



**Regional District of Bulkley-Nechako**  
**Electoral Area B (Burns Lake Rural)**  
**Hazard, Risk & Vulnerability Analysis**  
**November 29, 2022**

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# Regional District of Bulkley Nechako

## Emergency Management Mission Statement

Building a safer future through effective partnerships with local government, First Nations, emergency services agencies, private sector, volunteer agencies, and the residents of the Regional District of Bulkley-Nechako to save lives, protect property, and reduce the effects of emergencies through mitigation, preparedness, response, and recovery activities.



### FOUR PILLARS OF EMERGENCY MANAGEMENT



**MITIGATION**



**PREPAREDNESS**



**RESPONSE**



**RECOVERY**



## Revision History

Revision #	Date	Summary of Changes	Revised By
00		Initial Document	Deborah Jones-Middleton

## Definitions

Within the Comprehensive Emergency Management Plan there are several acronyms used, below is a list of the acronyms and the definition.

<b>CEMP</b>	Comprehensive Emergency Management Plan
<b>EA</b>	Electoral Area A
<b>EPA</b>	<i>Emergency Program Act 1996</i>
<b>HRVA</b>	Hazard, Risk & Vulnerability Analysis
<b>BLSAR</b>	Burns Lake Search & Rescue
<b>LAEMR</b>	<i>Local Authority Emergency Management Regulation</i>
<b>RDBN</b>	Regional District of Bulkley-Nechako
<b>SAR</b>	Search & Rescue



# INTRODUCTION

“In its analysis, an HRVA considers several factors, including the unique geographical area and functions of a community or organization, and any societal, environmental, economic, political, or reputational risks. The results of an HRVA give the emergency management program the information it needs to develop an emergency plan, set priorities for action, and allocate time and resources accordingly.”

*British Columbia Emergency Management System*

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## General

The HRVA is a foundational step towards enhancing the RDBN Emergency Management Program. The objective of this process is to increase regional awareness and resilience to natural, technological, and conflict-related hazards by informing the CEMP. The HRVA will be an appendix of the CEMP and is a living document that guides the RDBN Emergency Management Program.

## Purpose Statement

As environmental-based hazards are increasing in scope, intensity, and frequency, the RDBN continues to explore and invest in improvement opportunities to increase the resiliency of the region. The most significant hazards in the RDBN include flooding and wildfire in wildland urban interface areas. Hazards like these expose the Region's vulnerabilities and create increasing risks to residents.

The previous HRVAs were all conducted in 2002. Since the current RDBN Emergency Preparedness Plan was written in 2003 and updated in 2011, there have been significant changes in agency, best practices, and terminology.

In the summer of 2018, the RDBN responded to 16 interface wildfires, resulting in 64 evacuation orders, alerts and extensions that affected approximately 3,475 people. This emergency and the subsequent independent review highlighted this "new normal" of large-scale emergencies, their consequences, and the stress these events put on the RDBN's limited resources. The need for innovative solutions, and engagement of residents in emergency management.

The HRVA supports the development of a collective community understanding of hazards and the development of activities to enhance our regional awareness and resilience. The findings from this analysis will serve as a tool in updating the CEMP and determining the work plan for the Protective Services Department.

## Scope

The HRVA covered the geographic scope of the EA. The Committee reviewed all 57 natural and human caused hazards that could potentially disrupt the EA and require a response.



The Committee also received information on each of the hazards that had historically impacted the EA.

## Out of Scope

The HRVA did not assess the risk or impacts within the boundaries of member municipalities and First Nations located with the EA. However, the Committee recognized that hazards occur across jurisdictional boundaries. The HRVA did not assess hazards specific to individual properties and climate change modelling was not in the scope of this project.

## Authority

This HRVA is a requirement mandated by the *LAEMR* of the *EPA*. Section 6 (2) of the *EPA* requires local authorities to, “prepare or cause to be prepared local emergency plans respecting preparation for, response to, and recovery from emergencies and disasters.” According to Section 2 (1) (a) and (b) of the *LAEMR*, the local emergency plans must reflect the potential emergencies, and disasters that could affect the jurisdictional area. The local authority’s assessment of the relative risk of occurrence and the potential impact on people and property must be considered.

## Committee

The EA HRVA was conducted by a Committee made up of local community members, stakeholders, and the Electoral Area B Director.

