



ENVIRONMENTAL STEWARDSHIP

NEWSLETTER

VOLUME 7, ISSUE 4

VISION

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“We, the Musqueam, will work together to take care of our territory so the following generations will know how to be self-reliant. We will remember our own history and as well, use our traditional teachings to take care of everyone and everything on this earth”.

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FROM THE EDITOR

Happy June Everyone!

On behalf of the Environmental Stewardship Department, I hope everyone has been enjoying the long days and warm weather. There is no better time of year to get outside and enjoy the beautiful lands and waters we are so lucky to call home. As we do, it's important to reflect on our role as stewards and guardians of this beautiful place. We look forward to continuing to represent Musqueam's environmental interests and advocating on behalf of the community.

Have a great summer.

Sincerely,

Sarah Skapski, Interim Environmental Stewardship Manager

REDUCING EMISSIONS FROM VANCOUVER'S BUILDINGS



The task of fighting climate change is a significant challenge. To be successful, all levels of government will need to do their part. This includes municipalities, like Vancouver. Vancouver is one of the boldest on climate action in Canada, having declared a climate emergency in 2019. As part of its climate goals, the city is trying to reduce greenhouse gas (GHG) emissions by 50% by 2023 and 100% by 2050. To help reach these goals, as well as mitigate and adapt to climate change more broadly, the city has several strategies and plans including the Climate Emergency Action Plan (CEAP). The plan identifies actions in areas the city has jurisdiction over, including land use planning, transportation and infrastructure. It also includes steps to reduce emissions from buildings in the city. This section is of particular importance since buildings accounts for 55% of the city's emissions. A large portion of this comes from heating, ventilation and air conditioning, or HVAC.

As part of the CEAP, Vancouver passed the Annual Greenhouse and Energy Limits bylaw in 2022. The first of its kind in Canada, the bylaw applies to commercial, retail, multi-family and other large buildings

greater than 50,000 ft². The bylaw sets a cap on the emissions for each type of building, measured in tonnes of CO₂ per ft² per year. Building owners will pay a fee for emissions that exceed the cap. Starting with the largest buildings on June 1st of this year, all applicable buildings will start to report their emissions by 2026 at the latest. They will do so indirectly by reporting how much energy they use. To do this, buildings will have their energy meters connected to a software program developed by Natural Resources Canada called the Energy Star Portfolio Manager. They must also enroll in Energy Star, many of which already do. A building's electricity consumption and natural gas use can be inputted into Energy Star. This allows a building's emissions to be calculated per square foot.

While buildings will begin reporting their emissions this year, the first enforceable cap will begin in 2026 with a cap of 25 kg of CO₂ per square foot a year for office buildings and 14 kg CO₂ for retail. Building owners will have to pay \$350 per ton of CO₂ they exceed in their allotment. These limits were chosen to cover approximately the worst quarter of buildings. With these fees a large office building would pay a fee of around \$14,000 a year if they exceed their cap by just 2 tonnes per square foot.

Over time the cap will be lowered to systematically reduce emissions from buildings. At first, simple measures like switching to LED light bulbs or adjusting heating and cooling so it doesn't run 24 hours a day will allow buildings to get below the cap. However, in the future as the cap becomes more strict, stronger actions will need to be taken. For example, switching from natural gas to electricity for heating.

While the bylaw gives the city the ability to impose large fees on poorly performing building owners, including a fine of up to \$500 per day they do not comply with reporting requirements, the city has said they will work with owners to help them understand what is expected from them and help them comply with the bylaw. Educating owners is preferred over handing out fines.

This bylaw will make a tangible difference in reducing emissions in Vancouver, however only time will tell the exact impact it will have.

A MORE CONNECTED WATERCOURSE FOR FISH – REPLACING FLOOD INFRASTRUCTURE



Among the many barriers that salmon face in migrating through an urban landscape, few are as problematic as floodgates. A major component of colonial flood management, floodgates are designed to allow water to flow downstream, but not upstream. This presents a problem for salmon fry, who

rely on moving up into suitable habitats like sloughs and side channels for foraging and shelter. Unfortunately, the heavy metal doors of the top-mounted “flap gates” are usually shut, blocking fish access. Fish are either forced to find inferior habitat, or to push through during an extremely small window when the gate is open, if that opportunity comes at all. Flap gates can often sit high above the water level or require a high amount of water pressure to open, making passage impossible.

According to one estimate, about 2,000 miles of suitable salmon habitat in the Fraser River floodplain is rendered inaccessible due to floodgates.

