

FIELD STUDIES INFORMATION SHEET

September 2010

BC Hydro is conducting environmental and engineering field studies on and around the Peace River between the Williston Reservoir and the Alberta border as part of Stage 3 of the Site C Clean Energy Project. Environmental and socio-economic studies will advance from baseline work to impact assessment, including identifying and evaluating potential options for mitigation.

An overview of studies that will be taking place in September 2010 is below. Additional study activities may occur; notice of these studies will be posted at www.bchydro.com/sitec.

Overview
◆ Wildlife Studies in the Peace Region – Mule Deer, Moose and Elk Study
◆ Wildlife Studies in the Peace Region – Bat Hibernacula Study
◆ Wind Monitoring in the Peace River Valley
◆ Climate Monitoring in the Peace River Region
◆ Peace River and Tributaries Fish Studies
◆ Peace River Aquatic Productivity and Assessment
◆ Peace River Geomorphology and Sediment Transport Studies
◆ Foundation Testing on the North Bank of the Proposed Dam Site
◆ Tree Clearing on the South Bank of the Proposed Dam Site
◆ Condition Assessments of Adits on the North and South Banks of the Proposed Dam Site
◆ Geotechnical Investigations on the North and South Banks of the Proposed Dam Site
◆ Heritage Study Program

Some field studies may require access to public and private land. BC Hydro will obtain permission before accessing private property.

Field study updates are available at www.bchydro.com/sitec and in the Community Consultation offices in Fort St. John and Hudson's Hope.

For further information, please contact:
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SITE C FIELD STUDIES

- Ongoing, regular BC Hydro work may also be taking place on the Peace River and tributaries. This work is in addition to the Site C field study activities outlined here and is related to BC Hydro's Peace River water license requirements program or other operations work. For more information, please visit: www.bchydro.com/planning_regulatory/water_us_e_planning/northern_interior.html.
- Golder Associates Ltd. has been employed by BC Hydro to provide environmental and archaeological monitoring during geotechnical investigations.
- BC Hydro has also invited representatives of First Nations to monitor geotechnical work.

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Study Name	Description	Timing
Wildlife Studies in the Peace Region – Mule Deer, Moose and Elk Study	<p>BC Hydro is conducting a mule deer, moose and elk study in the Peace River area from Hudson’s Hope to the B.C. – Alberta border.</p> <p>The purpose of the study is to further the understanding of mule deer, moose and elk habitat use and movement patterns in the Peace River region.</p> <p>Monitoring and habitat data collection began in mid-February and will continue for up to 24 months. Animals will be located using a combination of ground based telemetry and fixed wing telemetry flights. Flights are scheduled for the first and last week of the month (weather dependent).</p> <p>Ground-based locating of animals will occur during both the first and last week of the month.</p>	<p>September 2010</p> <p><i>Phase 2 monitoring will occur from February 2010 to winter 2012.</i></p>
Wildlife Studies in the Peace Region – Bat Hibernacula Study	<p>BC Hydro is conducting a bat hibernacula study. The purpose of the study is to document the presence of bat hibernacula within and outside the proposed Site C reservoir.</p> <p>The work will be conducted between the location of the proposed Site C project and the Alberta border, and other potential sites in the surrounding area.</p> <p>Equipment placed at potential hibernacula in September will continue to collect data on presence and level of use by bats. Acoustic monitoring will occur until mid-November.</p>	<p>September 2010</p> <p><i>Ongoing studies.</i></p>

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Wind Monitoring in the Peace River Valley	<p>BC Hydro continues to collect wind data to assist in engineering evaluations for the proposed Site C project.</p> <p>Five temporary wind monitoring stations have been placed on private and BC Hydro owned land between Hudson's Hope and the proposed Site C dam location.</p> <p>Stations will be visited regularly to retrieve data. Access to the monitoring stations will be by vehicle.</p>	<p>September 2010</p> <p><i>Ongoing monitoring from February 2009.</i></p>
Climate Monitoring in the Peace River Region	<p>BC Hydro is installing four climate monitoring stations and adding equipment to two of the existing wind stations on private and BC Hydro owned land in the Peace River region to collect information on various climate features including: air temperature, humidity, wind speed and direction, fog frequency and density and precipitation.</p> <p>These climate data will be used to establish a pre-project baseline and study the potential effects of the Site C project to the in-valley climate.</p> <p>Stations will be visited regularly to retrieve data. Access will be by vehicle and foot.</p>	<p>August – November 2010 (<i>station and equipment installation and testing</i>)</p>

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<p>Peace River and Tributaries Fish Studies</p>	<p>BC Hydro is continuing fisheries studies on the Peace River and tributaries downstream to the Pouce Coupe River in Alberta. The studies involve collecting baseline fisheries information from the Peace River and tributaries by sampling fish and fish habitat by boat, backpack electro-fishing, beach seines and fish traps.</p> <p>This program includes use of two rotary screw fish traps installed in the Peace River and one rotary screw trap placed in the lower Moberly River. The fish traps will be operated from May to October. Each fish trap is housed in a pontoon structure approximately 4m by 7m.</p> <p>The Peace River fish traps will be located just downstream of the Moberly River confluence, one adjacent to each shore. The Moberly River fish trap will be located about 350 metres upstream from the confluence of the Peace River.</p> <p>Sampling site access will be conducted by foot and boat in the spring, summer and fall. Access to remote sampling sites will be by helicopter.</p> <p>The following sites will be surveyed: Peace River, Moberly River, Halfway River and Dinosaur Reservoir.</p>	<p>September 2010</p> <p><i>Ongoing studies.</i></p>

