

BCCFA – Community Forests Preparing for Wildfire

March 12, 2019 – Williams Lake

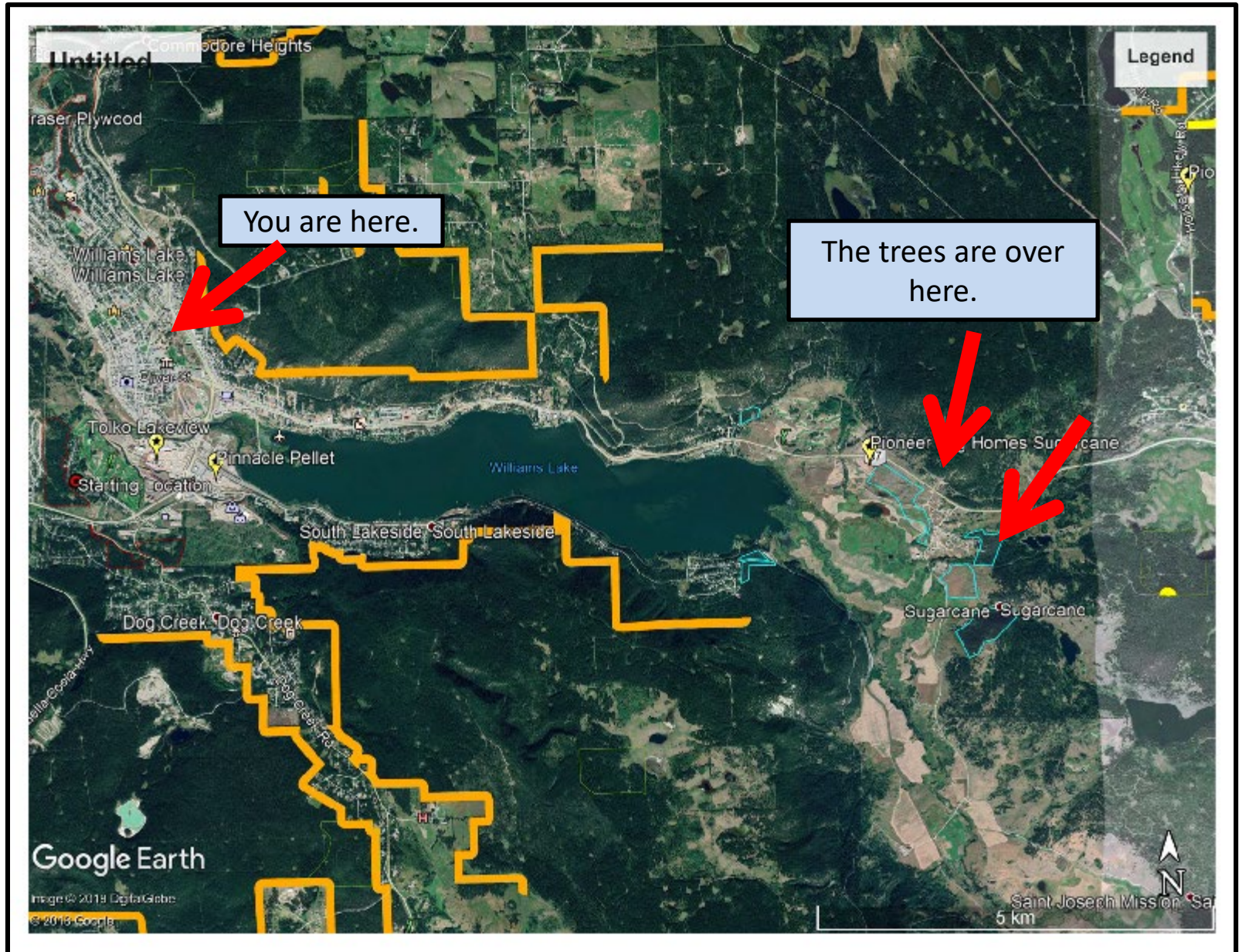
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Where and how.

- **Location:** T'exelc / Williams Lake Indian Band – IR 1 – On Reserve – east end of Williams Lake.
- Part of the Canadian Forest Service's Mtn Pine Beetle Initiative – *CFS - MPBI*.
- Target stands – Mtn Pine Beetle attacked pine.
- Hmm. Williams Lk.; IDF Fir stands..... Well there was at least one pine tree.
- Prescription was set in early spring 2009.
- Treatment started in late May.

