From: IonaWWTP
To:
Subject: IIWWTP Projects Updates – December 2023 Community Newsletter
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You are receiving this newsletter because you have expressed an interest in, or a connection to, the Iona Island Wastewater Treatment Plant Projects, the adjacent Iona Beach Regional Park, resource recovery opportunities, or the area's ecology.

Learn more about the projects

December 18, 2023

Read time: 6:00 minutes

Wastewater Treatment Plant Project Updates

Barge Berth

Metro Vancouver hosted an engagement session on October 5, to provide community members an opportunity to discuss the Barge Berth Project and share their feedback with project decision makers. The information session was summarized in an engagement report that is available on the project website under "Community Engagement".

At this time, a final decision on the location of the barge berth has not been made. Metro Vancouver is currently considering three proposed locations to site the barge berth, which are being evaluated by a third-party consultant as part of a site selection study. Please note that community impacts including health risks are part of the selection criteria.

Biosolid Stockpiles

Historically the Iona Island Wastewater Treatment Plant has stockpiled biosolids on the eastern portion of the site, commonly known as the Iona biosolids stockpile. Biosolids are recovered from wastewater treatment and are rich in the nutrients and organic matter that plants love. Biosolids can be used as an ingredient to build healthy soils and restore disturbed and degraded land. To date 465,000 tonnes of biosolids have been removed from the Iona biosolids stockpile. While some of this material has been disposed, over 70% has been used beneficially within the Fraser Valley and across the province.

At beneficial use sites, biosolids are mixed with other ingredients such as sand and sawdust and provide an important component in creating healthy soils. Iona stockpiled biosolids have been used beneficially to reclaim gravel pits at the end of their mining activities, to produce agricultural land, and to create a soil for landfill covers to reduce their greenhouse gas emissions.

The Iona stockpile resides on the future location of the Iona Island Wastewater Treatment Plant. To make way for construction activities, biosolids removals have accelerated in recent years and now under 40,000 tonnes remain. The Iona biosolids stockpile is expected to be fully removed by April 2024. To learn more about Metro Vancouver biosolids please visit Nutrifor (Biosolids).

Eagle Nest Cone

In early fall, Metro Vancouver installed a temporary metal cone (nest deterrent) on an eagle nest located near the entrance of the wastewater treatment plant. Metro Vancouver worked with the Ministry of Forests and qualified environmental professionals from Diamond Head Consulting to develop a Bald Eagle Nest Management Plan to minimize potential construction impacts on nesting eagles. Following the plan's guidelines, the Ministry of Forests granted Metro Vancouver permission to install the nest deterrent as a precautionary measure to prevent any disruption to nesting bald eagles during construction of the plant. The nest deterrent is expected to remain in place for up to two years.

To compensate for the temporary loss of nesting habitat, nesting material was placed in a tree 692 metres away to establish a replacement nest site. A monitoring program will be established to evaluate and report on the replacement nest to determine whether or not it has been adopted.

Park and Ecological Restoration Project Updates

Biophysical Studies for Park and Ecological Restoration Projects

Over the last two years, several studies have been conducted by Metro Vancouver to identify and fill data gaps in the understanding of wildlife, plants, water quality, and other existing biophysical conditions at Iona Island. The findings will inform ecological restoration, management planning, and designs for the Park & Ecological Restoration Projects that are part of the IIWWTP Projects. Literature review and data analysis are now complete, and a report on foreshore existing conditions is being finalized. The studies included birds, fish, amphibians, and marine and terrestrial vegetation.

Marine Vegetation

The marine vegetation program confirmed that Iona Island contains a diverse array of sensitive, and ecologically significant foreshore and marine ecosystems, including tidal marshes, coastal sand dunes, eelgrass, and macroalgae. Although marine vegetation was found within all surveyed project areas, its distribution and abundance varied. Some areas were notable due to the high abundance of vegetation and the presence of rare plant communities. These vegetation communities are sensitive to changes in environmental conditions (e.g., sedimentation, hydrology, water quality, and elevation).

Ulva wrack and woody debris along the beach

Eel grass near North Arm Jetty

Terrestrial Vegetation

The terrestrial vegetation program assessed ecosystems and vegetation in the upland habitats of Iona Island, which included coastal sand dune ecosystems. Overall, 38 non-native plant species and 28 native plant species were identified, none of which are identified as species at risk. Of the non-native plant species documented, 14 are considered invasive by the Invasive Alien Plant Program and four are listed as Noxious by the provincial Weed Control Regulation. Plants identified as invasive or noxious

were distributed throughout the surveyed area.

Red-listed large-headed sedge plant community

Fish

The survey found that the area within the IIWWTP Projects footprint provides habitat for a diverse community of marine, freshwater, and estuarine fish species. Fish taxa of interest included salmonids, white sturgeon, eulachon, and forage fish. The five Pacific salmon species that occur across the project areas include Chinook, coho, pink, sockeye, and chum salmon.

