



SENATE | SÉNAT
CANADA

2021

TREADING WATER:

The impact of and response to the 2021 British Columbia floods

1970

1920

**Report of the Standing Senate Committee
on Agriculture and Forestry**

The Honourable Robert Black, *Chair*
The Honourable Paula Simons, *Deputy Chair*

OCTOBER 2022



SENATE | SÉNAT
CANADA

For more information please contact us:

by email: AGFO@sen.parl.gc.ca

by mail: The Standing Senate Committee on Agriculture and Forestry, The Senate of Canada, Ottawa, Ontario, Canada, K1A 0A4

This report can be downloaded at: <https://sencanada.ca/en/committees/AGFO/Reports/44-1>

The Senate is on Twitter: @SenateCA,
follow the committee using the hashtag #AGFO

Ce rapport est également offert en français

Table of Contents

THE COMMITTEE MEMBERSHIP..... 4

ORDER OF REFERENCE 6

EXECUTIVE SUMMARY..... 7

INTRODUCTION 9

THE CAUSES OF THE NOVEMBER 2021 FLOODS IN BRITISH COLUMBIA..... 9

CERTAIN IMPACTS OF THE BRITISH COLUMBIA FLOODS 10

- A. Agricultural Sectors..... 10
- B. Transportation Infrastructure 10

SUPPORT MEASURES 11

- A. Adequacy and Timeliness..... 11
- B. AgriStability Program 11
- C. AgriInsurance Program..... 11
- D. AgriRecovery Program 12
- E. Canada-British Columbia Flood Recovery Program for Food Security 12
- F. Farm Credit Canada’s Loan Options..... 13

LESSONS LEARNED AND NEXT STEPS 13

- A. Flood Mitigation Infrastructure..... 13
- B. Emergency Preparedness Strategies..... 14
- C. Collaboration Between and Among Governments in Canada 15
- D. Canada–United States Co-operation..... 15

THE COMMITTEE’S THOUGHTS AND RECOMMENDATIONS..... 17

APPENDIX A – Witnesses 19

APPENDIX B – List of Submissions 21

THE COMMITTEE MEMBERSHIP



The Honourable Robert
BLACK
Chair



The Honourable Paula
SIMONS
Deputy Chair

The Honourable Senators



Jane Cordy



Brent Cotter



Pat Duncan



Mobina Jaffer



Marty Klyne



Sabi Marwah



Victor Oh



Chantal Petitclerc



Donald Plett

Ex-officio members of the committee:

The Honourable Senator Gold and/or Gagné
The Honourable Senator Plett and/or Martin

Other Senators who have participated in the study:

The Honourable Colin Deacon
The Honourable Terry Mercer (retired)
The Honourable Pierrette Ringuette
The Honourable Howard Wetston (retired)

Parliamentary Information, Education and Research Services, Library of Parliament

Offah Obale, Analyst

Senate Committees Directorate:

Ferda Simpson, Clerk
Tracy Amendola, Administrative Assistant
Elda Donnelly, Administrative Assistant

Senate Communications Directorate

Ben Silverman, Communications Officer

ORDER OF REFERENCE

Extract from the *Journals of the Senate* of Thursday, February 10, 2022:

The Honourable Senator Black moved, seconded by the Honourable Senator Cormier:

That the Standing Senate Committee on Agriculture and Forestry, in accordance with rule 12-7(10), be authorized to examine and report on such issues as may arise from time to time relating to agriculture and forestry; and

That the committee report to the Senate no later than December 31, 2023. The question being put on the motion, it was adopted.

Interim Clerk of the Senate and Clerk of the Parliaments

Gérald Lafrenière

EXECUTIVE SUMMARY

In November 2021, significant rainfalls that produced extreme stream flows from the Nooksack and other rivers caused a series of floods in parts of southwestern British Columbia (the B.C. floods). This situation prompted the Standing Senate Committee on Agriculture and Forestry (the Committee) to study the B.C. floods and the subsequent recovery efforts.

