



Report to Council

From the Office of Councillor Amy Lubik

Date: October 12, 2020

Subject: Support for Resolution regarding Flood Risk Mitigation Through Green Infrastructure and Natural Assets

Purpose

To advocate for support for Flood Risk Mitigation through Green Infrastructure and Natural Assets to the BC government.

Recommendation

THAT the following resolution regarding Flood Risk Mitigation Through Green Infrastructure and Natural Assets be endorsed by the City of Port Moody and forwarded for consideration at the 2021 Lower Mainland Local Government Association and subsequent Union of British Columbia Municipalities convention as recommended in the report dated October 12, 2020 from Councillor Amy Lubik regarding Flood Risk Mitigation Through Green Infrastructure and Natural Assets Lower Mainland Local Government Association and Union of British Columbia Municipalities Consideration:

Whereas the side channels, tributaries and sloughs of the Fraser and other large rivers have deep value to First Nations as historic transportation corridors, sites of food cultivation and harvest, refuge and gathering places; many of these same waterways are or were valuable recreational fishing, boating and swimming sites but are no longer safe and accessible for these activities;

And whereas these waterways provide moderating effects for localized and riverine flooding and valuable habitat for wild salmon and other important species;

And whereas there is no current requirement or standard practice for treating these natural and manmade waterways as valuable natural assets for their provision of the aforementioned ecosystem services:

Therefore be it resolved that Union of British Columbia Municipalities request that the federal and provincial governments remove constraints and implement requirements for incorporating green infrastructure and nature-based solutions in flood management to ensure effective flood risk mitigation while maintaining or restoring social, cultural and ecological co-benefits for these systems;

And be it further resolved that Union of British Columbia Municipalities request that the federal and provincial governments promote natural assets as a viable emergency planning solution and provide appropriate funding through the Disaster Mitigation Adaptation Fund, Investing in Canada Infrastructure Program, Community Emergency Preparedness Fund, Emergency Management BC and other similar emergency planning and mitigation funds.

AND THAT a letter advocating for Flood Risk Mitigation Through Green Infrastructure and Natural Assets as part of a provincial climate resilience strategy, as well as economic green stimulus package, be sent to the Minister of Environment, the Minister of Municipal Affairs and Housing, the Minister of Agriculture, and the Premier of BC;

AND THAT Port Moody write to all other municipalities in BC asking them to write letters of support to the aforementioned ministries.

Background

In the 2020 UBCM convention, the above resolution was slated to be NR16; however, because of a new format and timing constraints, members did not get to vote on this critical environmental protection piece, which was sponsored by the LMLGA executive. As BC faces the challenges of a climate crisis and rebuilding the economy in a more resilient manner, the creation of fish-friendly flood infrastructure is a critical part of a just recovery. As a new government forms in BC, it will be important to continue the advocacy the city currently doing.

Port Moody has shown itself to be a leader in environmental advocacy, and home to creature-friendly innovation; Port Moody is also home to many creeks and streams that have been repopulated with Salmon by dedicated stewardship groups. This motion furthers Port Moody's dedication to advocacy for green infrastructure, which has been adopted by FCM in 2020, and brings to a provincial scale our desire to bring salmon-safe infrastructure and construction into our sustainability checklist.

This motion makes good economic, environmental and health sense. Our current flood protections drastically impact the lives of fish and other species and rarely take into account diffusing polluted water runoff before it ends up in our watersheds. And of course, protecting our fish protects ecosystems as a whole, which in turn protects food webs and keystone species, food security and food sovereignty, and protect fisheries jobs.

Green Infrastructure & Health By weaving natural features into the built environment, green infrastructure can not only provide storm water management, but also a number of other environmental, social, and economic benefits not typically provided by gray infrastructure [1-4]. Green infrastructure increases exposure to the natural environment, reduces exposure to harmful substances and conditions, provides opportunity for recreation and physical activity, improves safety, promotes community identity and a sense of well-being, and provides economic benefits at both the community and household level. These benefits are all known to

directly or indirectly benefit public health. The degree to which the environmental, social, economic, and public health benefits of green infrastructure are realized is dependent on a number of factors, including the design, installation, and maintenance of the green infrastructure features.

Reducing these storm water-related impacts also reduces a person's exposure to water pollution and flooding-related health hazards and their associated health outcomes, such as waterborne illness, respiratory disease and asthma associated with mold and bacteria, vector-borne disease, stress, injury, and death. Trees, bushes, and greenery have the ability to absorb air pollutants and trap airborne particulates on their leaves, reduce surface and air temperatures

Green infrastructure costs less than conventional grey infrastructure, provides green jobs and reduces municipal water usage and cooling costs. And because it more resilient to climate related impacts it reduces the need to fix grey infrastructure, which saves money for our residents.

