

Lower Mainland Flood Management Strategy

Flood Strategy Briefing

June 2020



Sneak Preview: FloodWise Website!

A new website (floodwise.ca) will be launched in early July - to help raise awareness of Lower Mainland flood risks and the importance of flood risk reduction. Partners in the Flood Strategy to read:

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About the Flood Strategy Briefing

The Flood Strategy Briefing provides updates on the Lower Mainland Flood Management Strategy (LMFMS) — an initiative aimed at helping communities along BC's lower Fraser River and south coast reduce the risks of a major flood.

Flood Strategy Briefings are distributed to LMFMS partners and other entities participating in the Strategy development and are available online at floodstrategy.ca.

Follow-up to the Flood Forum - A Look at the Strategy Development in 2020

The Lower Mainland Flood Forum (in October 2019) brought together senior representatives and technical experts from all orders of government and other organizations that are participating in the Lower Mainland Flood Management Strategy (LMFMS) initiative.

Thank you for your input at the Forum, your follow-up commentary by e-workbook, and your continued work on committees, all of which is informing the Strategy in 2020.

We now have a clearer picture of flood hazards and specific vulnerabilities in the region. It is timely to revisit flood risk reduction options and consider future funding and decision-making processes so that the regional strategy can fully complement and support provincial and local plans, policies and practices.

Partner organizations will see a first draft of the regional strategy for comment in early Fall. By late Fall, there will be opportunities for public comment on a refined draft strategy report. See Phases of the Strategy on page 2.



Fraser Basin Council

WHAT IS THE FLOOD STRATEGY?

The Lower Mainland Flood Management Strategy (LMFMS) initiative is aimed at the creation of a region-wide strategy to reduce flood risk and improve the flood resilience of communities along the lower Fraser River and south coast.

Funding partners and other participants in the LMFMS are the entities and agencies that have responsibilities or interests related to flood management. There are more than 50 partners in all, representing the Government of Canada, the Province of British Columbia, Lower Mainland local governments, First Nations and other organizations concerned about flood risk in the region. The LMFMS is an opportunity for decision makers to work collaboratively on flood risk reduction, find shared solutions and create consensus for action at all levels.

Strategic Direction for the Initiative

A Leadership Committee provides oversight and strategic advice on the LMFMS, particularly on funding and decision-making options that merit exploration. The Leadership Committee includes representation from the Government of Canada, Province of BC, local governments (through Metro Vancouver and Fraser Valley Regional Districts), First Nations governments and regional infrastructure agencies.

Work on the strategy is guided and supported by the Joint Program Committee (JPC) for Integrated Flood Hazard Management and technical advisory committees.



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The Fraser Basin Council (FBC) is the facilitator and program manager for the LMFMS.

PHASES OF THE STRATEGY DEVELOPMENT

1

Phase 1 (2014-2016)

Understanding Lower Mainland Flood Risks

Phase 1 reported on:

- ▶ Coastal and Fraser River flood scenarios (Present Day and Year 2100)
- ▶ Projected economic losses and impacts from a major flood
- ▶ Assessment of Lower Mainland dikes.

Details are at floodstrategy.ca.

2

Phase 2 (2016-2021)

Building a Region-Wide Strategy

Phase 2 – now in progress – is aimed at developing a regional flood strategy, thanks to ongoing work of committees and input of partner organizations. Here are the major deliverables.

- ▶ Lower Mainland Flood Modelling and Mapping
COMPLETED: JUNE 2019
- ▶ Flood Risk Assessment
COMPLETION: JUNE 2020
- ▶ FloodWise information website
LAUNCH: JULY 2020
- ▶ Draft Strategy Report for comment by partners
COMPLETION: SEPTEMBER-NOVEMBER 2020
- ▶ Draft Strategy Report for public comment
COMPLETION: DECEMBER, 2020
- ▶ Finalization of Strategy Report
COMPLETION: MARCH 2021

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Phase 3 (2021-)

Taking Action

Phase 3 will focus on Strategy implementation.



David Sol of IBI Group and Frances Woo of the Fraser Basin Council discuss a new flood risk profile tool and its use in a Lower Mainland Flood Risk Assessment during a March 5, 2020 workshop for staff of LMFMS partner organizations. This is one of several tools that will be made available to flood authorities for finer-scale, local analysis.

PROJECT UPDATES

Lower Mainland Flood Risk Assessment

What losses would result from a wide-scale flood in the Lower Mainland – and how can we identify the areas of highest risk within the region?

Completed: June 2020 | Results will inform the draft Flood Strategy report (Fall 2020)

A risk assessment that identifies some of the significant direct and indirect impacts of a major Fraser River or coastal flood was recently completed for the Lower Mainland Flood Management Strategy by consultants of IBI Group. Results of the work will be compiled and summarized in a draft Strategy report for the consideration of Lower Mainland Flood Management Strategy partners early this Fall.