In commenting on the floods and recovery efforts, the Committee's 23 witnesses and the three written briefs received highlighted that the floods affected more than 1,000 farms, 15,000 hectares of land, 2.5 million livestock, and British Columbia's road and railway infrastructure. They underscored that the B.C. government's estimate of the flood-related damages experienced by farmers was approximately \$285 million. One witness – Northwest Hydraulic Consultants Ltd.'s Monica Mannerström – suggested that, if the Fraser River were to overflow its banks in the future, the damages "would be at least tenfold" to those experienced as a result of the recent B.C. floods.

The Committee's study also identified some of the lessons that can be learned from the federal and provincial governments' responses to the B.C. floods. From that perspective, areas of focus are flood mitigation infrastructure, emergency preparedness strategies, collaboration between and among governments in Canada, support measures, and co-operation between Canada and the United States regarding the management of transboundary waters.

Recommendations relating to this study are listed below.

Recommendation 1

That the Government of Canada collaborate with the Government of British Columbia, other governments in the province and relevant stakeholders to develop a comprehensive plan for flood control in the Fraser Valley. This plan should include both a timeline for dike upgrades and the establishment of a committee to examine flood mitigation measures, as well as emergency preparedness and response strategies.

Recommendation 2

That the Government of Canada ensure that Agriculture and Agri-Food Canada and Public Safety Canada, as well as other federal entities, have sufficient financial and human resources to support individuals, firms and communities affected by natural disasters, including floods. In this context, attention should be paid to the AgriRecovery, AgriStability and Disaster Financial Assistance Arrangements programs, among other relevant federal measures. The Government should make certain that, both generally and in situations of a natural disaster, federal support – including financial aid, humanitarian relief and personnel – can be accessed easily and in a timely manner.

Recommendation 3

That the Government of Canada and the Government of the United States, or – as required – other governments in the two countries, engage in ongoing discussions about the management of transboundary waters, including the Nooksack River.

INTRODUCTION

In November 2021, a series of floods affected parts of southwestern British Columbia. According to Statistics Canada's [The Daily for 7 December 2021](#), much of the farmland in the province's Lower Fraser Valley was under water for several days. On 17 November 2021, the British Columbia (B.C.) Government **declared** a provincial state of emergency to ensure a coordinated response to the flooding. It lifted the state of emergency on 18 January 2022.

Pursuant to an **Order of Reference** to “examine and report on such issues as may arise from time to time relating to agriculture and forestry,” the Standing Senate Committee on Agriculture and Forestry (hereafter, the Committee) studied British Columbia's November 2021 flooding event (hereafter, the B.C. floods) and the recovery efforts.

During four meetings held from 28 April to 9 June 2022, the Committee's witnesses comprised Indigenous leaders, academics, federal and municipal officials, and representatives from: six B.C. agricultural trade associations; one federal Crown corporation; and one engineering consulting firm. The Committee also received three written briefs.

The report begins with a brief summary of the witnesses' comments about the causes of the B.C. floods, while the second section provides their observations about certain impacts of the floods on British Columbia's agricultural sectors and infrastructure. The report then describes support measures available to affected B.C. farmers and food processors, as well as the challenges they faced in accessing the measures. With a focus on the future, the fourth section considers lessons learned regarding emergency preparedness, flood response and rebuilding efforts in British Columbia. The report concludes with the Committee's thoughts and recommendations.

THE CAUSES OF THE NOVEMBER 2021 FLOODS IN BRITISH COLUMBIA

The University of Victoria's [Francis Zwiars](#), who appeared as an individual, explained that the B.C. floods were caused by an “intense atmospheric river,” or the flow of water vapour in the atmosphere from the sub-tropical Pacific Ocean. According to [Francis Zwiars](#), the subsequent uplift of moisture resulted in large volumes of precipitation over a two-day period in the Fraser Valley and the southwest part of Vancouver Island.

[Francis Zwiars](#) asserted that the “dominant factor” in the B.C. floods was the atmospheric river–induced precipitation, which produced extreme stream flows in multiple river basins, including the Nooksack, Chilliwack, Coquihalla, Coldwater, Similkameen and Tulameen.

In the view of [Henry Braun](#), the Mayor of Abbotsford, because the Nooksack River breached its bank in Washington State as a result of significant precipitation, “water headed straight toward” the City of Abbotsford in the Fraser Valley.

