



PORT METRO  
**vancouver**

**Port Metro Vancouver**

**Proposed McDonald and Point Grey Tidal Marsh Projects**

**Public and Stakeholder Engagement**

**May 26 to June 8, 2014**

**Discussion Paper and Feedback Form**

**Port Metro Vancouver  
Proposed McDonald and Point Grey Tidal Marsh Projects  
Public and Stakeholder Engagement – May-June 2014**

**LEARN MORE AND PROVIDE FEEDBACK**

The purpose of this discussion paper is to provide information about the proposed McDonald and Point Grey Tidal Marsh Projects. It is designed to gather feedback from communities, stakeholders and the public. It includes a feedback form with questions about additional considerations related to area ecology, as well as questions regarding opportunities for bird nesting features, educational opportunities, and public educational signage.

**The engagement program includes:**

- Discussion Paper and Feedback Form
- Online Feedback Form
- 2 Public Open Houses (see below for details)
- 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)
- Attend a public open house:
  - Monday, June 2, 2014, 6:00-8:00 p.m. at the Delta Vancouver Airport (3500 Cessna Drive, Richmond B.C.)
  - Wednesday, June 4, 2014, 6:00-8:00 p.m. at UBC: Liu Institute for Global Issues (6476 NW Marine Drive, Vancouver B.C.)
- 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) 665-9066 for additional information.

**HOW INPUT WILL BE USED**

At the conclusion of the May-June 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 June 8, 2014.**

## **1. Pre-Engagement: What We Heard**

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In 2013 and 2014, Port Metro Vancouver engaged in pre-engagement with key stakeholders regarding the proposed McDonald and Point Grey Tidal Marsh Projects. The pre-engagement included interactions with representatives from Vancouver Airport Authority (YVR); YVR's Environmental Advisory Committee; City of Richmond; City of Vancouver; Metro Vancouver Regional Parks West Area; Pacific Spirit Park Society; Wreck Beach Preservation Society; Fraser River Coalition; Nature Vancouver; Environment Canada; Ministry of Forests Lands and Natural Resource Operations; Fisheries and Oceans Canada; Fraser Basin Council and University of British Columbia.

Stakeholders were asked to provide feedback on:

- Potential topic areas for inclusion in the public and stakeholder engagement on the proposed McDonald and Point Grey Tidal Marsh Projects, including:
  - Educational signage and programming opportunities;
  - The construction of bird nesting features; and
  - Public access to and/or wildlife viewing opportunities at the proposed project sites.
- Preferred engagement methods, including, but not limited to:
  - One-on-one interviews;
  - Presentations to organization membership or staff; and
  - Online and hard-copy feedback forms.

Pre-engagement participants indicated that they have significant concerns regarding public access to the proposed McDonald and Point Grey Tidal Marsh project sites resulting from the installation of wildlife viewing features. Port Metro Vancouver has taken this into consideration and will not be seeking feedback about the installation of these features.

Pre-engagement participants also indicated that they would like the opportunity to participate in a public open house as part of the engagement for the proposed projects. Two public open houses have been scheduled:

- Monday, June 2, 2014, 6:00-8:00 p.m. at the Delta Vancouver Airport (3500 Cessna Drive, Richmond B.C.)
- Wednesday, June 4, 2014, 6:00-8:00 p.m. at UBC: Liu Institute for Global Issues (6476 NW Marine Drive, Vancouver B.C.).

## **2. 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.

### 3. About the Proposed McDonald Tidal Marsh Project

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The proposed McDonald Tidal Marsh Project is on Sea Island, north of Vancouver International Airport (YVR) in Richmond. Situated just upstream from the mouth of the McDonald Slough, the site is located along the south side of the North Arm of the Fraser River. Historical aerial photos indicate that the site was previously tidal marsh, until the 1940s or 1950s when it was filled. More recently, it was used as an aggregate off-loading area in the 1990s, with a small area of fill removed to facilitate a barge loading/off-loading ramp.

The proposed McDonald Tidal Marsh Project would involve the conversion of approximately 5.2 hectares into high quality fish and wildlife habitat through the excavation of upland areas and the establishment of intertidal brackish marsh<sup>1</sup>. Riparian habitat would also be enhanced and an intertidal channel system would be installed throughout the marsh. The proposed project is subject to permitting requirements and land tenure.

