Aboriginal Plant Use Mitigation Plan 2019-2020 Annual Report

Site C Clean Energy Project

Reporting period: April 2019 through March 2020

March 31, 2020

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Table of Acronyms

BRFN	Blueberry River First Nations
DFN	Duncan's First Nation
DRFN	Doig River First Nation
DTFN	Dene Tha' First Nation
FNFN	Fort Nelson First Nation
HLFN	Horse Lake First Nation
HRFN	Halfway River First Nation
KLMSS	Kelly Lake Métis Settlement Society
MLIB	McLeod Lake Indian Band
MNBC	Métis Nation British Columbia
PRFN	Prophet River First Nation
SFN	Saulteau First Nations
WMFN	West Moberly First Nations

1 Background

1.1 The Site C Clean Energy Project

The Site C Clean Energy Project (the Project) will be the third dam and generating station on the Peace River in northeast B.C. The Project will provide 1,100 megawatts of capacity and about 5,100 gigawatt hours of energy each year to the province's integrated electricity system. The Project will be a source of clean, reliable and cost-effective electricity for BC Hydro's customers for more than 100 years.

The key components of the Project are:

- an earthfill dam, approximately 1,050 metres long and 60 metres high above the riverbed;
- an 83 kilometre long reservoir that will be, on average, two to three times the width of the current river;
- a generating station with six 183 MW generating units;
- two new 500 kilovolt AC transmission lines that will connect the Project facilities to the Peace Canyon Substation, along an existing right-of-way;
- realignment of six segments of Highway 29 over a total distance of approximately 30 kilometers; and
- construction of a berm at Hudson's Hope.

The Project also includes the construction of temporary access roads, a temporary bridge across the Peace River, and worker accommodation at the dam site.

1.2 Description of Site Preparation and Construction Activities during the Reporting Period

The list below is intended to provide a high-level summary of construction activities that took place during this reporting period; it is not a complete list of all activities undertaken:

- the main civil works contractor continued excavation on south bank, work on the spillways roller-compacted concrete buttress and preparation for river diversion (specifically the completion of tunnel excavation and commencement of the tunnel lining process, as well as the construction of inlet and outlet gate structures);
- the generating station and spillways civil work contractor continued the placement of concrete in the powerhouse, and started the assembly and installation of penstocks and intakes;
- clearing continued in the transmission line right-of-way, along Highway 29, and in the future reservoir area; waste wood has been removed or disposed;
- work continued to upgrade the Peace Canyon substation, which was completed in July 2019 – making it the first official Site C asset in service;
- work continued on the construction of the Site C substation, which is now substantially complete;

- work continued on construction of several segments of the Highway 29 realignment;
- downstream fish habitat enhancements were completed;
- Golata Creek wetlands construction was completed;
- construction began on the temporary fish passage facility;
- work began on the installation of pile structures on the Moberly River (for debris management);
- construction of the temporary conveyor belt system was completed and commissioning began; and,
- assembly and installation of 500 kV steel lattice towers along the transmission line continued; transmission line stringing is underway.

More detailed descriptions of construction activities that took place during the reporting period can be found in the quarterly Notices of Construction Activities[1] .

2 Objective and Scope

2.1 Objective and Scope of the Aboriginal Plant Use Mitigation Plan

The objective of the June 5, 2015 Aboriginal Plant Use Mitigation Plan (APUMP) is to fulfill the requirements of Decision Statement condition 14 and Environmental Assessment Certificate conditions 25 and 26. The APUMP outlines the approach to mitigation that will be followed during the construction phase, and as site specific opportunities are identified within the project activity zone for reclamation activities that support plants of traditional Indigenous value as well as relocation of rare plants of traditional Indigenous value. The mitigation measures related to Indigenous plant use are summarized in Volume 3, Chapter 19, Table 19.15 of the EIS and set out in Appendix D of the APUMP.

The Plan covers the Project Activity Zone (PAZ) as described in the EIS and as defined in the federal Decision Statement section 1.15.

2.2 Reporting Period

This annual report summarizes the implementation of the mitigation measures described in section 4.0 of the APUMP from April 2019 through March 2020. In some cases, consultation and engagement with Indigenous groups on measures described in the Plan that took place prior to this period are also summarized here for context.

This is the fifth annual report of the APUMP.

