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## MEMORANDUM

TO: Port Metro Vancouver

FROM: Kirk & Co. Consulting Ltd.

DATE: April 23, 2014

RE: Westham Island Canoe Pass Tidal Marsh Project – Engagement Summary Memo

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### 1. Background

The proposed Westham Island Canoe Pass Tidal Marsh Project involves the creation of new intertidal marsh habitat on the south shore of Westham Island, in Canoe Pass. It will provide high quality habitat for rearing juvenile Pacific salmon and other fish and wildlife.

#### **Westham Island Canoe Pass Tidal Marsh Project Community and Stakeholder Engagement**

In March 2014, Port Metro Vancouver engaged with the public and stakeholders regarding options for features related to the proposed Westham Island Canoe Pass Tidal Marsh Project. The engagement took place from March 3 to March 14, 2014.

In advance of this engagement process, Port Metro Vancouver undertook a number of meetings and presentations with key stakeholders including: Corporation of Delta, Ministry of Forests, Lands and Natural Resource Operations, Environment Canada, MLAs and MPs, Ladner Sediment Group and the Port Community Liaison Committee.

A separate, but parallel, First Nations consultation process for the Westham Island Canoe Pass Tidal Marsh Project has been undertaken by Port Metro Vancouver. Local First Nations were also invited to provide feedback through this public and stakeholder engagement process.

#### **The engagement included:**

- A Discussion Paper and Feedback Form, including an online feedback form (These materials can be found in Appendix 1)
  - A total of **32 feedback forms** and **9 open submissions** were returned as part of the engagement
- Meetings with community members at the residence of a nearby community member, the Delta Heritage Advisory Commission and the Delta Farmers' Institute

**Engagement topics included:**

- Potential incorporation of bird nest boxes and nesting structures within or adjacent to the new marsh habitat
- Potential installation of observation equipment (wildlife webcams) that would allow viewers to observe osprey online
- Potential for educational opportunities about the value and function of tidal marsh habitat

**Notification included:**

- An email to approximately 280 stakeholders in advance of engagement (A copy of the notification email can be found in Appendix 2)
- Follow-up calls and emails to approximately 65 stakeholders
- Two reminder emails to approximately 280 stakeholders during the engagement period
- Newspaper advertisements in the Delta Optimist on February 28, March 5 and March 12 and in the South Delta Leader on February 28, March 7 and March 14 (A copy of the advertisement can be found in Appendix 3)
- Two tweets from @portmetrovan to approximately 5,000 followers (A copy of these tweets can be found in Appendix 4)

**2. Stakeholder Meetings**

**3 stakeholder meetings** were held as part of the Westham Island Canoe Pass Tidal Marsh Project. The following is a summary of the key themes at each of the stakeholder meetings, listed in the order in which they were held.

Meeting	Key Themes
<p><b>Meeting with Community Members</b>  <b>March 7, 2014</b>  <b>11:00 a.m. – 12:30 p.m.</b></p>	<ul style="list-style-type: none"> <li>• Some participants noted increased sediment accumulation as a result of Port development at Roberts Bank and expressed concern about increased sedimentation resulting from the proposed project</li> <li>• Some participants raised concerns about drainage impacts to Westham Island farms as a result of the proposed project and noted the importance of ensuring sloughs are clear to facilitate drainage</li> <li>• Some participants noted that flood boxes are no longer effective for drainage because of accumulated sediment and expressed concern that the proposed project would worsen this; they expressed a desire for assurance that flood boxes will be maintained</li> <li>• Some participants noted the importance of farmland as bird habitat</li> <li>• Some participants expressed concerns about the effectiveness of the project for improving fish habitat</li> <li>• Some participants noted that regional infrastructure development is contributing to pressures on farmland</li> </ul>