#### 3.1 Rationale for the Proposed McDonald Tidal Marsh Project

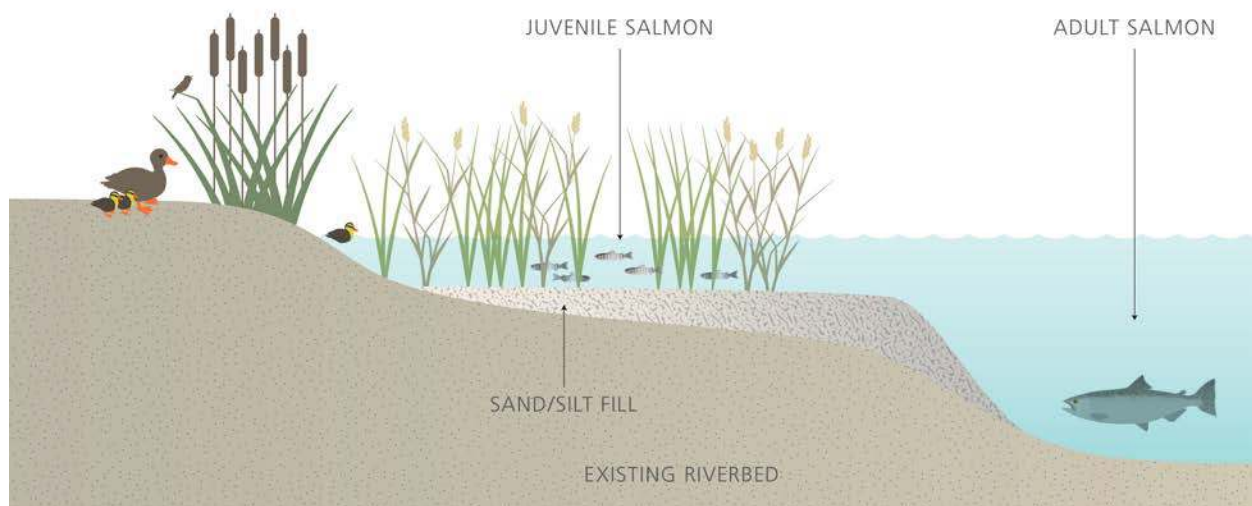
The proposed McDonald Tidal Marsh Project site is currently characterized as a grassland habitat with some invasive plant species and sparse, scattered shrubs and trees. The shoreline is armored with riprap and provides limited foreshore habitat values.

Port Metro Vancouver is proposing the McDonald Tidal Marsh Project to maximize subtidal, intertidal and riparian estuarine habitat for juvenile salmon and other fish, by establishing intertidal brackish marsh through the excavation of upland areas. The project would also enhance riparian habitat through the installation of an intertidal channel system.

#### 3.2 Ecological Considerations

Port Metro Vancouver engaged professional biologists to study existing biophysical conditions, including physical characteristics, habitat types, and fish and wildlife species, at the proposed McDonald Tidal Marsh Project site<sup>2</sup>. Tidal marsh creation at the proposed site would provide ecological benefits through the enhancement of existing fish and wildlife values.

#### Example Cross-Section of a Constructed Tidal Marsh Project



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<sup>1</sup> “Brackish” refers to the mix of salt water and fresh water that occurs in estuarine environments, where the salt water of the ocean meets the freshwater of a river or stream.

<sup>2</sup> Existing Ecological Conditions at Proposed McDonald Tidal Marsh Creation Project (Hemmera, May 2014)

# PROPOSED MCDONALD TIDAL MARSH PROJECT

## Current State at Low Tide



## Completed Project at Low Tide



### **3.3 Interests Related to Area Ecology**

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Port Metro Vancouver has referenced the following information in the preparation of the finalized ecological conditions report for the proposed McDonald Tidal Marsh Project:

- Online Sensitive Habitat Inventory and Mapping database (SHIM 2013)
- Online Fraser River Estuary Management Program and Burrard Inlet Environmental Action Program Habitat Atlas database (FREMP 2013)
- Online Fisheries Information Summary System database (FISS 2013)
- Online E-fauna BC database
- Online BC Species and Ecosystems Explorer database
- Online iMap database
- Online City of Richmond mapping system
- Sea Island Conservation Area (SICA) Bird Survey results
- Aerial photographs
- Fire ant surveys (ongoing)

Port Metro Vancouver is seeking feedback on any additional interests and/or considerations that you may have regarding the ecology of the McDonald Tidal Marsh Project area (e.g. personal observations of habitat or historic site conditions).

### **3.4 Bird Nesting Features**

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The Habitat Enhancement Program tries to maximize broad benefits for the widest possible range of fish and wildlife species at all of the project sites by including design considerations, including bird nesting features, that provide key habitat needs, except where this conflicts with other land management objectives such as aviation and public safety considerations.

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 at the proposed McDonald Tidal Marsh Project site. These structures could help to diversify the bird community at this location, by providing habitat for small, non-flocking birds.