CERTAIN IMPACTS OF THE BRITISH COLUMBIA FLOODS

In their comments to the Committee, witnesses highlighted the impacts of the B.C. floods on specific agricultural sectors: blueberries; dairy; broiler hatching eggs; and pork. As well, they spoke about British Columbia's road and its railway infrastructure.

A. Agricultural Sectors

Describing the Fraser Valley's agricultural sectors, [Jason Lum](#) – Chair of the Fraser Valley Regional District – stated that, although the Fraser Valley accounts for 2.4% of the total farmland in British Columbia, 14% of the farms on that land generate almost 40% of the province's gross annual farm receipts. In [Jason Lum's](#) opinion, 42% of the Fraser Valley's "agricultural land reserve" – almost 3,000 hectares – is vulnerable to flooding.

According to Agriculture and Agri-Food Canada [officials](#), the B.C. floods affected more than 1,000 farms, 15,000 hectares of land and 2.5 million livestock. In a brief submitted to the Committee, the [officials](#) underscored that the B.C. government's estimate of the flood-related damages experienced by farmers was approximately \$285 million.

The BC Blueberry Council's [Anju Gill](#) noted that a third-party assessment of the damage to blueberry farms because of the B.C. flood was estimated to be "over \$34,000 per acre in plant and input losses, and \$120,000 per acre over 10 years when income losses are included." As well, [Jeremy Dunn](#) – from BC Dairy – indicated that a third-party investigation found that the damage to B.C. dairy farmers totalled between \$22 million and \$100 million, an amount that includes damage to homes. [Angela Groothof](#) – from the BC Broiler Hatching Egg Producers' Association – highlighted that British Columbia's broiler hatching egg sector "lost nine flocks of birds, or approximately 71,000 hens" during the flood. Sharing an individual perspective on the flood's impact, BC Pork's [Johnny Guliker](#) – owner of a pork farm – characterized the personal loss as "pretty well wiped out."

With a focus on the impact of the B.C. floods on First Nations communities, [Tyrone McNeil](#) – Chief of Stó:lō First Nation – pointed out that some farmers could not "get their crops off the field." Similarly, First Nations Emergency Services Society's [Brenden Mercer](#) stated that parts of Coldwater First Nation were flooded, with potential "long-term damage" to farmland.

B. Transportation Infrastructure

Speaking about the flood-related damage to the Trans-Canada Highway and a number of bridges in British Columbia, [Henry Braun](#) explained that the resulting disruptions to transportation networks "significantly affected the movement of goods and people." As well, [Jason Lum](#) mentioned that highway and road closures in the province "disrupted supply chains, stranded travellers and created serious challenges for evacuation" Similarly, the BC Pork Producers Association's [Jack Dewit](#) noted that the damage to transportation infrastructure led to both closed highways and washed-out railway tracks, and – consequently – no access to the Port of Vancouver.

In [Jeremy Dunn](#)'s view, the damage to British Columbia's transportation infrastructure resulted in delays in getting agricultural products to the market. [Jeremy Dunn](#) remarked that a trip from a dairy farm to the processing plant that would normally take two hours to complete became a journey of between 12 and 16 hours.

Affirming that flood-related damage to logging roads affected the Fraser Valley's forestry sector, [Tyrone McNeil](#) also commented that Stó:lō First Nation does not have the capacity to calculate the amount of the losses incurred by the sector or to finance the work needed to repair the roads.

SUPPORT MEASURES

The Committee's witnesses identified a range of existing and newly created federal and provincial programs to support flood response and recovery efforts in British Columbia. They made general comments about adequacy and timeliness, and focused specifically on the AgriStability, AgriInsurance and AgriRecovery programs, as well as the Canada-British Columbia Flood Recovery Program for Food Security. They also mentioned Farm Credit Canada's loan options that are available to farmers and food processors experiencing losses and financial hardship because of the B.C. floods.

A. Adequacy and Timeliness

Recognizing that federal and provincial support measures helped with some expenses incurred because of the B.C. floods, [Angela Groothof](#) also maintained that the measures did not fully cover farmers' expenses and stressed that the financial assistance was "awfully slow in coming." Similarly, in [Johnny Guliker](#)'s opinion, the support provided to farmers in response to the B.C. floods was inadequate. [Jack Dewit](#) added that, six months after the floods, "a lot of people still [had not received] some of the financial resources that they were promised" by the federal and provincial governments. [Jeremy Dunn](#) advocated well-funded support measures and an administrative process for accessing support that is "minimal in times of emergency."