The Committee members were:

- Michael Riis-Christianson, EA B Director, Committee Chair
  - Claire Sketchly, BC Emergency Health Services
  - Corie Funk, Lakes District Road Maintenance
  - Doug Bysouth, Babine - Hampton Lumber, Forester
  - Heather Nooski, Wet'suwet'en First Nation, General Manager
  - John Rempel, Burns Lake Search and Rescue, Search Manager
  - Kim Campbell, Elizabeth Fry Society
  - Kristy Bjarnason, Burns Lake Village Councillor
  - Laura Blackwell, Blackwater Press, Publisher
  - Lauren Bell, Ministry of Transportation, Operations Manager
  - Lisa Cant, Lakes District Integrated Health Services, Community Services Manager
  - Mike Young, RCMP, Corporal
  - Rhea Brown, T'sil Kaz Koh First Nation, Health and Wellness
  - Rick Dobbs, Lake Babine Nation
  - Rick Pooley, School District 91, Board Trustee
  - Rob Krause, Village of Burns Lake, Fire Chief
  - Shaunna Lewis, RCMP, Staff Sargent
  - Vicky Rensby, Lakes District Integrated Health Services, Health Service Administrator
- The Regional District of Bulkley-Nechako would like to thank each of the members for their contribution to the HRVA process.



# HAZARD IDENTIFICATION

“A hazard is a process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption, or environmental degradation.”

*United Nations Office for Disaster Risk Reduction*

## Geographic Setting

The EA covers 3,905 square kilometers, its western boundary is located approximately 3.8 km east of Topley, just west of Montgomery Road. The eastern boundary is near the top of Priestly Hill at the junction of the Tercer Forest Service Road. The southern boundary is near the top of Hopper’s Hill, about 1 km south of Gilgan Road and 1 km north of Bald Hill Road.

The EA area has 1,706 residents identified in the 2021 Census. The EA includes:

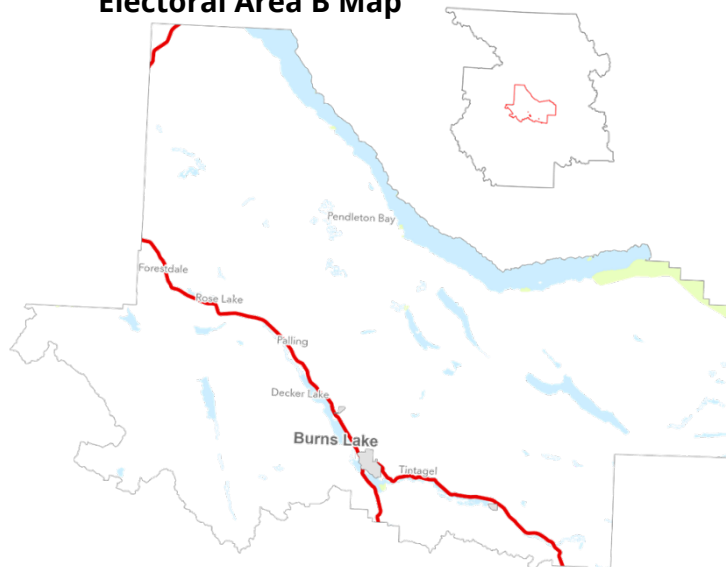
- Decker Lake, Donald Landing, Palling, Rose Lake, Sheraton, Tintagel, Pendleton Bay, and Forestdale.
- Boer Mountain Bike Park.
- 4,828 km of shoreline.

The geographic scope of the EA includes the Village of Burns Lake, located in the heart of the Lakes District on Highway 16 between the Village of Fraser Lake and the District of Houston, with a population of 1,659. The Village of Burns Lake serves as the supply centre for approximately 7,000 residents from the surrounding areas.

The EA is in the Nedut’en/Witsuwit’en Traditional Territory. There are three First Nation communities in the geographic area:

- Wet’suwet’en First Nation with 247 members, including those living on the Broman Lake and Palling reserves.
- Ts’il Kaz Koh (Burns Lake Band) with 188 members, including those living on the Burns Lake 18 reserve.

**Electoral Area B Map**














- The Lake Babine Nation with 2,561 members, including those living on the Woyenne reserve in the Burns Lake area.

The Committee determined there were 36 of 57 hazards that should be reviewed for the EA. The Committee determined the likelihood and potential severity of consequences for each of the 36 hazards.