#### **3.4.1 Rationale and Benefit**

A wide range of bird species depend on wildlife trees for nesting. For example, older and decaying live trees or dead trees (called snags) provide essential habitat for cavity nesting birds like woodpeckers and swallows. Bird nest boxes can provide artificial nesting opportunities for these birds where wildlife trees are absent or scarce.

Although riparian habitats will be enhanced through the planting of native shrubs and trees, cavity nesting opportunities will take many decades to develop, as the riparian habitats take time to mature. In the interim, the installation of bird nest boxes on suitably anchored posts can provide nesting opportunities for cavity nesting birds.

#### **3.4.2 Design**

A number of different bird species are likely to benefit from the installation of nesting boxes at the proposed McDonald Tidal Marsh Project site. Nest boxes installed near the edge of the marsh are likely to be used by tree swallow and violet-green swallow, both migratory birds that are highly dependent upon the availability of suitable nesting locations. Additional nest boxes can be installed in more upland locations, further from the marsh edge, and are likely to be used by other cavity nesting birds such as the year-round resident black-capped chickadee.



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

- Black-capped chickadee: Nest boxes installed on poles/posts on the edge of the constructed marsh habitat



*Preliminary rendering of bird nesting features at the proposed McDonald Tidal Marsh Project, which could be established within or adjacent to the site.*

- Tree and Violet-Green Swallow: Nest boxes installed on poles/posts within the constructed marsh habitat

Poles or posts 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 boxes would need to be installed at a later date.

### **3.5 Educational Opportunities**

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As part of the proposed McDonald Tidal Marsh Project, Port Metro Vancouver is seeking opportunities to work with local organizations to support education about the value and function of tidal marsh habitat in the Fraser River estuary. Since public access to the McDonald Tidal Marsh Project site is limited, these opportunities could occur at other locations in the local area, including interpretive centres or educational institutions. Potential partnering opportunities will be considered based on funding requirements and availability.

### **3.6 Educational Signage**

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As part of the proposed McDonald Tidal Marsh Project, Port Metro Vancouver is seeking feedback on the installation of educational signage in the vicinity of McDonald project site. This signage could include information on:

- Area ecology
- Site history
- Tidal marsh habitat
- Why tidal marshes matter
- What species of fish and wildlife benefit from tidal marsh habitat

### **4.0 About the Proposed Point Grey Tidal Marsh Project**

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The proposed Point Grey Tidal Marsh Project is located along the eastern portion of the Point Grey Booming Grounds, near the mouth of the North Arm Jetty of the Fraser River. The proposed project would convert approximately 44 hectares of existing unvegetated intertidal mudflat into productive intertidal brackish marsh.

The site was formerly used as a log booming storage area. Although the west end of the Point Grey Booming Grounds is still actively used for log booming by the forest industry, the eastern end of the property, where the project is proposed, has not been actively used for this purpose for several decades.

Remnant woody debris is prevalent throughout the site. Immediately east of the property, there is an established intertidal brackish marsh. The existing mudflat is largely exposed at low tide, except for a few deep channels that have formed throughout the area.

Material used in the creation of tidal marsh would be naturally-occurring sand dredged from the Fraser River. It must meet regulatory standards related to contaminants.

#### **4.1 Rationale for the Proposed Point Grey Tidal Marsh Project**

The proposed Point Grey Tidal Marsh Project would provide high-value habitat for fish and wildlife, by converting the existing low-value mudflat into intertidal brackish marsh. Brackish marshes are essential rearing areas for juvenile salmon, which help to sustain Pacific salmon stocks. Enhancement of drainage channels would provide good habitat for fish rearing for juvenile salmon and adult trout.

#### **4.2 Ecological Considerations**

Port Metro Vancouver engaged professional biologists to study existing biophysical conditions, including physical characteristics, habitat types, and fish and wildlife species at the proposed Point Grey Tidal Marsh Project site.<sup>3</sup> Tidal marsh creation at the proposed site will provide ecological benefits through the enhancement of existing fish and wildlife values.

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<sup>3</sup> Existing Ecological Conditions at Proposed Point Grey Tidal Marsh Project (Hemmera, May 2014)



# PROPOSED POINT GREY TIDAL MARSH PROJECT

## Current State at Low Tide



## Completed Project at Low Tide



### **4.3 Interests Related to Area Ecology**

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Port Metro Vancouver has referenced the following information in the preparation of the finalized ecological conditions report for the proposed Point Grey Tidal Marsh Project:

- Online Sensitive Habitat Inventory and Mapping database (SHIM 2013)
- Online Fraser River Estuary Management Program and Burrard Inlet Environmental Action Program Habitat Atlas database (FREMP 2013)
- Online Fisheries Information Summary System database (FISS 2013)
- Online E-fauna BC database
- Online VanMap database
- Online BC Species and Ecosystems Explorer database
- Online iMap database
- Aerial photographs
- Overwintering bird surveys
- Water bird surveys (ongoing)

Port Metro Vancouver is seeking feedback on any additional interests and/or considerations that you may have regarding the ecology of the Point Grey Tidal Marsh Project area (e.g. personal observations of habitat or historic site conditions).

