

Field Studies Information Sheet – June 2013

Port Metro Vancouver is continuing field studies in June as part of ongoing environmental and technical work for the proposed Roberts Bank Terminal 2 Project.

Roberts Bank Terminal 2 Project

The Roberts Bank Terminal 2 Project is a proposed new multi-berth container terminal which would provide 2.4 million TEUs (twenty-foot equivalent unit containers) of additional container capacity. The project is part of the Container Capacity Improvement Program, Port Metro Vancouver's long-term strategy to deliver projects to meet anticipated growth and demand for container capacity until 2030.

No decision has been made to proceed with the proposed Roberts Bank Terminal 2 Project. Port Metro Vancouver is undertaking a comprehensive multi-round, multi-year community, stakeholder and public consultation process regarding the project, which began in June 2011 with Pre-Consultation and continued from October 22 to November 30, 2012, with Project Definition Consultation.

The proposed Roberts Bank Terminal 2 Project will be subject to a thorough and independent environmental assessment.

Field Studies – June 2013

An overview of field studies that will be taking place in June 2013 is below.

Overview
Coastal Geomorphology
Continuous Measurement of Discharge Study
Erosion and Deposition Study
Salinity and Suspended Solids Study
Coastal Seabirds
Impacts of Overhead Transmission Wires and Vehicular Traffic on Coastal Seabirds Study
Marine Fish
Juvenile Salmon Distribution Survey
Marine Invertebrates
Shellfish Study
Marine Mammals
Underwater Noise and Vessel Signature Study
Marine Vegetation
Eelgrass Study
Noise and Vibration
Social Survey
Terrestrial Wildlife
Amphibians and Reptiles Study
Barn Owl Study
Songbird Study
Water and Sediment Quality
Water and Sediment Quality Study

Some field studies may require access to public and private land. Port Metro Vancouver will obtain permission before accessing private property. As part of the Adaptive Management Strategy developed

as part of the Deltaport Third Berth Project, Port Metro Vancouver will continue studies at Roberts Bank in addition to those outlined in this information sheet.

Port Metro Vancouver will produce monthly Field Studies information sheets summarizing work to occur each month. These updates will be available at www.portmetrovancover.com/RBT2.

Study Name	Summary
<p>Coastal Geomorphology – Continuous Measurement of Discharge Study</p> <p>(continued from April 2013)</p>	<p><u>Purpose:</u> The purpose of the study is to collect data relating to the flow discharge in Canoe Pass.</p> <p><u>Study Area:</u> The study area includes Canoe Pass (the southern-most arm of the Fraser River).</p> <p><u>Methods:</u> Multiple methods will be used to collect data:</p> <ul style="list-style-type: none"> • Sensors and probes will be installed within the study area. These will be connected to computers to collect and monitor data. • Boat-mounted sensors will be deployed within the study area to gather data. <p><u>Timing:</u> This study will continue in June 2013 and will take place during daylight hours.</p>
<p>Coastal Geomorphology – Erosion and Deposition Study</p> <p>(continued from May 2013)</p>	<p><u>Purpose:</u> The purpose of the study is to measure and collect data on the short-term changes in the sediment surface of the tidal flats.</p> <p><u>Study Area:</u> The study area includes the tidal flats in the vicinity of the Roberts Bank causeway.</p> <p><u>Methods:</u> Depth of disturbance rods will be installed in the sediment and monitored on a monthly basis to assess changes in the elevation of the sediment surface.</p> <p><u>Timing:</u> This study will continue in June 2013 and will take place primarily during daylight hours. Some data collection outside of daylight hours may be necessary due to timing of tidal fluctuations.</p>

