

Vancouver Fraser Port Authority
Habitat Enhancement Program

Tsawwassen Eelgrass Project

Public consultation
March 20 to April 7, 2017

Discussion guide and feedback form

Feedback form inside. Please submit your feedback by April 7, 2017

From March 20 to April 7, 2017, the Vancouver Fraser Port Authority Habitat Enhancement Program is consulting with communities, stakeholders and the public regarding the proposed Tsawwassen Eelgrass Project. A separate but parallel consultation process with Aboriginal groups is being led by the project team.

This consultation includes:

- Discussion guide and feedback form
- Online feedback form
- A public open house in Delta

Discussion topics:

- Proposed mitigation measures
- Notification of project updates

The purpose of this discussion guide is to provide information about the proposed Tsawwassen Eelgrass Project and to seek your input regarding the discussion topics above. Input provided will be considered in the development of proposed mitigation measures and project update notification methods, and as part of the port authority’s Project and Environmental Review process.

Attend the public open house	<p>Wednesday, April 5, 2017 6:00 p.m. – 9:00 p.m. Port of Vancouver Delta Community Office Trenant Park Square, Ladner 5225A Ladner Trunk Road, Delta</p>
Read the discussion guide and submit your feedback form	<p>Online at porttalk.ca/habitatenhancement Or in person at the public open house at the Delta Community Office</p>
Read the full Project Permit Application	<p>Online at portvancouver.com/development-and-permits/status-of-applications/proposed-tsawwassen-eelgrass-project</p>
Provide a written submission	<p>By email: habitat.enhancement@portvancouver.com By mail: Attn: Tsawwassen Eelgrass Project Habitat Enhancement Program Vancouver Fraser Port Authority, 100 The Pointe 999 Canada Place, Vancouver, B.C. Canada V6C 3T4</p>
Call for information	<p>604.665.9071</p>

Please email habitat.enhancement@portvancouver.com for additional information.

Vancouver Fraser Port Authority Project and Environmental Review process

The proposed project is subject to review and approval under the port authority's Project and Environmental Review process. Input provided will be considered as part of this review process. For more information about the port authority's Project and Environmental Review process, please visit portvancouver.com/development-and-permits/project-and-environmental-reviews



A separate but parallel consultation process with Aboriginal groups has been undertaken by the project team. This consultation with Aboriginal groups will continue throughout project development.

The proposed Tsawwassen Eelgrass Project consists of two sites located south of the Tsawwassen Ferry Terminal, near Delta, British Columbia (Figure 1). The subtidal sites are bordered to the north by a recreational navigation channel and are surrounded by eelgrass meadows to the south and east. The sites currently consist of subtidal depressions that were likely created as a result of maintenance activities in the adjacent recreational navigation channel. These depressions are too deep to be naturally colonized by eelgrass.

The proposed project would result in the conversion of lower-value subtidal areas into higher-value eelgrass habitat. The total area of habitat enhancement is approximately four hectares. Creation of these eelgrass beds would be accomplished by constructing rock containment berms followed by the placement of suitable substrate material and transplanting of eelgrass.



Figure 1: Approximate location of the proposed Tsawwassen Eelgrass Project.
Image Source: DeltaMap 2014

The proposed sites were selected for eelgrass restoration because of their current relatively low habitat values. Consistent with the broader understanding of eelgrass habitats in the Pacific Northwest, local studies suggest that fish communities within eelgrass habitats are more diverse and abundant than fish communities within areas devoid of eelgrass. Eelgrass provides important habitat for fish and wildlife including juvenile salmon, Pacific herring, Dungeness crab, migrating Brant geese, bivalves, shrimp and sea stars. In addition to providing refuge and nurseries for juvenile fish and invertebrates, eelgrass beds also support a number of other critical ecological functions including nutrient cycling, protection of shorelines from storms, export of organic matter and carbon storage. The rock containment berms proposed for construction of the eelgrass beds also provide attachment sites for various kelp species, which would contribute to an increase in the diversity of fish and wildlife at the project sites.

