

Aboriginal Plant Use Mitigation Plan 2021-2022 Annual Report

Site C Clean Energy Project

Reporting period: April 2021 through March 2022

March 31, 2022

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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 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 Project completed construction of the upstream cofferdam in February 2021 and the downstream cofferdam in March 2021. With these important components of the earthfill dam complete, the area between the two cofferdams was dewatered in Spring of 2021 to allow for the excavation of the centre section of the dam core trench.

With that milestone complete, crews excavated and then began placing material in the earthfill dam. To December 31, 2021, approximately 30 per cent of the total required volume of material had been placed in the dam.

Concurrent to dam construction, work advanced on roller-compacted concrete placements in the dam and core buttress. Together with the powerhouse and spillways buttresses, the dam and core buttress forms a key safety component in the Project's design.

In October 2021, BC Hydro completed the dam and core buttress, marking the completion of the Project's overall roller-compacted-concrete program. Since the program began in 2017, crews placed a total of 1.7 million cubic metres of roller-compacted concrete in the three large buttresses.

In the generating station, work on the concrete foundation and enclosure of the powerhouse structure were completed in 2021. Placement of the concrete that embeds the turbines and forms the floors in the powerhouse is advancing at a pace to match the turbines and generators contractor's schedule.

As of December 31, 2021, 81 penstock sections (out of a total of 90 sections) had been installed, and in the spillways, more than 50 per cent of the spillways concrete had been placed.

Away from the dam site, work progressed on all six segments of the Highway 29 realignment sub-project, including the substantial completion of the Halfway River bridge in August 2021 and the opening of the Farrell Creek East segment to traffic in October 2021.

Construction of the second 500 kV transmission line connecting Site C to the Peace Canyon Generating Station continued in 2021. All foundations were completed, and all towers were assembled and installed on the foundations by March 2021. In July 2021, conductor stringing began; by the end of the year, the line was approximately two-thirds complete.

More detailed descriptions of construction activities that took place during the reporting period can be found in the quarterly Notices of Construction Activities¹.

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 2021 through March 2022. In some cases, consultation and engagement with Indigenous Nations on measures described in the Plan that took place prior to this period are also summarized here for context.

This is the seventh 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>

2.3 COVID-19

BC Hydro's top priority is the health and safety of our employees, contractors, members of the public, and Indigenous Nations. BC Hydro has been monitoring COVID-19 closely since January 2020 and has been taking appropriate action as the situation evolves. To minimize the risk of transmission and continue to fulfil the requirements of Decision Statement condition 14 and Environmental Assessment Certificate conditions 25 and 26, BC Hydro has been required to adapt its engagement with Indigenous communities to mitigate the risk of a COVID-19 event occurring.

These include:

- Strictly following Ministry of Health guidelines and implemented a range of protocols to prevent the spread of COVID-19;
- Scaled back, or transition to virtual platforms, for certain activities to reduce or eliminate the number of in-person meetings, site visits, training sessions, and community gatherings;
- Restrictions on non-essential travel for BC Hydro employees and consulting service providers; and
- Implemented the requirement for proof of COVID-19 vaccination from all employees and contractors working for the Site C project.

3 Ground Truthing Activities from April 2021 through March 2022

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 Nations².

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 Nations.

² Unless otherwise specified, the term Indigenous Nations applies to the following "Aboriginal groups" as defined in the Environmental Assessment Certificate (EAC) and federal Decision Statement (FDS): Saulneau 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.

3.1 Invitations and Participation in Ground Truthing Activities

During this reporting period, BC Hydro followed up with interested Indigenous Nations to coordinate ground truthing and other field activities. On August 12, 2020, BC Hydro invited Indigenous Nations to ground truth Area E (a contingency gravel source) and Ice Bridge Road (access road).

As a result of COVID-19, Ground truthing, and other field activities were greatly reduced during the reporting period. A summary of Ground Truthing and other Field Activities are found in Table 1: Ground Truthing and other Field Activities.

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 Nations	Project Component	Results
Saulteau First Nation	Site C transmission line	On August 16 to 17, 2021 BC Hydro hosted the Nation to review and assess the vegetation re-growth along the Site C transmission line right-of-way.
Blueberry River First Nation	Area E and Ice Bridge Road	On September 16, 2021 BC Hydro hosted the Nation to conduct a site visit and ground truthing of the access road and Area E, a proposed aggregate mine.
Doig River First Nation	Area E and Ice Bridge Road	On September 16, 2021 BC Hydro hosted the Nation to conduct a site visit and ground truthing of the access road and Area E, a proposed aggregate mine.
Halfway River First Nation	Site C transmission line	On October 20, 2021 BC Hydro hosted the Nation to conduct a site visit of the Site C transmission line. This site visit was in support of their ITUF project and mitigating project impacts to wildlife.
Halfway River First Nation	Area E and Ice Bridge Road	On October 21, 2021 BC Hydro hosted the Nation to conduct a site visit and ground truthing of the access road and Area E, a proposed aggregate mine.

3.2 Ground Truthing Reports

In this reporting period, no new ground truthing reports were received from Aboriginal groups.

In previous years, ground-truthing results including final ground-truthing reports were 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 followed up with respective Indigenous Nations to share how their information had been considered and incorporated into Project planning and the development of mitigation measures.

3.3 Plants of Traditional Indigenous Value identified through Ground Truthing and Consultation

Previous years' ground truthing activities had 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 or shared by Indigenous Nations through consultation.

