



PORT METRO  
**vancouver**

**Port Metro Vancouver**

**Westham Island Canoe Pass Tidal Marsh Project**

**Public and Stakeholder Engagement**

**March 3, 2014 – March 14, 2014**

**Discussion Paper and Feedback Form**

**Port Metro Vancouver  
Westham Island Canoe Pass Tidal Marsh Project  
Public and Stakeholder Engagement – March 2014**

**LEARN MORE AND PROVIDE FEEDBACK**

The purpose of this discussion paper is to provide information about the proposed Westham Island Canoe Pass Tidal Marsh Project. It is designed to gather feedback from communities, stakeholders and the public, and includes a feedback form with questions about opportunities for bird nesting and bird observation features, as well as possible educational opportunities for the public.

**The engagement program includes:**

- Discussion Paper and Feedback Form
- Online Feedback Form
- Stakeholder committee presentations
- Stakeholder interviews
- PortTalk web forum

**HOW TO PARTICIPATE**

- Read this Discussion Paper and submit a Feedback Form (in print or online at [www.PortTalk.ca/HabitatEnhancement](http://www.PortTalk.ca/HabitatEnhancement))
- Sign up for the PortTalk web forum: [www.PortTalk.ca/HabitatEnhancement](http://www.PortTalk.ca/HabitatEnhancement)
- Provide a written submission: [habitat.enhancement@portmetrovancover.com](mailto:habitat.enhancement@portmetrovancover.com)

Please email [habitat.enhancement@portmetrovancover.com](mailto:habitat.enhancement@portmetrovancover.com) or phone (604) 665-9071 for additional information.

**HOW INPUT WILL BE USED**

At the conclusion of the March 2014 engagement program, input received will be summarized in an Engagement Summary Report which will be posted online. Port Metro Vancouver will also prepare a Consideration Memo, demonstrating how input was considered.

**Please review this discussion paper and submit your completed feedback form by March 14, 2014.**

## **About the Habitat Enhancement Program**

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The Habitat Enhancement Program is a Port Metro Vancouver initiative focused on creating and enhancing fish and wildlife habitat. This program is a proactive measure intended to provide a balance between a healthy environment and future development projects that may be required for port operations.

## **About the Proposed Westham Island Canoe Pass Tidal Marsh Project**

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The proposed Westham Island Canoe Pass Tidal Marsh Project overlaps with an intertidal sand-flat within Canoe Passage on the south shore of Westham Island. The creation of new intertidal marsh habitat at this prime Fraser River estuarine location will provide high quality habitat for rearing juvenile Pacific salmon and other fish and wildlife.

The proposed habitat enhancement project will result in the creation of approximately 4.0 hectares of high quality marsh habitat, enhancing the existing adjacent mudflat. This will be achieved through the construction of a rock containment berm (approximately 770 metres long and 4 metres wide; consisting of filter rock pad and rock armouring) and infilling with sands and silts to establish a marsh bench.

The containment berm will circle the southern end of an existing marsh and will also extend northwards outlining additional marsh area. The toe of the containment berm will be placed at the low water level while the crest of the berm will be above the mean water level to match the elevation of the existing marshes. The area between the containment berm and the existing marshes will be filled with sand/silt to the same elevation as the crest of the containment berms, which will also match the existing shoreline. The maximum width of the marsh will be approximately 130 metres. The overall length of the new extended marsh area will be approximately 670 metres.

A marsh drainage channel will be constructed along the northwest edge of the marsh, piles within the footprint of the marsh will be removed, and navigational signage will be installed along the outer berm. The new marsh will be monitored to ensure the successful establishment of marsh vegetation and productivity of enhanced fish and wildlife habitats.

As an added community benefit, Port Metro Vancouver is working towards using locally dredged material for the fill required for the project. This material would otherwise have been dredged and disposed of at the expense of the Local Channel Dredging Contribution Program, thereby leaving more funds available under that program.

**CURRENT STATE AT LOW TIDE**



**PROPOSED NEW HABITAT AT LOW TIDE**



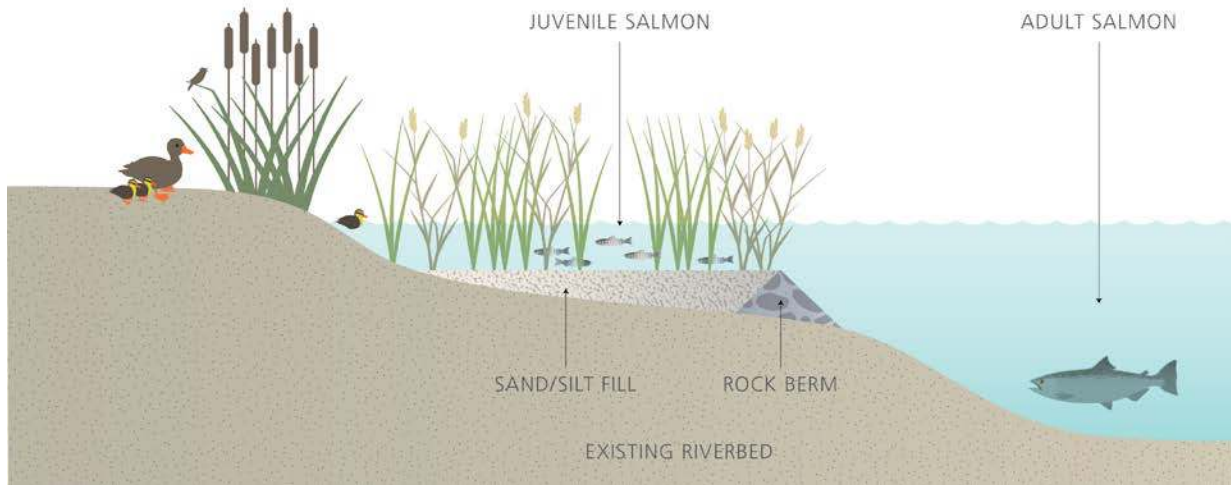
**CURRENT STATE – DOWNSTREAM PERSPECTIVE**



**PROPOSED NEW HABITAT – DOWNSTREAM PERSPECTIVE**



## EXAMPLE CROSS-SECTION OF A CONSTRUCTED TIDAL MARSH



### Rationale for the Westham Island Canoe Pass Tidal Marsh Project

More than 70% of tidal marsh habitat has been lost in the Fraser River estuary due to diking, filling and other human development activities. Port Metro Vancouver is proposing the project:

- to improve the overall ecological productivity of this portion of the Fraser River Estuary, providing high-quality habitat for rearing juvenile salmon and other fish and wildlife; and
- to expand and enhance the existing habitat by converting an un-vegetated area into a more productive brackish marsh.

### Ecological Considerations

Existing biophysical conditions including the physical characteristics, habitat types, and fish and wildlife species have been studied<sup>1</sup>. Tidal marsh creation at the proposed sites will provide ecological benefits through the enhancement of existing fish and wildlife values.

### Bird Nesting Features

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As part of the proposed Westham Island Canoe Pass Tidal Marsh Project, Port Metro Vancouver is seeking feedback on the incorporation of bird nest boxes and nesting structures that could be established within or adjacent to the new marsh habitat. These structures could help to diversify the bird community at this location.

### Rationale and Benefit

A wide range of bird species depend on wildlife trees for nesting. For example, raptors use larger branches in bigger trees for the construction of their nests, while older and decaying live trees and dead trees (called snags) provide essential habitat for cavity nesting birds like woodpeckers and swallows. Wildlife trees appear to be relatively rare within the general

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<sup>1</sup> Ecological Conditions at Proposed Westham Island Canoe Pass Tidal Marsh Project (Hemmera, March 2014)

area of Westham Island Canoe Pass, which likely means that there are fewer nesting opportunities for these bird species.

## Design

Any bird nesting features would need to be installed at a sufficient height (4 to 5 metres above the high-water mark), given changing water levels from tidal influences. Tall poles (or artificial snags) could be installed within the constructed marsh, to allow for later establishment of songbird nest boxes and other bird nesting structures.

There are four bird species that are most likely to benefit from the installation of nesting features within the constructed brackish marsh habitat: osprey; purple martin; tree swallow; and violet-green swallow. These are all migratory birds that are highly dependent upon wildlife trees and would benefit from the installation of nesting features at this site. Of the four species, purple martin are of particular note given their conservation status (species of “Special Concern” in BC).

For each of these species there are different types of proposed nesting features:

- Osprey (nesting platforms):
  - 2 cedar poles at opposite ends of the constructed marsh, with nesting platforms mounted at the top of each pole
  - Consideration could be given to using the pilings installed for navigation markers/signage as locations of osprey nesting platforms



*Preliminary rendering of osprey nesting platform design*

- Purple Martin (nest boxes):
  - 4 to 6 cedar poles for attachment of nest boxes, potentially in clusters of 2 or 3
  - 4 to 6 nest boxes per pole



*Preliminary rendering of purple martin nest box design*

- Tree and Violet-Green Swallow (nest boxes):
  - 3 to 4 cedar poles spread out across the constructed marsh
  - 4 to 6 nest boxes per pole



*Preliminary rendering of purple martin nest box design*

Poles would be installed by machine, presumably during the marsh construction work. Poles could most likely be pushed into soft substrates with an excavator, to sufficient depth to be stable. Nest platforms and nest boxes would need to be installed at a later date.



## **Webcam**

To enhance educational and viewing opportunities, Port Metro Vancouver is exploring the idea of installing webcams with streaming capabilities on one of the proposed osprey nesting platforms. A wooden perch that is established for nesting could be used to mount a webcam, at an appropriate time. A webcam would allow viewers to observe osprey nesting activities online, in real-time, including egg incubation, hatching and the feeding of nestlings before they fledge. The rendering above shows a preliminary design for these platforms.

Webcams have been successfully installed on osprey nesting platforms without any reported impacts on the nesting birds. Care would be taken to install the webcam when it would be least disruptive to nesting ospreys.

## **Educational Opportunities**

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As part of the proposed Westham Island Canoe Pass Tidal Marsh Project, Port Metro Vancouver is exploring opportunities to work with local organizations to support public education about the value and function of tidal marsh habitat in the Fraser River estuary.

Educational opportunities could include Port Metro Vancouver-sponsored school field trips to local tidal marsh sites, such as the new tidal marsh created as part of the proposed Westham Island Canoe Pass, or funding for educational signage at tidal marsh sites. Since public access to the Westham Island Canoe Pass Tidal Marsh Project site is limited, these opportunities could occur at other tidal marsh sites in the local area. Potential partnering opportunities will be considered based on funding requirements and availability.











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### How Input Will Be Used

Input received during this engagement will be considered, along with technical and financial information, in refining project plans.

### Contact Information

Please provide your contact information (*optional*):

Name:

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Mailing Address:

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Postal Code:

Phone:

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Email:

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*Personal information collected relates directly to the engagement process and will not be shared for any other purpose. If you have questions about the engagement process or the information collected, please contact Port Metro Vancouver by telephone at (604) 665-9071 or by email to [habitat.enhancement@portmetrovancover.com](mailto:habitat.enhancement@portmetrovancover.com)*

**Please return your feedback form by March 14, 2014.**

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