

Proposed Maplewood Marine Restoration Project: Public Consultation

This Consideration Report provides the Maplewood Marine Restoration Project (MMRP) team's response to input received during the public consultation period, which took place from September 24 to October 12, 2018. Input provided will be considered as part of the Vancouver Fraser Port Authority's Project and Environmental Review process. For more information about the port authority's Project and Environmental Review process, please visit: <https://www.portvancouver.com/development-and-permits/project-and-environmental-reviews/>. A separate but parallel consultation process with Aboriginal groups is being led by the project team.

PROJECT OVERVIEW

Guided by a working agreement with Fisheries and Oceans Canada, the Habitat Enhancement Program (HEP) is a port authority initiative focused on creating, restoring and enhancing fish and wildlife habitat. The HEP was developed by the port authority as a part of a broader strategy around gateway growth, acknowledging that habitat sites may be required to offset effects from port infrastructure development.

The port authority is proposing to develop the MMRP for use as a fisheries habitat offsetting site for the proposed Centerm Expansion Project, pending regulatory approval, and to proactively create functioning habitat to provide a balance between a healthy environment and future development that may be required for port operations.

The proposed MMRP consists of one site located on the north shore of Burrard Inlet, approximately two kilometres east of the Ironworkers Memorial Bridge, in the District of North Vancouver. This marine site was identified as a restoration priority for the Tsleil-Waututh Nation. The site was selected for habitat enhancement because of its current relatively low habitat values, and based on input from Aboriginal groups.

The proposed MMRP would enhance approximately seven hectares of low-value marine habitat into higher-value intertidal, eelgrass and subtidal rock reef habitat. The enhanced marine habitat is anticipated to provide long-term benefits for fish and invertebrates that depend on marine vegetation for rearing habitat, along with other fish and wildlife species such as waterfowl and wading birds.

The proposed MMRP is currently in the design development and permitting and approvals phases. Completion of all regulatory reviews of this proposed project are anticipated by mid-2019.

Public consultation included:

- A discussion guide
- An online and hard copy feedback form
- An open house on October 2, 2018 at the Corrigan Nature House, Maplewood Flats Conservation Area (2645 Dollarton Highway, North Vancouver, B.C.)

Consultation topics included:

- Notification methods for construction and project updates:
 - Feedback was sought regarding potential notification methods for construction and project updates
- A proposed ecological or cultural feature:
 - Feedback was sought to gauge interest in a potential ecological or cultural feature and to gather potential ideas

Notification of opportunities to participate in consultation included:

- A localized postcard mail drop delivered to approximately 60 residences along Dollarton Highway, northeast of the marine project site, ahead of the consultation period
- Notification posters posted on the bulletin board adjacent to Corrigan Nature House, placed at the foot of the pedestrian bridge and along the walking trails in the Maplewood Flats Conservation Area
- Two newspaper advertisements that ran in the *North Shore News* on Wednesday, September 19 and Friday, September 28, 2018, inviting members of the public to participate in consultation
- Personalized emails to 11 project key stakeholders in advance of the three-week public consultation period, including the Wild Bird Trust of British Columbia, District of North Vancouver and Environment and Climate Change Canada's Pacific Environmental Science Centre
- An email to approximately 1,150 stakeholders who have registered to receive Habitat Enhancement Program-related emails, on the first day of the three-week public consultation period
- Social media posts:
 - Eight tweets were sent from @PortVancouver to 12,121 Twitter followers. This resulted in 31 clicks to the PortTalk website page and 12,526 impressions.
 - Two targeted Facebook ads were sent from @Portofvancouver to 34,681 Facebook followers. This resulted in 583 clicks to the PortTalk website page and 28,265 impressions.

CONSIDERATION OF INPUT FROM PUBLIC CONSULTATION

Public consultation was held from September 24 to October 12, 2018. The purpose of this public consultation period was to provide information about the proposed Maplewood Marine Restoration Project and to seek input regarding notification methods for construction and project updates, and a potential ecological or cultural feature.

There were a total of 48 interactions with participants as part of public consultation:

- 42 people attended the public open house on October 2, 2018
- Five feedback forms were received (four online and one sent via email)
- One letter was received via email

More information regarding the public consultation period can be found in the Maplewood Marine Restoration Project Consultation Summary Report at <https://www.portvancouver.com/maplewood>.

