies this area as a C4/C3 fuel type mix. These ratings are due to high densities of suppressed understory trees and low deciduous tree canopy closure. Additional risk is attributed to steep slopes and proximity to values at risk (VAR) including structures.

Figure 7: Brio Fuel Management Site (treatment area downslope of orange line)



4.1 Fuel Management Objectives

The objectives of this prescription are to:

- Reduce fire risk to residences, infrastructure and forest ecosystems by reducing ignition potential and fire behaviour within the Wildland Urban Interface upland forests;
- Demonstrate the principles and practices of FireSmart and vegetation management to community members and the public;
- Improve natural barriers that reduce the continuity of fuel loads and wildfire risk;
- Retain the natural character of the forest; and provide for ecosystem restoration and enhancement potential;
- Minimize negative impacts to, and where possible enhance, the many values of the treated stand, including recreation, public safety, aquatic and wildlife habitat, and privacy.

4.2 Fuel Management Strategies

The fuel management objectives will be achieved using the following strategies:

- Maximize retention of dominant and codominant canopy trees to maintain a cool, moist, and dark understorey microclimate;
- Thin from below (i.e. smallest trees first) to reduce ladder fuels and crown bulk density;
- Reduce crown continuity to a target of 40% crown closure to reduce the risk of crown fire spread;
- Prune retained trees to a minimum height of 2m or maximum 60% tree height to reduce ladder fuels and risk of crown fire
- Remove ladder fuels on mature trees to prevent candling;
- Reduce fine surface fuel loading and flammable understorey vegetation to reduce the risk and behaviour of surface fire;

- Retain and encourage deciduous tree species and shrubs to reduce fire behaviour and provide wildlife habitat; and
- Minimize the creation of surface fuel by chipping of treatment slash, and pile burning where feasible;
- Rehabilitate disturbed areas upon project completion.

Figure 8: FWAC at Brio site

Figure 9: Wood Being Removed from Brio site

The prescription is expected to achieve the fuel management objectives over a period of up to 15 years. After this time it is expected that understory regeneration may create ladder fuels that are likely to increase the crown fire hazard. Maintenance required at this time will likely involve understory thinning; removal of flammable vegetation, and surface fuel disposal.

5. Specific Comments

5.1 Cheakamus 16

FWAC questions harvesting an area of old growth with road costs that result in breaking even and an ongoing liability. More value to forest for tourism/recreation values, especially because it's so close to community and near trails and Jane Lakes.

FWAC seeks more information on road costs and the training that happened on site.

5.2 Wedge 02

The harvesting of old growth is removing a natural legacy that cannot be replaced. It is unclear if any monetary benefit for the Whistler community was achieved by harvesting this area of old growth. FWAC recognizes that the CCF partners may have different goals and values, but old growth in close proximity to Whistler may have a greater value left standing.

The prescription for maintaining spotted owl habitat appears to have been implemented successfully but it must be recognized that the prescription did not create habitat, it actually degraded the habitat and places the spotted owl habitat at risk.

Road and skid trail construction with fine textured soils creates a high risk of sediment delivery to streams and conducting skidding operations during periods of wet weather increases this risk.

An overview of the costs and revenues for this area logged will assist in FWAC's review and appreciation of the work completed.