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

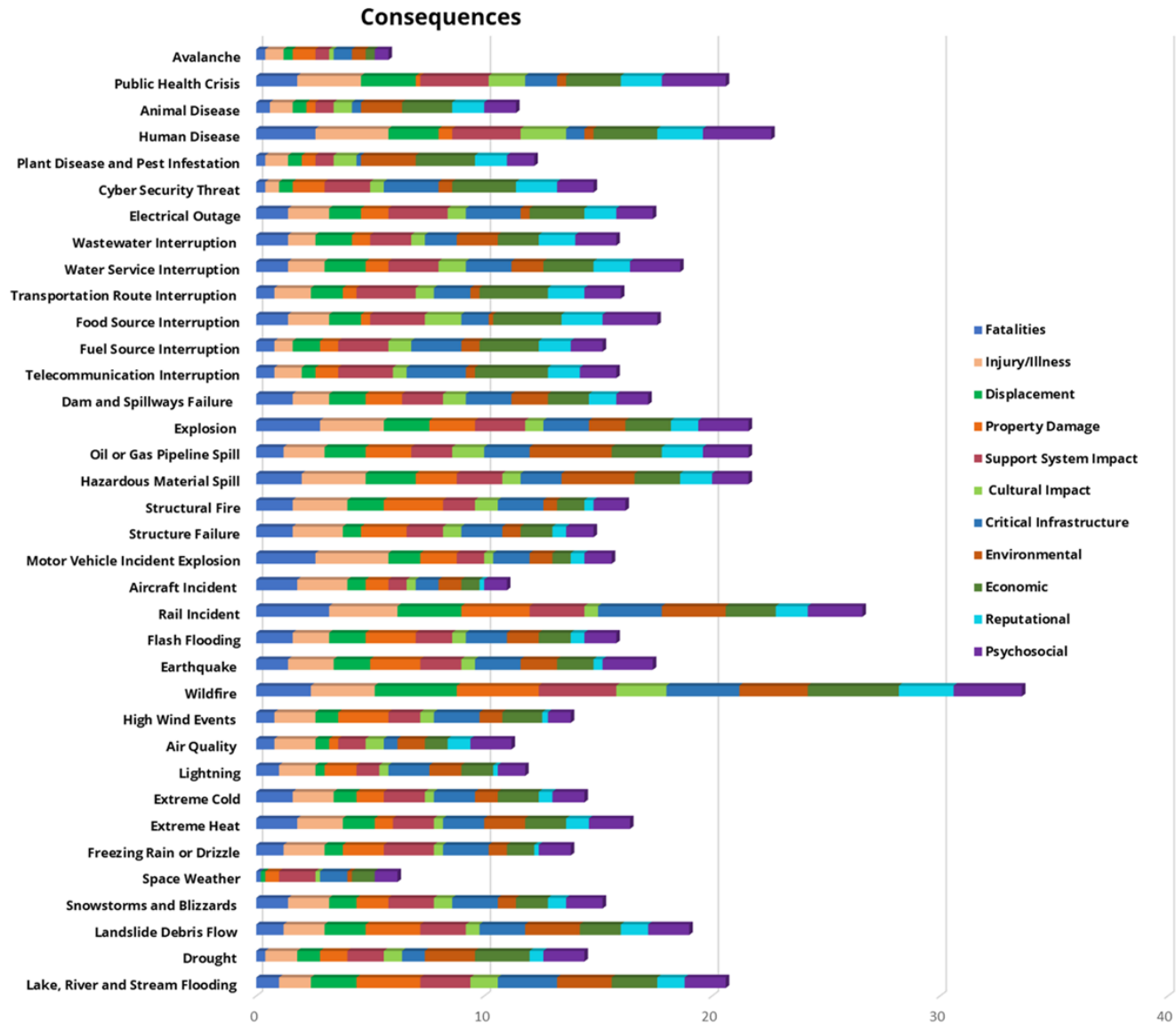
Priority	Hazard List	Current Likelihood	Consequence Total	Future Likelihood
1 	Wildfire	E - Almost Certain	34	E - Almost Certain
2 	Rail Incidents	C - Probable	27	D - Likely
3 	Human Disease	D - Likely	23	E - Almost Certain
4 	Hazardous Material Spill	D - Likely	22	D - Likely
5 	Oil or Gas Pipeline Spill	B - Unlikely	22	C - Probable
6 	Explosions	B - Unlikely	22	B - Unlikely
7 	Lake, River, and Stream Flooding	C - Probable	21	C - Probable
8 	Public Health Crisis	C - Probable	21	D - Likely
9 	Landslide/ Debris Flow	B - Unlikely	19	B - Unlikely
10 	Water Service Interruption	B - Unlikely	19	B - Unlikely
11 	Food Source Interruption	B - Unlikely	18	C - Probable
12 	Electrical Outage	D - Likely	17	D - Likely
13 	Earthquake	A - Rare	17	A - Rare
14 	Dam and Spillways Failure	A - Rare	17	B - Unlikely
15 	Extreme Heat	D - Likely	16	D - Likely
16 	Structural Fire	D - Likely	16	D - Likely
17 	Transportation Route Interruption	C - Probable	16	C - Probable
18 	Flash Flooding	B - Unlikely	16	B - Unlikely
19 	Telecommunication Interruption	D - Likely	16	D - Likely
20 	Wastewater Interruption	C - Probable	16	C - Probable
21 	Motor Vehicle Incident Explosion	C - Probable	16	C - Probable
22 	Snowstorms and Blizzards	D - Likely	15	D - Likely
23 	Structural Failure	B - Unlikely	15	B - Unlikely
24 	Fuel Source Interruption	B - Unlikely	15	C - Probable
25 	Cyber Security Threat	D - Likely	15	D - Likely