B. AgriStability Program

Agriculture and Agri-Food Canada [officials](#) urged farmers affected by the B.C. floods to apply to the AgriStability program, which provides support when farm income losses occur. Indicating that the B.C. government increased the 2021 AgriStability interim payment percentage from 50% to 75%, the [officials](#) also remarked that these "payments can be made available in a matter of weeks." In addition, the [officials](#) said that the federal government implemented measures that would allow enrolment in the program until 31 December 2022 in order to receive benefits for 2021.

C. AgriInsurance Program

Discussing cost-shared insurance against extreme weather events, Agriculture and Agri-Food Canada [officials](#) stated that farmers can make claims under the AgriInsurance program, which

insures against crops losses resulting from natural hazards. The [officials](#) added that insured farmers affected by the B.C. floods will be compensated for their losses up to the insurance coverage purchased.

In a brief submitted to the Committee, Agriculture and Agri-Food Canada [officials](#) commented that AgriInsurance payments to farmers for crops that were not yet harvested when the B.C. floods occurred totalled almost \$300,000: just over \$200,200 for carrots, almost \$90,000 for potatoes and more than \$10,000 for forage. The officials estimated that, as of 21 April 2022, about \$3.6 million in insurance payments had been provided to farmers, including \$1.7 million for losses of blueberry plants, \$1.1 million for blueberry production losses and \$758,000 for losses of flower bulbs.

D. AgriRecovery Program

Agriculture and Agri-Food Canada [officials](#) noted that the AgriRecovery program supports farmers who incur costs for recovery-related activities that facilitate a return to production following a natural disaster. Furthermore, the [officials](#) highlighted the creation of a single-window application process through which farmers can apply simultaneously under this program and the Disaster Financial Assistance Arrangements (DFAA)¹ program. In their view, this approach ensures that farmers can apply for assistance in a way that is “seamless” and that “minimizes government bureaucracy in this difficult time.”

[Jeremy Dunn](#) described farmers’ ability to access AgriRecovery and DFAA funds through the single-window application process as “critically important.” Similarly, the BC Agriculture Council’s [Paul Pryce](#) said that, in creating the single-window application process, the federal and provincial governments alleviated “much of the administrative burden” for farmers.

E. Canada-British Columbia Flood Recovery Program for Food Security

Agriculture and Agri-Food Canada [officials](#) indicated that farmers who experienced damages because of the B.C. floods can access up to \$228 million in support under the newly created Canada-British Columbia Flood Recovery Program for Food Security. The [officials](#) noted that assistance can be provided to: clean up, repair and restore land, barns and animal shelters; restore water and waste systems; improve animal welfare, including in relation to feed replacement, livestock transportation and veterinary care; and replant damaged perennial plants.

¹ In the event of a natural disaster, the federal government provides financial assistance to provincial and territorial governments through the Disaster Financial Assistance Arrangements program that is administered by Public Safety Canada.

[Paul Pryce](#) mentioned that the introduction of the Canada-British Columbia Flood Recovery Program for Food Security “was important, and ... brought a sense of relief to many whose operations were devastated in the flooding.”

F. Farm Credit Canada’s Loan Options

Farm Credit Canada [officials](#) highlighted that it responded to the B.C. floods by launching a program for affected farmers and food processors that offers loan payment deferrals of: up to six months for both principal and interest payments; or up to a year for interest payments. The [officials](#) pointed out that, as of April 2022, “34 customers on 65 loans, representing just under \$60 million, [had] taken advantage of this offer.”

To enhance its support to B.C. farmers, Farm Credit Canada [officials](#) added that the intention is to “keep a close eye” on the impacts of the B.C. floods on the province’s agricultural sectors, and to assess the resources required to rebuild farm facilities.

LESSONS LEARNED AND NEXT STEPS

A number of witnesses spoke to the Committee about lessons learned from the federal and provincial governments’ responses to the B.C. floods. They highlighted flood mitigation infrastructure, emergency preparedness strategies, collaboration between and among governments in Canada, and co-operation between Canada and the United States regarding the management of the Nooksack River.