Salmon abundance was highest in the spring, particularly for Chinook and chum salmon species. After this time, salmon smolts leave nearshore estuaries for marine migrations. In early to late summer, the fish community trends towards an increase in pelagic species, particularly perches and three-spined stickleback. In winter, the Pacific sand lance was the dominant species detected. White sturgeon and eulachon, occurred within the project areas, indicating that although in low occurrence, these species may use the habitats transiently or for longer periods within the area. McDonald Slough provides habitat for a variety of fish species (50 taxa detected in winter) indicating that this area is suitable fish habitat and had the highest diversity during this time compared to the other areas sampled.

Wildlife (Amphibians and Reptiles)

Several garter snakes were observed travelling within the cottonwood forest beside the north pond in Iona Beach Regional Park (IBRP). This site is near a known location where garter snakes hibernate suggesting this is an important habitat for snakes at Iona Island. Pacific tree frog species were detected breeding in wetlands within the cottonwood forest. Although this area has been identified as habitat for western painted turtles, painted turtles were not observed. Similarly, river otter latrines that have been documented by Regional Parks were not observed.

Green frog

Tidal flats in the Fraser River Estuary are a rich source of biofilm and invertebrate fauna for migrating shorebirds, supporting a high abundance of birds, particularly western sandpiper and dunlin. Throughout the study program, 113 bird species were observed around IBRP, 17 of which are species at risk. Seventeen shorebird species were observed, with a high abundance of dunlin during the northward migration period and a high abundance of western sandpiper during the southward migration period. Fifty-seven species of breeding birds were observed, of which the barn swallow and purple martin were the most abundant.

Bank Swallow with Tree Swallow

Cedar Waxwing

Vesper Sparrow

Procurement Updates

Current Procurement Opportunities

The team continues to work on procuring top providers of various services, consultants, and equipment. Preparations are underway to kick-off procurement activities for:

- Renewable Natural Gas (RNG) concept design consultants

- Equipment supply for early electrical field works
- Consulting services for planning and design of the park and ecological restoration projects
- Preload sand supply for ground improvements

To learn more about current and upcoming procurement opportunities, please visit our procurement web page. Interested in working on this project? Please reach out to the IIWWTP Projects team anytime via email at ionawwtpteam@metrovancouver.org.

For more information about the numerous projects that make up the Iona Island Wastewater Treatment Plant Projects, please see the conceptual design backgrounder paper.

Frequently Asked Questions

What work has been done to evaluate the climate and disaster mitigation at the current site?

The plant will be designed and constructed to remain operational during and after a 1:500-year flood event (with consideration for future sea level rise in addition to the flood elevation). A 2100 climate scenario was considered. The ecological restoration projects will also play a key role in adapting to climate change resilience for the island and critical plant infrastructure.

What is the difference between a barge berth and a barge terminal?

The main difference between a barge berth and a barge terminal is their size and usage. Berths are smaller and used specifically as a docking point to load and unload materials. Terminals are larger, more complex facilities and include storage of materials and cargo, often including multiple berths, connections to road and rail infrastructure and offices. The proposed barge berth for IIWWTP construction will be used to load and unload materials for construction. The design will consist of a dock and in-river piles to securely anchor the barges and a conveyor system to move materials between the barge and the shore.

About the Projects

The Iona Island Wastewater Treatment Plant in Richmond, BC was built in 1963 and today serves approximately 750,000 residents in the Vancouver Sewerage Area (serving Vancouver, parts of Burnaby and Richmond, the University Endowment Lands, and UBC). The facility provides primary treatment and processes about 200 billion litres of wastewater each year.

The plant is being upgraded to protect public health and the environment in our growing region. The design concepts for the projects include:

- **Tertiary wastewater treatment** to improve the treated wastewater quality being discharged to the Salish Sea
- **Ecological restoration projects** to restore Iona Beach Regional Park's diverse and sensitive ecosystems, build climate resilience, increase park visitor connection to nature, and create integration between the wastewater treatment plant and Park
- **Resource recovery opportunities** to help support the region's carbon neutrality objectives, by recovering important resources such as reclaimed water for non-potable uses, and biogas captured and used at the plant to generate heat for operations as well as supply for renewable natural gas to the Fortis BC natural gas distribution system
- **Extensive ground improvements** to protect the plant from earthquake events and account for future sea level rise this century

The projects are now in the Early Works and Preliminary Design phase, with early works to prepare the site underway. Please visit the project web page to see a list of engagement events and meeting summaries from the Project Definition Phase (June 2018 to February 2022).

Visitors to xʷəyeyət (Iona Island) may see crews conducting work related to these activities.

Keeping You Informed

Thank you for your interest in the Iona Island Wastewater Treatment Plant Projects. If you know others who are interested in the project, please forward this email and encourage them to sign up for future newsletter by visiting the project webpage and clicking on the “Sign Up” button under “Stay Connected”.

CONTACT US:

A Community Liaison is available to address questions and concerns:

Community Liaison: 604-432-6200

Email: IonaWWTP@metrovancouver.org

Website: metrovancouver.org

FOLLOW US:

Metro Vancouver is a diverse organization that plans for and delivers regional utility services, including water, sewers and wastewater treatment, and solid waste management. It also regulates air quality, plans for urban growth, manages a regional parks system, provides affordable housing, and serves as a regional federation. The organization is a federation of 21 municipalities, one electoral area, and one treaty First Nation located in the region of the same name. The organization is governed by a Board of Directors of elected officials from each member jurisdiction.