The proposed project involves the conversion of existing lower-value subtidal areas, associated with historic dredge depressions, into higher-value eelgrass beds.

Proposed activities include the construction of two separate rock containment berms adjacent to the southern edge of the recreational navigation channel, followed by the placement of suitable fill material. The rock berms will extend approximately three metres above the existing seabed. The rock containment berm's purpose is to contain the sand fill and reduce erosion of the outer edges of the eelgrass beds, and mitigate the seaward migration of sand from the eelgrass beds (Figure 2). A total of approximately 23,000 cubic metres of rock material is expected to be required for the establishment of the rock containment berms at the sites.

The existing elevation of the depressions will be raised, with approximately 135,000 cubic metres of sand required for the project. The sides of the resultant beds will be blended to match the adjacent eelgrass beds/seabed elevation, with reasonably even and uniform substrate surfaces. A survey to confirm the proper establishment of the sites will be conducted after the final placement of sand fill to confirm that design elevations have been achieved. The sand material is approved to be sourced from the lower reaches of the south arm of the Fraser River.

Following placement of substrate to an elevation suitable for the establishment of eelgrass, transplanting of donor stock eelgrass will be undertaken at the sites using scuba divers and support barges. Upon completion, the estimated area of eelgrass beds is anticipated to be 43,000 square metres: 26,000 square metres at Site 1 and 17,000 square metres at Site 2. Work will be undertaken using heavy equipment, with access for construction equipment and materials from the water, by vessel/barge, via the existing recreational navigation channel under the appropriate tidal conditions.

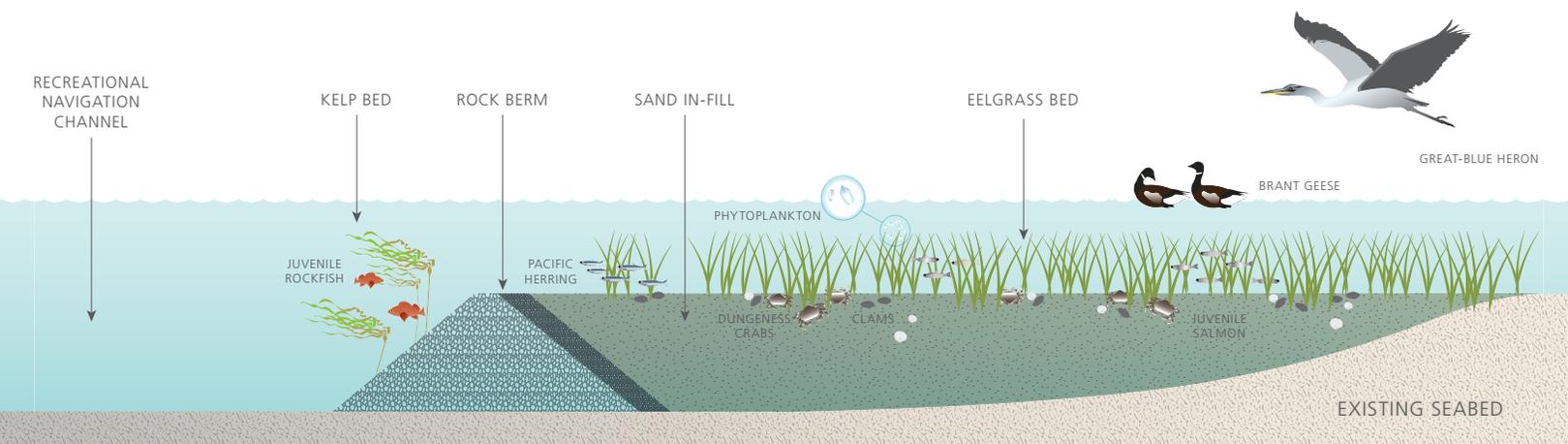


Figure 2: Cross-section rendering of the proposed Tsawwassen Eelgrass Project, depicting the eelgrass bed and some typical species that use eelgrass habitat.

The following studies have been undertaken by the project team as part of project development.

**ECOLOGICAL CONDITIONS
REPORT (MAY 2015)**

The Ecological Conditions Report included both on-site field studies and desktop studies to characterize the existing biophysical conditions at the proposed project sites.