A. Flood Mitigation Infrastructure

Presenting the findings of a 2015 study, Northwest Hydraulic Consultants Ltd.’s [Monica Mannerström](#) underscored that the dikes in British Columbia’s Lower Mainland – the area from the District of Hope at the upstream end of the Fraser Valley down to the Pacific Ocean – do not meet provincial standards for dike design, which have become more stringent over time. [Monica Mannerström](#) noted the study’s conclusions that 87% of the dikes in the Lower Mainland were “in less-than-fair condition,” and that 71% of the dikes were “expected to fail simply by overtopping” in the event of a flood. [Angela Groothof](#) mentioned that, although the need for major updates to the dikes and water-pump station in the Sumas Prairie flood zone has been known for “many years,” no actions have been taken to address the situation.

As well, [Henry Braun](#) remarked that Fraser Valley authorities have to “rethink” approaches to investing in flood mitigation infrastructure, and explained that – in April 2022 – the City of Abbotsford developed four long-term flood mitigation options for the region. According to [Henry Braun](#), the cost of options that would meet the requirements of the province’s current dike design standards range from \$2.5 billion to \$2.8 billion, and options would include raising the dikes and building a new water-pump station. [Monica Mannerström](#) said that, although raising the dikes

“would be very expensive,” these upgrades should be “prioritized” and other flood mitigation measures should also be explored.

Furthermore, [Henry Braun](#) contended that municipal governments lack the financial resources required for flood mitigation infrastructure because they “receive only 8 to 10 cents of every tax dollar collected.” Characterizing the “downloading” of infrastructure construction and maintenance costs to municipal governments as a “monumental mistake,” Henry Braun argued that this downloading “needs to be addressed” through providing municipalities with adequate financial resources. [Jason Lum](#) also advocated “a long-term, stable, predictable funding source covering flood infrastructure.”

B. Emergency Preparedness Strategies

Discussing emergency preparedness strategies, [Henry Braun](#) commented that the Sumas Prairie is vulnerable to flooding because one-half of the area was once a lake that was drained more than 100 years ago in order to establish agricultural land.²

[Monica Mannerström](#) explained that the B.C. floods were not the result of the Fraser River overflowing its banks, but rather a consequence of significant rainfalls that produced high stream flows from the Nooksack and other rivers. In [Monica Mannerström’s](#) opinion, if the Fraser River overflows its banks, the damages “would be at least tenfold” to that experienced as a result of the recent B.C. floods. [Monica Mannerström](#) stressed that, given the potential for the Fraser River to overflow its banks in the future, “flood emergency preparedness plans are urgently required.”

Public Safety Canada [officials](#) said that a national adaptation strategy is being developed to mitigate the impacts of extreme weather events. The [officials](#) also indicated that Public Safety Canada routinely uses the National Risk Profile assessment framework to evaluate both disaster risks throughout the country and the federal capacity to respond to them.

As well, in a brief submitted to the Committee, Agriculture and Agri-Food Canada [officials](#) described national emergency preparedness for future crises that may affect Canada’s food system as a “priority area.” The officials underlined that, in Agriculture and Agri-Food Canada’s Next Agricultural Policy Framework, the federal government – through its “cost-shared programming options” with provincial and territorial governments – will “encourage and support proactive risk management, including climate risk”

² The Sumas River watershed encompasses approximately 277 square kilometres within the City of Abbotsford, the City of Chilliwack and Whatcom County in the United States’ Washington State. The Sumas River headwaters are located in Whatcom County, and they flow northeast into Canada, where the river traverses a region of the Fraser Valley known as the Sumas Prairie. A low-lying flood plain located between the Vedder and Sumas Mountains, the Sumas Prairie lies within the former footprint of Sumas Lake, a shallow lake that encompassed approximately 40 square kilometres. See Government of British Columbia, [Summary of Surface Water Quality Sampling on Sumas River and Tributaries](#), October 2004.

Treading Water: The impact of and response to the 2021 British Columbia Floods

Furthermore, [Paul Pryce](#) maintained that the Environmental Farm Plan program and the Beneficial Management Practices program offered by the Canadian Agricultural Partnership can play a role in helping farmers identify and adapt to environmental risks to their operations. In [Paul Pryce](#)'s view, the Next Agricultural Policy Framework should include “robust commitments to continue funding such programs.”

