

Draft Silviculture Treatment Plan for Dawson Birch Plant

May 17, 2017

1) Objective

Consistency with other plans

There are applicable higher level plans that were taken into consideration in developing the Silviculture Treatment Plan. The Dawson Forest Resources Management Plan was approved in 2013, the Bonanza Creek II THP and the Dempster Highway harvest planning area THP.

Site visits to Dognose and Bonanza harvest areas in Dawson identified that limited exposure of mineral soil will make it challenging for tree seeds to germinate. Planting was identified as a suitable means to remedying this issue and can address other objectives such as building capacity with first nation, diversify economy in the Dawson area, and meeting ecological management goals.

Giving contracts and training locals is in agreement with section 5.1 of the Dawson Forest Management Plan which gives strategic direction for diversify local economy. This small planting project was setup to have approximately 10 000 tree seedlings from local seed source to be grown by a local tree grower, and coincidentally, a local company won the contract bid for planting the seedlings. Tr'ondök Hwëch'in (TH) was awarded up to 2 000 seedlings as a capacity building tree planting contract as to train members of TH on skills required for undertaking a tree planting contract which is in agreement with section 17.14.2.8 of the Tr'ondök Hwëch'in Final Agreement. This section ensures engagement of TH in any contract opportunities with silviculture in TH traditional territory.

The objective is to fill plant birch on harvested sites to generate an uneven-aged birch and white spruce stand. This will address several ecological goals. This includes goals found in section 7.1 and 7.2 of the Dawson Forest Management Plan which applies to conserving biological diversity and maintain forest ecosystem health and productivity. Birch were in or in close proximity to harvested areas indicating it is acceptable species to plant. The Dawson area is dominated by conifers, but diversity in the landscape allows more resilience to disturbance. In fact, birch increases nutrient cycling and thereby improving soil fertility whereas spruces slows nutrient cycling. Furthermore, broadleaf stands generally promote greater biodiversity.

There are additional objectives associated with this planting project. This is the second time a broadleaf species has been planted in the Yukon (Haines Junction aspen plant in 2015 was the first) which gives opportunity to collect data on challenges and benefits associated with planting broadleaf trees. This information will be increasing important in the Dawson area since birch is favoured for firewood compared to other local species.

2) Type of Disturbance

Dognose

- Located on the Dempster Hwy.
- White spruce were logged selectively and in patches by Arctic Inland.
- There was a strong presence of birch.

Bonanaza

- Mature birch were selectively logged in the area for local firewood.

3) Date of Disturbance

The Bonanza Creek areas has been logged for fuelwood since 2014 whereas the Dognose area was logged by Arctic Inland in the winter of 2015/2016.

4) Details of site condition

Dognose

- Slopes are generally Southeast facing, uniform to gullied, and the harvest sites are located mid-upper slope.
- The soil at this site has moderate drainage, 12 cm LFH, and silty loam composition.
- There is water seepage evident at the south end of harvest area (2.4 ha block).
- Early reconnaissance found a major component of white spruce with no birch presence, but a later visit to harvested sites revealed that bulk of harvested white spruce occurred in white spruce and birch mixed stands.
- Trees were harvested in winter leaving little exposed mineral soil to provide sufficient seedbed, and alder (a potential competitor) is abundant at some harvested sites.
- The Dognose is a large area where they selectively harvested or patch cut white spruce leaving a mosaic of openings.

Bonanza

- The harvest site is situated on a South facing slope which is generally even and located mid slope
- Soils at this site are well drained, has 12 cm LFH, and has silty loam composition
- There is a high composition of birch (90%) with a minor component of white spruce and trembling aspen.
- Trees were harvested when soil was frozen leaving little exposed mineral soil to provide sufficient seed bed
- The areas in Bonanza are a collection of small openings roughly 0.5 Ha in size.

5) Planning Reference

The proposed treatment for this block meets the goals, strategies, and objectives set out in the following plans:

Dawson Forest Resource Management Plan

- Planting addresses one of the strategic direction to increase carbon sequestrations through reforestation (section 5.2.6).
- Planting birch from a local seed source conserves genetic diversity of forest resources (section 7.1.3).
- Planting birch and thereby maintaining a deciduous component on the landscape will help maintain and enhance ecosystem condition and productivity (section 7.1.3) by having tree diversity and potentially improving site productivity via nutrient cycling.

Bonanza Creek II THP and 2007 Dempster Hwy THP

- Regeneration through artificial means when deemed necessary.
- There is a preference towards birch.

2007 Dempster Hwy THP

- Regeneration through artificial means when deemed necessary.
- The THP indicated that only white spruce should be planted, but this THP was created before the Dawson Forest Resource Management Plan.

Site Plans

- All site plans are required to address reforestation.

6) Planned Treatments

The planned treatment for both of these logged areas is to fill plant with PSB 412 locally grown birch seedlings at 1 600/Ha. The Dognose area is scheduled for an 8 000 seedling plant, and the Bonanza area will have 2 000 seedling planted there.

The Dognose area will be planted under contract; 5 Environmental Inc. out of Dawson City won that bid. The Bonanza blocks are slated to be planted by a Tr'ondëk Hwëch'in work crew as a direct award capacity building initiative.

7) Area to be treated

The Bonanza blocks have up to 3.1 Ha of area to fill plant, and the Dognose area is quite large and will require fill planting approximately 5 Ha of that area.

8) Treatment Objectives

This treatment is to assist with the objective of maintaining full stocking on our most productive site classes and generate uneven-aged mixed stand.

9) Treatment Schedules

The treatment is expected to take one week and is scheduled to commence June 1st 2017. Planted sites will be later assessed for survival, and some trees will be tagged and monitored for survival, height growth and competition.

10) Details of Trials

There are no planned trials on these sites. We will however monitor seedling initial establishment/survival/growth.

11) Location/Map

Planting contract location is at Km 9 Dempster Hwy (64°02'44" N 138°35'54" W), and the Bonanza Creek fill plant is located 63°56'02" N 138°18'23" W.

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