Field Studies Information Sheet – May 2012

Port Metro Vancouver is continuing field studies in May 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 more than two 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.

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

Field Studies – May 2012

An overview of field studies that will be taking place in May 2012 is below. These studies are focused on maximizing the spring season. There are no anticipated impacts to communities from noise or light due to any of these studies.

Overview
Marine Invertebrates
• Marine Invertebrate Study
Marine Fish
• Eelgrass Fish Community Study
• Juvenile Salmon Study
Marine Vegetation
• Biofilm Study
Coastal Seabirds
• Coastal Seabird Habitat Usage Study
• Migratory Connectivity Study
• Western Sandpiper Genetics Study
• Impacts of Overhead Transmission Wires and Vehicular Traffic on Coastal Seabirds Study
• General Bird Abundance and Distribution Study
Coastal Geomorphology
• Fraser River Spring Discharge 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 study activities 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.portmetrovancouver.com/CCIP.

Study Name	Summary
Marine Invertebrate Study (continued from April 2012)	Purpose: The purpose of this study is to determine the density and diversity of small marine invertebrates (meiofauna and macrofauna) living in the sediment at Roberts Bank, Sturgeon Bank and Boundary Bay, as well as the role they play as food for coastal birds. Study Area: The study area includes: • Roberts Bank • Sturgeon Bank • Boundary Bay Methods: Invertebrate field samples will be collected from a total of 250 intertidal sampling locations. Sampling locations will be the same as those used for the biofilm sampling program. Samples will be collected using syringes during the day at low tide and will be sent to a laboratory for processing and analysis. Timing: The study began in mid-April and will continue in early May to coincide with the migration of Western Sandpipers through the region.
Marine Fish – Eelgrass Fish Community Study (continued from April 2012)	Purpose: The purpose of this study is to document the diversity and condition of the fish community living within eelgrass beds. The study will: • Identify potential trends in fish habitat use within the eelgrass beds in the area of the proposed Roberts Bank Terminal 2 Project; and • Draw linkages between eelgrass health, fish community composition and other parameters such as temperature and salinity. Study Area: The study area consists of the dense bed of eelgrass located to the north of the existing Deltaport terminal at Roberts Bank. Methods: Large nets will be deployed from a boat at four sites during high tide over the eelgrass bed. Fish will be identified, counted, measured and released. Timing: This study is continuing in May 2012. Studies will take place during the day and in the evening.

Study Name	Summary
Marine Fish – Juvenile Salmon Study (continued from April 2012)	Purpose: The purpose of this study is to document the use of habitat by juvenile salmon along the Roberts Bank causeway. It is also to collect data on juvenile salmon movements. The study will assess the presence, abundance and condition of juvenile salmon, and assist in developing a long-term monitoring strategy. Study Area: The study area consists of the portion of Roberts Bank to the north and south side of the existing Deltaport terminal and Roberts Bank causeway. Methods: Two methodologies will be used to assess juvenile salmon habitat use and movement: • Deploying large nets at six sites representing different habitat types (such as sand, pocket beach, rip rap etc.) along the causeway. Fish will be identified, counted, measured and released. • Deploying directional nets at the same six sites along the causeway during different tides to document juvenile salmon movements. Timing: This study is continuing in May 2012. Studies will take place during the day and in the evening.
Marine Vegetation – Biofilm Study (continued from April 2012)	Purpose: The purpose of this study is to: • Map the distribution of biofilm within the Fraser River estuary; • Identify the major groups of organisms that make up biofilm; and • Identify parameters that may influence biofilm growth and productivity. Study Area: The study area includes: • Roberts Bank • Sturgeon Bank • Boundary Bay Methods: Biofilm samples will be collected from a total of 250 intertidal sampling locations. Sampling locations will be the same as the marine invertebrates study. Samples will be collected using syringes during the day at low tides and will be sent to a laboratory for processing and analysis. Timing: The study began in mid-April and will continue to the end of May 2012.

