



**Regional District of Bulkley-Nechako**  
**HRVA Electoral Area G**

**Risk Assessment Summary Resiliency**  
**Strategies**

**Backgrounder**

**August 23, 2022**

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## Preface

### Purpose of Backgrounder and Workbook

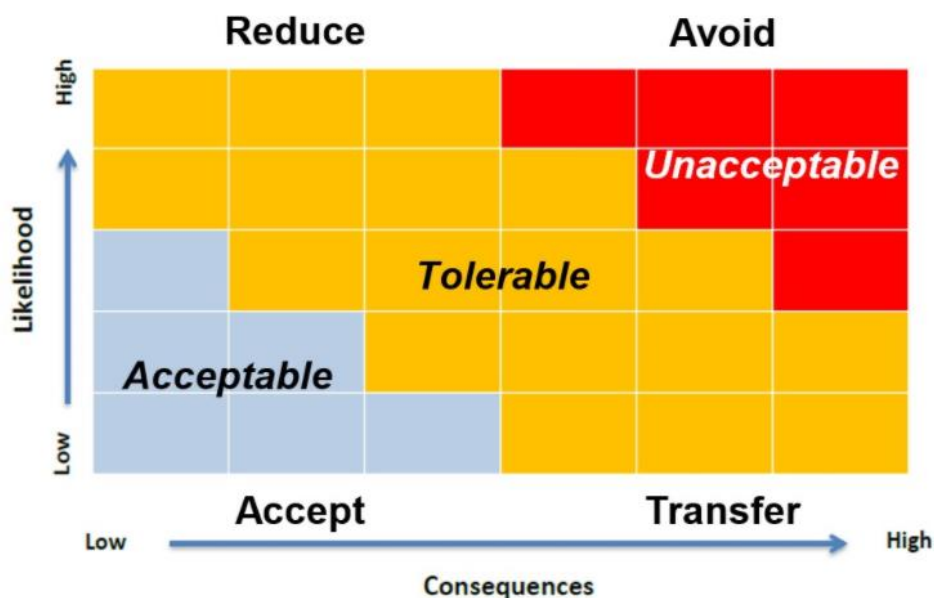
The Regional District of Bulkley-Nechako (RDBN) is in central British Columbia with an area of 77,000 square kilometres. The RDBN is broken down into 7 Electoral Areas (EA). The focus of this document is Electoral Area G Houston Rural.

The HRVA Electoral Area 'G' Risk Assessment Summary Resiliency Strategies Backgrounder will provide information and resources to committee members to inform the scope and conversations of the Hazard, Risk, and Vulnerability Analysis's (HRVA) Committee meeting. In addition, the background paper is designed to be workshopped, edited and form part of the final HRVA document for Electoral Area G.

An HRVA contributes to building resilience to disasters by understanding risk, risk drivers, and risk reduction strategies. There are many ways to build resilience in a community and this chapter begins to prioritize the likelihood and consequence of the risks of each hazard being considered while leading the committee through the conversation of what are acceptable, tolerable, and unacceptable risk. Ultimately taking the conversation to strategies that are being and can be implanted to support a community and region in its journey to building stronger more resilience neighbourhoods.

### Risk Matrix

In this backgrounder the results of the HRVA Committees Hazard Likelihood and Consequence Scoring will be shared in a **Risk Matrix**. A Risk Matrix can be a useful tool for a local authority during the process of risk management to help determine options to reduce, avoid, accept, transfer responsibility of the four pillars of emergency management (Mitigate, Prepare, Respond, Recover).



**Risks** – A concept that takes into consideration the **likelihood** that a hazard will occur, as well as the **severity of possible impacts** to human health, property, the environment, and other things of value. *EMBC 2<sup>nd</sup> Edition, Fall 2020. Companion Guide to the HRVA.*

**Risk Level = Likelihood x Consequence**

*Where Likelihood refers to the Frequency of the occurrence and Consequence refers to the Severity of the effects.*

<b>Risk Level Colour Codes</b>	Low likelihood / low consequence	High likelihood/ low consequence	Medium likelihood / Med Consequence	Low likelihood / high consequence	High likelihood / high consequence
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<b>Likelihood Scoring</b>	A – Rare	B – Unlikely	C – Possible	D – Likely	E – Almost Certain
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<b>Consequence Total</b>	Consequence Scores are an amalgamation of 11 specific categories found within the EMBC HRVA Consequence Tables. Each individual consequence category is scored from 0 - 4 (None - Extreme), with a possible combined high score of 44 for any single hazard. Consequence categories include Fatalities, Injuries, Displacement, Psychosocial, Support System, Cultural Impact, Property Damage, Critical Facilities, Environmental Damage, Economic Impact, Reputational Impact.
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## All-Hazard Likelihood and Consequence Scoring Results

The following Hazard Risk Summary is being presented to the HRVA Committee as a draft for discussion.