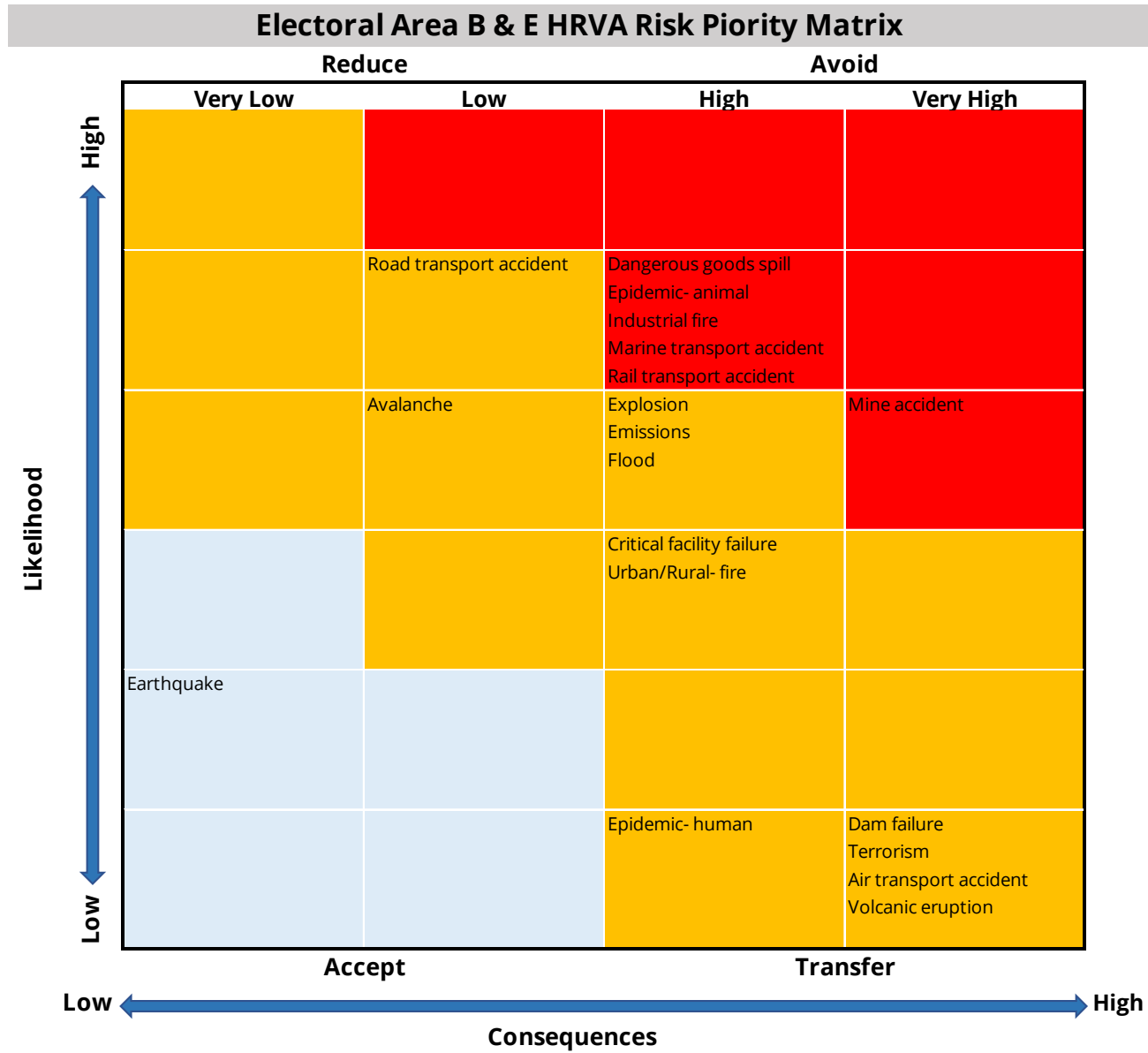
Priority	Hazard List	Current Likelihood	Consequence Total	Future Likelihood
26 	Extreme Cold	D - Likely	14	D - Likely
27 	Drought	C - Probable	14	D - Likely
28 	Hurricane/ Typhoon/High Wind	D - Likely	14	D - Likely
29 	Freezing Rain or Drizzle	D - Likely	14	D - Likely
30 	Plant Disease and Pest Infestation	C - Probable	12	D - Likely
31 	Lightning	E - Almost Certain	12	E - Almost Certain
32 	Animal Disease	C - Probable	11	C - Probable
33 	Air Quality	D - Likely	11	D - Likely
34 	Aircraft Incident	B - Unlikely	11	B - Unlikely
35 	Space Weather	B - Unlikely	6	B - Unlikely
36 	Avalanche	A - Rare	6	A - Rare