Study Name	Summary
<p>Coastal Geomorphology – Salinity and Suspended Solids Study</p> <p>(continued from August 2012)</p>	<p><u>Purpose:</u> The purpose of the study is to measure water salinity and suspended solids in Canoe Pass and over the Roberts Bank tidal flats.</p> <p><u>Study Area:</u> The study area includes Canoe Pass (the southern-most arm of the Fraser River) and Roberts Bank to the north of the Roberts Bank causeway.</p> <p><u>Methods:</u> To measure the salinity, a sensor will be deployed from a boat (at a minimum of three different depths) during various tide conditions and at different Fraser River discharges.</p> <p>Suspended sediment water samples will be collected by bottling water samples.</p> <p><u>Timing:</u> This study will continue in June 2013 and will take place during daylight hours.</p>
<p>Coastal Seabirds – Impacts of Overhead Transmission Wires and Vehicular Traffic on Coastal Seabirds Study</p> <p>(continued from May 2013)</p>	<p><u>Purpose:</u> Bird diverters are special units installed on power lines that help birds see power lines and avoid potentially fatal collisions. The purpose of the study is to calculate the effectiveness of existing bird diverters, while identifying opportunities to further reduce bird collisions with transmission wires and vehicular traffic.</p> <p><u>Study Area:</u> The study area is comprised of the Roberts Bank causeway and the northern side of Westshore Terminals and Deltaport along the transmission wire and road.</p> <p><u>Methods:</u> The study will examine flight patterns, distribution, abundance and behaviour of birds as they cross the Roberts Bank transmission line. Where bird collisions do occur within 20 metres of the transmission wire and road, birds will be collected and studied.</p> <p><u>Timing:</u> Flight surveys will be undertaken every two weeks at each station, raptor surveys will be conducted every week and collision searches will take place every four days. Assessments will occur during daylight hours, weather permitting. This study began in mid-April 2012 and will continue in June 2013.</p>

Study Name	Summary
<p>Marine Fish – Juvenile Salmon Distribution Survey</p> <p>(continued from April 2013)</p>	<p><u>Purpose:</u> The purpose of the study is to document the relative abundance and distribution of juvenile salmonids in different habitat types along the existing shoreline and offshore.</p> <p><u>Study Area:</u> The study will take place along Roberts Bank causeway and Tsawwassen Ferry Terminal, as well as locations offshore of Deltaport Terminal.</p> <p><u>Methods:</u> Fieldwork will include the capture and release of juvenile salmon using a combination of beach seine and purse seine methods. Seines will be deployed both from the shoreline and from a boat.</p> <p><u>Timing:</u> This study will continue in June 2013 and is weather dependent. Studies will take place during the day and night.</p>
<p>Marine Invertebrates – Shellfish Study</p> <p>(continued from May 2013)</p>	<p><u>Purpose:</u> The purpose of this study is to describe the characteristics of the intertidal shellfish population at Roberts Bank and quantify soft tissue concentrations of contaminants of potential concern in cockles.</p> <p><u>Study Area:</u> Samples will be collected from various locations at Roberts Bank and Boundary Bay.</p> <p><u>Methods:</u> Shellfish sampling will be conducted by digging in sediment to a depth of 25cm to search for shellfish living in the sediment. Searches will take place in predetermined areas that reflect diverse ecotypes (e.g. eelgrass, bare sand). A sample of cockles collected will be sent to a laboratory to quantify soft tissue concentrations of contaminants of potential concern.</p> <p><u>Timing:</u> This study will continue in June 2013 and will take place during low tide intervals.</p>

Study Name	Summary
<p>Marine Mammals – Underwater Noise and Vessel Signature Study</p> <p>(continued from May 2013)</p>	<p><u>Purpose:</u> The purpose of this study is to:</p> <ul style="list-style-type: none"> • Capture baseline data on ambient underwater noise levels and southern resident killer whale (SRKW) presence at Roberts Bank; and • Determine vessel signatures and transmission loss at Roberts Bank and Haro Strait. <p><u>Study Area:</u> The study area is the waters in the vicinity of Roberts Bank and Haro Strait and Victoria.</p> <p><u>Methods:</u> At Roberts Bank, both ambient noise levels and SRKW vocalizations will be recorded continuously for one year using a hydrophone cabled to shore. Autonomous underwater recording devices will be deployed on the sea floor at Roberts Bank and Haro Strait to record vessel signatures. Boat-based playback signals will also be broadcast to determine transmission loss within the study area.</p> <p><u>Timing:</u> Acoustic recordings at Roberts Bank will continue in June 2013.</p>
<p>Marine Vegetation – Eelgrass Study</p> <p>(continued from September 2012)</p>	<p><u>Purpose:</u> The purpose of this study is to identify the density and distribution of eelgrass within the study area.</p> <p><u>Study Area:</u> The study area is composed of two main regions at Roberts Bank:</p> <ul style="list-style-type: none"> • The mudflats south of Canoe Pass (Brunswick Point) to the Roberts Bank causeway; and • The “inter-causeway” area which includes the mudflat between the Roberts Bank causeway and the BC Ferries terminal causeway. <p><u>Methods:</u> Transect surveys will be used to identify the density and distribution of eelgrass and map the distribution of eelgrass habitat along the Roberts Bank mudflats at very low tides.</p> <p><u>Timing:</u> The study will continue in June 2013 and will take place during daylight hours.</p>