Likelihood Scoring:

- The likelihood scores were counted and the median (middle value) of everyone’s scores were used.

Consequence Scoring:

- Consequence Scores are an amalgamation of 11 specific categories in the HRVA Consequence Tables. Each individual consequence category was scored from 0 - 4 (None - Extreme), with a possible combined high score of 44 for any single hazard. The mean (average) scoring of these consequences was used.













## Hazard Risk Summary

The following table and graphics reflect the results of the likelihood and consequence scoring by the committee.

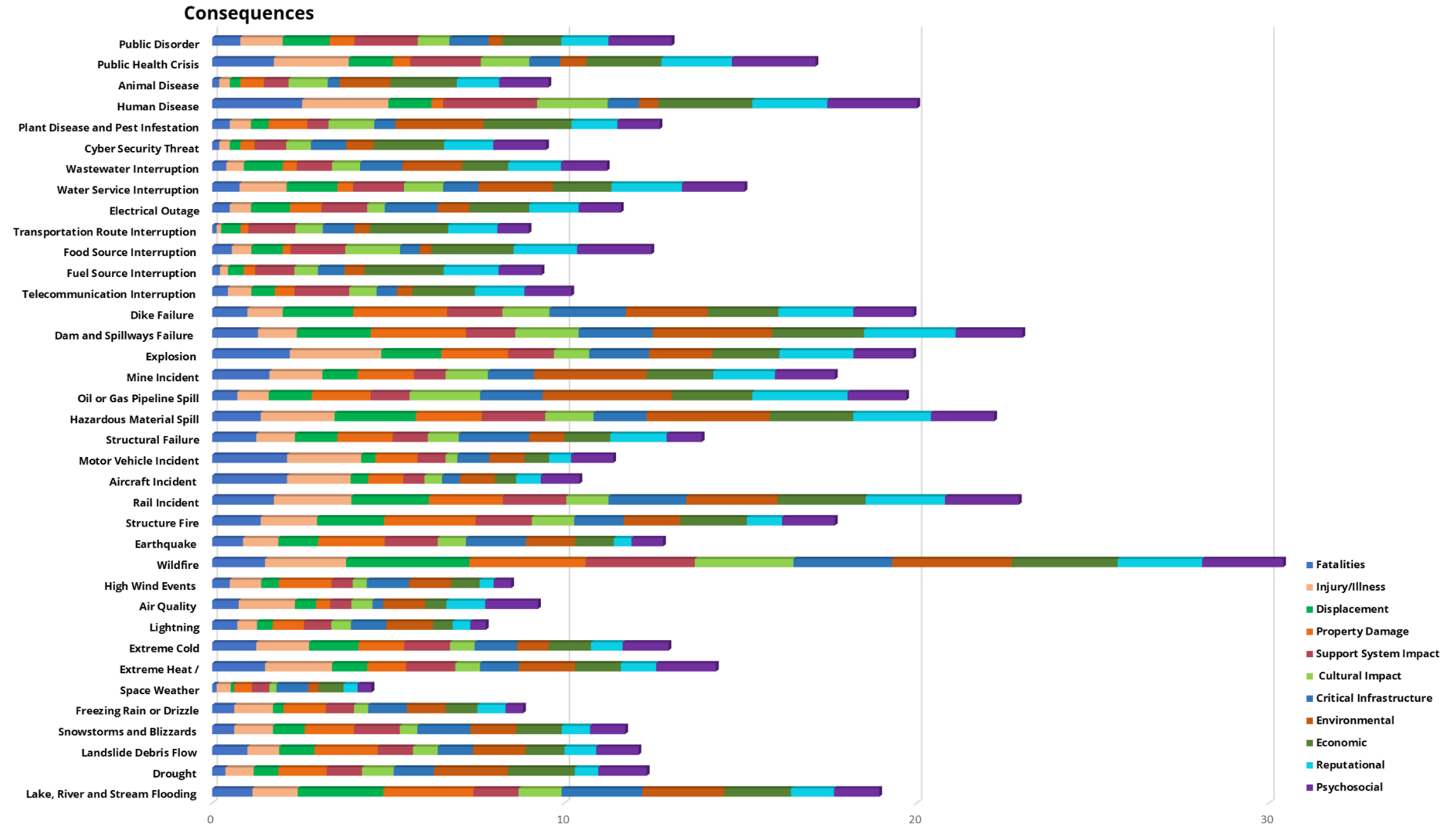
Priority	Hazard List	Current Likelihood	Consequence Total	Future Likelihood
1	 Wildfire	D - Likely	30	D - likely
2	 Dam and Spillway Failure	B - Unlikely	23	B - Unlikely
3	 Rail Incidents	C - Probable	23	C - Probable
4	 Hazardous Material Spill	C - Probable	22	C - Probable
5	 Human Disease	D - likely	20	D - likely
6	 Dike Failure	C - Probable	20	B - Unlikely
7	 Explosions	B - Unlikely	20	B - Unlikely
8	 Oil or Gas Pipeline Spill	C - Probable	20	C - Probable
9	 Lake, River, and Stream Flooding	D - Likely	19	D - likely
10	 Mine Incident	B - Unlikely	18	B - Unlikely
11	 Structure Fire	D - Likely	18	D - likely
12	 Public Health Crisis	C - Probable	17	D - likely
13	 Water Service Interruption	C - Probable	15	C - Probable
14	 Extreme Heat	C - Probable	14	D - likely
15	 Structural Failure	B - Unlikely	14	C - Probable
16	 Public Disturbance	C - Probable	13	D - likely
17	 Extreme Cold	D - Likely	13	D - likely
18	 Earthquake	B - Unlikely	13	B - Unlikely
19	 Plant disease and Pest Infestation	C - Probable	13	D - likely
20	 Food Source Interruption	C - Probable	12	D - likely
21	 Drought	C - Probable	12	C - Probable
22	 Landslide/ Debris Flow	B - Unlikely	12	C - Probable
23	 Snowstorms and Blizzards	E - Almost Certain	12	E - Almost Certain
24	 Wastewater Interruption	B - Unlikely	12	B - Unlikely
25	 Motor Vehicle Incident	E - Almost Certain	11	E - Almost Certain
26	 Electrical Outage	E - Almost Certain	11	E - Almost Certain
27	 Aircraft Incident	B - Unlikely	10	C - Probable



