



WESTBANK FIRST NATION COMMUNITY FOREST AND FOREST LICENSE

ANNUAL REPORT OF OPERATIONS

For the Period of:

April 1, 2019 to March 31, 2020

May 2020



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1.0 Background

Since August 2009, Westbank First Nation (WFN) has held a 25 year (replaceable) Community Forest Agreement (Licence No. K1P) with the British Columbia Ministry of Forests which provided WFN with the rights to conduct timber management on Crown land and the obligations associated with those rights as authorized under the Forest Act.

In December 2013 WFN entered into a 15 year Replaceable Forest License (Licence No. A91134) with the Provincial government to conduct timber management in an area within the Derickson trapline near the West Kettle River. WFN is presently negotiating with the Province on rolling this Replaceable Forest License into a First Nations Woodland Licence.

With these licenses come a series of obligations and requirements that include:

- Payment of stumpage to the Crown for timber harvested
- Development of long and medium term plans
- Public and government agency review of those plans
- Approvals of cutting permits and road permits before works begin
- Protection of non-timber resources such as water and wildlife habitat
- Consideration of other values including visuals, range and recreation
- Ensuring that harvested areas are fully restocked with ecologically suitable trees.



2.0 PLANNING

There are several levels of planning that Ntityix Resources undertakes with the management of these licenses

2.1 Ntityix Resources Strategic Plan

This higher level plan sets broad objectives for these tenures such as honouring the Tmx^wulax^w, incorporating WFN values into forest management decisions, and growing and diversifying the forestry business. Ntityix Resources most recent Strategic Plan was developed in late 2018 and can be viewed on our website.

2.2 Landscape Level Plans

Landscape Level Plans are long-term tactical plans that map areas of both licences as “Conservation Forests” and “Forest Management Zones”.

Conservation Forests consists of lands where there may be high riparian, wildlife, community, spiritual, or other values, or they may areas highly sensitive to disturbance (such as steep slopes or visually sensitive areas). The management objective of these areas is to retain functional forested ecosystems and to only permit forest harvesting on a very small scale that meets this objective. In approximately 80% of conservation Zone there will be no forest harvesting whatsoever.

Forest Management Zones are areas where timber harvesting may occur in a sustainable manner in perpetuity. Harvesting in these areas still must adhere to management objectives and strategies outlined in this and other plans listed below.

WFN’s forest licences have been designated into 12 planning units, each planning unit having a long-term (+100 years) plan that identifies Conservation Forests and Forest Management areas. In addition, these plans provide objectives for other important values such as wildlife and water, and strategies for managing for them within each planning unit. These plans are anticipated to be “living documents” in that over time membership adds their collective knowledge and the plans adjusted accordingly.

2.3 Management Plans

Management Plans are the first level of plans requiring approval of the Province. The most recent Management Plans for the Community Forest and Replaceable Forest



Licence are available on the website and provide management objectives for the operating areas and communication strategies for WFN membership, other tenure holders, resource users, and the public. A component of each Management Plan is a Timber Supply Analysis, from which an Annual Allowable Cut (AAC) is determined. Under Management Plan #3 for the Community Forest, the recommended AAC is 54,205m³. The Timber Supply analysis in Management Plan #1 for the First Nation Woodland Licence recommends an AAC of 32, 200m³.

2.4 Forest Stewardship Plan

In June 2018 the Ntityix Resources 2018-2023 Forest Stewardship Plan (FSP) was approved by the District Manager for a term of five years. Our FSP outlines the results and strategies Ntityix Resources will undertake to meet the 11 objectives of the Provincial government which include:

- Soil Management and Conservation;
- Wildlife Management including Species at Risk;
- Riparian management;
- Water;
- Biodiversity at both the landscape and stand levels;
- Cultural Heritage;
- Recreation;
- Scenic Areas;
- Coarse Woody Debris;
- Community/Crown Interface Management; and
- Road construction and habitat values

2.4 Annual Information Sharing and Referrals

Under FRPA WFN is required to share information with First Nations on our proposed harvesting and road building activities including the general locations of these activities. WFN meets this requirement by publishing this information annually in the WFN newsletter and posting to the Ntityix Resources LP website.

WFN also shares this information with other First Nations and First Nations



organizations including:

- Okanagan Nation Alliance
- Penticton Indian Band
- Lower Similkameen Indian Band
- Upper Nicola Band
- Okanagan Indian Band
- Esh-kn-em
- Nlaka'pamux Nation
- Ashcroft Indian Band
- Nicola Tribal Association

WFN also shares this information with:

- Local municipalities and water purveyors
- Known recreation groups
- Licensed trappers
- Licensed guide outfitters
- Range tenure holders

2.5 Cutting Permits

Before harvesting can begin cutting permits and site plans must be developed. In 2019-20 three cutting permits were approved for the following:

- CP 050 – Trepanier Bench
- CP 047 - West Kettle River
- CP 049 – Brenda Lake

Collectively these permits accounted for approximately 70,000m³ of volume in twelve cutblocks.