### **4.4 Bird Nesting Features**

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The Habitat Enhancement Program tries to maximize broad benefits for the widest possible range of fish and wildlife species at all of the project sites, by including design considerations, including bird nesting features, that provide key habitat needs, except where this conflicts with other land management objectives such as aviation and public safety considerations.

Port Metro Vancouver is seeking feedback on the incorporation of bird nest boxes and nesting structures that could be established within the new marsh habitat at the proposed Point Grey Tidal Marsh Project site. These structures could help to diversify the bird community at this location, by providing habitat for small, non-flocking birds.

#### **4.4.1 Rationale and Benefit**

A wide range of bird species depend upon wildlife trees for nesting. For example, older and decaying live or dead trees (called snags) provide essential habitat for cavity nesting birds like woodpeckers and swallows. Bird nest boxes could provide artificial nesting opportunities for cavity nesting birds, where wildlife trees are either absent or scarce. The installation of bird nest boxes on existing pilings at the project site could provide nesting opportunities for cavity nesting birds.

#### **4.4.2 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. The existing pilings that are present at the site would provide good opportunities for the installation of nest boxes.

There are three bird species that are most likely to benefit from the installation of nesting boxes within the constructed brackish marsh habitat at the proposed Point Grey Tidal Marsh Project site: 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 three species, purple martin are of particular note given their conservation status as a species of “Special Concern” in B.C.

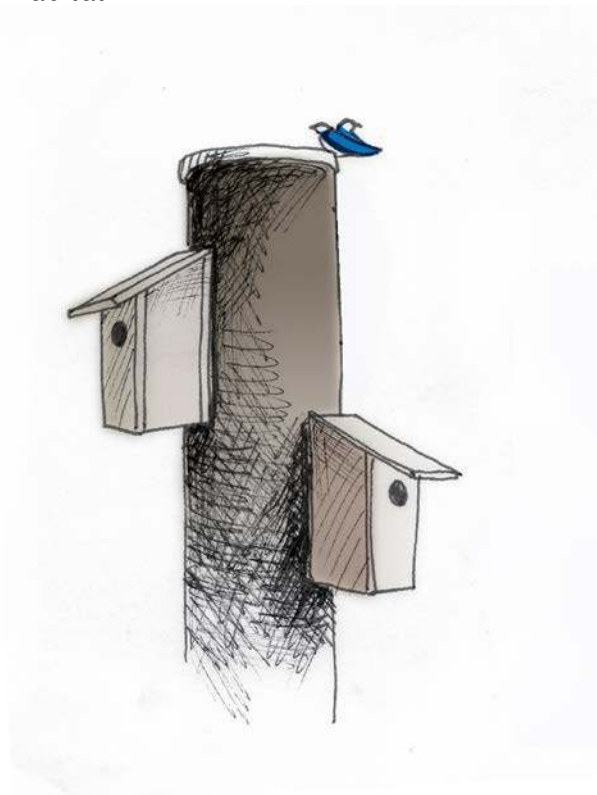
For each of these species there are different types of proposed nesting features:

- Purple Martin: Nest boxes installed on existing pilings within the constructed marsh habitat



*Preliminary rendering of purple martin nest box design*

- Tree and Violet-Green Swallow: Nest boxes installed on existing pilings within the constructed marsh habitat



*Preliminary rendering of swallow nest box design*

## 4.5 Educational Opportunities

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As part of the proposed Point Grey Tidal Marsh Project, Port Metro Vancouver is seeking opportunities to work with local organizations to support education about the value and function of tidal marsh habitat in the Fraser River estuary. Since public access to the Point Grey Tidal Marsh Project site is limited, these opportunities could occur at other locations in the local area, including interpretive centres or educational institutions. Potential partnering opportunities will be considered based on funding requirements and availability.

















## 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:

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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) 665-9066 or by email to [habitat.enhancement@portmetrovancover.com](mailto:habitat.enhancement@portmetrovancover.com)*

**Please return your feedback form by June 8, 2014.**

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**Email:** habitat.enhancement@portmetrovancover.com  
**Mail:** Attn: McDonald and Point Grey Tidal Marsh Projects  
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