



REGIONAL ADAPTATION ENHANCEMENT PROGRAM | PROJECT SUMMARY

Study Puts Value on Freshet Flood Risk for Fraser Valley Agriculture

THE FRASER RIVER'S ANNUAL PEAK FLOW (i.e., the freshet) typically occurs between mid-May and early July. The risk of flooding occurs when there is a large snowpack combined with sudden warm temperatures — in some cases along with heavy spring precipitation — resulting in higher peak flows. Modeling to assess the impacts of climate change on river hydrology, indicates that the magnitude and frequency of peak flow floods on the Fraser River could increase in the coming years.

The FVRD is home to 2.4 per cent of the total land farmed in BC, and 14 per cent of the province's farms, but generates 38 per cent of the provincial gross annual farm receipts. It is the most intensively farmed area in Canada. The study found that almost 30,000 hectares, over 40 per cent, of the Fraser Valley's Agricultural Land Reserve lands are vulnerable to freshet flooding.

"The economic value of agriculture in this region is over three billion dollars per year. With a major freshet flood,

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| PROJECT | <i>Freshet Flooding and Fraser Valley Agriculture: Evaluating Impacts and Options for Resilience</i> |
| LOCATION | <i>Fraser Valley</i> |
| COMPLETION | 2016 |
| PROJECT LEAD | <i>Fraser Valley Regional District</i> |
| FUNDING PARTNERS | <i>Agriculture and Agri-Food Canada, BC Ministry of Agriculture, Fraser Valley Regional District</i> |

almost a third of the sector could be impacted, and that doesn't include all of the non-agricultural infrastructure that would be affected," says Jason Lum, Chair of the Fraser Valley Regional District. "The FVRD has been a key supporter toward a regional approach to flood management, laying the groundwork for serious investment in flood mitigation with our partners. Prioritizing and implementing improvements to both structural and non-structural flood mitigation measures is the highest priority."

“With a major freshet flood, almost a third of the sector could be impacted, and that doesn’t include all of the non-agricultural infrastructure that would be affected.

Utilizing mapped flood extents, flood losses were calculated for two flood scenarios, one with present climate conditions and one applying a future climate scenario (year 2100). A major flood event, (similar to the flood in 1894) would cause over \$800 million in damage to agricultural crops, buildings and equipment. The economic impacts to FVRD communities associated with the agricultural flood losses would be \$1.1 billion.

For blueberry grower, Jason Smith, putting a dollar value on agriculture in the region is an important step towards highlighting the need for action to mitigate the risks associated with flooding.

“As a grower, I’m extremely worried about the extreme weather. For perennial crops, it is not only the threat of flooding but also seepage during the growing season that kills the plants roots and makes the fields impassable for harvest” he says, noting that some of his fields that flooded in the 2012 freshet still have not fully recovered.

“This study was a necessary step so others, outside of the farming community, realize how important agriculture is in our area. Hopefully it will get some of the necessary mitigation projects started as soon as possible so that we, as farmers, never have to deal with the worst-case scenario,” he adds.

While implementing upgrades to critical dikes is identified as a high priority for flood protection, the report suggests that there is no single solution to increasing agriculture’s resilience to flooding in the Fraser Valley; rather, several measures will need to be introduced over time.



The report also includes recommendations for planning and actions that can be undertaken by individual producers, sector groups and other partners to assist the agriculture sector to get prepared, reduce losses and speed recovery in the case of a flood.

Projects like this are part of the work being delivered by the BC Agriculture & Food Climate Action Initiative (CAI). CAI develops tools and resources to assist BC farmers and ranchers with adapting to impacts of climate change. CAI’s Regional Adaptation Enhancement Program provides up to \$300,000 to implement priority projects identified in each regional adaptation strategy.

www.BCAGClimateAction.ca

The BC Agriculture & Food Climate Action Initiative (CAI) was launched in 2008 by the BC Agriculture Council to enable a proactive and pan-agriculture approach to climate change issues. CAI is currently supported by the BC Agricultural Research & Development Corporation and the Investment Agriculture Foundation of BC, with funding provided by the Governments of Canada and British Columbia through Growing Forward 2, a federal-provincial-territorial initiative.

Photos in this handout are courtesy of Chris Kimmel (first page) and Fraser Valley Regional District (second page).

