

SITE C FIELD WORK FOR 2019

During the construction of Site C, BC Hydro will conduct environmental and engineering field work along the Peace River between the Williston Reservoir and the Alberta border. This work will inform construction plans and mitigation and monitoring programs.

This notice provides a list of **environmental** and **engineering field work** planned for 2019.

BC Hydro will obtain the required permits, and complete environmental management plans and heritage work. Other work not related to Site C may also take place, as part of BC Hydro's regular operations and Peace River water licence requirements.

To learn more, please visit sitecproject.com, email sitec@bcydro.com, or call 1(877) 217-0777.

ENVIRONMENTAL FIELD STUDIES

Climate and air quality monitoring

BC Hydro is collecting real-time climate and air quality data from monitoring stations between Hudson's Hope and Taylor. This work includes regular visits (biweekly or monthly) for maintenance.

Water and sediment quality monitoring

BC Hydro is monitoring surface water, groundwater, and sediment quality in the Peace River upstream and downstream of the project. This work assesses the effects of water quality on fish habitat and municipal/industrial water supplies.

Drinking water well monitoring

BC Hydro is monitoring drinking water wells within one kilometre of the future reservoir, with the approval of well owners. This includes periodic site visits to assess water quality and/or quantity, as arranged with well owners.

Assessment of potentially contaminated sites

BC Hydro is identifying sites in or near the project boundaries that, due to their historic use, may have been exposed to soil contaminants. This could include visual inspections, installation of groundwater wells, groundwater elevation measurements, and collection of groundwater and/or soil samples. Property owners will be notified of findings.

Peace River turbidity and suspended sediment monitoring

BC Hydro is collecting data on turbidity in the Peace River. The purpose of this study is to evaluate the potential effects of project construction on water quality, fish habitat, and municipal/industrial water supplies.

Peace River bull trout spawning assessment

BC Hydro is monitoring the timing, duration, distribution, and intensity of bull trout spawning in known spawning locations in the Halfway River watershed through aerial and ground surveys. Resistivity fish counters and tag detection systems deployed in tributaries of the Halfway River provide additional information. Work occurs annually from July to October.

Fish population indexing survey

BC Hydro is monitoring tributary fish populations' responses to the project by estimating fish population abundance and distribution in representative index sections of the Peace River, Lynx Creek, Farrell Creek, Moberly River, and Halfway River. Surveys take place annually from July to October.

Fish stranding monitoring program

BC Hydro is assessing fish stranding risk in the future diversion head pond and the Peace River, downstream of the dam site. This work takes place annually from May to October.

Tributary mitigation opportunities evaluation

BC Hydro identifying fish habitat enhancement opportunities through habitat assessment in the Peace River tributaries, including Maurice Creek, Cache Creek, Halfway River, Moberly River, Beatton River, and Kiskatinaw River.

Beatton River Arctic grayling status assessment

BC Hydro is monitoring Arctic grayling in the Beatton River to provide abundance and density estimates during the fall.

Telemetry array system

BC Hydro is monitoring the movement of tagged fish species (bull trout, Arctic grayling and walleye) in the Peace River and its tributaries, from Hudson's Hope to Many Islands, Alberta. The study looks at the movement patterns and distribution of different species and life stages.

Peace River physical habitat monitoring

BC Hydro is monitoring how the construction and operation of the project affects physical habitat in the Peace River upstream and downstream of the project.

Peace River riparian vegetation monitoring

BC Hydro is monitoring how the construction and operation of the project affects the quality and quantity (species composition, biological productivity, spatial area) of riparian vegetation along the Peace River downstream of the project.

Small fish translocation monitoring

BC Hydro is monitoring small fish species in the Peace River to determine project impacts on their genetic structure, movement, and genetic exchange.

Peace River fish habitat enhancement monitoring program

BC Hydro will monitor the effectiveness of Peace River fish habitat enhancement measures near the dam site construction area to confirm suitability of habitat for fish during the summer months.

Waterbird surveys

BC Hydro will conduct waterbird surveys along the Peace River between Hudson's Hope and the Alberta border. Surveys will also be conducted at natural wetlands between the transmission line right-of-way and the Peace River, and areas adjacent to the Peace River between the dam site and the Alberta border. Surveys will be conducted from the ground and air. Trucks, all-terrain vehicles, helicopters, fixed-wing aircraft and boats may be used. Surveys will take place from March to October.

Songbird surveys

BC Hydro will continue to conduct songbird surveys near the reservoir area, the Highway 29 realignment and other areas that may be affected by the project. Surveys will be conducted using a combination of foot, boat, all-terrain vehicle, and truck access. Surveys will take place in the mornings during the songbird breeding season from late May to early July.

Common nighthawk surveys

BC Hydro will conduct surveys for the common nighthawk near the reservoir area, the Highway 29 realignment, and other areas that may be affected by the project. Surveys will involve a combination of foot, boat, all-terrain vehicle, and truck access. Surveys will take place near dusk during the common nighthawk breeding season from early June to mid-July.

Ground-nesting raptor surveys

BC Hydro will continue to conduct surveys for ground-nesting raptors near the reservoir area, the Highway 29 realignment, and other areas that may be affected by the project. Taking place at dusk from May to July, surveys will involve a combination of foot, boat, all-terrain vehicle, and truck access.

Downstream garter snake and western toad surveys

BC Hydro will be conducting surveys for garter snakes and western toads downstream of the dam site in areas next to the Peace River and its confluence with the Beatton River. Taking place from May to September, surveys will involve a combination of foot, boat, all-terrain vehicle, and truck access.