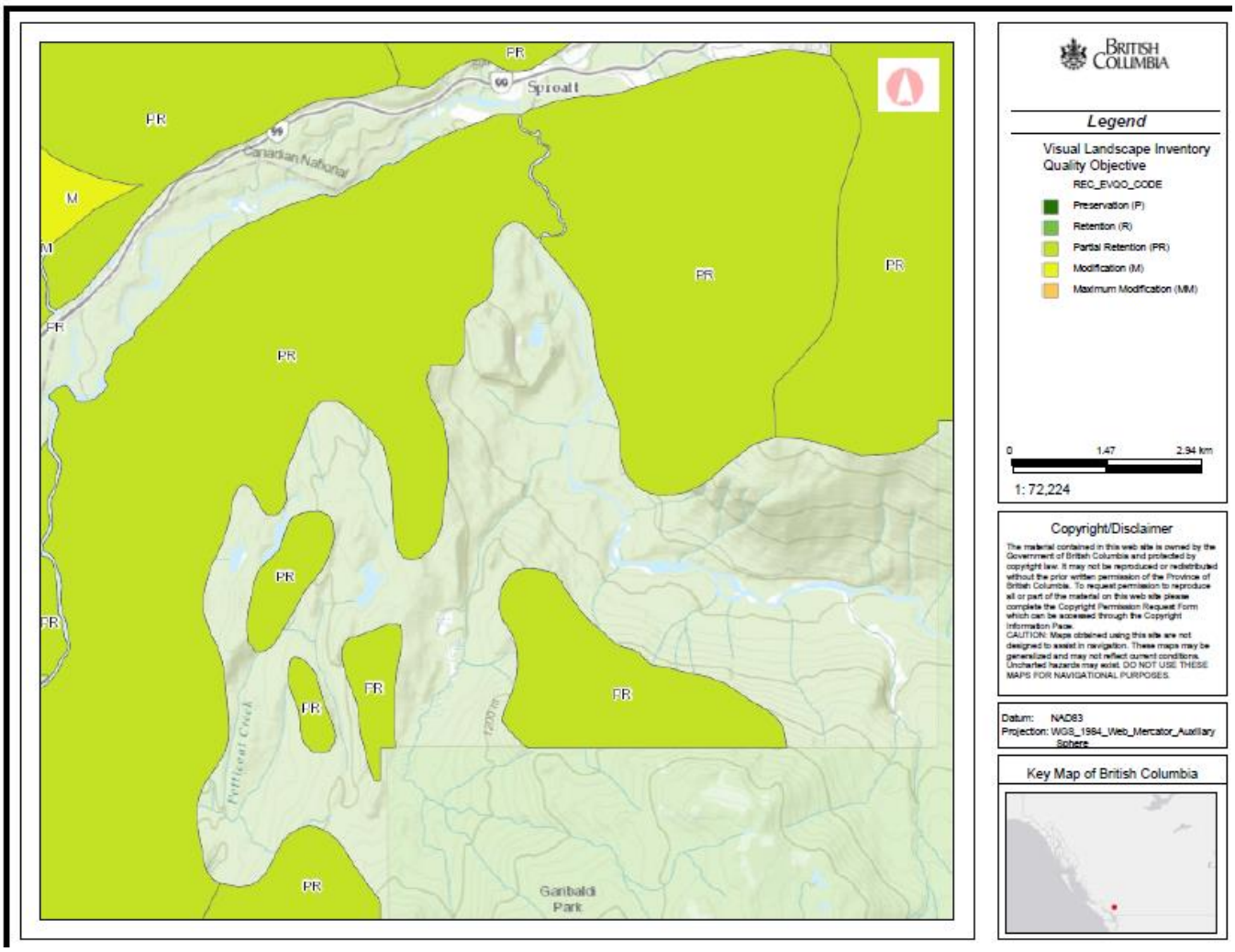
5.3 Brio Fuel Management

The treated second growth forest was visually aesthetically pleasing. In FWAC's opinion, the fuel reduction treatment for this area appears to have minimal effect to minimize the risk of wildfire. Surface fuels and crown could still carry a wildfire, although some ladder fuels were removed that could help to reduce the risk. To be more effective, more stems could be removed to open up the canopy and further reduce crown fire hazard.

The operation is very labour intensive and expensive. Implementing a commercial thinning operation at a break even or at a minimal cost per hectare can be a more efficient treatment method.