The following summarizes input received during the consultation period and the MMRP team's response:

Summary of Issue or Interest	Source of Input	Maplewood Marine Restoration Project Team Response
<p>1. Environment</p> <ul style="list-style-type: none"> • Interest in ensuring the proposed MMRP doesn't increase shoreline erosion in the residential area east of the project site. 	<ul style="list-style-type: none"> • Feedback forms • Open house 	<ul style="list-style-type: none"> • As described in the MMRP 60% Design Report (particularly Section 2.6; Coastal Modelling), detailed coastal engineering analysis and numerical modelling was conducted to assess the potential effects of the MMRP on tidal flushing, sediment dispersal, and stability/erosion potential in the area. Aspects of this work are being repeated, with refinements to modelling inputs, during the detailed design phase currently in progress. • In summary, all results indicate that the proposed MMRP will result in an improvement to tidal flushing (in the Maplewood Basin) but no major changes to overall hydrodynamics, sediment transportation, or erosion at or around the site. • The main hydrodynamic features of the area are the flood tide currents through the Second Narrows and the large, counter clockwise eddy over Maplewood Flats. As demonstrated by the modelling, these features drive much of the water circulation in the area and they are not expected to be affected by MMRP implementation.

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<p>2. Project Design and Monitoring</p> <ul style="list-style-type: none"> Interest in proposed construction activities, including potential noise and light impacts, and the preliminary construction timeline. 	<ul style="list-style-type: none"> Open house 	<ul style="list-style-type: none"> The nearest residences are situated greater than 500 metres from the proposed MMRP site. Nearby residents will be notified, as appropriate, in advance of potential noise resulting from night or weekend MMRP work. Light mitigation measures will be developed and crews will be instructed to point lights down, not toward land. To mitigate potential negative effects to fish and birds, the majority of work is scheduled to occur during the least-risk timing window for fish (August 16 – February 28 annually), and is anticipated to mostly occur outside the general nesting bird window (March 15 – August 15 annually). Completion of all regulatory reviews on the proposed MMRP is anticipated by mid-2019. Following completion of these regulatory reviews, the earliest that construction on the proposed MMRP could start is expected to be early fall 2019, for a period of approximately eight months.
<p>Project Design and Monitoring</p> <ul style="list-style-type: none"> Interest in the environmental benefits of intertidal flat, eelgrass and rock reef habitat, and why the proposed location is suitable for each type of habitat. 	<ul style="list-style-type: none"> Open house 	<ul style="list-style-type: none"> The habitat enhancement proposed as part of the MMRP will convert existing low-value marine habitat into higher-value subtidal rock reef, eelgrass and intertidal flat habitat. Rock reefs are submerged rock outcrops that create refuge for many fish species. These reefs provide surface areas for the colonization of algae, kelp and invertebrates, and host an abundance of marine species. Eelgrass habitats are among the most productive and biologically diverse ecosystems on the planet. Eelgrass provides food, breeding areas and protective nurseries for fish, shellfish and other animals. It also helps prevent erosion by slowing water flow. Tidal flats are largely devoid of vegetation but are generally teeming with marine invertebrates such as crabs, bivalves and clams. Tidal flats are also an important feeding ground for shorebirds.

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		<ul style="list-style-type: none"> • These habitat types are suitable for the MMRP because: they are currently represented in the vicinity of the MMRP, when elevations and substrate conditions are appropriate; the results of MMRP coastal modelling and biophysical studies align with their oceanographic requirements; and there is regional precedent for their successful implementation in areas with comparable conditions, using similar and established designs and methods. • There will be an overall gain in the habitat values and fisheries productivity at the project site by implementing the MMRP.
<p>Project Design and Monitoring</p> <ul style="list-style-type: none"> • Interest in past industrial use of the site, including what debris may remain. 	<ul style="list-style-type: none"> • Feedback forms 	<ul style="list-style-type: none"> • The Maplewood Flats area has been used by Aboriginal groups since time immemorial. • Regarding past industrial use, the Maplewood Basin area was previously intertidal flat similar to the existing Maplewood Flats to the east of the MMRP site. A review of historic aerial photographs suggest that the Basin was dredged between the 1940s and 1960s, and it has largely remained in its present form since that time. • The dredged areas were formerly used for log sorting and storage operations—from the early 1940s to early 1980s—and gravel extraction operations via barge in the early 1940s to 1961. • The partial infilling of dredged areas between 1969 and 1979 on the north side of the Maplewood Basin resulted in the reinstatement of upland areas that were used for a wide range of industrial operations until the late 1980s. The upland Maplewood Flats became a conservation area in the 1990s. • Material such as wood waste and debris from the log sorting and storage operations remains on the Basin floor.