Wetland surveys

BC Hydro will conduct wetland surveys within the reservoir boundary, along the transmission line and at potential mitigation sites. Taking place from May to August, surveys involve a combination of foot and all-terrain vehicle access.

Pre-construction rare plant surveys

BC Hydro will be conducting rare plant surveys along the Highway 29 realignments and the transmission line. Taking place from July to September, surveys will involve a combination of foot and all-terrain vehicles.

Rare plant translocation

BC Hydro will continue its rare plant translocation program. Surveys will be conducted along the Peace River between Hudson's Hope and the Alberta border, and along the Highway 29 alignment and access roads. Material (e.g., seeds, cuttings) needed to grow plants targeted for translocation will be collected for storage and germination. Rare plants may be moved to different locations.

Bald eagle nest surveys

BC Hydro will continue to conduct bald eagle nest surveys along the Peace River and large lakes next to the project area. The surveys will be conducted using a low-flying helicopter over the Peace River and its major tributaries from Hudson's Hope to the B.C./Alberta border. The surveys will take place from February to August.

Bald eagle nest platforms installation

BC Hydro will install nesting platforms to mitigate the removal of bald eagle nests within project construction areas. Platform sites will be adjacent to the tree line or at the edge of openings near the Peace River and future reservoir outside the erosion impact line. Platforms will be placed to avoid interference with agricultural land use.

Bat roost boxes installation

BC Hydro will install bat roost boxes to mitigate the removal of summer roosting habitat within the project footprint. Roost boxes will be installed around the reservoir outside of the erosion impact line. Boxes will be placed to avoid interference with agricultural land use.

Artificial snake hibernacula installation

BC Hydro will install artificial snake hibernacula to mitigate the loss of natural hibernating habitat. Hibernacula will be installed around the reservoir outside of the erosion impact line.

Nest boxes installation

BC Hydro will install nest boxes for a range of cavity-nesting species to mitigate the removal of

trees. Boxes will be installed around the reservoir outside of the erosion impact line. Boxes will be placed to avoid interference with agricultural land use.

Heritage work

Throughout the project area, BC Hydro will conduct heritage work including archaeological impact assessments, systematic data recovery, and other mitigations. As construction continues, surface inspections, post ground disturbance, or concurrent monitoring of protected archaeology sites will take place. This includes responding to any unexpected heritage discoveries (chance finds) during construction.

ENGINEERING FIELD STUDIES

Traffic monitoring

BC Hydro is continuing to collect data on traffic volumes and turns at selected intersections around Chetwynd, Hudson's Hope, and Fort St. John to evaluate potential effects of the project on traffic. This work includes annual and quarterly roadside data collection.

Transmission line corridor

BC Hydro's transmission line contractor will complete field investigations, including geotechnical work and survey work, along the transmission right-of-way. Field investigations may also include the trial installation of helical pile foundations.

BC Hydro will undertake transmission structure staking (surveying) in the spring and summer at some transmission tower sites on the western half of the right-of-way.

Excavation and systematic data recovery of several archaeological sites will occur along the transmission line corridor.

Highway 29 investigations

BC Hydro is conducting geotechnical investigations for the Highway 29 realignments at Farrell Creek East, Farrell Creek, Dry Creek, Lynx Creek, and Bear Flat/Cache Creek. Work includes surveys and subsurface investigations, and may include minor brushing of access routes. Investigations will take place throughout 2019.

Investigations for potential construction materials may be conducted at Lynx Creek, Farrell Creek, and Farrell Creek East, along Highway 29, as well as other nearby potential sources. This work will involve using a backhoe or excavator to dig exploratory test pits. During subsurface investigations, a truck-mounted rotary drill and an excavator will dig exploratory test pits along the new highway alignment.

BC Hydro will also be conducting field work for the Highway 29 distribution line relocation. This could

include limited geotechnical investigations, survey work and environmental assessments.

Geotechnical drilling

Several geotechnical holes will be drilled to monitor of the stability of reservoir slopes in advance of reservoir filling. Drilling will take place at Watson Hill east of Halfway River, at Lynx Creek, and at the mouth of the Moberly River. Drilling will occur between March and June 2019, and will last approximately two weeks at each site, 24-hours a day. Helicopters may be required to access the sites.

Forestry engineering

Forestry engineering work is required as part of reservoir clearing and will take place along the banks of the Peace River upstream from the dam site. This may include timber cruising, road and clearing boundary layout, ribbon hanging, and other field works.

Hudson's Hope shoreline protection

BC Hydro may be conducting geotechnical investigations for the Hudson's Hope shoreline protection project. Work includes surveys and subsurface investigations, and may include minor brushing of necessary access routes. A truck-mounted rotary drill will be used to complete the subsurface investigations. Investigations will take place in late spring or early summer of 2019.

Site inspections

BC Hydro will continue site inspections and visual surveys on the banks of the Peace River at the dam site, the Moberly River area, along the transmission line right-of-way, Portage Mountain, Wuthrich and West Pine quarries, and the 85th Avenue Industrial Lands. Site inspections will be conducted periodically. Engineers will be confirming topography, reading instruments, and taking photographs. Data collected will assist with planning and permit preparations.

138 kV transmission line 1L364 relocation

Engineering investigations may be carried out to support the future relocation of transmission line 1L364 where it crosses the Halfway River. This may include site inspections, geotechnical work, survey work, and archaeological work.

Reservoir distribution line relocation

Engineering investigations may be carried out to support the future relocation of distribution line along the reservoir. Investigations may include site inspections, geotechnical work, survey work, and archaeological work.

Note: Access to public and private land may be required in order to complete field work. BC Hydro will request permission from land owners and provide notification to BC Hydro leaseholders before entry onto private or leased lands. BC Hydro will adhere to seasonal road restrictions.