



WESTBANK FIRST NATION COMMUNITY FOREST AND FOREST LICENSE

ANNUAL REPORT OF OPERATIONS

For the Period of:

April 1, 2021 to March 31, 2022

June 2022



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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. This licence was replaced in 2020 with another 25 year licence.

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 Ntityx Resources undertakes with the management of these licenses

2.1 Ntityx 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. Ntityx Resources most recent Strategic Plan was developed in late 2018 and can be viewed on our website.

2.2 Ntityx Resources Seven Generation Plan

The Ntityx Seven Generation plan is a forest stewardship plan built on 10 Syilx values. These values are the foundation of the plan, upon which we endeavour to build community values. We've identified approximately 50% of the land we presently manage where we intend to manage the land for old forest values. For the remaining 50% we've established criteria on forest practices that may occur within this area.

WFN's forest tenures have been designated into 8 planning units, each planning unit having a long-term (+100 years) plan that identifies where these areas are and strategies for stewarding them within each planning unit. These plans are anticipated to be "living documents" and collectively will constitute a plan that over time membership adds their collective knowledge to and the plan 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

We anticipate replacing our Forest Stewardship Plan in time with the Seven Generation Stewardship Plan.

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 2021-22 four cutting permits were approved for the following:

- CP 055 – Mt Law salvage
- CP 067 - Peachland
- CP 053 – Derickson Trail
- CP 052 – Rabbit FSR

Collectively these permits accounted for approximately 60,000m³ of volume in thirteen 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

2.8 Wildfire

The summer of 2021 was a tough year for wildfires in the Okanagan Valley. On June 30th, the Derickson Lake wildfire started just outside of our tenure boundary to the west. As this wildfire grew, it progressed just into a sliver of our tenure area adjacent to Greystoke park. Approximately 20 hectares burned within our area.

In mid-July the Brenda Creek wildfire started just outside our Community Forest south of Brenda Lake. This fire grew into the fringes of our community Forest burning approximately 25 hectares.

In late August the Mt. Law fire started and grew to over 1,000 hectares in just a few hours. Most of this wildfire was within the Community Forest. We will be salvaging approximately 100 hectares of this wildfire in 2022.

We also had several smaller fires ranging anywhere from less than 1 hectares to approximately 5 hectares.

3.0 Harvesting

3.1 Operations

In 2021 harvesting began in an area south of Cameron Lake on the Lacoma Forest Service Road. This permit consisted of 5 blocks where we incorporated a Balsam retention strategy within the blocks. Operations were shut down for most of the summer as a result of the hot dry weather and extreme wildfire hazard. A significant windstorm hit the area in November 2021 resulting in many of the Balsam trees that we retained blowing over. We will be salvaging the blowdown in 2022. In December 2021 we began a partial cut harvest just west of Peachland off the Munro Forest Service Road. In this area we only harvested the smaller trees and leaving the largest.





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:

BEC	Silviculture System
IDF (Fd leading stands in MDWR)	<ol style="list-style-type: none"> 1) <u>Variable Retention</u> - openings generally <3 ha's (range 1 – approx. 5 ha's). Retain deciduous, large diameter Py (dbh>60cm), and a minimum of 25 Fd per hectare including 5 of the largest diameter Fd trees per hectare (these need to be marked in the field). 2) <u>Group Selection</u> – openings generally <1 ha. Retain deciduous and a minimum of the largest 5 Fd per hectare. 3) <u>Diameter Limit</u> – retain all trees over a specified diameter and only harvest those below that threshold. The diameter



	limit will be set to retain post-harvest crown closure of at least 35% from 40cm+ dbh Fd. Threshold intended to be at a level that retain a minimum crown closure of 35% post-harvest.
IDF (outside MDWR)	<ol style="list-style-type: none"> 1) <u>Variable Retention</u> – average opening size over 5 year period is <5 ha’s (range 1 to 10 ha’s). Retain deciduous and a minimum of 25 Fd/Py per hectare including 5 of the largest diameter Fd trees per hectare. 2) <u>Group Selection</u> – openings generally <1 ha. Retain deciduous and a minimum of the largest 5 Fd/Py per hectare. 3) <u>Diameter Limit</u> – retain all trees over a specified diameter and only harvest those below that threshold. Threshold intended to be at a level that retain a minimum crown closure of 35% post-harvest. .
MSdm	<ol style="list-style-type: none"> 1) <u>Variable Retention</u> - average opening size over 5 year period is < 10 ha’s (range 1-15 ha’s). Retain one ~20 tree patch of mature PI/BI for every hectare of NAR. 2) <u>Group Selection</u> – openings generally <1 ha.
ESSF	<ol style="list-style-type: none"> 1) <u>Variable Retention</u> - average opening size over 5 year period is < 5ha’s (range 1-10 ha’s). Retain 25 leave trees (BI) per hectare . 2) <u>Group Selection</u> – openings generally <1 ha. Retain a minimum of 5 BI per hectare. 3) <u>Single Tree Selection</u>

These systems will be modified as we monitor the success of the treatment in meeting our overall stewardship objectives.