Meeting	Key Themes
<p><b>Meeting with Delta Heritage Advisory Commission</b>  <b>March 13, 2014</b>  <b>7:00 p.m. – 7:45 p.m.</b></p>	<ul style="list-style-type: none"> <li>• Some participants expressed concern about the impact of the proposed project on drainage on Westham Island</li> <li>• Some participants expressed interest in how the proposed project would positively impact habitat and about the timeframe for the establishment of new habitat, and asked for examples of successful marsh habitat in the area</li> <li>• Some participants noted that the marshes outside the dike on Westham Island are higher than the marshes within the dike</li> <li>• Some participants noted the opportunity to create marsh habitat on the “back side” of Westham Island</li> <li>• Some participants noted Westham Island farmers have had difficulty growing vegetables using river sand and noted that it improves when mixed with other soils</li> <li>• Some participants expressed interest in being updated on the results of the engagement and noted that, although habitat enhancement may not seem to be directly related to the Commission’s work, they take a more broad view of heritage</li> </ul>
<p><b>Meeting with Delta Farmers Institute</b>  <b>March 20, 2014</b>  <b>10:00 a.m. – 11:15 a.m.</b></p>	<ul style="list-style-type: none"> <li>• Participants stated the importance of maintaining river flow to the ocean and expressed concern about the flooding of Westham Island farmland</li> <li>• Participants expressed concern about drainage impacts to farmland on Westham Island as a result of the proposed project and stated that inadequate drainage would result in negative economic impacts to farmers</li> <li>• Participants expressed a strong desire for assurance that flood boxes will be maintained and noted that they are currently not being maintained</li> <li>• Participants noted the importance of the swing bridge that provides access to Westham Island, and that a closure of the bridge resulting from proposed project construction would result in severe economic impacts to farmers</li> <li>• Participants noted that the dikes adjacent to the proposed project site are privately owned and expressed concern that the proposed project would encourage public access to private property</li> </ul>

### 3. Feedback Forms

**32 feedback forms were completed** as part of the Westham Island Canoe Pass Tidal Marsh Project engagement, of which 18 were submitted online and 14 were completed by phone interview, by email, or in hard copy.

**Q1. Please indicate your level of agreement with the installation of bird nesting features (platforms and nest boxes) as part of the new tidal marsh habitat at Westham Island Canoe Pass:**

[Participants were asked to rate their level of agreement on a scale from strongly agree, to strongly disagree]

**24 participants** responded to this question:

- **12 participants** either strongly agreed or somewhat agreed
- **6 participants** either strongly disagreed or somewhat disagreed
- **6 participants** neither agreed nor disagreed

#### Key Interests and Considerations

**Participants were asked to provide reasons for their answer and any additional interests and/or considerations regarding the installation of nesting platforms and nest boxes.**

- Of the **21 participants** who provided further comments, most were positive about the initiative, expressing support for such environmental mitigation measures.
- Some participants indicated the features would replace habitat that might be lost and would enhance local nesting sites and could benefit bird watchers and potentially encourage wildlife tourism.
- A lesser number of participants expressed concern for an already thriving bird population, seeing the proposed features as unnecessary. They also expressed concern that such features will attract too many people to the area, accessing private property and potentially negatively impacting local agricultural land.
- Some participants suggested they needed more information before making a judgment.

<b>Comments Regarding Installation of Nesting Platforms and Boxes</b>	
<i>The following is a summary of additional interests and considerations regarding the installation of nesting platforms and nest boxes.</i>	Number of Mentions
It will replace the loss of breeding habitats/provide safe nesting areas	6
Support environmental/ecological mitigation measures	5
Need more information	4
There is already a thriving bird population in the area	4
Project is not necessary/natural habitat does not require human intervention	3
Will attract/enhance bird nesting sites in the area	3
Will benefit bird watchers/encourage wildlife tourism/increase public awareness of the area	3
Concerned about negative effect on agricultural land/area	2
Concerned about increased public awareness/attracting more people/bird watchers to the area and accessing private property	2
Popular area for hunting/bird features may get damaged as a result	1
Marsh habitat construction suggestions including locations to dredge, types of material to use/avoid	1
Should focus on rehabilitating/cleaning up marsh area	1
Will enhance PMV's reputation/demonstrate the Port's commitment to environmental rehabilitation projects	1
Skeptical about project/only using it to get rid of dredged material	1
Negative comments regarding survey/consultation	1

*Note: The total number of mentions may exceed the total number of participants commenting, as participants may have commented on more than one topic.*

**Q2. Please indicate your level of agreement with installing a webcam with online streaming capability for viewing the nesting activity of osprey:**

[Participants were asked to rate their level of agreement on a scale from strongly agree, to strongly disagree]

**23 participants** responded to this question. Of the 23:

- **8 participants** either strongly agree or somewhat agree
- **9 participants** either strongly disagree or somewhat disagree
- **6 participants** were neutral

**Key Interests and Considerations**

**Participants were asked to provide reasons for their answer and any additional interests and/or considerations regarding the installation of a webcam.**

- Of the **21 participants** who provided further comments, opinion is divided between:
  - Those who see the observation feature as a good educational tool, benefiting bird watchers as well as the general public; and
  - Those who expressed concerns about the feature including: the cost; its potential impact on wildlife; and that it might attract too many people to the area, encouraging public access to private property and negatively impacting local agricultural land.