This included:

1. Site history (desktop study), which involved background research, including a review of current and historical photographs.
2. Study of existing biophysical conditions, which included a general site description, descriptions of the physical characteristics and an assessment of fish, wildlife and habitat values at the proposed project sites in the context of the Roberts Bank area.

3. Subtidal scuba survey

- Scuba survey results described sediment types, vegetation types (e.g. drift algae and eelgrass) and marine invertebrates.

This report concluded the proposed project will create high-value habitat for wildlife such as birds and will provide long-term benefits for fish and invertebrates that use eelgrass beds for nursery/rearing habitat.

For the full Ecological Conditions Report for this project, please visit portvancouver.com/TEP



Photo Credit: Jamie Smith

The following summarizes the fish and wildlife habitat values within and surrounding the sites, based on desktop studies and on-site field studies.

FISH HABITAT

The most common fish species in sand/mudflat habitats are flatfish (e.g. English sole, Pacific sanddab, rock sole, starry flounder and Pacific sandlance).



VEGETATION

The sites are entirely subtidal. The substrates at the sites are largely un-vegetated, although a mat of algae was present over both sites during a dive survey.



WILDLIFE HABITAT

Representative species most likely to occur are mammals (e.g. river otter, Stellar sea lion, harbour seal and harbour porpoise) and birds (e.g. loons, geese, swans and ducks).



LISTED SPECIES

The sites are located within designated critical habitat for southern resident killer whales. However, as the sites are located in relatively shallow subtidal depressions, which are bordered by eelgrass meadows to the east and south and a busy ferry terminal to the north, potential use of the sites by southern resident killer whales is limited.



Photo Credit: Jamie Smith

Photo Credit: Beam Reach

The following table describes potential project and construction effects, and the corresponding proposed mitigation measures.

Topic	Potential Effects	Proposed Mitigation Measures
Surface water and water bodies	<p>There is some potential for water quality impacts to occur during works (e.g. during fill placement).</p>	<ul style="list-style-type: none"> • Work is scheduled to occur during the appropriate fisheries least-risk work window* (August 16 – February 28 annually) for the Roberts Bank area. • A project-specific Construction Environmental Management Plan will address mitigation measures to mitigate off-site transport of sediment and ensure that any potential construction-related effects are minimized.
	<p>There is a potential for spills or equipment leaks to occur during construction that could have an adverse effect on water quality, subtidal vegetation or fish.</p>	<ul style="list-style-type: none"> • Standard mitigation measures, including implementing spill prevention and response planning, will be included in a project-specific Construction Environmental Management Plan.
Aquatic species and habitat	<p>The sites currently have existing aquatic habitat values and although the project will replace existing (lower-value) fish habitat (subtidal depressions) with higher-value fish habitat (eelgrass), there is a risk of either direct (e.g. injury or mortality) or indirect (e.g. water quality) impacts on aquatic species and fish during in-water construction.</p>	<ul style="list-style-type: none"> • Work is scheduled to occur during the appropriate fisheries least-risk work window* (August 16 – February 28 annually) for the Roberts Bank area. • A project-specific Construction Environmental Management Plan will address any aquatic species and habitat concerns associated with this project and ensure that any potential construction-related effects are minimized.

* Work is timed to protect fish, including their eggs, juveniles, spawning adults and/or the organisms they consume.