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		<ul style="list-style-type: none"> As a result of this past industrial use, and considering the current relatively low habitat values, the site presents an exceptional opportunity for habitat restoration.
<p>Project Design and Monitoring</p> <ul style="list-style-type: none"> Questions regarding if a proposed development by Darwin Construction that's located on the north side of Dollarton Highway may affect the proposed MMRP via water flowing through the barge channel. 	<ul style="list-style-type: none"> Open house 	<ul style="list-style-type: none"> The proposed timeline for MMRP construction would occur well in advance of any changes that may occur in the barge channel, either as a result of planned development north of the Maplewood Flats Conservation Area or potential future restoration work associated with the potential consolidation of freshwater flows from watersheds west and north of Dollarton Highway. The project team will continue to engage with the District of North Vancouver and others (e.g. Aboriginal groups, Wild Bird Trust of B.C.) to further understand future plans for the surrounding areas, and potential effects of these developments on the MMRP.
<p>Project Design and Monitoring</p> <ul style="list-style-type: none"> Questions regarding if and how fresh water flow will be affected by the proposed MMRP. 	<ul style="list-style-type: none"> Open house 	<ul style="list-style-type: none"> The MMRP team has considered freshwater input (both current and potential future increases) in the project design. Intertidal flat habitat often develops close to the mouths of creeks and rivers, where fluvial sediment encounters a low energy environment and settles out. Such estuarine environments are characteristically variable in virtually all of their physical and chemical properties, including salinity. Further, there is existing freshwater input in the area (e.g. McCartney Creek). Therefore, intertidal flat habitat in general, and in the MMRP area in particular, is considered tolerant of variable salinities due to freshwater input. Eelgrass has been reported to perform best in brackish conditions over a wide range of salinities (~10-30 parts per thousand [ppt] salinity) but can tolerate an even wider range of freshwater to ~40 ppt .

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		<ul style="list-style-type: none"> • Kelp species typical of rock reefs, such as bull kelp (<i>Nereocystis luetkeana</i>), have been reported to have wide salinity tolerances. • In summary, freshwater input is not anticipated to result in water quality conditions that would affect the success of the proposed habitat types.
<p>Project Design and Monitoring</p> <ul style="list-style-type: none"> • Comment that it may take time for vegetation to colonize in the project area. 	<ul style="list-style-type: none"> • Open house 	<ul style="list-style-type: none"> • Post-construction, the site will be monitored in accordance with regulatory requirements to ensure the biophysical objectives are being met. This is anticipated to include quantitative and qualitative success criteria, focusing on physical stability, establishment of eelgrass, and the demonstrated use, based on visual observations, of the habitat types by fish and macroinvertebrates. • As is the case with all Habitat Enhancement Program projects, we will undertake annual monitoring that's guided by biologists and coastal engineers to ensure the enhanced habitat continues to function well.
<p>Project Design and Monitoring</p> <ul style="list-style-type: none"> • Suggestion to create an island within the project area for bird nesting. 	<ul style="list-style-type: none"> • Feedback forms 	<ul style="list-style-type: none"> • Intertidal flat, eelgrass and rock reef habitats are being proposed in the MMRP. • While the main focus of the MMRP is to enhance fish habitat, it is also anticipated that the enhancements will improve productivity for numerous bird guilds (e.g. shorebirds, waterfowl, raptors, etc.). • The habitat enhancements associated with the proposed MMRP are being designed in a way that would not preclude future enhancement work being conducted in the wider Maplewood Basin. • There will be an overall gain in the habitat values and fisheries productivity at the project site by implementing MMRP. • To mitigate potential negative effects to fish and birds, the majority of work is scheduled to occur during the least-risk timing window for fish (August 16 – February 28 annually), and is anticipated to mostly occur outside