Williams Lake and Treatment Unit locations.





Unit 3: Wycotte's

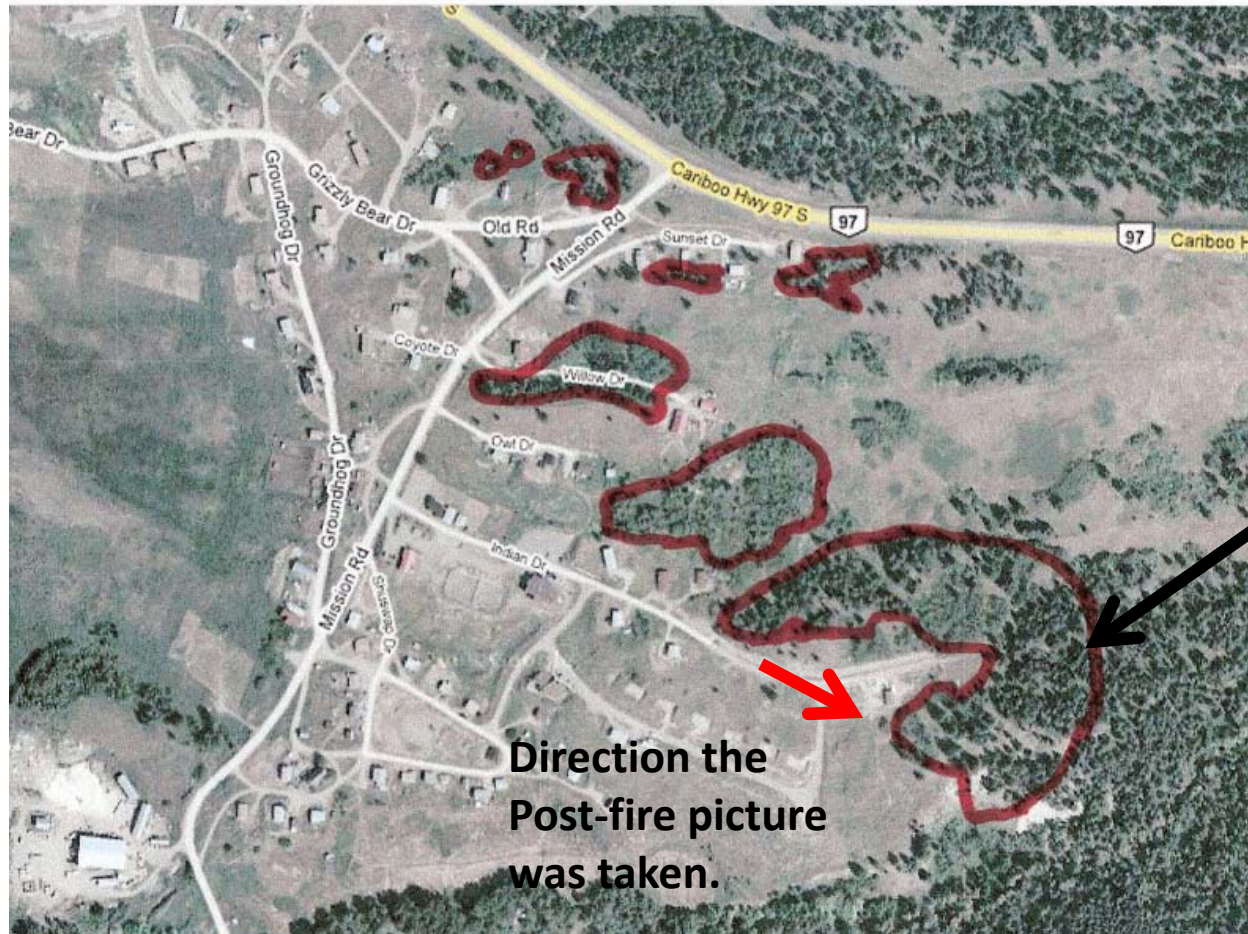
Unit 4: Indian Drive



Unit 3 – Wycotte's

Direction the
Post-fire picture
was taken.

- T'exelc - IR 1 – Unit 3 – Hwy # 97 North of turn off to Sugarcane. 3.9 ha.



Unit 4

Direction the
Post-fire picture
was taken.

- T'exelc - IR 1 – Unit 4 – Main Reserve

- Now we talk about the prescriptions.
- And when one talks about prescriptions you know there has to be paper involved,
- And commitments,
- And thinking.....