2.6 Silviculture Systems and Site Plans

During the planning process we need to be cognizant of a full suite of issues that will affect the success of harvesting, of regenerating the site, and protecting the value of other resources in the area.

These considerations include, but are not limited to:

- Block size and boundary locations
- Forest Health issues
- Adjacency to private land/other licencees
- Range values
- Wildlife values
- Fish habitat
- Water quality
- Visuals



- Recreation use
- Community Watersheds
- Wildlife tree retention
- Species at risk



3.0 HARVESTING

3.1 Operations

In 2019-20, harvesting began in early June in CP 036 in the Hidden Creek area, located off the Bear FSR at 15km. This permit consisted of seven cutblocks consisting of a mix of lodgepole pine and Douglas-fir. These blocks were located in areas where Mountain Pine Beetle and Douglas-fir Bark Beetle had impacted what previously were healthy mature stands. Harvesting continued in this area under fall when we shutdown operations due to wet weather.



3.2 Silviculture Systems

A silviculture system is a planned program of treatments during the entire life of a stand beginning at harvesting. In 2019 Ntityix began to implement new criteria to determine our harvesting prescriptions. It should be noted, however, there are some



previously approved blocks that don't meet these criteria that will be harvested over the next two years. These criteria can be summarized as follows:

- Low elevation Douglas-fir leading stands –small openings of 3 hectares or less, or mark to cut selection harvesting systems.
- Mid-elevation pine, spruce, or balsam leading stands – generally a range of clearcut openings with a target average opening size of approximately 12 hectares.
- High elevation spruce, balsam stands – small openings of 5 hectares or less.

Our winter operations were located in the Upper West Kettle area northwest of Big White. Here we harvested three cutblocks of CP 047 consisting of a mix of spruce and balsam. Winter operations wrapped up in late March 2020.

3.2 Log Sales

As in previous years our log sales went primarily to Tolko Industries Ltd. and Gorman Brothers Ltd.



- Tolko Industries purchased pine, spruce, balsam and Douglas-fir with deliveries to Kelowna, Lavington, and White Valley. During the summer of 2019, the Tolko mill in Kelowna announced it was permanently shutting down its operations. Historically approximately 50% of the logs we harvested were delivered to the Kelowna mill. The consequence of the closure meant delivering logs originally destined for Kelowna to Armstrong resulting in higher log transport costs and lower production.
- Gorman Brothers purchased spruce and pine for their Westbank mill.
- Celgar and BC Ecochips purchased pulp logs which were delivered to their chipping facilities in Okanagan Falls, Midway, and Lumby.

Table 1 – Active Cutblocks in 2019-20

Cutting Permit	Block	Licence	Net Area Harvested (ha's)	Wildlife Tree Retention (ha's)	Silviculture System	Volume Harvested (m3)
017	030	K1P	23.3	14.2	Patch <3ha's	4,699
017	307	K1P	23.0	15.5	Patch <3 ha's	3,916
036	007	K1P	33.9	7.4	Clearcut	9,215
036	008	K1P	20.1	7.5	Clearcut	13,187
036	186	K1P	49.2	11.6	Clearcut	3,423
036	268	K1P	21.9	2.3	Clearcut	5,836
036	272	K1P	29.4	5.8	Clearcut	6,057
036	273	K1P	22.5	3.1	Clearcut	3,481
041	250	K1P	20.8	8.6	Clearcut	3,208
041	274	K1P	8.2	1.5	Clearcut	3,157
041	275	K1P	2.0	1.7	Clearcut	372
047	284	A91134	32.4	9.5	Clearcut	933



047	308	A91134	16.3	10.6	Clearcut	4,006
047	309	A91134	11.8	4.9	Clearcut	3,512
047	310	A91134	12.4	14.0	Clearcut	2,524
RP		K1P				130
RP		A91134				1,156
Totals			327.2	118.2		68,812
Averages			21.8	7.9		

3.3 Post Harvest

Wildlife Piles

During harvesting operations wildlife piles and windrows are constructed in keys areas within a cutblock. These piles of logging debris are not to be confused with the large “haystacks” found near the roadside (these slash piles will be either chipped and removed form site or burned in the fall after the first snowfall). The wildlife piles are smaller, approximately 3 meters in diameter and 2 meters tall. These piles provide habitat for small mammals such as weasels and voles, which also happen to be prey for larger mammals such as marten.