[1] Also referred to as Construction Notification Letters, or Construction Notices. These are available on the project website along with the bi-weekly Construction Bulletins: https://www.sitecproject.com/construction-activities/construction-bulletins

3 Ground Truthing Activities from April 2019 through March 2020

Starting in 2014, BC Hydro initiated ground truthing programs with the purpose of engaging with Indigenous land users, including registered trapline holders, to verify and accurately locate Indigenous land use information, and to identify concerns related to specific features, or sites that may be affected by the Project. In particular, BC Hydro is seeking to verify features such as plant harvesting areas (specifically medicinal and food plants) and ecological communities that support species of high traditional plant use, the location of burial sites, and the location of cultural and habitation sites, including when and how they are used by Indigenous groups[2].

The APUMP describes the scope of the ground truthing program and how the information gained during ground truthing is used to inform mitigation measures related to plants of traditional Indigenous value.

Unless otherwise indicated, the communications summarized below are sent out to all Indigenous groups.

3.1 Invitations and Participation in Ground Truthing Activities

During this reporting period, BC Hydro followed up with interested Indigenous groups to coordinate ground truthing and other field activities. On June 12, 2019 and August 30, 2019, BC Hydro sent letters to Indigenous groups with updates on upcoming construction activities and invitations to conduct ground truthing and other field activities.

Ground truthing, and other field activities undertaken during the reporting period are summarized in Table 1: Ground Truthing and other Field Activities

For the purposes of this report, the ground truthing described relates to the verification of plant harvesting areas and/or plants of traditional Indigenous value[3]. During other field activities, including site visits and boat tours, Indigenous groups were given the opportunity to share information related to harvesting and plants for traditional Indigenous value.

Due to the sensitive nature of the cultural information gained during ground truthing, BC Hydro does not provide site-specific details in publicly available reports such as this one.

Table 1: Ground Truthing and other Field Activities

Indigenous Group	Project Component	Results
BRFN	Dam Site, Highway 29, Reservoir	Boat tours occurred on June 17; August 20 and August 21, 2019. A tour of Highway 29 took place on August 29, 2019.

[2] Unless otherwise specified, the term Indigenous groups applies to the following “Aboriginal groups” as defined in the Environmental Assessment Certificate (EAC) and federal Decision Statement (FDS): Saulteau First Nations, West Moberly First Nations, Prophet River First Nation, Blueberry River First Nations, Doig River First Nation, McLeod Lake Indian Band, Halfway River First Nation, Fort Nelson First Nation, Horse Lake First Nation, Métis Nation British Columbia, Kelly Lake Métis Settlement Society, Duncan’s First Nation, and Dene Tha’ First Nation.

[3] Ground truthing related to cultural resources is described in the Annual Report for the Cultural Resources Mitigation Plan

Indigenous Group	Project Component	Results
DRFN	Dam Site, Highway 29, Reservoir	A boat tour occurred on August 8, 2019. Site visits took place at the Dam Site and along Highway 29 on June 25 and August 9, 2019.
HLFN	Dam Site, Reservoir	A boat tour occurred on August 28, 2019.
HRFN	Dam Site, Highway 29, Reservoir	Ground truthing occurred along Highway 29 on June 6, 2019. Ground truthing activities also took place on June 5 and September 20, 2019 at various locations along the Peace River within the future reservoir. A tour of Highway 29 took place on July 3, 2019 and a boat tour occurred on August 30, 2019.
MLIB	Dam Site, Highway 29, Reservoir	A boat tour occurred on July 31, 2019. Site visits took place at the Dam Site and along Highway 29 on June 13 and October 8, 2019. MLIB also visited BC Hydro's archives to review historic information on May 14, 2019.
MNBC	Dam Site	A site visit took place at the Dam Site on October 8, 2019.
SFN	Dam Site, Reservoir	Boat tours occurred on July 30 and August 29, 2019. A site visit to the Dam Site occurred on October 8, 2019.

3.2 Ground Truthing Reports

In this reporting period, ground truthing reports were received from HRFN related to activities conducted along the future Site C reservoir.

Ground truthing results including final ground truthing reports are shared with relevant members of the Project team (e.g., Environment, Transmission Line Design, Roads, Properties, Construction Management) to be incorporated into mitigation measures as described in Section 4.0 below. BC Hydro will follow up with the respective Indigenous groups to share how their information has been considered and incorporated in the Project planning and/or mitigation measures developed.

3.3 Plants of Traditional Indigenous Value identified through Ground Truthing

Ground truthing activities have identified a number of plants with medicinal and food values. Table 2 shows the food plants and medicinal plants that were identified as plants typically harvested by land users during ground truthing prior to 2018. New additions in this reporting period are shown in blue text and were provided by HRFN.