Fuel Mgmt Treatments Objectives circa 2009.

- Overall objectives.

1. On Indian Reserve so no direct link to CCLUP. Some Federal constraints.
2. Treatment area was approx. 100 m from structure or value. “Donut shape around value.” - Whether it made sense or not.
3. Manage for clumpy spacing; retain larger juniper; targeting damaged or poorly formed stems for removal.
4. No cutting of live Aspen or willow unless for safety reasons.
5. No Fisheries or riparian values required assessment.
6. Visuals were considered less important than Fire Risk reduction.
7. Noise and health impacts from burning piles were considered.

How do we make it work?

Simple version.

- Treatment areas were split into Zones.
 - 0 to 10m; 10 to 30m; 30+
- Prescriptions pointed to:
 - treatment of large trees (danger tree falling and canopy separation).
 - and smaller trees (laddering fuel removal).
- Prune retained conifers to prevent laddering.
- Debris reduction.

The sites.

- IDFdk3 – zonal to drier.
- Wildfire Threat Rating: High / Extreme.
- Layer 2, 3 & 4 (sub-dominant and suppressed trees) – 1,000 to > 10,000 stems per ha – often in thickets/clumps.
- Crown base ht. – average of less than 2 m.
- Slope: 2 to > 30%.
- ?? Which direction are we trying to control fire movement from? In or out or Both!

Fuel Mgmt Treatments Objectives circa 2009.

A. Cutting stems: All units had Manual Treatments:

1. Fell > 95 % of dead stems. Retain only high value wildlife trees.
 - Fallers were brought in for this phase.
2. **Within 10 m** of roads or structures cut > 99 % of trees < 12.5 cms dbh.
3. **Within 30 m** of roads or structures cut > 80 % of trees < 12.5 cms dbh.
4. Within 30 m of roads or structures cut :
 - All poorly formed or leaning trees between 12.5 and 15 cms dbh.
 - Any trees between 12.5 cms and 15 cms dbh that will contribute to laddering or open up crown canopy separation distance. E.g. – cut single/solitary trees between clumps.
5. **From ~ 30 m to the outside edge** of the treatment unit:
 - Cut all laddering trees < 15 cms dbh located inside of or under the drip line of Layer 1 trees.
 - Thin retained conifers (Fir then Pine then Sx) to approx. 4 m Inter-tree distance.
 - Prune all retained conifers to approx. 2.5 m or half the ht of the retained tree.

B. Surface Fuel Load (SFL) reduction.

1. Really clean in first 0 to 10 m. (Similar to less than 10 T/ha.)
2. From 10 m to 30 m – less clean (15 to 20 T/ha). No SFL objectives were set or measured to in 2009. **Greatest hassle with crew mgmt was adjusting the clean-up to the amount of debris on the ground and the distance from the structure of road.
3. No contiguous patches of larger material (> 15 cms dbh). Separate so > than 1 m apart.
4. Some CWD retained in ad hoc manner.

Before treatment – some examples.
Fir Stand with patchy stocking.



Before treatment –
Stand with denser overstory;
snow press and competition mortality.



Before treatment – stand with denser overstory; fewer large trees; snow press.

Note fire wood cutting debris.



Marking trees to be cut helps the crew get 'calibrated'.
Trees with blue ribbons to be cut.



Large trees and danger trees have been felled.



Small trees cut; aspen retained; piling to be done.



Cutting & piling completed.



Pile burning under way – note retained aspen.



QA Plot: Before - After



Post treatment numbers

- Stems / ha overstory: < 600.
- Understory (Layers 2, 3 & 4): < 400.
- Crown Closure: < 50%.
- Fuel Strata gap: > 3 m.

Crew size; Productivity; Costs

- Crews consisted of 4 or 5 persons and generally one vehicle except for during colder weather or higher snow load for safety reasons.
- 1 or 2 cutters, 2 or 3 pilers; 1 person to run chipper when available or able to use on site due to terrain or access.