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 Armstrong, Lavington, and White Valley.
- Gorman Brothers purchased spruce and pine for their Westbank mill.
- Pulp logs were purchased by Chips Ahoy in Chilliwack and BC Ecochips at Okanagan Falls and Lumby.

Table 1 – Active Cutblocks in 2021-22

Cutting Permit	Block	Licence	Net Area Harvested (ha's)	Wildlife Tree Retention (ha's)	Silviculture System	Volume Harvested (m3)
051	302	K1P	5.7	4.6	Clearcut – BI Retention	2,317
051	303	K1P	21.5	13.2	Clearcut – BI Retention	7,754
051	304	K1P	35.4	20.9	Clearcut – BI Retention	13,265
051	305	K1P	6.7	2.8	Clearcut – BI Retention	2,764
051	306	K1P	27.4	4.5	Clearcut – BI Retention	13,824



067	375	K1P	12.1	5.9	Overstory Retention	389
067	376	K1P	46.4	12.6	Overstory Retention	4,590
064	363	K1P	18.1	7.3	Small Patch	1,285
Totals			173.3	71.8		46,188
Averages			21.7	9.0		

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 and dispersed green tree retention a number of individual stubs (trees cut off at 3 – 5 meters above ground) are retained after harvest. These trees are intended to provide habitat for cavity nesters and added structural diversity post-harvest.





4.0 Road Construction and Maintenance

Our goal is “no net gain” in area occupied by roads. By minimizing new permanent roads and rehabilitating old and temporary 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.

In 2021-22, 3.5 km of road was constructed and 6.6 km of road rehabilitated which achieved our goal.

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.



4.2 Permanent Access

A total of 0.6 km of new permanent road was constructed in 2021, this was an extension to Derickson Trail.

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.

4.5 Bridge Repair

All Ntityix owned bridges were inspected during the summer of 2020. All bridges are on a 2-year inspection schedule and will be inspected again during the summer of 2022.

All Ntityix owned bridges are swept clean of sediment every spring.





4.6 Bridge Construction

A second arch culvert was installed on Derickson Trail in 2021. This structure provides for an open bottom allowing fish passage.

5.0 Silviculture

Ntityx 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.

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.

No Class B seed was collected in 2021.



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 2021 was the fifteenth season of planting on the Community Forest and fourth season on the Forest License. A total of 403,200 trees were planted, slightly lower than in 2019.

All planting was conducted by Tronson Logging Ltd.



Table 4 – Tree Planting in 2021

Cutting Permit	Block	Licence	Trees Planted	Species
017	030	K1P	11,060	Py, Fd, Lw
017	307	K1P	11,770	Py, Fd, Lw
050	299	K1P	2,060	Py, Fd, Lw
050	300	K1P	4,700	Py, Fd, Lw
050	301	K1P	24,110	Py, Fd, Lw
036	007	K1P	25,300	Fd,PI,Sx,Py,Lw
036	008	K1P	17,625	Fd,PI,Sx,Py,Lw
036	186	K1P	3,320	PI,Fd,Sx
036	268	K1P	6,420	PI,Fd,Sx,Lw
041	274	K1P	3,205	PI,Fd,Sx,Lw
041	275	K1P	335	PI,Fd,Sx,Lw
048	291	K1P	12,475	PI,Py,Fd,Sx
049	293	K1P	23,950	PI,Fd,Sx,Lw
049	294	K1P	17,785	PI,Fd,Sx,Lw
049	295	K1P	16,475	PI,Fd,Sx,Lw
047	308	FLA91134	21,695	PI,Sx
Total			202,285	PI37%Sx25%Fd23%Py10%Lw5%

5.3 Seedlings

WFN has contracted K&C Silviculture in Oliver to grow approximately 340,000 seedlings on our behalf for planting in the spring of 2023 on blocks logged in 2021 and 2022. Species composition is as follows:

- Lodgepole pine: 141,200
- Spruce: 152,500



- Douglas-fir: 37,000
- Larch: 14,190
- Ponderosa Pine: 5,200

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: 2020 Survey Summary

Survey Type	Area Surveyed (ha's)
Plantability/Fire Hazard	208
Regeneration	387
Stocking	236
Brushing	0
Free Growing	201
Inventory	345
Total Area	1,377



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, Hidden and Lambly Lake areas of the Community Forest.

6.4 Western Pine 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 2021.



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 2021. 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 2021.



7.0 SPECIAL PROJECTS

Wildfire Mitigation – With Tronson Logging Ltd., we completed 67 hectares of wildfire mitigation work on WFN lands during the winter of 2021-22.



Wildfire Rehabilitation – Rehabilitation of fireguards was completed on portions of the Mt. Law and Brenda Creek wildfires. This work included recontouring slopes, stabilizing slopes above creeks, and re-establishing natural drainage patterns.

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.