“Fish-Friendly” Designs

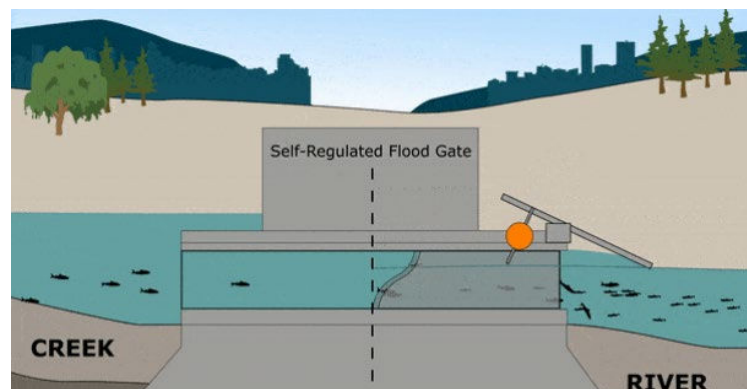
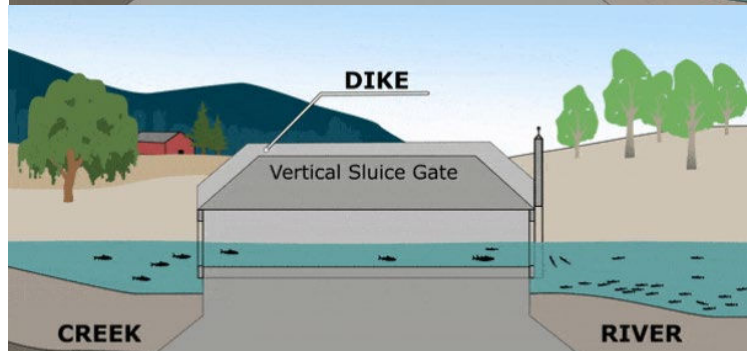
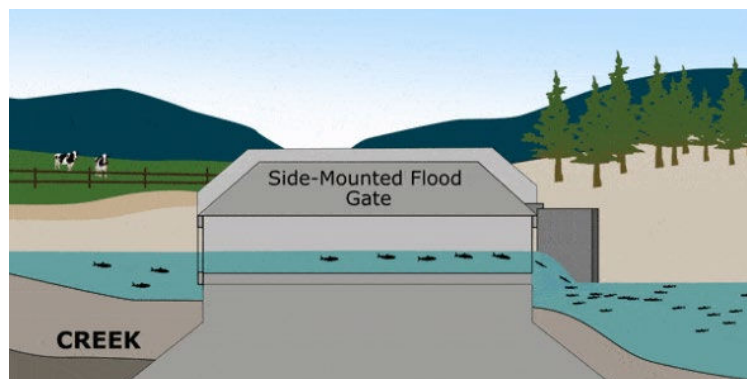
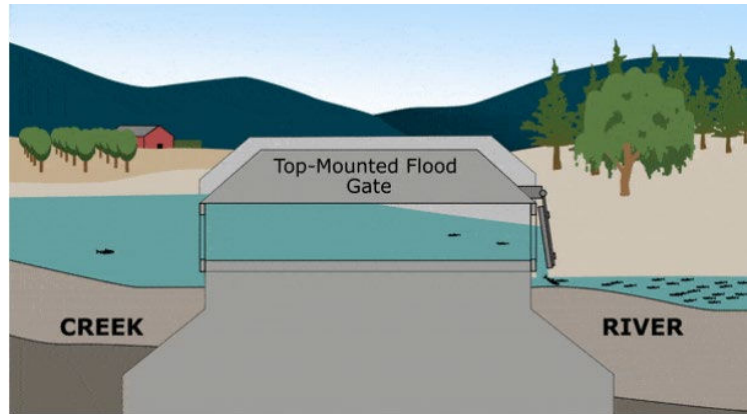
In light of this issue, many designs have been developed in an attempt to allow fish to pass unimpeded, but still protect homes and infrastructure.

Side-Mounted Flood Gate

Side-mounted flood gates are considered a “somewhat fish-friendly” design. They are significantly better than top-mounted gates because they require less water pressure to open and allow fish to pass for longer periods of time. However, they still require fish to pass through high currents, and are closed by default, which is not ideal.