Study Name	Summary
Coastal Seabirds – Habitat Use Study (continued from April 2012)	Purpose: The purpose of this study is to determine locations of greatest use, food availability and habitat quality for Western Sandpipers in the Fraser River Estuary during their spring migration. Study Area: The study area includes: • Roberts Bank • Sturgeon Bank • Boundary Bay Methods: Examine the intensity and distribution of bird use by counting bird droppings at low tide to determine greatest use, food availability and habitat quality for Western Sandpipers. Timing: Counting will be conducted every other day through peak Western Sandpiper migration which started in mid-April and will continue through May 2012.
Coastal Seabirds – Migratory Connectivity Study (continued from April 2012)	Purpose: The purpose of this study is to determine the significance of the Fraser River Estuary as a source for food and habitat for migratory birds. Study Area: The study area includes: • Roberts Bank • Sturgeon Bank • Boundary Bay Methods: Small feather samples will be collected. All field crews will include qualified and permitted personnel who specialize in handling wild bird species. The samples will be sent to a laboratory for trace element analysis, a method which assigns birds to specific wintering locations with a high degree of accuracy. Timing: This study will occur during the peak migratory period of the Western Sandpiper which started in mid-April and will continue through May 2012. Samples will be collected when peak high tides occur during daylight hours, weather permitting.

Study Name	Summary
Coastal Seabirds – Western Sandpiper Genetics Study (continued from April 2012)	Purpose: Many migratory bird species can be divided into groups based on their genetic make-up. The objective of this study is to determine whether Western Sandpipers using the Fraser River Estuary form a genetically unique group. Study Area: The study area includes: • Roberts Bank • Sturgeon Bank • Boundary Bay Methods: Data, such as the colour, shape and length, as well as blood samples will be collected from each bird (using the same birds as the Migratory Connectivity study outlined above). All field crews will include qualified and permitted personnel who specialize in handling wild bird species. The samples will be sent to a laboratory for DNA extraction and processing, and patterns of genetic variation will then be examined. Timing: The study will occur during the peak migratory period of the Western Sandpiper which started in mid-April and will continue through May 2012. Samples will be collected when peak high tides occur during daylight hours, weather permitting.
Coastal Seabirds – Impacts of Overhead Transmission Wires and Vehicular Traffic on Coastal Seabirds Study (continued from April 2012)	Purpose: Bird diverters, which are special units installed on power lines, 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. Methods: The study will examine flight patterns, distribution, abundance and behaviour of birds as they cross the Roberts Bank Transmission Corridor. Where bird collisions do occur within 20 metres of the transmission wire and road, birds will be collected and studied. Timing: Flight surveys will be undertaken every two weeks at each station. Assessments will occur during daylight hours, weather permitting and bird removal will occur every four days. This study began in mid-April and will continue until the end of May 2012.

Study Name	Summary
Coastal Seabirds – General Bird Abundance and Distribution Study	Purpose: The purpose of this study is to determine and observe Coastal Seabirds, Shorebirds and Waterfowl abundance and seasonal distribution. Study Area: The study area includes: • Brunswick Marsh • Roberts Bank Causeway • Around the perimeter of the Deltaport and Westshore terminals Methods: A team of two biologists will conduct surveys where birds will be observed, counted and species identified. The biologists will use binoculars and spotting scopes to count and identify species. There are 13 observation points and each one will be identified with flagging tape, spray paint on the ground surface or a stake. Timing: The study will occur in May 2012 and occur during daylight hours.
Coastal Geomorphology – Fraser River Spring Discharge Study	Purpose: The purpose of the study is to collect data in and around the Fraser River before and during the spring discharge season. Specifically, the study will collect data relating to: • Sediment and flow discharge in Canoe Pass; and • Salinity measurements at Roberts Bank. Study Area: The study area includes: • Canoe Pass (the southern-most arm of the Fraser River) • Roberts Bank between Canoe Pass and the Roberts Bank Causeway Methods: Multiple methods will be used to collect data: 1. Sensors and probes will be installed within the study area. These will be connected to computers, where data will be collected and monitored. 2. Boat-mounted sensors will be deployed within the study area to gather data. 3. A cross-section of the river will be surveyed. Timing: Data collection will occur in May 2012. Installation, collection and monitoring will occur during daylight hours.

For Further Information

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

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