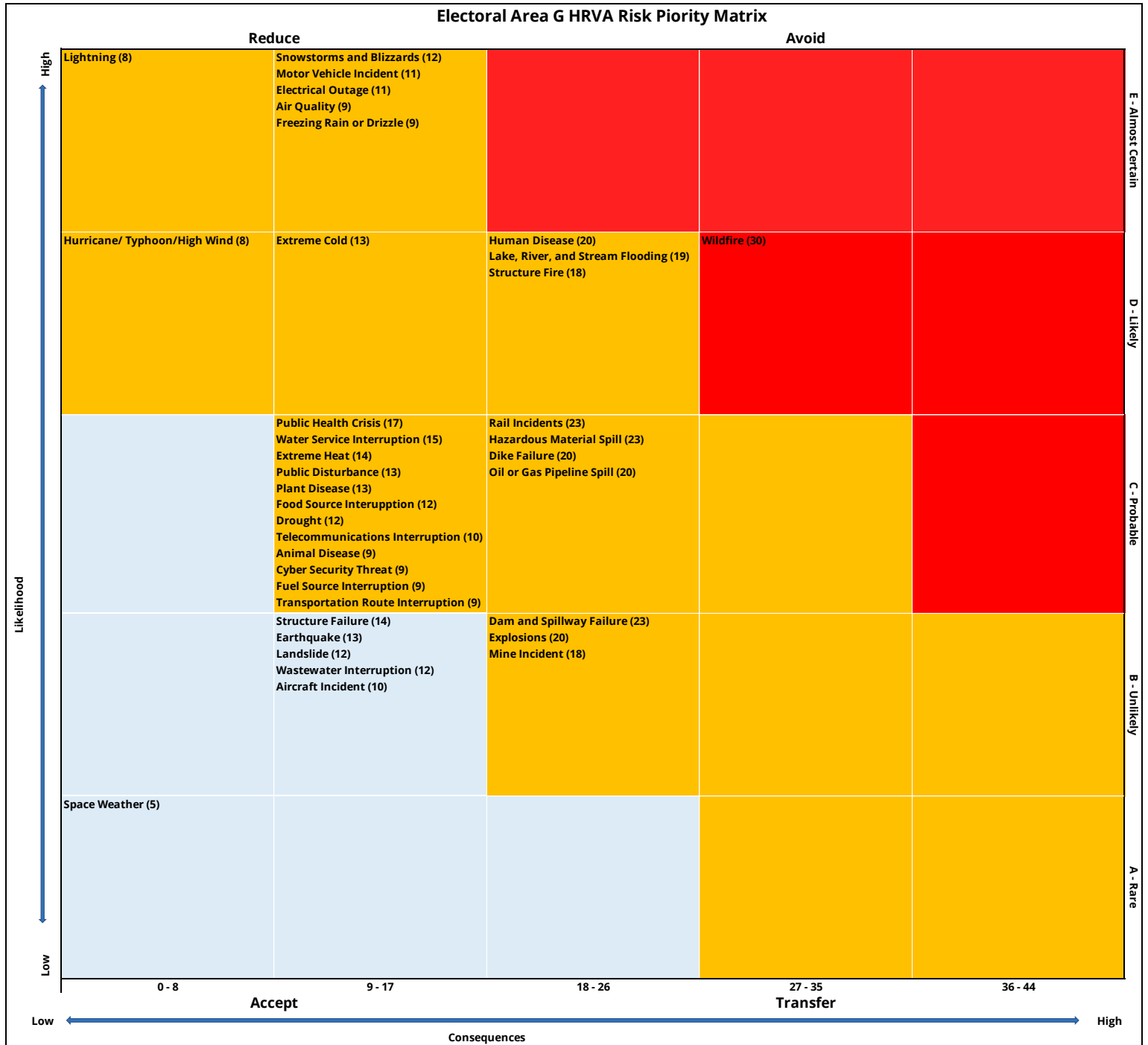
Priority	Hazard List	Current Likelihood	Consequence Total	Future Likelihood
28	 Telecommunications Interruption	C - Probable	10	D - likely
29	 Animal Disease	C - Probable	9	C - Probable
30	 Cyber Security Threat	C - Probable	9	D - likely
31	 Fuel Source Interruption	C - Probable	9	C - Probable
32	 Air Quality	E - Almost Certain	9	E - Almost Certain
33	 Transportation Route Interruption	C - Probable	9	D - likely
34	 Freezing Rain or Drizzle	E - Almost Certain	9	E - Almost Certain
35	 Hurricane/ Typhoon/High Wind	D - Likely	8	D - likely
36	 Lightning	E - Almost Certain	8	E - Almost Certain
37	 Space Weather	A - Rare	5	B - Unlikely