Tree Retention

In addition to Wildlife Tree Retention Areas, a number of individual trees and or stubs (trees cut off at 3 – 5 meters above ground) are retained after harvest. These trees are intended to be windfirm and provides additional structural diversity within the harvested block.





4.0 ROAD CONSTRUCTION AND MAINTENANCE

Our goal is to add as little permanent access as possible. By minimizing new permanent roads more of our land base will continue to grow trees and provide habitat to a full range of species.

Road construction, both permanent and temporary, on the Community Forest has been undertaken by a WFN contractor.



4.1 Temporary Access

The development of temporary access structures such as roads, spurs and landings within the internal boundaries of cutblocks are used to access timber with the least amount of soil disturbance. Once harvesting is complete these areas will be rehabilitated as described above. During the past year 6.2 km of temporary road was constructed.

4.2 Permanent Access

A total of 3.2k m of new permanent road was constructed in the Brenda Mine and Dome



FSR areas.

Table 2 following summarizes the road construction activity in 2018-19.

4.3 Road Deactivation and Rehabilitation

All temporary roads and landings are rehabilitated after harvest. Rehabilitation consists of decompacting the soil, removing any culverts, redistributing coarse woody debris, grass-seeding and tree planting.

Permanent roads that will not be used for operations in the immediate future will be deactivated by installing waterbars and ditchblocks. These roads generally remain accessible to pick-up traffic.

4.4 Road Maintenance

Road maintenance is an ongoing program and consists of grading, culvert cleaning, sign maintenance and brushing. All licences roads held by WFN are inspected according to a pre-determined schedule based on risk. Annual maintenance plans are developed from these annual inspections.

Table 2 – 2019-20 Road Program

Road Name	Temp. Road (km)	Perm. Road (km)	Rehabilitation (km)	Upgrade (km)	Maintenance (km)
CP 036-272 Spurs	0.8		0.8		
Mt Swite South				4.3	
Rusty Road				3.1	
CP 036-07 Spurs	1.2	0.5			
CP 036-08 Spurs	0.8	1.0			
Abies Road		1.7			
CP 047-308 Spur	0.3				
CP 047-310 Spur	0.2				
CP 017-030 Spurs	2.3				
CP 017-307 Spurs	0.6			2.4	



Caroline Trail				0.6	
CP 045-269 spurs			0.7		
CP 045-266 Spurs			1.4		
CP 042-252 Spurs			0.7		
CP036-186 Spurs			1.5		
CP 036-187 Spurs			0.4		
CP 038-277 Spurs			0.6		
CP 038-296 Spurs			0.3		
CP 038-190 Spurs			0.8		
CP 041-250 Spurs			1.0		
CP 041-249 Spurs			0.8		
Siya Road					4.7
Naqs Rd					1.4
Total	6.2	3.2	8.2	10.4	6.1

4.5 Bridge Repair

All Ntityix owned bridges were last inspected during the summer of 2018. All bridges are on a 2-year inspection schedule and will be inspected again during the summer of 2020.

The Hidden Creek bridge (a ministry-owned bridge on the Hidden FSR) had a new running deck will be installed in the spring of 2019. All Ntityix owned bridges are swept clean of sediment every spring.

4.6 Bridge Construction

No bridges were constructed in 2019-20.



5.0 SILVICULTURE

WFN is responsible for the reforestation of all areas harvested. This means not only tree planting but ensuring that the new plantations thrive until they reach “free growing” which is anywhere from 10 to 15 years after harvesting.

Steps required to ensure we achieve our silviculture obligations include:

- Seed collection
- Seed purchasing
- Germinating of seed and growing of seedlings
- Preparation of planting sites
- Tree planting and inspections
- Brushing if required
- On-going surveys to monitor the status of plantations

After “free-growing” we continue to monitor our young stands to ensure they stay healthy. Depending on conditions, some stands may be spaced and some may be pruned. As these stands grow, many stands may be suitable for Commercial Thinning operations.

5.1 Cone Collection

The Province of BC has developed guidelines regarding the use of tree seed on Crown land. After years of testing the province has determined that seed has limitations on transfer on the basis of latitude and elevation. Fundamentally this means that the closer the site of origin for seed to be planted the better.

In 2018 we approximately 3.8h/L (hectoliters) of Douglas-fir cones (the equivalent of 203,000 trees). We had planned to collect Ponderosa Pine cones in 2019 but the cone crop was not deemed suitable for a collection and we will try again in 2020.