Providing a different perspective, the University of British Columbia's [Brett Gilley](#) – who appeared as an individual – said that, because many locations in the Sumas Prairie are on a flood plain, the “politically difficult task of ... buying people out and moving them” should be considered. Public Safety Canada [officials](#) noted that the federal government has established a Task Force on Flood Insurance and Relocation to examine the possible relocation of those who reside in high-risk areas.

C. Collaboration Between and Among Governments in Canada

Focusing on the challenges faced by various governments in Canada in coordinating the response to the B.C. floods, [Tyrone McNeil](#) underscored the “misalignment” between “federal policy and federal funding, provincial policy and provincial funding,” and the needs of affected local communities. According to [Tyrone McNeil](#), while the federal Emergency Management Strategy for Canada “is sound,” the strategy was not implemented in the Fraser Valley during the B.C. floods.

[Jason Lum](#) called for the participation of municipal officials in efforts to develop long-term rebuilding initiatives. Recognizing that municipal officials were invited to present their views to the committee of federal and provincial ministers tasked with addressing the impacts of extreme weather events in British Columbia,³ [Jason Lum](#) nonetheless suggested that it “would be very helpful” to have “local government representation directly at the table.”

In [Paul Pryce](#)'s opinion, there is a “need for close collaboration among all levels of government” to guide the response to future extreme weather events in British Columbia.

D. Canada–United States Co-operation

The BC Chicken Growers' Association's [Dale Krahn](#) described opportunities for Canada and the United States to co-operate in developing measures that would limit the impacts of future floods in the Fraser Valley that are caused by the Nooksack River overflowing its banks. Similarly, [Angela Groothof](#) supported such bilateral co-operation.

³ On 26 November 2021, Prime Minister Justin Trudeau and British Columbia Premier John Horgan [announced](#) the establishment of a committee of federal and provincial ministers who will work together and with Indigenous leaders to provide support to British Columbia's firms and communities affected by the November 2021 flooding event.

Treading Water: The impact of and response to the 2021 British Columbia Floods

According to [Bruce Bosch](#), the Mayor of Washington State’s City of Sumas, “there will probably be a variety of solutions on how to manage the Nooksack River.” [Bruce Bosch](#) pointed out that the City of Sumas is part of a transboundary committee established to address flooding prevention and response in relation to the Nooksack River.⁴

[Monica Mannerström](#) suggested that the International Joint Commission should resolve the transboundary water issues involving the Nooksack River.⁵

⁴ On 15 March 2022, Premier Horgan and Washington State Governor Jay Inslee [announced](#) the creation of a transboundary committee to address “the urgent challenge of Nooksack River flooding.”

⁵ The [International Joint Commission](#) (IJC) was established by Canada and the United States under the 1909 Boundary Waters Treaty. The IJC’s purpose is to aid in the prevention and resolution of disputes between the two countries concerning the uses of transboundary waters, including issues relating to drinking water, commercial shipping, hydroelectric power generation, agriculture, and recreational boating.

THE COMMITTEE'S THOUGHTS AND RECOMMENDATIONS

In the 2018 *Special Report on Global Warming of 1.5°C*, the Intergovernmental Panel on Climate Change stated that the global mean temperature has increased by almost 1°C over the last 100 years as a result of greenhouse gas emissions. Canada is warming at a rate that is twice that of the rest of the world.

Flood mitigation infrastructure, as well as emergency preparedness and response strategies, can reduce the vulnerability to flooding events. Such events can have devastating impacts, including – as evidenced by the B.C. floods – on agricultural lands and their stewards. As a general principle, the Committee believes that governments in Canada should collaborate with each other, and with relevant additional stakeholders, concerning such infrastructure and strategies with the goals of reduced vulnerability and enhanced resiliency throughout Canada, including in British Columbia.

As well, support measures improve the ability of communities, firms and individuals – including farmers – to recover from natural disasters, including floods. To provide assistance when it is needed the most, these measures should be designed to enable both easy and timely access to funds. The Committee is aware that federal and provincial support measures were helpful in certain instances in the aftermath of the B.C. floods, but also knows that some farmers experienced administrative challenges in applying for funds under various programs.