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

<p><u>Trees</u></p> <ul style="list-style-type: none"> • Alder – Green, Mountain, Red • Ash - Mountain • Aspen - Trembling • Birch – Paper, Water • Black spruce • Cedar • Cottonwood • Fir - Balsam (Subalpine) • Hemlock – Water, Western • Lodgepole Pine • Mountain Ash • Pincherry • Pine - Jack, Lodgepole) • Poplar, Balsam, Black, Silver-leaved • Spruce - Black, White, Swamp • Tamarack • Willow - Pacific, Red <p><u>Algae, Fungi, Lichen, and Moss</u></p> <ul style="list-style-type: none"> • Algae • Black Tree Lichen • Birch Fungus (Chaga, Cinder Conk) • Diamond Willow Fungus • Flat Lichen • Lichen (Old Man's Beard, Witches Hair, Flat) • Mushrooms • Puffballs • Reindeer Lichen (Caribou Moss) • Rock Tripe Lichen • Shaggy Mane • Sphagnum Moss • Tamarack Moss • Tinder polypore 	<p><u>Shrubs</u></p> <ul style="list-style-type: none"> • Bearberries (Kinnikinnick) • Beaver Ears (Wintergreen) • Blackberries • Blackcurrant, • Gooseberry – Black, Northern • Black Twinberry • Blueberries – lowbush, high-bush (mountain) • Bog Laurel • Bog Rosemary • Chokecherry • Cranberries – highbush, lowbush • Crowberry • Dewberry • Devil's Club • Dogwood (Red-Osier) • Dwarf Birch Scrub • Gooseberry – Black, Northern • Huckleberry • Juniper • Labrador tea • Mountain Alder • Prickly Rose (Wild Rose) • Raspberry • Red Swamp Currant • Rosehips • Saskatoon berries • Shrubby Cinquefoil • Silverberry (Wolfwillow) • Soapberries • ThimbleBerry • Trapper's Tea (Muskeg Tea) • Western Mountain Ash <p><u>Others</u></p> <ul style="list-style-type: none"> • Fern – Lady, Spiny Wood, Spiny Root • Horsetail – Common, Marsh • Sedges • Tlechuck wea? 	<p><u>Herbs</u></p> <ul style="list-style-type: none"> • Arnica orchid • Aster • Baneberry • Bluebell (Lungwort) • Buckbean • Bunchberry • Buttercup • Cabbage - Wild • Canada Golden Rod • Cattail • Chamomile (wild) • Cloudberry • Clover • Coltsfoot • Cow Parsnip (Indian Rhubarb, Indian Parsnip) • Goldenrod • Goosegrass • Horseroot • Indian Carrot • Dandelion • Deadweed • Douglas Water Hemlock • False Solomon Seal • False Toadflax • Field Mint • Fireweed • Frog's Blanket (Bastard Toadflax, Coltsfoot, Comandra) • Harebell • Indian Hellebore • Ladyslipper Orchid, • Lily plants • Meadow Rue • Nagoonberry • Peppermint • Pink Wintergreen • Plantain • Potentilla • Sage – Pasture, Whit • Sagebrush • Snowberry • Stinging Nettle
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		<ul style="list-style-type: none"> • Strawberry • Sweetgrass • Sweetvetch – Alpine, Northern • Tall Larkspur • Tarragon • Twinflower • Rat Root (Sweet Flag) • Vetch • Wild Onion • Water Parsnip • Wild Peas • Wild Rhubarb • Wild Sarsaparilla • Yarrow
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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 Blue 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 Nations, 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 Nations 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 Nations for review and comment.

The Reclamation Sub-Committee of the Environment Committee reviews and provides input into reclamation planning. The Sub-Committee did a field visit to 3 damsite northbank locations that are scheduled for F23 reclamation on September 29, 2022.

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 Nations

FDS condition 14.2 requires BC Hydro to inform Indigenous Nations 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 reports³ for more information on how BC Hydro is complying with this condition.

In addition, BC Hydro engages and shares information with Indigenous Nations 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 Nations 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 Integrated Vegetation Management Plans (IVMP):

- For Control of Vegetation at BC Hydro Facilities (# 105-0985-21/26) that describes the selection of vegetation control methods found [here](#)
- For herbicide applications along the transmission line will be conducted in accordance with the IVMP for BC Hydro Transmission and Distribution Power Line Corridors (# 105-0982-16/21) found [here](#).

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 Nations for review and comment in October 2014. Comments received were considered in preparation of the July 5, 2015 version of the APUMP.

³ See [note 3](#).

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 'bc laws' website.

Prior to any use of herbicides described in that year's NIT, an information package is sent to Indigenous Nations with maps of the proposed treatment locations and details on the treatment program. The information package requests feedback from Indigenous Nations 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 2021 NIT was sent to Indigenous Nations on March 29, 2021 requesting the identification of any areas of concern by April 29, 2021. The 2022 NIT will be sent to Indigenous Nations in March 2022 and will be described during the next reporting period.

4.5 Opportunities to Harvest Traditional Medicinal Materials

Various Indigenous Nations 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 Nations were invited to conduct harvesting or identify areas for future harvesting. During this reporting period, no Indigenous Nations took part in harvesting activities.

5 Future Ground Truthing, Field Activities and Harvesting

BC Hydro will continue to work with interested Indigenous Nations to plan and coordinate ground truthing, harvesting and other field activities. A schedule of upcoming construction and clearing activities will be provided to Indigenous Nations in spring 2021 with an invitation to undertake ground truthing, where it has not already been undertaken, and harvesting opportunities prior to clearing and construction activities. As the project progresses there will be fewer areas unimpacted in the project footprint. First Nations will be less interested in ground truthing and harvesting in areas that have already been impacted.

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