The following graphic reflects the results of the consequence scoring by the committee showing the 11 categories that were considered. Each Committee member had an opportunity to score on the 11 categories for each of the 36 identified hazards.



Below is the 2005 EA Hazard Matrix



Below is the revised EA Hazard Matrix



# RISK REDUCTION STRATEGIES

“We cannot stop natural disasters, but we can arm ourselves with knowledge: so many lives wouldn't have to be lost if there was enough disaster preparedness.”

*Petra Nemcova, Advocate for UNDRR*

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## Identifying Risk Reduction Measures

With the identification of the hazards and risks, the Committee considered the existing Risk Reduction Measures and provided feedback on potential Risk Reduction Measures. The following section lists the known measures, resources, and community emergency planning documents that are available in the region and at the community level. Efforts to build resiliency 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 categories:

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

## Emergency Response

Strategies for increasing response capacity and coordination.

- 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:
  - Farmed Animal Mass Carcass Disposal Emergency Plan 2010.
  - Livestock Evacuation Plan 2020.
  - Pandemic Response 2020.
  - Crisis Communication Plan 2021.
  - RDBN Business Continuity Plan 2021.
  - Evacuation Route Planning 2022.
  - 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.

## 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 [RDBN Website](#).

## Social and Non-Structural Mitigation

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

- [Burns Lake Official Community Plan 2021](#).
- RDBN [Burns Lake Rural and Francois Lake \(North Shore\) Official Community Plan](#) 2017.

## Environmental and Structural Mitigation

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

## Wildfire

- [Village of Burns Lake Community Wildfire Protection Plan](#).

## Rural Fire Department Support

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

## Rural Fire Protection

- Agreement with the Village of Burns Lake to provide Fire Protection to a specified area of Electoral Area B. (See Appendix A)



- Agreement with the Topley Volunteer Fire Department to provide Fire Protection to a specified area of Electoral Area B. (See Appendix A)

### Flooding

- [Ministry of Environment Floodplain Mapping.](#)

### Geotechnical

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

### Air Quality

- [Bulkley Valley Lakes District \(BVLVD\) airshed management plan.](#)

### 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.

## Economic Mitigation

Strategies for increasing regional economic resilience.

- Regional Economic Development Plan 2022 – 2024 includes 4 goals:
  - To 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 built and natural amenities in the region.
- [NDIT Business Façade Improvement Program.](#)
- [Regional Connectivity Service Establishment](#) – the 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 provides 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.

## Future Risk Reduction Strategy Suggestions

The Committee was asked to consider other possible Risk Reduction Strategies that would support efforts to build resiliency. Recommendations have been consolidated and listed in the final RDBN HRVA Report presented to the Board of Directors on April 6<sup>th</sup>, 2023.



# NEXT STEPS

“Emergency management responsibilities in Canada are shared by Federal, Provincial, and Territorial governments and their partners, including Indigenous peoples, municipalities/communities and individual citizens who have a responsibility to be prepared for disasters and contribute to community resiliency.”

*An Emergency Management Framework for Canada - Third Edition*

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Once all EA HRVA Final Reports are reviewed by their respective Committee a Final RDBN HRVA Report will be prepared that includes the EA HRVA results and identified Risk Reduction Actions.

The Risk Reduction Actions identified by the Committee will be prioritized based on the likelihood and consequences of the hazard(s) they mitigate. Funding and partnership opportunities to support implementation of the Risk Reduction Actions identified will be presented to the RDBN Board.

A public education campaign to provide information to residents on the identified risks, what risk reduction efforts are happening, and what they can do to reduce the risks for themselves, as well as their families will be implemented.

The RDBN will review the HRVA annually and amend information based on new and emerging information. A full review of the HRVA will be conducted every 5 years, at a minimum.