<b>Additional Comments Regarding the Installation of a Webcam</b>	
<i>The following is a summary of additional interests and considerations regarding bird and fish wildlife habitat and/or habitat viewing</i>	Number of Mentions
Concerns about webcam being invasive or disturbing natural behaviour	6
Webcam will be unobtrusive/cheap/good way to observe wildlife/educational tool	6
Negative comments about past environmental mitigation attempts	4
Will benefit bird watchers/increase public awareness	4
Concerns about the cost of operating/maintaining webcam	3
Concerned about increased public awareness/attracting more people/bird watchers to the area and accessing private property	3
Concerned about negative effect on agricultural land/area	2

<b>Additional Comments Regarding the Installation of a Webcam</b>	
Project is not necessary/natural habitat does not require human intervention	2
Should place equipment at the nearby bird sanctuary instead	1
Negative comments regarding survey questions	1

*Note: The total number of mentions may exceed the total number of participants commenting, as participants may have commented on more than one topic.*

**Q3. Please provide any additional comments about and/or ideas for bird and fish wildlife habitat and/or habitat viewing.**

**Key Interests and Considerations**

A total of **11 participants** provided additional ideas or comments regarding bird or fish wildlife habitat including those:

- Who felt the proposed features are unnecessary
- Who were concerned about attracting too many people to the area and encouraging public access to private property
- Who were skeptical about the effectiveness of the project in general

Others agreed that it will be a good educational tool.

<b>Comments and Ideas Regarding Bird and Fish Wildlife Habitat and/or Habitat Viewing</b>	
<i>The following is a summary of additional comments about and/or ideas for bird and fish wildlife habitat and/or habitat viewing</i>	<b>Number of Mentions</b>
Project is not necessary/natural habitat does not require human intervention	3
Should include some incentives/benefits for local residents (e.g. recreational trails, viewing platforms)	3
Should work with local organizations/schools	2
Concerned about increased public awareness/attracting more people/bird watchers to the area and accessing private property	1
Skeptical about project (waste of money, can't mitigate past habitat destruction)	1
Webcam will be unobtrusive/cheap/good way to observe wildlife/educational tool	1

Note: The total number of mentions may exceed the total number of participants commenting, as participants may have commented on more than one topic.

**Q4. Please indicate your level of agreement with Port Metro Vancouver exploring opportunities to work with local organizations to support educational opportunities for the public as part of the proposed Westham Island Canoe Pass Tidal Marsh Project:**

[Participants were asked to rate their level of agreement on a scale from strongly agree, to strongly disagree]

**19 participants** responded to this question. Of the 19:

- **9 participants** either strongly agree or somewhat agree
- **5 participants** strongly disagree
- **5 participants** were neutral

**Key Interests and Considerations**

**Participants were asked to provide reasons for their answer and any additional interests and/or considerations regarding potential educational opportunities, which could include the sponsorship of field trips and signage at tidal marsh sites.**

- Of the **15 participants** who provided further comments regarding potential educational opportunities, nearly half supported the idea of having educational or informational signage in the area displaying the types of local wildlife.
- Others supported any environmental mitigation measures and the idea of working with local organizations to invite suggestions and identify concerns about any such initiatives.
- Other participants expressed concern regarding increased public awareness and that it would draw too many people to the area, encouraging public access to private property.
- Some were skeptical about the effectiveness of the project, or questioned whether the project is necessary at all.