## Consequence Summary



## Hazard Matrix





## Identifying Risk Reduction Measures

With the identification of the hazards and risks, the next step for the region is to specify approaches to further manage and mitigate the risk. The following section lists the known Risk Reduction Measures, resources, and community emergency planning documents that are available in the region and at the community level. Efforts to build resiliency and recovery capacity are most effective when undertaken at the regional and community level.

Below is information that provides a snapshot of the existing strategies under the following seven categories:

- Emergency Response.
- Programs, Services and Education.
- Social and Non- Structural Mitigation.
- Environmental and Structural Mitigation Risk.
- Economic Mitigation.

This list will be augmented through the HRVA engagement, as relationships and new opportunities become available.

Participants are asked to review the list, share their knowledge, and ideas for new strategies that contribute to resiliency within the region.

### Emergency Response

Strategies for increasing response capacity and coordination.

- District of Houston [Emergency Response Plan](#) 2011.
- Village of Granisle Emergency Preparedness Plan 2007.
- Lake Babine Nation Community Emergency Preparedness Plan.
- Regional District of Bulkley-Nechako Emergency Preparedness Plan 2003 updated in 2011. This plan is being replaced by a Comprehensive Emergency Management Plan, with the following addendums approved by the Regional Board of Directors:
  - Livestock Evacuation Plan 2020.
  - Crisis Communication Plan 2021.
  - Pandemic Response 2020.
  - Evacuation Route Planning 2022.
  - RDBN Business Continuity Plan 2021.
  - Farmed Animal Mass Carcass Disposal Emergency Plan 2010.
  - Regional Emergency Support Services (ESS) Plan.

### Regional Response Preparedness

- Annual Seasonal preparedness meeting with stakeholders and partners across the RDBN.
- Monthly and Semi-Annual Regional Emergency Support Services (ESS) meetings.
- Annual Network for Emergency Support Services Teams Conference.
- Voyent Alert – ongoing training and inclusion of indigenous community partners.