Table 2: Plant Species with Cultural, Food, and Medicinal Value identified through Ground Truthing

Plant Species with Cultural, Food, and Medicinal Value identified through Ground Truthing		
Alder	Cinquefoil	Horsetail
Alder, green	Cloudberry	Huckleberries
Alder, mountain	Clover	Indian Carrot
Alder, red	Coltsfoot	Indian Parsnip
Algae	Comandra	Indian Rhubarb
Arnica orchid	Cottonwood	Juniper
Ash, mountain	Cow Parsnip	Kinnikinnick (Bearberries)
Aspen, Trembling	Cranberries – high & low bush	Labrador tea
Aster	Crowberry	Lichen (Old Man's Beard, Witches Hair, Flat)
Baneberry	Currant, black	Lily plants
Bearberries (a.k.a. kinnikinnick)	Dandelions	Lodgepole Pine
Beaver Ears (Wintergreen)	Deadweed	Low-bush blueberries
Birch, Paper	Devil's club	Meadow rue
Birch, Water	Dewberry	Mint (wild) / Peppermint
Black Gooseberry	Diamond Willow Fungus (Willow, Fungus)	Moss, Sphagnum
Black spruce	Dogwood, Red-Osier	Mountain Ash
Black Tree Lichen	Douglas Hellbor	Mountain Alder
Black Twinberry	Dwarf Birch Scrub	Mushroom, Puff Ball
Blackberries	Dwarf Blueberry/Lowbush (Blueberries)	Mushrooms
Bluebell (a.k.a. lungwort)	False Solomon Seal	Nagoonberry
Blueberries	False Toad-flax	Northern black Current (Black Current)
Blueberries – high-bush (mountain)	Fern Spiny Root	Northern Gooseberry (Gooseberries)
Bog Laurel	Field Mint	Onion (wild)
Bog Ross Mary	Fir, Balsam (Subalpine)	Orchid, Ladyslipper
Buckbean	Fireweed	Parsnip (Cow's Parsnip)
Bunchberries	Flat Lichen	Parsnip, Water
Buttercup	Frog Blanket (Colt's Foot)	Peas (wild)
Cabbage (wild)	Fungus, birch	Pine (Jack, Lodgepole)
Canada Golden Rod	Fungus, willow	Pink Wintergreen
Cat Tail	Goldenrod	Plantain
Cedar	Gooseberries	Poplar, Balsam

Plant Species with Cultural, Food, and Medicinal Value identified through Ground Truthing		
Chaga/Cinder conk	Goosegrass	Poplar, Black
Chamomile (wild)	Harebell	Poplar, Silver-leaved
Cherry, choke	Hemlock (Water - Western)	Potentilla
Cherry, pin	Horseroot	Prickly Rose (Wild Rose)
Puff Balls (Mushroom Puffballs)	Sedges	Tall Larkspur
Raspberry	Shaggy Mane	Tamarack Moss
Rat root	Silverberry	Tarragon
Rat root/Sweet Flag (Rat Root)	Snowberry	ThimbleBerry
Red willow	Soapberries	Tinder polypore
Reindeer Lichen/Caribou Moss	Sphagnum Moss	Tlechuck wea?
Rhubarb (wild)	Spiny Wood Fern	Trapper's (muskeg) tea
Rock Tripe Lichen	Spruce (Black, White, Swamp)	Twinflower
Rose (wild)	Stinging nettle	Vetch
Rosehips	Strawberries (wild)	Western Mountain Ash
Sage	Subalpine, Balsam Fir	Wild Sarsaparilla
Sage Bush, White	Swamp Currant	Willow (Pacific, 'Red')
Sage, Pasture (Sage)	Sweetgrass	Wolf willow
Sarsaparilla	Sweetvetah, Alpine	Yarrow
Saskatoon berries	Sweetvetah, Northern	

3.4 Identification of Rare Plant Species

The plant species of traditional Indigenous value identified through ground truthing and other field activities were reviewed against the Red/Blue listed species identified by the BC Conservation Data Centre as well as species listed under the federal *Species at Risk Act*.

Of the species identified through ground truthing and other field activities to date, "Rat root" (*Acorus americanus*) is the only rare plant. Rat root is a cattail-like plant that grows in ponds, streams and wetlands. It is currently Red-listed in BC by the BC Conservation Data Centre.

4 Mitigation Measures

The APUMP describes mitigation measures, and measures to be developed in consultation with Indigenous groups, that meet conditions of the EAC and FDS related to plants of traditional Indigenous value over the duration of Project construction. Moving forward, BC Hydro will continue to consider mitigation measures identified by Indigenous groups through future ground truthing, field or other consultation activities.