<p>Aquatic species and habitat <i>(continued)</i></p>	<p>The sites are located within designated critical habitat for southern resident killer whales.</p>	<ul style="list-style-type: none"> • The sites consist of relatively shallow subtidal depressions, therefore potential use by southern resident killer whales is limited. • Mitigation measures specific to southern resident killer whales during material placement will be incorporated as appropriate (e.g. marine mammal monitoring).
<p>Vegetation</p>	<p>While the sites are largely un-vegetated, limited diatom mats and drift macroalgae could be disturbed.</p>	<ul style="list-style-type: none"> • Disturbance to vegetation would be limited to diatom mats and drift microalgae. However, an overall increase in the vegetation values at the sites will result upon project completion. • Eelgrass shoots will be transplanted at the sites upon completion of construction of the beds.
<p>Wildlife and habitat</p>	<p>The sites currently have existing aquatic and wildlife habitat values and although the project is expected to benefit wildlife by replacing lower-value aquatic habitat (subtidal depressions) with higher-value aquatic habitat (eelgrass), there is still a risk of disturbance to wildlife species during construction.</p>	<ul style="list-style-type: none"> • A project-specific Construction Environmental Management Plan will address any aquatic species and wildlife habitat concerns associated with this project and ensure that any potential construction-related effects are minimized.
<p>Invasive species</p>	<p>The spread of non-native species (e.g. Japanese eelgrass) could be promoted by construction of new habitat suitable for colonization.</p>	<ul style="list-style-type: none"> • Work will primarily occur in previously disturbed areas. • The post-construction elevation of the eelgrass beds is highly favorable for the establishment of native common eelgrass and less favorable for non-native eelgrass. • Following construction, native common eelgrass will be transplanted at the sites. • Post-construction monitoring will occur to assess the establishment and survival of transplanted eelgrass.

Topic	Potential Effects	Proposed Mitigation Measures
Navigation and water use	The presence of a submerged riprap perimeter berm may represent a slightly elevated risk to cultural and traditional activities, such as fishing, that involve use of the recreational navigation channel.	<ul style="list-style-type: none"> • The project team has and will engage with the recreational boating community and Aboriginal groups to further inform the design of marine markers and appropriate signage. • Proper communication and marine marker signage will be applied, as required. • The project will be reviewed by the port authority, as the sites are under port authority navigational jurisdiction. The project will comply with the <i>Navigation Protection Act</i> and minimize any impacts on boat traffic during and following the construction phase.
	Construction activities could temporarily affect fishing activities both within and beyond the sites.	<ul style="list-style-type: none"> • Efforts will be made to ensure construction does not conflict with fisheries (e.g. during the fisheries least-risk work window* (August 16 – February 28 annually)) • The eelgrass beds have been designed to maximize the created habitat area while maintaining the minimum width of the existing recreational navigation channel.
	Construction activities, in particular access by vessel/barge (for construction materials and equipment), could affect ferry operations.	<ul style="list-style-type: none"> • Consultation with BC Ferries will be ongoing to ensure that any concerns and/or operational requirements are properly addressed.

* Work is timed to protect fish, including their eggs, juveniles, spawning adults and/or the organisms they consume.

<p>Noise</p>	<p>There is some risk for noise from heavy equipment to be heard by offsite users (e.g. at the Tsawwassen Ferry Terminal).</p>	<ul style="list-style-type: none"> • The proposed work location is more than 1,800 metres from residential homes. • The work will occur adjacent to the Tsawwassen Ferry Terminal and causeway, which generates vehicle and boat traffic. Large exceedances of this background noise are not anticipated. • Other appropriate noise mitigation measures, if required, will be developed and implemented through the Construction Environmental Management Plan.
<p>Air quality</p>	<p>Construction activities may impact air quality.</p>	<ul style="list-style-type: none"> • As the majority of construction is anticipated to be undertaken from the water by vessel/ barge using clean materials, dust generation is not anticipated to be an issue at this site. • All unnecessary idling will be minimized. • The project will be pursued to completion as soon as feasible to reduce on-site operation of machinery.
<p>Safety</p>	<p>Construction activities with heavy equipment represent some health and safety risks, primarily to construction workers.</p>	<ul style="list-style-type: none"> • An Occupational Health and Safety Plan will be developed, which will include measures that comply with WorkSafe BC standards, to ensure safe work and avoid any impacts on workers (or the public, in particular recreational boaters).
	<p>The riprap containment berms could represent a safety risk to fishermen and/or other boaters who are unaware of the project boundaries.</p>	<ul style="list-style-type: none"> • Signage/markers will be placed along the edge of the berm(s) to notify the public and avoid incidental collisions with recreational marine users.