### Rural Fire Department Support

- Annual Rural Fire Chief's Meeting
- Support, training, administrative support, funding support to rural fire departments through the RDBN Regional Fire Chief.

### Rural Fire Protection

- Agreement with the District of Houston to provide Fire Protection to a specified area of Electoral Area G. (see Appendix A)
- Agreement with the Topley Volunteer Fire Department to provide Fire Protection to a specified area of Electoral Area G. (see Appendix A)

### Rail Disaster

- CN First Responder Training and Resources - [Transportation Community Awareness and Emergency Response](#).

### Oil and Gas Pipeline Spill

- PNG Pipeline has a strong emergency and safety program, including a [Transmission Pipeline Emergency Response Plan](#).

### Programs, Services, and Education

Strategies for enhancing public awareness and capabilities of response personnel.

- [RDBN FireSmart Program](#) - FireSmart is a federal, provincial, and community-based program that encourages the public to take simple, scientifically proven steps to increase wildfire resiliency.
- Public Awareness for Emergency Preparedness on [Facebook](#) and the [RDBN Website](#); if you have any suggestions for these sights you could add them below.

### Social and Non- Structural Mitigation

Plans, Bylaws, Regional Strategies for encouraging safer more sustainable communities.

### Policies, plan, and other resources

Developing land-use policies and official community plans that integrate the HRVA lens to reduce risks and improve public safety.

- [RDBN Housing Needs Assessment 2021](#).
- [RDBN, Houston, Topley, Granisle Rural Official Community Plan 2011](#).
- [Houston Official Community Plan 2019](#).
- [Granisle Official Community Plan 2019](#).

### Regional Resources

- [Regional Adaptation Strategies: Bulkley-Nechako & Fraser-Fort George](#)
- [RDBN Food and Agriculture Plan 2020](#).



## Environmental and Structural Mitigation

Strategies for repairing or preventing further damage to the environment, infrastructure, and homes.

### Fire

- [Houston Wildfire Protection Plan](#) 2018.
- [Village of Granisle Community Wildfire Protection Plan](#) 2017.

### Flooding

- [District of Houston Floodplain mapping](#).
- [RDBN Floodplain Management Bylaw No. 1878, 2020](#) and [Mapping](#).
- [Ministry of Environment Floodplain Mapping](#).

### Geotechnical

- [Geotechnical Report Guidelines RDBN brochure](#).

### Drought

- District of Houston [Bylaw No. 1064](#) - Water Restriction.

### Air Quality

- [Bulkley Valley Lakes District \(BVL\) airshed management plan](#).
- Village of Granisle [Open Air Burning Regulations Bylaw 2019](#).
- Village of Granisle [Outdoor Solid Fuel Bylaw 2008](#).

### Plant Infestations

- Northwest Invasive Plant Council Landowner Weed Removal Rebate. Annual Rebate program for 50% up to \$500 for certified removal of invasive plants on private land.

### Oil and Gas Pipeline Spill

- PNG Pipeline has a strong emergency and safety program, including a [Transmission Pipeline Emergency Response Plan](#).
- Coastal GasLink has prepared a [comprehensive Emergency Response Plan](#).

## Economic Mitigation

Strategies for increasing regional economic resilience.

- Regional Economic Development Plan 2022 – 2024 includes 4 goals:
  - Improve or Develop Critical Infrastructure to Support Economic and Social Development.
  - To support stability and growth in the Agriculture Sector and for Small Business.
  - To increase and streamline communication and partnerships within and outside the region.
  - To develop and market the incredible built and natural amenities in the region.
- [NDIT Business Façade Improvement Program](#).



- Regional Connectivity Service Establishment - RDBN is pursuing partnerships to ensure that all residents have access to high-speed internet and cellular connectivity through the Connectivity Strategy.
- [Connecting Consumers and Producers](#) is a marketing project that promotes local food producers and provide resources to consumers that support eating locally produced food all year round. The program has an online directory and funding available for local food events in the region.



## Risk Reduction Measure Ideas

Electoral Area G Risk Reduction Measures		
Description	Hazard	(To be determined by RDBN staff)
		Partners
Create the RDBN's heat response plan in accordance with Provincial recommendations	Extreme heat	HEMBC RDBN
Advocate for the Province to bring in the Resilient Minds Program - Building the Psychological Strength of Fire Fighters.	Structural/Wildfire	RDBN - Rural Fire Department Volunteers



# Appendix A: Rural Fire Protection Area