Vertical Sluice Gates

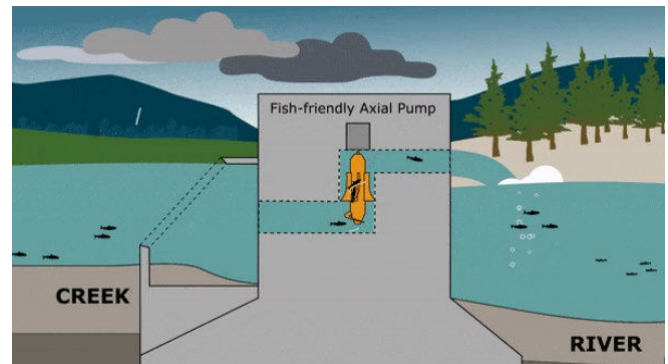
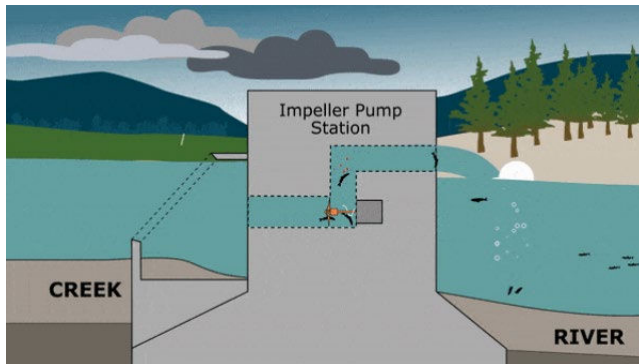
Vertical sluice gates are remote-operated gates that can be opened or closed at will. These can be left open, and can be closed during flooding events. This design is only considered fish friendly if left open by default, which allows for free fish passage. These can be hugely beneficial if managed properly, but might require more maintenance as they introduce motors and electronic transceivers into the design.



Self-Regulating Gates

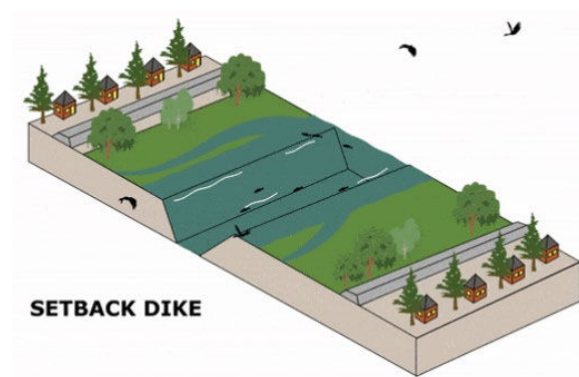
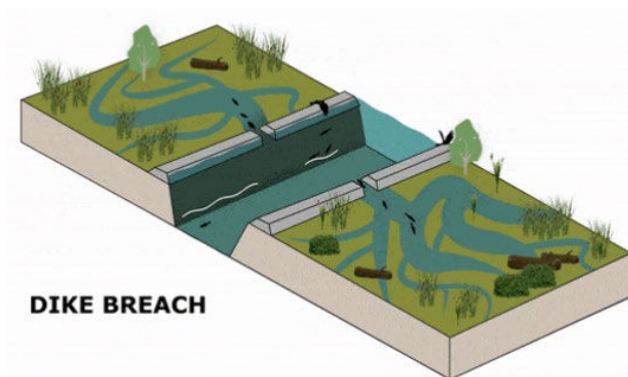
Self-regulating gates are top-mounted like the original design, but with a key difference: they have a counter-weighted buoy which keeps them open in low flows. The only time when these gates shut is when the water level on the river side rises above a certain level, causing a buoy to float and shut the gate. Unlike the vertical sluice gates, these do not require a person to operate.

Pump Station Designs



Many places rely on multimillion-dollar pump stations in order to keep water levels down during high rainfall events. The purpose of traditional impingement pumps is to push water out of a creek and into a river as quickly as possible, and in the past minimal thought was given in the design to fish. As a result, fish passing through the system have a high risk of mortality. The high-speed propellers can cut fish as they pass through, and the extreme pressures can also injure and kill fish. Unfortunately, fish friendly pumps are estimated to be about twice as expensive as traditional ones. And with many municipalities having to foot the bill, the cheaper solution tends to win out.

Dike Designs



Designs that allow for natural habitat complexity are the most ideal for wildlife and the surrounding environment. Meandering streams slow down stream flow, while roots from vegetation holds sediment in place and cleans the water. It also provides more complex habitat for fish fry, allowing for cover and for sources of food. Overhanging vegetation results in cooler water, and also provides food from falling bugs and debris. Naturalizing streams can also be cost-effective, because it does not require maintenance. The creation of wetland also creates sanctuary for other wildlife, builds fire and flood

resilience and provides access to nature for people. Nature is allowed to play out its natural course, and the ecosystem sustains itself. However, natural ecosystems require space, which unfortunately is in short supply in the Metro Vancouver area. But as the impacts of industrial flood design become more apparent to the public, and as current infrastructure continues to age, it is hoped that creative solutions such as these will be more widely implemented, allowing for people and wildlife to thrive together.

Animated versions of the flood infrastructure designs can be viewed on the [Watershed Watch Salmon Society](#) website.

FIRST SIGHTING OF AN INVASIVE ASH KILLING INSECT IN VANCOUVER



An invasive insect that has wiped out hundreds of millions of ash trees in eastern Canada has been discovered for the first time in B.C. The emerald ash borer is a small wood-boring beetle native to eastern Asia that has recently been detected at several parks in Vancouver, the Canadian Food Inspection Agency (CFIA) announced May 2nd.

