

# MONTHLY FIELD STUDIES SUMMARY

## June 2014

The Site C Clean Energy Project is continuing to conduct environmental and engineering field studies on and around the Peace River between the Williston Reservoir and the Alberta border to inform detailed mitigation and monitoring planning as part of the project’s environmental assessment process. Project construction will not take place unless Site C receives environmental certification, regulatory permits and authorizations, and approvals to proceed.

This notice provides a list of field work planned for June 2014. Helicopters may be required for some of this work. BC Hydro will obtain permits, and complete environmental management plans and archeological assessments as required.

Overview
<b>Socio-economic Studies</b>
<ul style="list-style-type: none"> <li>Heritage Study Program</li> <li>Feasibility Study – Field Trial for Biochar (Non-Merchantable Fibre Alternative Disposal)</li> <li>Forestry Site Inspections</li> </ul>
<b>Engineering Investigations</b>
<ul style="list-style-type: none"> <li>Dam Site Investigations</li> <li>Visual Inspections for Environmental and Archaeological Assessments</li> <li>South Bank Construction Access Road Site Inspections</li> <li>Instrumentation Monitoring</li> </ul>
<b>Wildlife Studies</b>
<ul style="list-style-type: none"> <li>Jackfish Lake Moose and Elk Monitoring Program</li> </ul>
<b>Physical Environment Studies</b>
<ul style="list-style-type: none"> <li>Peace River Turbidity and Suspended Sediment Monitoring</li> <li>Climate and Air Quality Monitoring</li> </ul>

Current and previous field study activities are available at [www.sitecproject.com/news-and-information/field-study-notice](http://www.sitecproject.com/news-and-information/field-study-notice) and in the Community Consultation offices in Fort St. John and in the Pearkes Centre in Hudson’s Hope.

Regular and ongoing BC Hydro work may also be taking place on the Peace River and tributaries related to BC Hydro’s Peace River water licence requirements or other operations work.

For further information, please contact:  
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Study Name	Description	Timing
<p><b>Heritage Study Program</b></p>	<p>BC Hydro will be continuing the Heritage Study Program of the Site C project area.</p> <p>The assessment will identify, record and evaluate archaeological sites and further investigate previously recorded archaeological sites located within the proposed Site C project area; assess potential impacts by the Site C project to these sites; and recommend mitigation options.</p> <p>The majority of the work will be shovel tests, as well as visual inspections of areas with good soil exposures, such as freshly tilled fields.</p> <p>Crews will be primarily on foot, with land access by road or boat, supported occasionally by helicopter or all-terrain vehicles.</p>	<p>June – October 2014</p>
<p><b>Socio-Economic Studies – Feasibility Study Field Trial for Biochar (Non-Merchantable Fibre Alternative Disposal)</b></p>	<p>The feasibility study is part of BC Hydro’s work to seek out options to utilize non-merchantable wood fibre in a way that would reduce the volume of fibre for traditional disposal, reduce greenhouse gas emissions and manage local air emissions.</p> <p>BC Hydro is conducting a feasibility study that will analyse biochar produced from waste wood from the Peace Region for its fuel properties and conduct field trials to test whether biochar can be used to improve the quality of Peace Region soils.</p> <p>There are three stages to the study. First, wood samples from the Peace River Region are converted into biochar for soil trials, then the soil samples and the biochar produced is tested. The final stage is a field trial in the Peace River Region in an area with soils that could most benefit from biochar application.</p> <p>The field soil trial area is on BC Hydro owned land on the north bank of the Peace River near the Halfway River.</p>	<p>May – September 2014</p>
<p><b>Socio-Economic Studies – Forestry Site Inspections</b></p>	<p>BC Hydro will be conducting forestry site inspections of proposed clearing routes on the north and south banks of the Peace River at the proposed dam site, and Moberly River area between late April and October 2014.</p>	<p>April – October 2014</p>

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	<p>The work will include foresters walking or driving the proposed clearing routes to conduct visual surveys of the area to confirm topography and terrain, and may include taking measurements and photographs. Helicopters may also be used to access and assess the proposed clearing routes.</p> <p>Vehicles may be stopped on the side of the road where assessments are being conducted.</p> <p>In early June, a jet-boat will be used to complete visual inspections on the north and south banks of the Peace River. Engineers will stop the boat at select sites and conduct walkabouts to determine local topography, take measurements and photographs.</p>	
<p><b>Engineering Investigations – Dam Site Investigations</b></p>	<p>BC Hydro is continuing the following engineering investigations at the proposed dam site area:</p> <ul style="list-style-type: none"> <li>• Geotechnical investigations</li> <li>• Geophysical seismic reflection surveys</li> <li>• Topographic surveys</li> <li>• Site inspections</li> <li>• Construction materials investigations</li> </ul> <p><b>Geotechnical investigations</b> will include subsurface drilling on the north and south banks using a drill rig and a backhoe to dig test pits. On the south bank, drilling investigations and resistivity testing will be carried out along the existing BC Hydro 138 kV transmission line right-of-way and the proposed alignment of the 500 kV transmission line.</p> <p><b>Geophysical seismic reflection surveys</b> will be conducted on both the north and south banks and on the Peace River to characterize geological conditions.</p> <p><b>Topographic surveys</b> will be conducted to establish a survey control network; confirm the accuracy of Light Detection and Ranging (LiDAR) data through ground truthing; and survey the general site topography, the locations of historical boreholes, test pits, and other geotechnical instrumentation locations, and environmental and archaeological features.</p> <p><b>Site inspections</b> or visual surveys will be completed on the north and south banks at the proposed dam</p>	<p>June – October 2014</p>