Finally, significant rainfalls that produced extreme stream flows from the Nooksack and other rivers caused the B.C. floods. Co-operation between governments in Canada and the United States is required to address transboundary water issues. The Committee is concerned about the potential for the Nooksack River to overflow its banks in the future, with negative consequences for the agricultural lands and transportation infrastructure – and, consequently, for farmers and food processors – in British Columbia's Fraser Valley.

In the context of the foregoing, the Committee recommends:

Recommendation 1

That the Government of Canada collaborate with the Government of British Columbia, other governments in the province and relevant stakeholders to develop a comprehensive plan for flood control in the Fraser Valley. This plan should include both a timeline for dike upgrades and the establishment of a committee to examine flood mitigation measures, as well as emergency preparedness and response strategies.

Recommendation 2

That the Government of Canada ensure that Agriculture and Agri-Food Canada and Public Safety Canada, as well as other federal entities, have sufficient financial and human resources to support individuals, firms and communities affected by natural disasters, including floods. In this context, attention should be paid to the AgriRecovery, AgriStability and Disaster Financial Assistance Arrangements programs, among other relevant federal measures. The Government should make certain that, both generally and in situations of a natural disaster, federal support – including financial aid, humanitarian relief and personnel – can be accessed easily and in a timely manner.

Recommendation 3

That the Government of Canada and the Government of the United States, or – as required – other governments in the two countries, engage in ongoing discussions about the management of transboundary waters, including the Nooksack River.

APPENDIX A – Witnesses

Thursday, April 28, 2022

Aaron Fowler, Chief Agriculture Negotiator and Director General, Trade Agreements and Negotiations, Agriculture and Agri-Food Canada

Scott Pellow, Executive Director, Planning, Coordination and Disaster Assessment Division, Agriculture and Agri-Food Canada

Francesco Del Bianco, Director General, Business Risk Management Programs Directorate, Agriculture and Agri-Foods Canada

Mauricette Howlett, Director General, Programs, Emergency Management and Programs Branch, Public Safety Canada

Doug May, Senior Director, Programs, Emergency Management and Programs Branch, Public Safety Canada

Michael Hoffort, President and Chief Executive Officer, Farm Credit Canada

Corinna Mitchell-Beaudin, Executive Vice-President and Chief Risk Officer, Farm Credit Canada

Henry Braun, Mayor, City of Abbotsford

Jason Lum, Chair, Fraser Valley Regional District

Thursday, May 19, 2022

Paul Pryce, Director of Policy, BC Agriculture Council

Dale Krahn, President, BC Chicken Growers' Association

Angela Groothof, President, BC Broiler Hatching Egg Producers' Association

Anju Gill, Executive Director, BC Blueberry Council

Jack Dewit, Chair, BC Pork Producers' Association, BC Pork

Johnny Guliker, Owner, Trilean Pork, BC Pork

Jeremy Dunn, General Manager, BC Dairy

Thursday, June 2, 2022

Bruce Bosch, Mayor, City of Sumas, Washington, U.S.A.

Francis Zwiers, Director, Pacific Climate Impacts Consortium, University of Victoria

Brett Gilley, Associate Professor, Department of Earth, Ocean and Atmospheric Sciences,
University of British Columbia

Tyrone McNeil, Tribal Chief, Stó:lō nation and Chair, Emergency Planning Secretariat, Stó:lō
Tribal Council

Brenden Mercer, Decision Support Manager, First Nations Emergency Services Society

Thursday, June 9, 2022

Monica Mannerström, Principal Flood Management Engineer, Northwest Hydraulic
Consultants Ltd.

Graeme Vass, Hydrotechnical Engineer, Northwest Hydraulic Consultants Ltd

APPENDIX B – List of Submissions

May 17, 2022

Aaron Fowler, Trade Agreements and Negotiations, Agriculture and Agri-Food Canada

June 2, 2022

Francis Zwiers, Pacific Climate Impacts Consortium, University of Victoria

June 15, 2022

Monica Mannerström, Northwest Hydraulic Consultants Ltd



Printed by Senate Printing Service /
Imprimé par le service des impressions du Sénat

sencanada.ca