The risk assessment spans BC's South Coast — from Lions Bay to White Rock — and covers the lower Fraser River — from Hope to Richmond. It is based on Phase 2 regional flood modelling results and the best available datasets (including those for buildings, infrastructure, agriculture, the environment and social vulnerability). The aim of the work is to identify the potential impacts of the region's flood hazards on people and vulnerable assets.

The risk assessment creates a helpful regional baseline profile of flood risk to inform the Lower Mainland Flood Management Strategy and other flood management work in the region. Limitations on time, budget and available data limit the level of analysis – and it is expected that more in-depth work will be done over time. The Fraser Basin Council thanks the Government of Canada (National Disaster Mitigation Program) and Province of British Columbia for supporting this project.

Components of the Risk Assessment

Flood Scenario Analysis

The risk assessment was based on 16 flood scenarios of different magnitudes. There were eight scenarios for each of two types of flood:

- Spring freshet flooding on the Fraser River and
- Winter storm surge flooding along the coast and Fraser delta.

Vulnerability Analysis

Based on these flood scenarios, a vulnerability analysis was undertaken to estimate potential flood impacts across the Lower Mainland, using best available and accessible data within the project timeline and budget. Four consequence categories were assessed:

- Tangible direct damages to buildings, contents, agriculture and infrastructure
- Intangible community consequences
- Social vulnerability and
- Environmental consequences.

Challenges and Limitations

Assessing flood risk is complex, and limitations of the work must be recognized. Consequences of flooding depend on geography, size of a flood, locations of floodwaters, elevation and resilience of buildings and infrastructure, and community preparation for floods of different magnitudes.

Some flood consequences cannot be easily measured – such as impacts to human health and well-being; loss of cultural, archaeological and traditional use sites; and contamination of the environment.

Going Forward

The flood hazard model, flood damage model and risk profile tool are helping to inform the regional strategy. They are also tools flood authorities can use for more refined analysis in future, based on other flood scenarios and using additional datasets.

For more information, contact **Steve Litke** (slitke@fraserbasin.bc.ca) or **Frances Woo** (fwoo@fraserbasin.bc.ca).



floodwise.ca

Subscribe to the *Flood Strategy Briefing* bulletin:
floodstrategy.ca

Connect With Us

The Lower Mainland Flood Management Strategy is facilitated and managed by the Fraser Basin Council on behalf of the funding partners and participants in the Strategy development. We invite your questions and feedback.

Lower Mainland Flood Management Strategy

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Fraser Basin Council

SNEAK PREVIEW & OPPORTUNITY TO COMMENT

The new FloodWise website launches in early July – and Lower Mainland Flood Management Strategy partners are invited to jump in for an early look.

Completed: March 2020 | Launch: Early July 2020

FloodWise in BC's Lower Mainland is a first-stop website to support better public awareness of flood hazards, what is at risk in the event of a major flood, and the importance of flood risk reduction.

The website is open to a wide range of audiences – people who are familiar with flood and those who are not. FloodWise underscores the value of collaboration among all orders of government in flood risk reduction, and it profiles local and regional work, in particular, the Lower Mainland Flood Management Strategy.

The FloodWise website is expected to launch in early July. Prior to launch, the Fraser Basin Council is reaching out to a senior representative of each LMFMS partner organization (and to members of the Joint Program Committee for Integrated Flood Hazard Management) to invite a preview of the site. Once the site is public – scheduled launch date is July 8 – we'd encourage a share with your networks and online communities.

FloodWise is a living site. If there are information and resources you'd like to see there, let us know as we plan updates.

The Fraser Basin Council thanks the Government of Canada (National Disaster Mitigation Program) and Province of British Columbia for supporting this project.

FloodWise Highlights



FloodWise Videos: When the Waters Rise (Parts 1 & 2)

- **Part 1** gives an overview of Fraser River and coastal flooding, regional vulnerability and the need for better flood risk reduction. It draws on findings of Phase 1 of the regional flood strategy development.
- **Part 2** recaps Lower Mainland flood hazard and vulnerability. It explains the range of structural and non-structural approaches to flood risk reduction and the work underway in Phase 2 of the flood strategy.



Flood History Story Map

A new Story Map and photo gallery encourages visitors to take a step back in time through a pictorial tour of the 1894 and 1948 Fraser River floods.



Protecting Your Home and Business

The site offers residents and businesses general information on flood risk reduction for their homes and businesses. The importance of seeking information from local authorities and advice from professionals is emphasized.



Flood Maps

The site explains different kinds of flood maps and how they are used, plus offers tips on finding flood maps in BC. Regional maps produced in the LMFMS are hosted on the site.



Resources

The site has a collection of helpful links to local government flood pages, provincial guidance and reports, and other resources from BC and beyond.

FBC is sending partners involved in the Flood Strategy a confidential log-in to the FloodWise site in late June - just prior to launch. Your ideas for future updates are welcome at floodstrategy@fraserbasin.bc.ca.