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	<p>site and Moberly River area. Engineers will walk or drive potential access roads to conduct visual surveys of the area to confirm topography and terrain. Work may include taking measurements, surveying and taking photographs. This data is being collected to plan for clearing activities and for the design of access roads required for construction on the south bank of the Peace River.</p> <p><b>Construction materials</b> investigations may be conducted in the area of the proposed dam site. This work may include engineering field crews walking through the identified area completing field mapping; drilling of exploratory drillholes using an auger drill; digging of exploratory test pits; and clearing of necessary access routes.</p> <p>Additional work such as water sampling, remediation work, potential contaminated site investigations and road maintenance work may be conducted as required throughout the field season.</p> <p>Engineering investigations will be occurring on both private and Crown land.</p> <p>Access to the site will be through existing roads on the north and south bank of the Peace River; and boats will be used to transport crews and supplies across the river.</p> <p>Helicopters will be used periodically to access the south bank at the dam site for the subsurface investigations.</p>	
<p><b>Engineering Investigations – Visual Inspections for Environmental and Archaeological Assessments</b></p>	<p>BC Hydro is conducting visual inspections of the dam site area, including the right bank terrace and Septimus Siding, to assist with planning and permit preparations to support future field investigations.</p> <p>Work will include archaeological and environmental investigations and assessments of proposed work areas. Field crews will also be traversing the areas on foot. Work may include taking measurements and photographs.</p>	<p>May - October 2014</p>

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<p><b>Engineering Investigations – South Bank Construction Access Road Site Inspections</b></p>	<p>BC Hydro is conducting site inspections of access roads required for construction on the south bank of the Peace River.</p> <p>These visual surveys will be happening on the petroleum development and forestry service roads north of the Jackfish Lake Road area, between the intersection with Highway 29 at Chetwynd and the proposed dam site.</p> <p>Work will include engineers walking or driving the potential access roads to conduct visual surveys of the area to confirm topography and terrain, and may include taking measurements and photographs.</p> <p>Worker vehicles may be parked on the side of the road where assessments are being conducted.</p>	<p>April – October 2014</p>
<p><b>Engineering Investigations – Instrumentation Monitoring</b></p>	<p>BC Hydro is continuing instrumentation monitoring at the proposed dam site and along the reservoir shoreline.</p> <p>There are approximately 80 sites throughout the reservoir area where geotechnical instruments are installed.</p> <p>These sites are visited approximately every three to six months throughout the year for reading and maintenance.</p> <p>Access to the sites will be by vehicle, foot and helicopter.</p>	<p>February – October 2014</p>
<p><b>Wildlife Studies – Jackfish Lake Moose and Elk Monitoring Program</b></p>	<p>BC Hydro is conducting a moose and elk monitoring study on the south bank of the Peace River, around the Jackfish Lake Road area, between the Peace River and Chetwynd, and in the area of the transmission corridor right-of-way.</p> <p>The first phase of the study took place between winter 2012 and spring 2013, and involved the capture and outfitting of 32 moose and elk with GPS collars. An additional 12 animals were captured in the winter of 2014.</p> <p>Phase II involves tracking collared animals for up to two years, and phase III, the final phase, will involve</p>	<p>December 2012 – April 2015</p> <p><i>Phase II, tracking collared animals, occurs between May 2013 and April 2015.</i></p>

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	<p>removing the collars from the study animals following the monitoring period. Ground based track surveys will also be conducted to document road crossings.</p>	
<p><b>Physical Environment Studies – Peace River Turbidity and Suspended Sediment Monitoring</b></p>	<p>BC Hydro is continuing the collection of baseline turbidity and suspended sediment data in the Peace River to inform the evaluation of potential effects of project construction on water quality as it relates to fish habitat and municipal/ industrial water supplies.</p> <p>In 2014, BC Hydro will continue maintenance and operation of six turbidity monitoring stations located on either river bank both upstream and downstream of the Site C dam site, as well as just upstream of the town of Taylor and at the Spectra water intake.</p> <p>A service trip was conducted prior to the spring freshet to clean the sensors, replace batteries, perform a calibration check, and collect sediment samples. Additional service and sampling trips will be conducted as required throughout the year.</p> <p>Field crew access will be by boat and foot.</p>	<p>April – December 2014</p>
<p><b>Physical Environment Studies - Climate &amp; Air Quality Monitoring</b></p>	<p>BC Hydro is collecting climate and air quality data from monitoring stations on private and BC Hydro owned land between Hudson’s Hope and Old Fort, south of Fort St. John.</p> <p>Information on various climate parameters is being gathered, including: air temperature, humidity, wind speed and direction, fog frequency and density, snow depth and precipitation. Monitoring of particulate matter (mixture of solid particles and liquid droplets in the air) will be conducted at Old Fort, Halfway River and 85<sup>th</sup> Avenue.</p> <p>These data were used to establish baseline conditions that informed the effects assessment of the Site C project on in-valley climate and air quality in the area. BC Hydro is continuing to collect the data to verify actual changes should the project be built and to forecast periods of high tributary inflows for construction planning.</p> <p>BC Hydro also monitors climate within the Peace River watershed in order to forecast periods of high</p>	<p>Ongoing monitoring from February 2009.</p>

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	tributary inflows for construction planning.  Stations are visited regularly to retrieve data and for maintenance. Access to the monitoring stations is by vehicle, foot and helicopter.	

*Note: Access to public and private land may be required in order to complete study work. BC Hydro will obtain 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.*