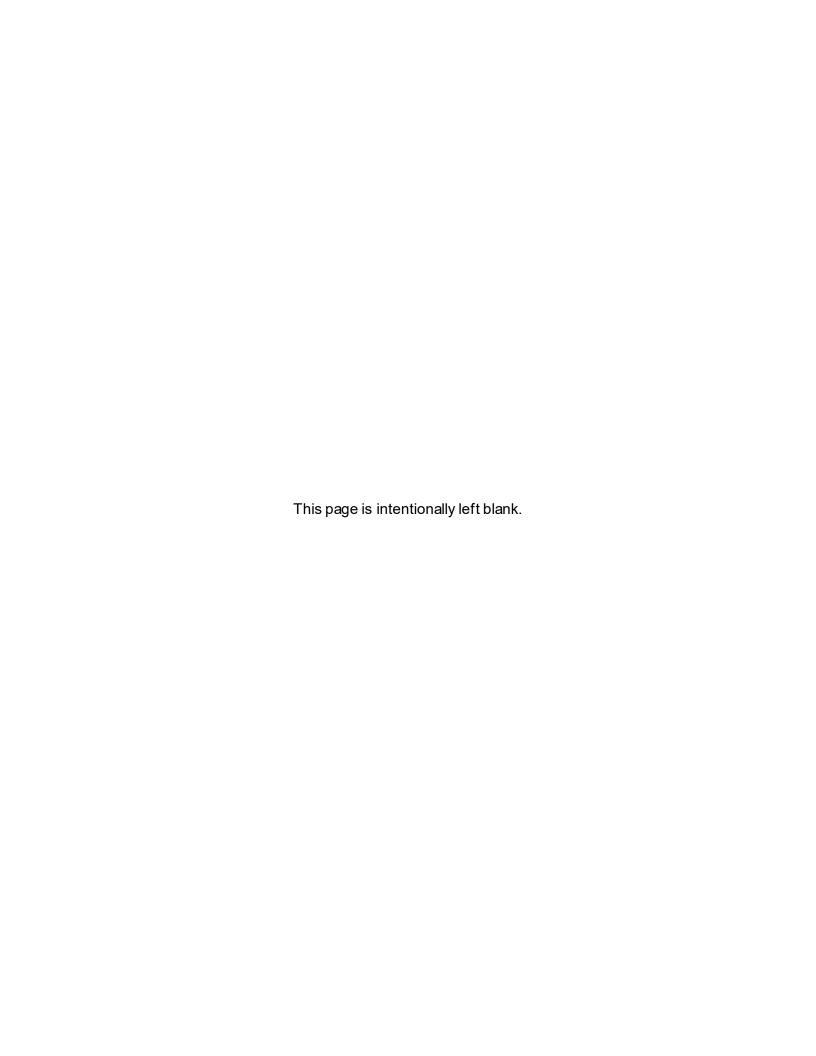


# Aboriginal Plant Use Mitigation Plan 2022-2023 Annual Report

Site C Clean Energy Project
Reporting period: April 2022 through March 2023

March 31, 2023



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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

As the busiest construction year since the Project began, considerable progress was made, and milestones reached both on and off the dam site in 2022.

BC Hydro remains on track to achieve the approved in-service date of December 2025.

BC Hydro and its contractors have agreed to contractual schedules that could result in reservoir filling in fall 2023 and first power earlier than planned without compromising safety, quality and commitments to the environment and First Nations. However, meeting this time frame remains subject to risks.

In late November 2022, the entire earthfill dam reached elevation 445 metres above sea level (final elevation will be 470 metres). As of December 31, 2022, the earthfill dam was 88% complete with 3.1 million cubic metres of dam material being placed in 2022.

The excavation of the approach channel, which is where the water approaches the intakes for the penstocks and the spillways, was substantially completed in 2022. The work to complete waterproofing the bottom of the channel, as part of the right bank foundation enhancements, began in April of 2022 and will continue through 2023. The waterproofing scope includes construction of reinforced concrete, installation of polyvinyl chloride (PVC) liners, and grouting of the underlying bedrock. Due to the wide variety of activities and interfaces between contractors and interdependent nature of the design, the work requires diligent coordination and close management of interfaces. Several of the construction activities are weather sensitive, reducing their ability to be completed during the winter months or periods of rainy weather. The work is being completed by a large skilled labour force which is working on multiple active work fronts at the same time.

A new aggregate supply, located southwest of the dam site (Area E), began supplying the Project with dam material. Hauling began in July 2022 after the access road was upgraded.