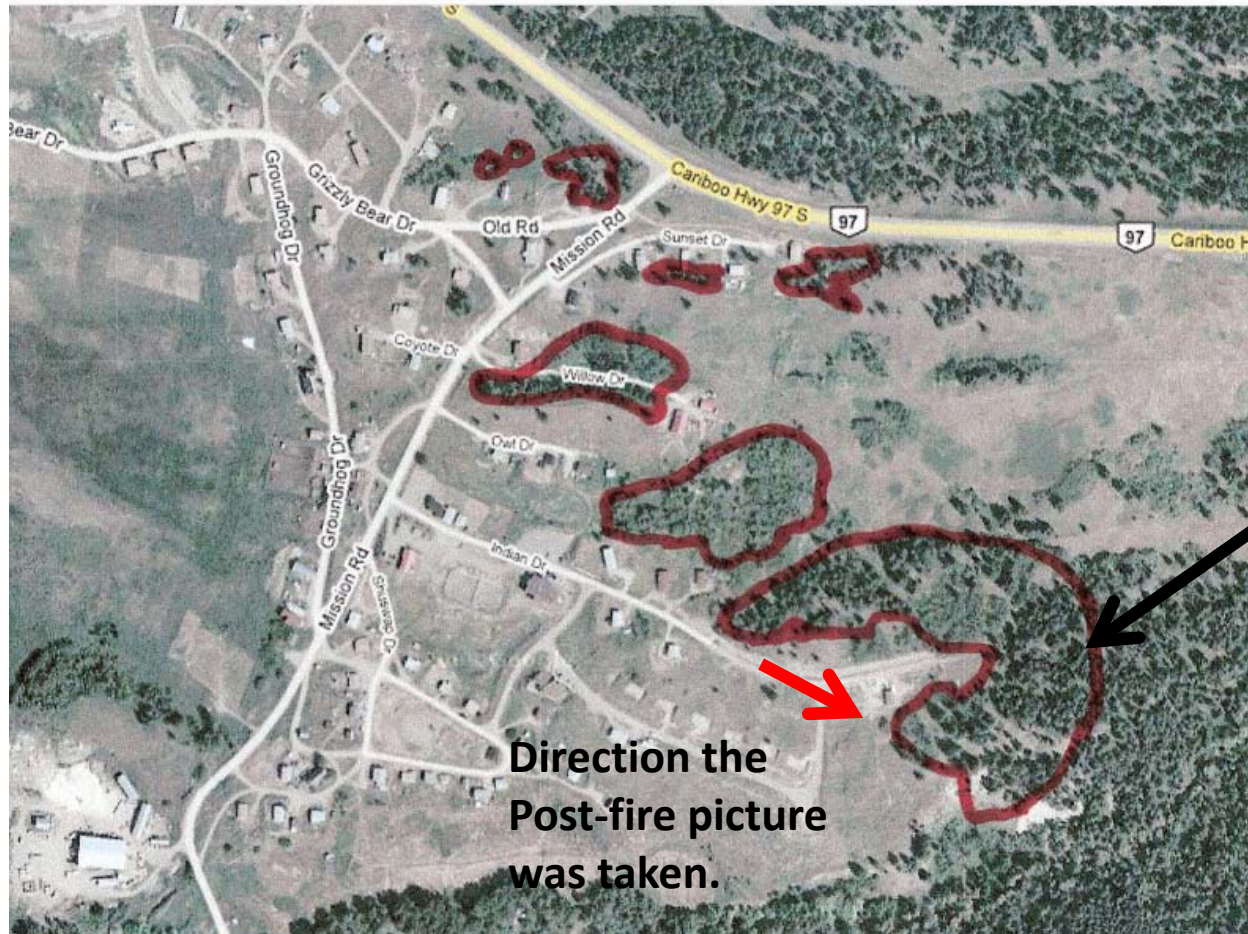
Cutting was shut down once ~40 cms of snow depth hit. Piling would then have to be completed next snow free period.

- Productivity was highly variable – ranged from 0.5 ha per day down to 0.2 ha / day.
- Stand density, crew size and weather related.
- Cost/ha ranged from < \$1000 / ha to over \$ 7,000 / ha.



Unit 3: Wycotte's

Unit 4: Indian Drive



Unit 4

Direction the
Post-fire picture
was taken.

- T'exelc - IR 1 – Unit 4 – Main Reserve

Almost done.

Minor amount of laddering and Piling/burning to be completed.



Unit 4 Indian Drive





Unit 3 – Wycotte's

Direction the
Post-fire picture
was taken.

- T'exelc - IR 1 – Unit 3 – Hwy # 97 North of turn off to Sugarcane. 3.9 ha.

Unit 3: Wycotte's; near the completion of treatment.



Unit 3: Wycotte's. Arrow is located where previous picture was taken pointing up slope to the right.