With the city home to more than 7,000 ash trees, the news has B.C. forestry conservation experts concerned that similar devastation will occur in western Canada.

The Canadian Food Inspection Agency, the Province, and the Invasive Species Council of B.C., are urging Vancouver to act quickly to stop the spread of the emerald ash borer.

The insect was found on ash trees at Strathcona, Andy Livingstone and Coopers parks, as well as between Davie Street and Coopers Park alongside Marinaside Crescent and the intersection of Keefer Street and Heatley Avenue.

To limit the species' spread, the CFIA has restricted the movement of materials including firewood, logs, branches, and woodchips, which is how the insects' larvae are transported over long distances, in the affected areas since April 24.

Local property owners have been notified of the restrictions as the CFIA continues to surveil the city for other infestations.

The Vancouver Park board is working with stakeholders including the City of Vancouver, the CFIA, the province and the Invasive Species Council of B.C. to prevent the spread and develop a treatment strategy for infected ash trees.

Options typically used to try and stop the spread of the beetle have involved removing infested ash trees so that adult insects cannot fly to other trees in the area, or inoculating ash trees in advance so the beetles do not lay eggs on them.

In the two decades since the discovery of the insect in Ontario it has spread to four other provinces (Manitoba, Quebec, New Brunswick, Nova Scotia) and many other parts of North America, including 35 U.S. states, such as Oregon, where the insect was detected two years ago.

Within 8 – 10 years of its introduction to a region, the insect kills as many as 99% of unprotected ash trees, according to Natural Resources Canada.

But compared to forests of native ash trees that populated parts of eastern Canada, Vancouver's ash tree stock is mostly exotic, planted in parks and along streets. However, in southwestern B.C., such as Port Alberni, Normandy Creek, Saanich and Macktush Creek Estuary on Vancouver Island, there are native forests of Oregon ash trees that could be at risk.

SUMMER EVENTS AROUND VANCOUVER

❖ Afro World Expo, June 1st and 2nd

Western Canada's largest expo of Caribbean and African products and culture. Featuring a vendor marketplace of over 50 vendors, a fashion show showcasing local designers, an array of Caribbean and African food, and live performances featuring artistry from around the world. For more info visit <https://www.destinationvancouver.com/event/afro-world-expo/23978/>.

❖ Italian Day on The Drive, June 9th

June 9th is Italian Day, celebrating Italian culture, heritage and community. A lively 14 block community embrace and *festa*, it has become Vancouver's largest and most anticipated cultural street festival, drawing hundreds of thousands of attendees of all ages and cultures. Visit <https://www.destinationvancouver.com/event/italian-day-on-the-drive/23983/> for more info.

❖ Japan Market Summer Festival, June 8th and 9th

Come enjoy shopping in the sun at our unique outdoor summer market with over 70 Japanese makers, artisans, and local businesses, with the aim of supporting Japanese culture in Vancouver. For more information visit <https://japanmarket.ca>.

❖ Planted Expo Vancouver 2024, June 1st and 2nd

Planted Expo is North America's largest plant-based event, celebrating all things plant-based and sustainable! Come discover all of the innovative products that will benefit you, our planet, and the animals we share it with. Over 200+ plant-based, vegan, and sustainable exhibitors for you to discover, explore, and sample. For more info visit <https://www.plantedlife.com/planted-expo-vancouver-2024>.

❖ **Vancouver International Jazz Festival, June 21st to 30th**

The 39th Vancouver International Jazz Festival presents over 150 performances including more than 50 free events from June 21 to 30, 2024. Opening weekend includes Downtown Jazz, a free concert series outside the Vancouver Art Gallery, June 22 and 23. Granville Island will be the hub for festival activity, with free and ticketed shows. Visit <https://www.coastaljazz.ca/> for more info.

❖ **Vancouver Folk Music Festival, July 19th to 21st**

Every July, you'll find Vancouverites heading down to Jericho Beach for the Vancouver Folk Musical Festival, a major event on the world folk and roots music circuit, and one that might just change your mind about what constitutes "folk music.". Visit <https://thefestival.bc.ca/> for more info.

❖ **Honda Celebration of Light 2024, July 20th, 24th, and 27th**

The Honda Celebration of Light is the longest running offshore fireworks competition in the world. Each year, the event welcomes over 1.25 million people to the shores of English Bay in Vancouver to enjoy three nights of spectacular fireworks by the world's best pyrotechnic teams. Visit <https://hondacelebrationoflight.com/> for more info.

For many more events taking place in Metro Vancouver this winter, visit Destination Vancouver's website at <https://www.destinationvancouver.com/events/calendar-of-events/>.

CONTACT US

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