Several new areas of fish habitat were built this year, part of a broader program to create 60 hectares of shoreline habitat in preparation for reservoir filling. The habitat areas provide nutrient-rich, sheltered environments to support a variety of fish and vegetation. These habitats include P6 Island (an island in the Peace River across from the community of Old Fort) and spawning shoals at Maurice Creek near the Peace Canyon Dam.

The construction of the penstocks, spillways and approach channel continued to advance and remain on-track for completion in 2023. Risk remains with the supply and installation of the upper penstock couplers and BC Hydro is working closely with contractors to complete this work. The radial spillway gates were fabricated in 2022, delivered to site, and are in the process of being installed. At the powerhouse itself, concrete placements are 90% complete. Inside the powerhouse, two of the six units have been handed over to the turbine manufacturer to begin assembly of the generating unit. Construction of the three 500-kilovolt transmission lines connecting the Site C powerhouse to the Site C substation progressed in 2022.

The contract for the balance of plant electrical components was awarded in September 2021, with the remaining balance of plant components for the powerhouse construction (e.g., heating, ventilation) awarded in 2022. The balance of plant contractors have mobilized to site and work is currently underway. Due to the outage of the powerhouse bridge cranes in August 2022, installation of cable trays and cables by one of the balance of plant contractors has been impacted and additional workers are required to recover the contractual schedule.

Away from the dam site, construction also progressed. The second 75-kilometre-long transmission line between Site C and the Peace Canyon generating station was completed and energized in March 2022, ahead of schedule. As of December 31, 2022, Highway 29 is 90% complete, with five of the six segments being opened to traffic. The final bridge at Halfway River is expected to open in February 2023. The decommissioning and removal of the old sections of highway began in fall 2022. The Hudson's Hope berm, which protects the shoreline from erosion from the new reservoir, was completed in November 2022. Clearing for the entire reservoir area and waste wood removal will be completed in 2023.

### 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 2022 through March 2023. 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.

### 3 Ground Truthing Activities from April 2022 through March 2023

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 Nations 1.

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.

<sup>&</sup>lt;sup>1</sup> 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): 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.

### 3.1 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.

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
Site C Indigenous Traditional Use Fund Ungulate Enhancement Multi-Nation Project, Site Visit	Watson Slough and Site C Reservoir future island	On May 19, 2022, Environmental Forum members attended a site visit of Watson Slough (prior to vegetation clearing); and the Peace View Island project site (future Site C reservoir island). A total of 8 Nations were represented by 16 attendees (DRFN, FNFN, HLFN, HRFN, KLMSS, MLIB, MNBC, and PRFN).
Blueberry River First Nations	Hwy 29	May 31, 2022 (rescheduled to September 13, 2022) Bus Tour.
Site C reclamation sub- committee (HRFN/BRFN/ SFN/DRFN)	Area E	On July 25, 2022, BC Hydro hosted members of the Site C Reclamation Sub-committee to review the operational Area E aggregate mine and progressive reclamation activities including topsoil and coarse woody debris stockpiling.
Halfway River and Doig River First Nations	Peace View Island	On July 26 <sup>th</sup> an 27 <sup>th</sup> 2022, BC Hydro worked with members of Halfway River First Nation and Doig River First Nation on soil and vegetation surveys that were used to inform a reclamation prescription for Peace View Island.
Halfway River First Nation	Reservoir	On July 28, 2022, BC Hydro hosted Halfway River First Nation's lands department for a Peace River field day. At the request of the Nations various spots of importance along the future reservoir were visited for a final time.
Halfway River First Nation	Reservoir & Hwy 29	On August 10, 2022, BC Hydro hosted the Nation on a bus tour of Highway 29 and boat tour on the future reservoir. This tour was to support the Nation's understanding of construction and mitigation activities in the valley, including reclamation.
Blueberry River First Nations	Reservoir & Hwy 29	On September 13, 2022, BC Hydro intended to host the Nation on a bus tour of Highway 29 and boat tour on the future reservoir to share information on construction and mitigation activities, including

Indigenous Nations	Project Component	Results
		reclamation; the tour was cancelled due to safety risk related to the Battleship Mountain forest fire.
Doig River First Nation	Reservoir & Hwy 29	On September 16, 2022, BC Hydro intended to host the Nation on a bus tour of Highway 29 and boat tour on the future reservoir to share information on construction and mitigation activities, including reclamation; the tour was cancelled due to safety risk related to the Battleship Mountain forest fire.