Study Name	Summary
<p>Noise and Vibration – Social Survey</p> <p>(continued from May 2013)</p>	<p><u>Purpose:</u> The purpose of this survey is to study existing noise and vibration conditions in the study area.</p> <p><u>Study Area:</u> The study area includes communities adjacent to the terminal, Roberts Bank causeway and along associated road and rail transport routes.</p> <p><u>Methods:</u> A letter and social survey were distributed by mail to communities in the study area. The survey inquires about issues related to the types and sources of noise, frequency, and degree of disturbance experienced by survey participants in the study area.</p> <p><u>Timing:</u> The survey will continue in June 2013.</p>
<p>Terrestrial Wildlife – Amphibians and Reptiles Study</p> <p>(continued from May 2013)</p>	<p><u>Purpose:</u> The purpose of this study is to determine the presence/non-detection of selected amphibian and reptile species within the study area.</p> <p><u>Study Area:</u> The study area includes the road shoulders on either side of Deltaport Way, the SFPR grade, or either side of the existing rail right-of-way from the base of the Roberts Bank causeway, east towards 72nd Street.</p> <p><u>Methods:</u> Presence/non-detection in the study area will be determined using a combination of direct observation, auditory calls and egg mass surveys.</p> <p><u>Timing:</u> This study will continue in June 2013 and will take place during both daylight and night time hours.</p>

Study Name	Summary
<p>Terrestrial Wildlife – Barn Owl Study</p> <p>(continued from May 2013)</p>	<p><u>Purpose:</u> The purpose of this study is to collect baseline data on barn owl use of habitats in the study area.</p> <p><u>Study Area:</u> The study area is 10 kilometres long, and will include a 500-metre buffer on either side of the existing Roberts Bank rail corridor between the shore end of the Roberts Bank causeway and the east end of the Fisher Yard.</p> <p><u>Methods:</u> Roadside surveys will be conducted along existing infrastructure to understand barn owl use of open habitat near existing road and rail lines. Biologists will record:</p> <ul style="list-style-type: none"> • General barn owl behaviour, • Number of barn owls (plus location), and • Age of barn owls, if possible. <p>Barn owl nest and roost availability, and occupancy studies will also be conducted in June, within one kilometre either side of the rail line.</p> <p><u>Timing:</u> This study will continue in June 2013 and will take place during daylight and nighttime hours.</p>
<p>Terrestrial Wildlife – Songbird Study</p> <p>(continued from May 2013)</p>	<p><u>Purpose:</u> The purpose of this study is to determine songbird presence, relative abundance and species diversity across representative habitat types in the study area.</p> <p><u>Study Area:</u> The study area consists of 1.5 kilometres either side of the existing BC Rail line from the causeway end of Deltaport Way to approximately 200 metres east of 72nd Street.</p> <p><u>Methods:</u> Point count surveys will be conducted to record species observed inside or outside of a 50-metre radius from the survey location. Surveys will record all audio and visual bird detections. Observations will take place from public roadsides.</p> <p><u>Time:</u> This study will continue in June 2013 and will take place in the five hours following dawn.</p>

Study Name	Summary
<p>Sediment and Water Quality – Sediment and Water Quality Study</p> <p>(continued from May 2013)</p>	<p><u>Purpose:</u> The purpose of the study is to collect data on sediment and water quality throughout the study area. Furthermore, the study will examine the connection between water and sediment quality and the health of:</p> <ul style="list-style-type: none"> • Marine invertebrates, • Biofilm, • Eelgrass, • Sea pens, and • Biological resources and communities. <p><u>Study Area:</u> The study area is comprised of three sites within the Fraser River Estuary:</p> <ul style="list-style-type: none"> • Sturgeon Bank • Roberts Bank • Boundary Bay <p><u>Methods:</u> Throughout the study area, water and sediment samples will be taken during daylight hours and sent to a laboratory to determine the sample’s physical and chemical characteristics.</p> <p><u>Timing:</u> This study will continue in June 2013 and will take place during daylight hours.</p>

For Further Information

For further information, please visit our website at www.portmetrovancover.com/RBT2 or contact us:

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