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		the general nesting bird window (March 15 – August 15 annually).
<p>3. Recreational Use</p> <ul style="list-style-type: none"> Interest in understanding long-term use plans for watercraft in the project area. 	<ul style="list-style-type: none"> Feedback forms 	<ul style="list-style-type: none"> The MMRP is under review by the port authority’s Project and Environmental Review (PER), as the proposed site is under port authority navigational jurisdiction. The Project aims to minimize any impacts on vessel traffic during and following the construction phase. The MMRP team has and will continue to engage the public, Aboriginal groups and regulators to further inform the potential need for marine markers and appropriate signage related to the MMRP. Proper communication will be implemented during construction and marine markers and/or signage may be installed, as required.
<p>4. Proposed ecological or cultural feature</p> <ul style="list-style-type: none"> Comment that a proposed feature at the project site should explain or represent the historic ecological wealth of Burrard Inlet and what this means for the Tsleil-Waututh Nation. Comment that a proposed feature should be determined by the Tsleil-Waututh Nation. 	<ul style="list-style-type: none"> Feedback forms 	<ul style="list-style-type: none"> The marine site for this proposed project was identified as a restoration priority for the Tsleil-Waututh Nation. The marine site was selected for habitat enhancement because of its current relatively low habitat values, and based on input from Aboriginal groups. In addition to public consultation, a separate but parallel consultation process with Aboriginal groups has been undertaken by the port authority and will continue throughout project development.
<p>Proposed ecological or cultural feature</p> <ul style="list-style-type: none"> Suggestion to install an interpretive bird-blind, or a shelter used to observe birds at close quarters. 	<ul style="list-style-type: none"> Written submission 	<ul style="list-style-type: none"> Suggestions regarding a proposed ecological or cultural feature as part of the MMRP were requested as part of this fall 2018 public consultation process. A decision regarding a proposed ecological or cultural feature will be made in due time, after further consultation with Aboriginal groups and stakeholders such as the Wild Bird Trust of B.C.

<p>Proposed ecological or cultural feature</p> <ul style="list-style-type: none"> Suggestion to conduct a feasibility study regarding the restoration of the southern shoreline, located west of the barge channel at the Maplewood Flats Conservation Area, by adjusting the slope and adding cobbles and sand just below the high-tide line. 	<ul style="list-style-type: none"> Written submission 	<ul style="list-style-type: none"> Suggestions regarding a proposed ecological or cultural feature as part of the MMRP were requested as part of this fall 2018 public consultation process. A feasibility study regarding the restoration of the southern shoreline is not within the scope of the MMRP but will be considered by the project team. A decision regarding a proposed ecological or cultural feature will be made in due time, after further consultation with Aboriginal groups and stakeholders such as the Wild Bird Trust of B.C.
<p>Proposed ecological or cultural feature</p> <ul style="list-style-type: none"> Suggestion to participate in the Wild Bird Trust of B.C.'s Maplewood Flats Habitat & Cultural Use Management Plan. 	<ul style="list-style-type: none"> Written submission 	<ul style="list-style-type: none"> Suggestions regarding a proposed ecological or cultural feature as part of the MMRP were requested as part of this fall 2018 public consultation process. The port authority's participation in the Wild Bird Trust of B.C.'s Maplewood Flats Habitat & Cultural Use Management Plan is not within the scope of the MMRP but will be considered by the project team. A decision regarding a proposed ecological or cultural feature will be made in due time, after further consultation with Aboriginal groups and stakeholders such as the Wild Bird Trust of B.C.
<p>5. General support for the project</p> <ul style="list-style-type: none"> Comment that supports the port authority taking the initiative to enhance habitat at this site, and support for the port authority's work with Aboriginal groups. 	<ul style="list-style-type: none"> Feedback forms Open house 	<ul style="list-style-type: none"> The project team undertook one round of formal public consultation in October 2018. Expressions of support for the project were received through public consultation and stakeholder feedback, and were publicly reported in the Maplewood Marine Restoration Project Consultation Summary Report, which can be found at https://www.portvancouver.com/maplewood. Prior to October 2018, thorough engagement was conducted with MMRP stakeholders over the course of one year, including a number of presentations and information-sharing meetings to groups such as the Wild Bird Trust of B.C., District of North Vancouver, Environment and Climate Change Canada's Pacific

		<p>Environmental Science Centre and the North Shore Waterfront Liaison Committee.</p> <ul style="list-style-type: none">• In addition to public and stakeholder consultation, a separate but parallel consultation process with Aboriginal groups has been undertaken by the port authority and will continue throughout project development.• The Habitat Enhancement Program is a Vancouver Fraser Port Authority initiative focused on creating, restoring and enhancing fish and wildlife habitat. Since 2012, the Habitat Enhancement Program has constructed or restored approximately 10 hectares of functioning habitat.• For more information, please visit https://www.portvancouver.com/habitatenhancement.
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