<b>Comments Regarding Potential Educational Opportunities</b>	
<i>The following is a summary of additional interests and considerations regarding potential educational opportunities, which could include the sponsorship of field trips to and signage at tidal marsh sites</i>	Number of Mentions
Should have educational/informative markers (e.g. types of fauna, marsh habitat environment)	7
Concerned about increased public awareness/attracting more people/bird watchers to the area and accessing private property	4
Should work with local organizations/schools to identify issues of concern/suggestions	3



<b>Comments Regarding Potential Educational Opportunities</b>	
Skeptical about project (waste of money, can't mitigate past habitat destruction)	3
Project is not necessary/natural habitat does not require human intervention	2
Support environmental/ecological mitigation measures	2
Concerned about negative effect on agricultural land/area	1
Should include some incentives/benefits for local residents such as recreational trails, viewing platforms	1

*Note: The total number of mentions may exceed the total number of participants commenting, as participants may have commented on more than one topic.*

**Q5. Please provide any additional comments you may have regarding the Westham Island Canoe Pass Tidal Marsh Project:**

**Key Interests and Considerations**

- A total of **25 participants** provided additional comments on any aspect of the Westham Island Canoe Pass Tidal Marsh Project, many of which include general, practical suggestions regarding where to dredge and the types of material to either use or avoid. Other comments echoed those made previously in the feedback form.
- Some participants recommended working with local organizations or schools to invite suggestions or help identify concerns about the project, or believe the project should include incentives or benefits for local residents such as trails or viewing platforms. Others supported environmental mitigation measures in general.
- Other comments included those skeptical of the effectiveness of the project, or questioning whether the project is even necessary, while others were concerned about an increase of visitors to the area encouraging public access of private property and potential negative impacts on the local agricultural land.
- Finally, some participants felt they needed more information before being able to provide feedback.

<b>Additional Comments Regarding any Aspect of the Westham Island Canoe Pass Tidal Marsh Project</b>	
<i>Please provide any additional comments you may have regarding the Westham Island Canoe Pass Tidal Marsh Project</i>	Number of Mentions
Marsh habitat construction suggestions (e.g. locations to dredge, types of material to use/avoid)	15
Should work with local organizations/schools and First Nations to identify issues of concern/suggestions	12
Skeptical about project (waste of money, can't mitigate past habitat destruction)	11
Need more information	7
Concerned about increased public awareness/attracting more people/bird watchers to the area and accessing private property	6
Concerned about negative effect on agricultural land/area	5
Support environmental/ecological mitigation measures	5
Project is not necessary/natural habitat does not require human intervention	4
Should include some incentives/benefits for local residents (e.g. recreational trails, viewing platforms)	4
Concerns about the potential impact the project will have on habitats downstream	1

*Note: The total number of mentions may exceed the total number of participants commenting, as participants may have commented on more than one topic.*

#### 4. Open Submissions

In addition to those who completed a feedback form, **9 submissions** were received during the consultation period via mail, email and telephone call. These submissions are summarized below:

- One submission asked specific questions regarding the involvement of the Corporation of Delta, ownership of the site including the streambed and tidal portions of Westham Island, and the need for pre-construction monitoring of the site to understand the current value of environmental service the area provides. The submissions also questioned the timing of the project, asking if the project would be completed before the return of spawning salmon, and whether the altered Canoe Pass would be able to handle the Fraser River's peak flows.
- One submission asked specific questions regarding the proposed project site, purpose, rationale and benefits and Fisheries and Oceans Canada's (DFO) perspective on the project. The submission also asked questions regarding baseline studies, including studies evaluating potential project impacts on river flow and erosion, and on biofilm at Roberts Bank.
- One submission provided suggestions as to how dikes might be constructed, with a series of open-ended sloughs and surge dike, in order to increase productivity of the wetland and floodplain and benefit the local wildlife.
- One submission raised concerns about the need for more ecological baseline information. This submission also asked whether the proposed project may alter flow patterns in the channel and whether this could have an effect on sediment deposition and the dikes. Specific questions were asked about the length of monitoring and management activities related to native plants and potential invasive species, as well as the long-term performance of the proposed project site.
- One submission expressed concerns related to possible impacts on the drainage system, and questioned whether the proposed marsh would affect sediment build-up around the flood boxes. The submission called for assurance that flood boxes would be maintained. Concerns were raised about increased public access to the dike, as well as questions about the type of access that would be required for construction of the proposed project, and whether permission has been granted by adjacent landowners.
- One submission requested assurance that the proposed project would not result in harmful impacts to wildlife, people or vegetation.
- One submission voiced support for the project in general, highlighting the need for dredging and a nearby location for relocating dredged fill materials. The submission also suggested that the use of locally-dredged materials would reduce the cost of building the proposed habitat. Additional, similar projects were also suggested to allow for disposal of future dredging materials from along the river that would also benefit the environment and the local community, including those living on the river.
- One submission expressed that the area surrounding the proposed project site provides high-quality habitat for geese and ducks and questioned the necessity of enhancing it, as it is already heavily used by wildlife. The submission noted concern about decreased water levels at Canoe Pass due to development on the Fraser River and concern about the effects of placing contaminated dredged material on existing habitat. The submission suggested that Port Metro Vancouver explore the possibility of enhancing sloughs to pump water from farmland or measures to address contamination on Mitchell Island.