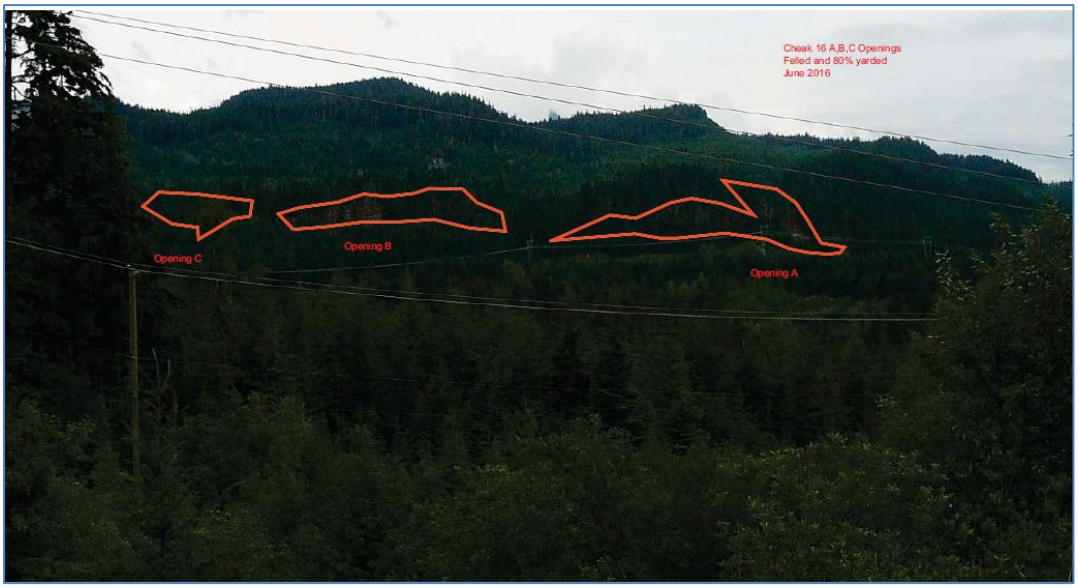
Spending $30,000 per hectare of treated forest is an expensive investment into a forest that will continue to grow and require future treatments to meet objectives. A portion of this money can be used in minimizing the risk of wildfire by improving fire suppression capabilities and public awareness.

Appendix A: Visual Landscape Inventory Objectives

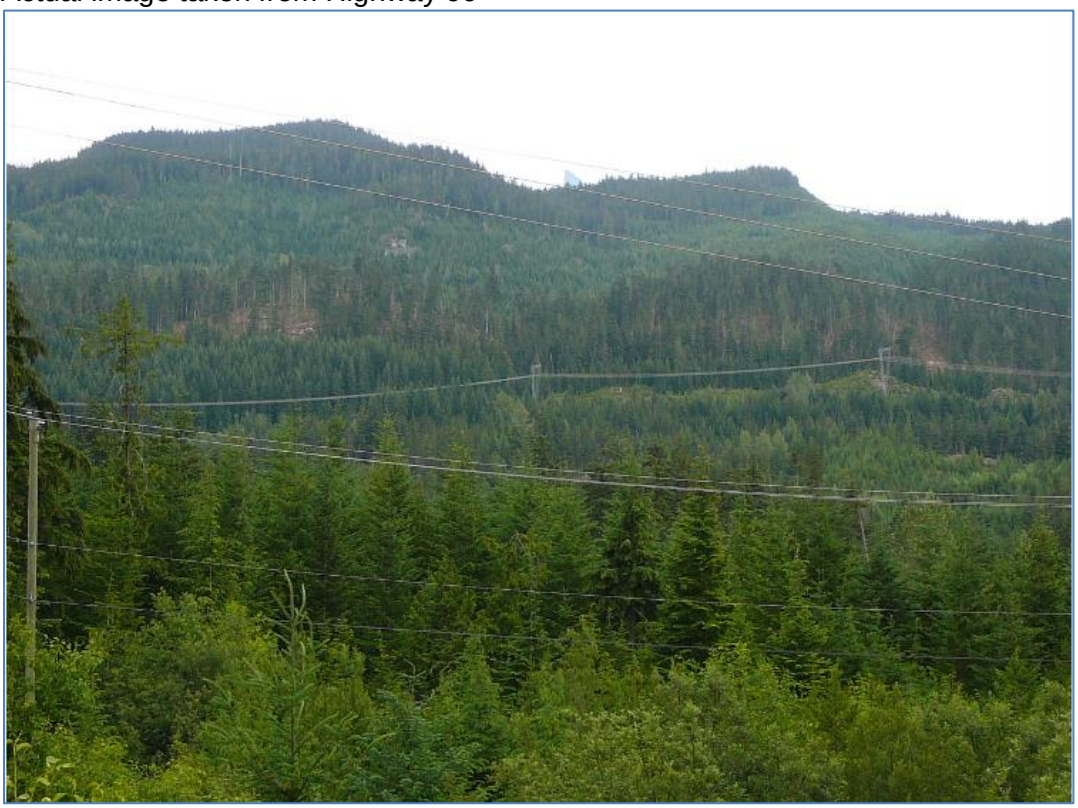


Appendix B: Cheakamus 16 Visual Impacts

Location on hillside



Actual image taken from Highway 99



WHISTLER