Whenever possible, Class A seed will be purchased for use. Class A seed is produced by BC seed orchards and is the result of many years of cross breeding. Class A seed results in seedlings that can grow in height and volume faster than naturally occurring, or Class B seed. Class A seed is not genetically modified.



Table 3 – WFN Seedlots

Seedlot	Location	Year Collected	Potential Trees
Lodgepole Pine - 48104	Hidden Creek	2006	122,300
Lodgepole Pine - 53238	Hidden Creek	2007	467,100
Lodgepole Pine - 53349	Pattinson	2008	981,500
Lodgepole Pine - 53394	Sunset	2008	1,188,700
Lodgepole Pine - 53430	Jack Creek	2008	640,100
Lodgepole Pine - 53782	Two John Rd	2011	336,900
Lodgepole Pine – 53783	Senklip Rd	2012	302,900
Douglas Fir – 54035	Glenrosa	2018	203,300
Ponderosa Pine-	Trout Creek		13,500
Totals			4,256,300

5.2 Tree Planting

The spring of 2019 was the thirteenth season planting on the Community Forest and second season on the Forest License A91134. A total of 582,621 trees were planted, slightly lower than in 2018.

Planting was primarily conducted by Tronson Logging Ltd. for the spring and Coast Range Contracting Ltd. for the early summer. In addition, trees were planted over one weekend in the Spring by the Telemark Nordic Club to raise funds. In the fall of 2019, 91,700 trees were planted to take advantage of low elevation soil moisture.



Table 4 – Tree Planting in 2019

Cutting Permit	Block	Licence	Trees Planted	Species
036	186	K1P	44,500	Pl, Fd, Sx, Lw
036	187	K1P	23,715	Pl, Fd, Sx, Lw
038	277	K1P	37,800	Pl, Fd, Sx, Lw
038	190	K1P	86,930	Pl, Fd, Sx, Lw
038	296	K1P	62,280	Pl, Fd, Sx, Lw
027	138	K1P	7,320	Pl, Sx
043	251	K1P	8,305	Pl, Py, Fd, Sx, Lw
043	270	K1P	1,850	Py, Fd, Lw
043	271	K1P	9,520	Py, Fd, Sx, Lw
043	276	K1P	2,180	Py, Fd, Lw
015	183	K1P	2,970	Pl, Fd
037	189	K1P	22,090	Pl, Fd, Sx, Lw
037	163	K1P	6,670	Pl, Sx
015	182	K1P	1,310	Pl, Fd
039	235	K1P	40,980	Pl, Sx, Lw
039	240	K1P	21,995	Pl, Sx, Lw
039	242	K1P	16,096	Pl, Sx
040	246	A91134	7,665	Pl, Sx
040	247	A91134	50,590	Pl, Sx
040	248	A91134	47,855	Sx, Pl
044	259	A91134	100	Lw
017	030	K1P	4,600	Py, Fd, Sx



017	287	K1P	14,000	Py, Fd, Sx, Lw
036	186	K1P	17,900	Pl, Fd, Sx, Lw
043	251	K1P	4,800	Py, Fd
037	188	K1P	21,800	Pl, Sx, Lw
037	178	K1P	16,800	Py, Sx, Lw
Total			582,621	

5.3 Seedlings

WFN has contracted K&C Silviculture in Oliver to grow a total of 359,100 seedlings on our behalf for planting in the spring of 2021 on blocks logged in 2019 and 2020. Species composition is as follows:

- Lodgepole pine: 108,600
- Spruce: 125,100
- Douglas-fir: 74,000
- Larch: 14,400
- Ponderosa Pine: 37,000





5.4 **Silviculture Surveys**

In order to monitor the performance of our plantations WFN conducts a series of surveys on each block.

Plantability/Fire Hazard Survey – As the name implies this survey is conducted just after the completion of harvesting in snow free conditions. Data collected during this survey is used both as the basis upon which seed and seedlings are ordered for the plantation, and, to assess the fire hazard risk associated with residual logging debris.

Regeneration Survey – this survey is conducted one year after planting is completed. Scheduling this survey for one year after planting will better determine whether the trees planted the previous year survived their first growing season. This survey will verify whether or not the cut block has been sufficiently restocked. Recommendations from this survey will determine the timing of the next survey.

Stocking Survey - This is conducted 2 to 4 years after planting to determine the survival of the planted trees. If survival is poor fill planting may be recommended.



Brushing Survey – On richer sites the overtopping of seedlings by weeds and brush can impede the growth of a plantation. Surveys are conducted on these sites between 5 to 15 years after planting. If competition is noted then brushing and weeding activities may be recommended.