- One submission expressed support for using dredged material to build habitat, stating that using dredged material in this way may be less expensive than other disposal methods and is preferable to ocean disposal, and that there are community benefits from the creation of larger habitat sites.<sup>1</sup>

## **5. Feedback from First Nations**

As part of this engagement, the Musqueam Indian Band provided feedback indicating that they would like to be involved in monitoring the wildlife habitat and/or habitat viewing stations at the proposed Westham Island Canoe Pass Tidal Marsh Project, should viewing stations be included in the project.

## **6. Next Steps**

Port Metro Vancouver will consider the input summarized in this document, along with technical and financial information, in its plans for features associated with the Westham Island Canoe Pass Tidal Marsh Project, along with potential educational opportunities. A Consideration Memo will be posted online at [PortTalk.ca/HabitatEnhancement](http://PortTalk.ca/HabitatEnhancement).

### **Appendices:**

Appendix 1: Discussion Paper and Feedback Form

Appendix 2: Email Notification

Appendix 3: Engagement Newspaper Advertisement

Appendix 4: Tweets

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<sup>1</sup> Note: The submission was initially submitted to the Roberts Bank Terminal 2 Pre-Design Consultation in November 2013; at the group's request, it was also included as feedback to the Westham Island Canoe Pass Tidal Marsh Project Engagement.

# **Appendix 1:**

## **Discussion Paper and Feedback Form**



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**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**



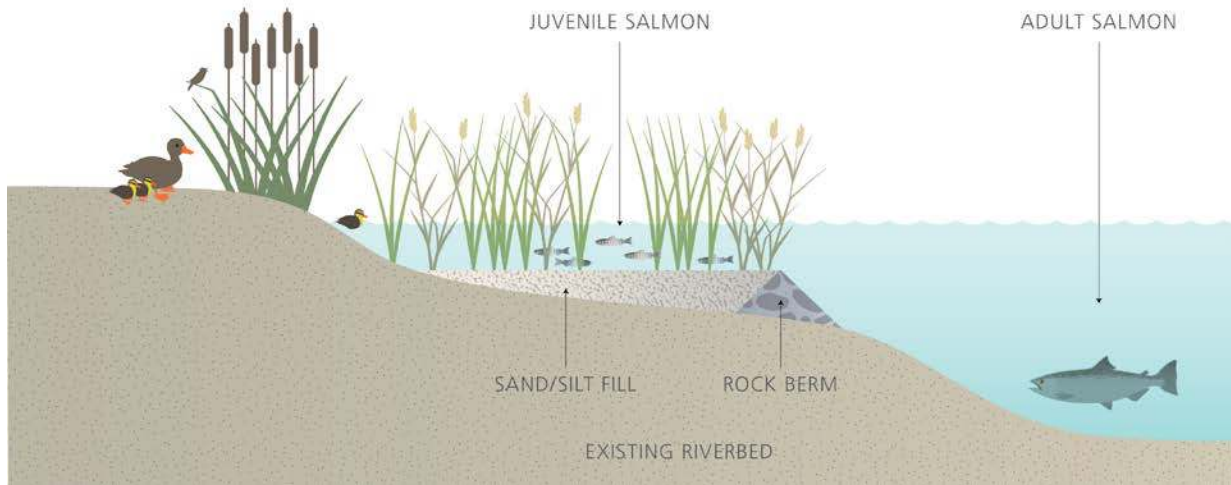
**CURRENT STATE – DOWNSTREAM PERSPECTIVE**



**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.**

**Online:** PortTalk.ca/HabitatEnhancement  
**Email:** [habitat.enhancement@portmetrovancover.com](mailto:habitat.enhancement@portmetrovancover.com)  
**Mail:** Attn: Westham Island Canoe Pass Tidal Marsh Project  
Port Metro Vancouver  
100 The Pointe, 999 Canada Place  
Vancouver B.C.  
V6C 3T4