4.1 Identification of Opportunities for Plant Relocation and Ecological Community Restoration

The CEMP describes the environmental requirements related to soil management, site restoration, and revegetation activities to be implemented by contractors. Reclamation activities for the various project components (e.g., portions of the Dam Site area, Highway 29 realignment right-of-way and reservoir shoreline) will be undertaken in the period following construction.

Plant species of traditional Indigenous value identified through ongoing ground truthing activities will be incorporated into reclamation plans, as appropriate. As draft reclamation plans are developed to address the adverse effects of the project on plants of traditional Indigenous value, they will be provided to Indigenous groups for review and comment.

4.2 Indigenous Plant Nursery

BC Hydro has entered into a contract with an Indigenous plant nursery for supply and delivery of live native grass seeds suitable for dry or hydro seed application to support re-vegetation and reclamation activities. In accordance with EAC condition 26, BC Hydro will make reasonable efforts to source plants and plant seeds of high traditional Indigenous value from Indigenous plant nurseries for use in reclamation activities. The actual sourcing of seeds, seedlings and stakes for use in reclamation will occur after detailed reclamation planting prescriptions are developed through the development of reclamation plans.

4.3 Information shared with Indigenous Groups

FDS condition 14.2 requires BC Hydro to inform Indigenous groups about Project activities that may affect the current use of lands and resources for traditional purposes. This condition is fulfilled through the implementation of the Aboriginal Group Communication Plan (AGCP). Please refer to the AGCP and its annual reports[4] for more information on how BC Hydro is complying with this condition.

In addition, BC Hydro engages and shares information with Indigenous groups through regularly scheduled Permitting Forums, Environmental Forums, EAC Working Groups, or through other project and community engagement meetings.

4.4 Use of Herbicides and Pesticides

BC Hydro consults with Indigenous groups as required by the BC Ministry of Environment and Climate Change Strategy (MOECCS) during their review and confirmation of BC Hydro's Integrated Vegetation Management Plans (IVMPs).

BC Hydro manages vegetation around facilities and transmission/distribution lines according to two IVMPs; one for BC Hydro's facilities, and one for transmission line rights-of-way. These plans are available on BC Hydro's public website:

[4] See note 3.

- IVMP for Transmission and Distribution Power Line Corridors (April 2017); Confirmation number 105-0982-16/21
- IVMP for Control of Vegetation at BC Hydro Facilities (August 2016); Confirmation number 105-0983-16/21

Section 4.3.2 of the APUMP describes the considerations involved in the avoidance or minimization of herbicide and pesticide use during BC Hydro's vegetation management practice. The draft plan was submitted to Indigenous groups for review and comment in October 2014. Comments received were considered in preparation of the July 5, 2015 version of the APUMP.

Notice of Intent to Treat

Proponents are required to submit an Annual Notice of Intent to Treat (NIT) to MOECCS each year before commencing herbicide use. Section 42 of the Integrated Pest Management Regulation stipulates what is required for a NIT; click the hyperlink to view this section of the Regulation on the 'bclaws' website.

Prior to any use of herbicides described in that year's NIT, an information package is sent to Indigenous groups with maps of the proposed treatment locations and details on the treatment program. The information package requests feedback from Indigenous groups in order to identify plant harvesting areas or other areas of cultural or spiritual importance for consideration in the development of treatment plans or to avoid those areas, where practicable.

The 2019 NIT was sent to Indigenous groups on March 11th, 2019 requesting the identification of any areas of concern by April 5, 2019. The 2020 NIT will be sent to Indigenous groups in April 2020 and will be described during the next reporting period.

4.5 Opportunities to Harvest Traditional Medicinal Materials

Various Indigenous groups have expressed interest in being able to harvest traditional medicinal materials from certain non-merchantable tree species prior to vegetation clearing, or alternatively, to have the material stockpiled after clearing so that the medicinal materials could be harvested prior to the removal of the non-merchantable material.

During ground truthing and other field activities, Indigenous groups were invited to conduct harvesting or identify areas for future harvesting. During this reporting period, one Indigenous group took part in harvesting activities.

5 Future Ground Truthing, Field Activities and Harvesting

BC Hydro will continue to work with interested Indigenous groups to plan and coordinate ground truthing, harvesting and other field activities. A schedule of upcoming construction and clearing activities will be provided to Indigenous groups in spring 2020 with an invitation to undertake ground truthing, where it has not already been undertaken, and harvesting opportunities prior to clearing and construction activities.

Any information received through future ground truthing, harvesting and other field activities will further inform the development of mitigation measures.