

Regional District of Bulkley-Nechako
HRVA Electoral Area C

Risk Assessment Summary
Resiliency Strategies
Backgrounder

October 6, 2022

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Preface

Purpose of Backgrounder and Workbook

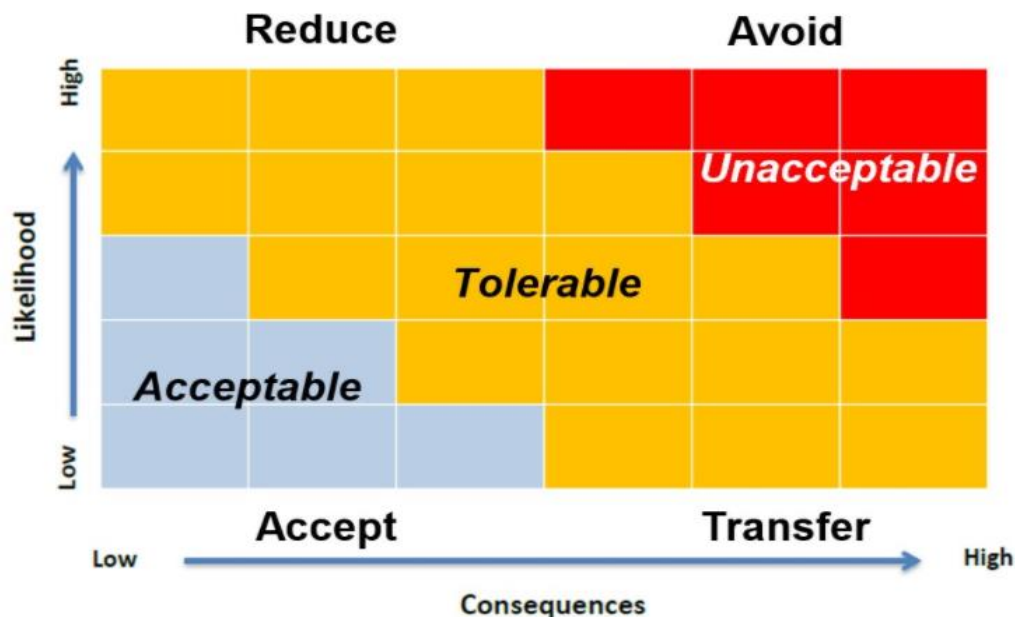
The Regional District of Bulkley-Nechako (RDBN) is in central British Columbia with an area of 77,000 square kilometres. The RDBN is broken down into 7 Electoral Areas (EA). The focus of this document is Electoral Area C Fort St James Rural.

The HRVA Electoral Area C 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 C.

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 Matrices**. 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 2nd 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.

Risk Level Colour Codes	Low likelihood / low consequence	High likelihood/ low consequence	Medium likelihood / Med Consequence	Low likelihood / high consequence	High likelihood / high consequence
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Likelihood Scoring	A – Rare	B – Unlikely	C – Possible	D – Likely	E – Almost Certain
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Consequence Total	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.

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

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

Priority	Hazard List	Current Likelihood	Consequence Total	Future Likelihood
32 	Hurricane/ Typhoon/High Wind	D - Likely	12	D - Likely
33 	Freezing Rain or Drizzle	D - Likely	11	D - Likely
34 	Snowstorms and Blizzards	E - Almost Certain	10	E - Almost Certain
35 	Air Quality	C - Probable	10	D - Likely
36 	Lightning	D - Likely	9	E - Almost Certain
37 	Drought	C - Probable	9	C - Probable
38 	Fog	C - Probable	5	D - Likely
39 	Space Weather	B - Unlikely	4	B - Unlikely

Hazard Risk 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 Fort St James [Emergency Management Program Municipality Emergency Plan 2019](#).
- Takla Nation Emergency Plan Updated Jan 2020.
- Nak'azdli Indian Band Emergency Plan Updated.
- Tl'azt'en First Nations Emergency Plan Updated.
- Yekooche First Nation Emergency Plan Updated.
- Binche Whut'en First Nation Emergency 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.

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.

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 Fort St James Rural Official Community Plan – Under Review](#).
- [Fort St James Official Community Plan 2010](#).
- Takla Lake Community Plan.
- Yekooche First Nations Physical Development Plan (2003) and Yekooche Community Transformation Plan.
- [Tl'azt'en Nation Comprehensive Community Plan in progress \(2021- current\)](#).
- [Nak'azdli Community Plan](#).

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.

Climate Change

- [Takla Lake First Nations Climate Change Vulnerability & Risk Assessment](#) 2016.

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

- Agreements with the District of Fort St. James to provide Fire Protection to two specified area of Electoral Area C. (see Appendix A)

Wildfire

- Village of Fort St James Community Wildfire Protection Plan 2013.

Flooding

- [RDBN Floodplain Management Bylaw No. 1878, 2020](#) and [Mapping](#).
- Ministry of Environment [Flood Plain mapping](#) along the Stewart River and Lake at Fort St. James.
- 2021 Flood Prediction Enhancement Emergency Management BC, Water stewardship BC and Tl'azt'en Nation Emergency Management a new river level monitoring gauge was installed at the Tachie River Boat Launch and calibrated with the Stuart River water level and flow gauge.

Geotechnical

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

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

Description	Hazard	<small>(To be determined by RDBN staff)</small> 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 Areas