Discussion

This resolution is request that the Province take action that is consistent with research from the University of Victoria Centre for Environmental Law:

The Fraser River, BC's longest, is known for its large salmon runs, and the Fraser Valley provides habitat that is critical for salmon to survive. But, over time, old or poorly designed flood management and dike infrastructure has narrowed or closed off channels, making it next to impossible for salmon to make their way to the Fraser River. Some outdated pumps and gates actually grind fish that attempt to pass through.

While it is possible to manage floodgates and have fish-friendly pumps that allow salmon passage through floodplain areas and dike infrastructures, a recent ELC report prepared for Watershed Watch Salmon Society reveals that proper management either isn't being done at all or doesn't have adequate oversight. Either way, salmon populations are suffering.

"No one is effectively overseeing the more than 1,400 km of salmon habitat behind floodgates in the lower Fraser Valley," says ELC Executive Director Deborah Curran, who supervised the project. "It's quite startling to see that the fish-related impacts of over 155 pump stations and floodgates is not subject to systematic ecological review or monitoring."

The ELC paper examines the legal requirements to manage fish and fish habitat and makes six recommendations to improve flood management infrastructure. Flood control infrastructure in the Fraser Valley is currently undergoing regional planning for infrastructure upgrades to address the potential of flooding due to sea-level rise and other climate change impacts. This makes it an ideal time to address the need for fish-friendly changes.

From a June 2020 article in the Narwhal publication:

[flood pumps] are common along B.C.'s Fraser River, where they remove water from nearby streams when levels get high and pump it into the river to prevent flooding.

But fish and amphibians can get sucked in with the water, said Lina Azeez, campaign manager for Watershed Watch Salmon Society.

“They grind them up in the machinery,” she said. “That’s a huge problem.”

Other flood infrastructure — such as dikes, floodgates and pumps — blocks fish passageways and makes potential spawning areas unreachable. As part of an ongoing mapping project, Watershed Watch has found 1,500 kilometres of current or potential fish habitat in the lower Fraser and its tributaries is blocked by flood infrastructure.

“It’s the biggest habitat issue that you’ve never heard of,” said Aaron Hill, executive director of Watershed Watch.

Many of these flood structures are due to be upgraded in response to sea level rise, increased seasonal flooding or aging. Hill said governments now have a chance to build innovative, fish-friendly structures such as pump stations that don’t catch fish or floodgates that open and close with the tide unlike older models that remain closed most of the time.

Natural infrastructure can also be harnessed to provide flood protection without disrupting wildlife. Lakes and ponds can help absorb freshet, while wetlands and vegetated areas absorb water and stabilize soil. A 2018 Insurance Bureau of Canada report found that natural infrastructure is “cost effective” by design but “underutilized.”

“There’s this tremendous opportunity to open up a whole bunch of habitat by putting in flood control structures that are better for salmon and also keep our communities as safe or even safer from flooding,” Hill said.

While fish-friendly infrastructure may be more expensive, the payoffs can be huge.

In Washington State, public-private partnership Floodplains by Design issues grants for projects that reduce flood risk and restore habitat. Between 2013 and 2018, it funded 36 projects on 13 major floodplains thanks to US\$115 million from the Washington legislature. The projects have removed 700 residences from high-risk floodplain areas, restored 40 kilometres of salmon habitat and protected 200 hectares of agricultural land.

In the Netherlands, severe flooding in the 1990s forced more than 250,000 people to evacuate and prompted the government to develop a more innovative approach to flood management. The Room for the River project, launched in 2007 and completed in 2018, lowered floodplains, created water buffers, relocated levees, increased the depth of side channels and built flood bypasses.

Evidence is clear that holistic innovative solutions seem more expensive in the short-term, but provincial political will is needed to reap a myriad of co-benefits that far outweigh the upfront costs. Many local governments are dedicated to climate solutions; however, with our only means of funding being property taxes, the province needs to come to the table as a funding partner.

Other Option

THAT the report dated October 12, 2020 from Councillor Amy Lubik regarding Support for resolution regarding Flood Risk Mitigation Through Green Infrastructure and Natural Assets be received for information.

Financial Implications

There are no financial implications associated with this report.

Communications and Civic Engagement Initiatives

Communication would be required for emails to all other BC Councils.

Council Strategic Plan Objectives

In submitting a resolution to LMLGA and UBCM, Council's strategic plan objectives are met by demonstrating dedication to:

- Being an environmental and climate leader
- Fiscal responsibility
- Courage to lead and embrace new ideas.