### 3.2 Ground Truthing Reports

In this reporting period, no new ground truthing reports were received from Indigenous Nations.

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. The majority of the species proposed for reclamation on the Project have traditional Indigenous value and are suited to revegetation of disturbed sites. 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

Trees	Alder – Green, Mountain, Sitka, Red Ash - Mountain Aspen - Trembling Birch – Paper, Water Black spruce Cedar Cottonwood	Shrub	Bearberries (Kinnikinnick) Beaver Ears (Wintergreen) Blackberries Blackcurrant, Gooseberry – Black, Northern Black Twinberry	Herbs	Arnica orchid Aster Baneberry Bluebell (Lungwort) Buckbean Bunchberry Buttercup Cabbage - Wild
•	Cedar	•			•

- Pin Cherry
- Poplar, Balsam, Black, Silverleaved
- Spruce Black, White, Swamp
- Tamarack
- Willow Coyote, Pacific, Red

# Algae, Fungi, Lichen, and Moss

- 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

- 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 (Wolf Willow)
- Soapberries
- Snowberry
- ThimbleBerry
- Trapper's Tea (Muskeg Tea)
- Western Mountain Ash

#### **Others**

- Fern Lady, Spiny Wood, Spiny Root
- Horsetail Common, Marsh
- Sedges
- Tlechuck wea?

- Clover
- Coltsfoot
- Cow Parsnip (Indian Rhubarb, Indian Parsnip)
- Dogbane
- 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 Stinging Nettle
- 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

### 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. During this reporting period, BC Hydro consulted on the reclamation plans for Portage Mountain Quarry and Area E with Indigenous Nations.

The Reclamation Sub-Committee of the Environment Committee reviews and provides input into reclamation planning. Table 3 provides a summary of information shared and discussed during the Reclamation Sub-Committee meetings during the reporting period.

Table 3: Summary of Site C Reclamation Sub-Committee meetings from April 1, 2022 to March 31, 2023

Summary of Site C Reclamation Sub-Committee			
Date	Agenda items/Summary		
April 26, 2022	Reclamation Sub-committee meeting #4 (Virtual): General update and schedule for the year.		
June 30, 2022	Reclamation Sub-committee meeting #5 (Virtual): General update and review of Construction Environmental Management Plan.		
July 25, 2022	Reclamation Sub-committee meeting #6 (Field): BC Hydro hosted Reclamation Sub-Committee members for a site visit to Area E review and Western L3		

September 8, 2022	Reclamation Sub-committee meeting #7 (Virtual): BC Hydro reviewed Peace View Island reclamation activities
December 2, 2022	Reclamation Sub-committee meeting #8 (Virtual): Year-end update
March 16, 2023	Reclamation Sub-committee meeting #9 (Virtual): Portage Mountain Reclamation presentation

### 4.2 Indigenous Plant Nursery

BC Hydro has entered into a contract with an Indigenous plant nursery for supply and delivery of seed and seedlings 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. Seedlings and stakes have been ordered for planting on the damsite in spring of 2023 and at Peace View Island in spring of 2024.

### 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 reports<sup>2</sup> 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 Environmental and Permitting Forum, 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):

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<sup>&</sup>lt;sup>2</sup> See <u>note 3</u>.

- For Control of Vegetation at BC Hydro Facilities (# 105-0985-21/26) that describes the selection of vegetation control methods found <u>here</u>
- 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.

#### **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. <u>Section 42 of the Integrated Pest Management Regulation</u> 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 2023 NIT was sent to Indigenous Nations on February 22, 2023, requesting the identification of any areas of concern by March 29, 2023. The 2024 NIT will be sent to Indigenous Nations in March 2024 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, a Medicinal Plan Harvest project was undertaken by Kelly Lake Metis Settlement Society. Supported by Site C's Indigenous Traditional Use Fund (ITUF), the intent of the project was to harvest areas in and around the Peace River and Hudson Hope with youth and Elder participation. During the two-project field visits many plants used in community medicinal practices were harvested.

# 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. However, as the Project progresses there will be fewer areas unimpacted in the project footprint. Indigenous 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.

Presently, BC Hydro is working with interested Indigenous Nations to support opportunities for the harvesting of Beaver that will be impacted by the creation of the Site C Reservoir. This is an Indigenous led initiative and an opportunity for Treaty 8 Nations to practice their traditional right to hunt. Harvesting activities are anticipated to take place in Spring 2023. A full report on this initiative will be provided during the next reporting period.