The project team recognizes that the area encompassing the two proposed eelgrass sites is well-used among recreational marine users, and the team is considering several options for communicating with users, stakeholders, local residents and the public regarding major construction milestones and access to the area during construction in order to minimize disruption from construction activities.

The project team would like your feedback on the following methods for providing information regarding construction and access to the affected area during the proposed construction period:

- Information signage or posters (e.g. at the boat launch on the BC Ferries causeway, along the beach and/or at nearby marinas)
- Web updates
- Community notices
- Email updates



Tsawwassen Eelgrass Project
Public consultation

About the project

The Vancouver Fraser Port Authority Habitat Enhancement Program is proposing to create habitat on two sites located south of the Tsawwassen Ferry Terminal, near Delta, B.C. The proposed project would result in the conversion of approximately four hectares of lower-value subtidal (below water) areas into high-value eelgrass habitat.



Approximate location of the proposed Tsawwassen Eelgrass Project.

Timeline

The proposed project is currently in the design, permitting and approvals stage. Completion of the regulatory review of the project is anticipated by early summer 2017. Following completion of the regulatory review, the earliest project work could start is expected to be late summer or early fall 2017, for a period of approximately four to five months. To mitigate potential impacts to fish and wildlife habitat, the works would be scheduled to occur within the least-risk work window for Roberts Bank.

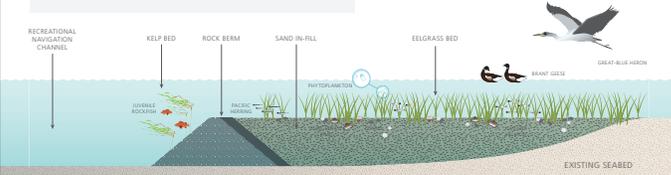
Read the full project permit application at portvancouver.com/development-and-permits/status-of-applications/proposed-tsawwassen-eelgrass-project

Public consultation

How you can participate in this public consultation:

1. Read the discussion guide and fill in a feedback form **online** at porttalk.ca/habitatenhancement or in hard-copy at the public open house (see below).
2. Attend the **public open house**
 - Wednesday, April 5, 2017
6:00 p.m. – 9:00 p.m.
Port of Vancouver Delta Community Office
Trenant Park Square, Ladner
5225A Ladner Trunk Road, Delta
3. Provide **written feedback**
 - **By email:**
habitatenhancement@portvancouver.com
 - **By mail:**
Attn: Tsawwassen Eelgrass Project
Habitat Enhancement Program
Vancouver Fraser Port Authority
100 The Pointe
999 Canada Place, Vancouver, B.C.
Canada V6C 3T4

This consultation period runs from March 20 to April 7. Please submit your feedback by April 7, 2017.



Contact us

Enquiries/Concerns	Phone: 604.665.9071
	Email: habitatenhancement@portvancouver.com
More information about the project	Web: portvancouver.com/TEP
Register for project updates	Email: habitatenhancement@portvancouver.com



Information poster.

1. Potential effects and mitigation measures

Please provide any comments you have regarding potential project and construction effects and proposed mitigation measures described in the table on pages 7 – 10 of this discussion guide. Is there anything else that the project team should consider in planning for project construction?

2. Notification of construction updates

How would you like to receive information regarding important construction milestones for the proposed Tsawwassen Eelgrass Project? Please select all that apply.

- Information signage or posters (e.g. at the boat launch on the BC Ferries causeway, along the beach, and/or at nearby marinas)
- Web updates
- Community notices
- Email updates

The input gathered during this consultation, along with technical and financial information, and information provided by Aboriginal groups and stakeholders, will be considered by the project team as it refines its plans for proposed mitigation measures and notification of project updates. Input gathered will also be reviewed as part of the Vancouver Fraser Port Authority Project and Environmental Review process of the proposed project.

To receive email updates about this proposed project and the Habitat Enhancement Program, please provide your contact information (optional):

Name:

Mailing Address:

Postal Code:

Phone:

Email:

For more information:

Habitat Enhancement Program
Port of Vancouver
100 The Pointe, 999 Canada Place
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