Free Growing Survey – The final survey before a stand reaches free growing, anywhere from 10 to 15 years after harvest is conducted. This survey documents that the plantation is fully stocked with the appropriate tree species and that there are no problems with brush competition.

Inventory surveys – In addition to the above, inventory surveys are conducted on stands of all ages within the WFN tenures. These surveys are completed to track the growth and health of young stands and confirm the species composition and characteristics of older stands. These surveys enable Ntityix to better understand the dynamics of our forests, the way they respond to different treatments, and to verify that our forests are being managed in a sustainable manner.

Table 5: Survey Summary

Survey Type	Area Surveyed (ha's)
Plantability/Fire Hazard	521
Regeneration	714
Stocking	156
Brushing	24
Free Growing	126
Inventory	568
Total Area	2,109



6.0 FOREST HEALTH

Forest health can mean a range of concepts from the incidence of insect populations to the health of entire ecosystems. For the purposes of this report we will limit our discussion to impacts on the timber quality and quantity that WFN has the responsibility of managing.

6.1 Mountain Pine Beetle

Mountain Pine Beetle (MPB) populations rose to epidemic proportions in the Okanagan in 2007-08. Since this time the populations have dropped dramatically but many stands were heavily impacted as a result. Most of these impacted stands have been harvested however many stands where Lodgepole Pine was a minor component (<35% of total trees) now have considerable coarse woody debris on the forest floor from dead trees now falling.

6.2 Balsam Bark Beetle

Balsam bark beetle infestations are endemic within WFN's tenures at higher elevations. These infestations normally show up as small clusters of six to twelve trees in isolated pockets. We are not actively pursuing these pockets but will harvest infested balsam as encountered in our planned blocks.

6.3 Douglas-fir Bark Beetle

Douglas-fir bark beetle infestations have been increasing in the Okanagan Valley over the past several years. Beginning in 2018 we have been deploying traps to lure the Douglas-fir beetle away from standing timber and into the traps. Thousands of beetles were trapped this way last year in the Upper Glenrosa area of the Community Forest.

6.4 Western Bark Beetle

The Western Bark Beetle aggressively attacked yellow pine in the Okanagan valley bottom and was very active in IR #9, IR #10 and the surrounding municipality between 2008 and 2012. The rate of spread with this beetle continues to slow, however pockets of affected Ponderosa Pine were noted in Upper Glenrosa and Trepanier Bench in 2019.

6.5 Spruce Bark Beetle

According to the government's aerial surveys spruce bark beetle populations continue



to grow to the west and south of the Community Forest. There are no known infestations on the WFN tenures.

6.6 Spruce Budworm

There was very little evidence of Spruce Budworm in the Community Forest in 2019. Spruce budworm does not normally kill Douglas-fir but, as a defoliator, it will impede its growth for several years afterwards.

6.7 Douglas-fir Tussock Moth

Tussock Moth is another defoliating insect, which is capable of stripping all needles from a Douglas-fir tree in a matter of days. If the duration of the infestation is long enough, tree mortality is the probable outcome. There was no reported Tussock Moth activity on WFN tenures in 2019.



7.0 SPECIAL PROJECTS

Wildfire Mitigation – In 2019 wildfire mitigation projects were ongoing in Upper Glenrosa and Silver Lake. The Upper Glenrosa project was funded, in part, by the Union of BC Municipalities and the Silver Lake project by Forest Enhancement BC. The treatment in both cases involves reducing the density of the existing stand to allow spacing between crowns, removing the ladder fuels, and cleaning up the surface fuels. In addition Ntityix Resources was contracted by Tolko Industries to conduct mitigation works near Joe Rich.



Wildfire Rehabilitation – Planting was undertaken on the Trepanier Wildfire in 2019. This wildfire burned so hot that no natural regeneration had established eight years after the fire. A combination of Ponderosa Pine and Douglas-fir was planted in 2019.



Snag falling was completed on the Glenrosa wildfire to prepare the area for planting in 2020.

Sawmill Feasibility Study – A Sawmill Feasibility Study was completed for Ntityix Resources in 2019. This study was initiated to determine the viability of building a small sawmill to utilize and add value to some of the logs harvested off of WFN tenures. In 2020, we will be looking into whether we move forward with this initiative.

Syilx Forestry Standards – through the ONA’s Forestry Working Group we are working collaboratively with other Syilx communities to develop a comprehensive set of Forestry Standards to be applied over Syilx territory. These Standards and best practices are guiding statements that, when followed, will allow forestry activities to take place in a way that will avoid, limit or mitigate impacts to the forest ecosystems within syilx Territory.