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Study Name	Description	Timing
Peace River Aquatic Productivity and Assessment	<p>BC Hydro is conducting a Peace River aquatic and productivity study to collect baseline aquatic data for future assessment and modelling.</p> <p>The study will involve collecting water quality and nutrient samples, lower trophic level organisms (e.g. periphyton, plankton), and invertebrates (insects) from Williston Reservoir, Dinosaur Reservoir, Peace River and its tributaries. Soil and vegetation samples will be collected throughout the Peace River valley.</p> <p>The field program will be conducted from May through October. Sample site access will be primarily by boat. Foot access will be required to a few sites.</p>	May – October 2010
Peace River Geomorphology and Sediment Transport Studies	<p>BC Hydro is conducting river geomorphology and sediment transport studies to characterize baseline river definition and sediment loading at five sites on the Peace River and its tributaries (Farrell Creek, Halfway River, Pine River and two sites in the Peace River extending into Alberta).</p> <p>Turbidity recording stations will be installed to provide data for estimating suspended sediment concentration. Bathymetric mapping of the river bed will be performed at various locations within the Peace River from the Site C dam site downstream to Many Islands, Alberta.</p> <p>The field program will be conducted from May through October. Sample site access will be primarily by boat. Foot access will be required for a few sites.</p>	May – October 2010
Foundation Pump Test on the North Bank of the Proposed Dam Site	<p>BC Hydro is studying bedrock permeability at the north bank of the proposed dam site.</p> <p>Pump testing commenced in mid-May and will continue throughout the summer and fall. Environmental monitoring will be conducted during the investigations. North bank access will be by vehicle via the existing north bank access road.</p>	<p>September 2010</p> <p><i>Ongoing studies.</i></p>

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Study Name	Description	Timing
Tree Clearing on South Bank of the Proposed Dam Site	<p>BC Hydro is required to remove some trees in order to clear access routes and work areas. The removal of these trees will allow safe access for geotechnical investigations. In addition to the clearing of trees and in accordance with WorkSafeBC regulations, any identified danger trees (trees identified as prone to falling) will also be removed to ensure a safe work zone.</p> <p>A tree assessment, archaeological overview and an environmental impact assessment have been completed for the access routes and work areas being cleared.</p> <p>Equipment and personnel will be mobilized by road and boat.</p>	September 2010
Condition Assessments of Adits on the North and South Banks of the Proposed Dam Site	<p>BC Hydro is conducting two condition assessments of historic adits (tunnels) on the north and south banks of the Peace River.</p> <p>Dependent on the assessments, additional remedial work may be completed to the tunnel portal to allow for safe entrance to the adits.</p> <p>Equipment and personnel will be mobilized by road and boat.</p> <p>Archaeological and environmental impact assessments have been completed for this work.</p>	September – October 2010
Geotechnical Investigations on the North and South Banks of the Proposed Dam Site	<p>BC Hydro is performing geotechnical investigations on the north and south banks of the proposed dam site. The following work will be undertaken:</p> <ul style="list-style-type: none"> Excavation of five to 10 test pits to determine gravel properties on the south bank. The test pits will be excavated to an expected depth of three to five meters. Drilling of two boreholes on the south bank to allow for geologic examination and sampling. 	September – October 2010

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Study Name	Description	Timing
	<ul style="list-style-type: none"> • Drilling of eight pairs of boreholes on the north and south banks to allow for geologic examination including assessment of the liquefaction potential of material. • Sonic drilling of two boreholes on the north bank to allow for geologic sampling, including testing of acid rock drainage potential and installation of instrumentation to monitor sub-surface conditions. <p>Archaeological and environment impact assessments have been completed for this work. Environmental and archaeological monitoring will be conducted during the investigations.</p> <p>Equipment and personnel will be mobilized by road and boat.</p>	
<p>Heritage Study Program</p>	<p>BC Hydro is assessing archaeological, historic and paleontological sites in the proposed Site C Project area. The archaeological study has been designed in consultation with the BC Archaeology Branch and meets the requirements of the <i>Heritage Conservation Act</i>.</p> <p>The assessment will identify, record and evaluate heritage sites located within the development area; assess potential impacts by the project to these sites; and recommend mitigation options.</p> <p>The majority of the work will be completed with shovel tests, as well as visual inspections of areas with good soil exposures, such as freshly tilled fields. Crews will be primarily on foot, with land access by road or boat, supported occasional by helicopter or all-terrain vehicles.</p>	<p>September 2010 – December 2011</p> <p><i>Additional studies may be required in 2012</i></p>