# **Appendix 2:**

## **Email Notification**

## **Westham Island Canoe Pass Tidal Marsh Project**

Port Metro Vancouver invites you to participate in a public engagement regarding the proposed Westham Island Canoe Pass Tidal Marsh Project between March 3 and March 14, 2014.

The proposed Westham Island Canoe Pass Tidal Marsh Project involves the creation of intertidal marsh habitat for fish and wildlife. The proposed project is located on the south-east shore of Westham Island, in Canoe Passage, in the Corporation of Delta. Port Metro Vancouver is proposing the project:

- to improve fish and wildlife habitat by expanding the existing marsh area and converting un-vegetated area into ecologically productive brackish marsh;
- to increase the productivity of Canoe Passage and provide high quality habitat at a prime location for juvenile salmon and other fish, birds and wildlife.

As part of this public engagement, Port Metro Vancouver will present information regarding the tidal marsh project, and will seek input regarding opportunities for educational and interpretive project features.

### **How to participate:**

View the discussion paper and complete an online feedback form, available on March 3, 2014 at [www.porttalk.ca/habitatenhancement](http://www.porttalk.ca/habitatenhancement).

Email [habitat.enhancement@portmetrovancouver.com](mailto:habitat.enhancement@portmetrovancouver.com) or phone 604.665.9071 to schedule an engagement interview.

*Please submit your completed feedback form by **March 14, 2014**.*

All input received during the engagement period will be compiled in an Engagement Summary Report. Port Metro Vancouver will also prepare a Consideration Memo, demonstrating how feedback was considered. Both of these documents will be made available online at [www.porttalk.ca/habitatenhancement](http://www.porttalk.ca/habitatenhancement).

# **Appendix 3:**

## **Engagement Newspaper Advertisement**



PORT METRO  
**vancouver**

## **Westham Island Canoe Pass Tidal Marsh Project**

**Port Metro Vancouver invites you to participate in a public engagement regarding the proposed Westham Island Canoe Pass Tidal Marsh Project between March 3 and March 14, 2014.**

The proposed Westham Island Canoe Pass Tidal Marsh Project involves the creation of intertidal marsh habitat for fish and wildlife. The proposed project is located on the south-east shore of Westham Island, in Canoe Passage, in the Corporation of Delta. Port Metro Vancouver is proposing the project:

- to improve fish and wildlife habitat by expanding the existing marsh area and converting un-vegetated area into ecologically productive brackish marsh;
- to increase the productivity of Canoe Passage and provide high quality habitat at a prime location for juvenile salmon and other fish, birds and wildlife.

As part of this public engagement, Port Metro Vancouver will present information regarding the tidal marsh project, and will seek input regarding opportunities for educational and interpretive project features.

### **How to participate:**

View the discussion paper and complete an online feedback form, available on March 3 at [www.porttalk.ca/habitatenhancement](http://www.porttalk.ca/habitatenhancement).

Email [habitat.enhancement@portmetrovancover.com](mailto:habitat.enhancement@portmetrovancover.com) or phone **604.665.9071** to schedule an engagement interview.


**PLEASE SUBMIT YOUR COMPLETED FEEDBACK FORM  
BY MARCH 14, 2014.**

All input received during the engagement period will be compiled in an Engagement Summary Report. Port Metro Vancouver will also prepare a Consideration Memo, demonstrating how feedback was considered. Both of these documents will be made available online at [www.porttalk.ca/habitatenhancement](http://www.porttalk.ca/habitatenhancement).



## Appendix 4: Tweets

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 **Port Metro Vancouver** @PortMetroVan · Mar 5  
Public engagement for the Westham Island Canoe Pass Tidal Marsh Project runs until March 14. Visit [ow.ly/ueuqP](https://ow.ly/ueuqP)  
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