



Regional District of Bulkley-Nechako
HRVA Electoral Area A

Risk Assessment Summary
Resiliency Strategies
Backgrounder

September 26, 2022

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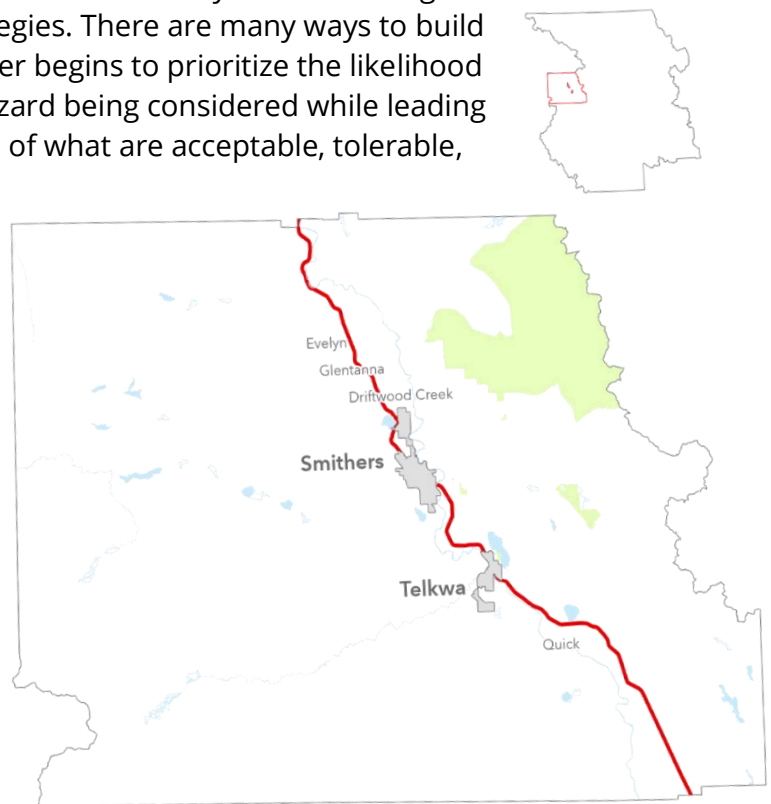
Preface

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 A Telkwa and Smithers Rural.

The HRVA Electoral Area A 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 A.

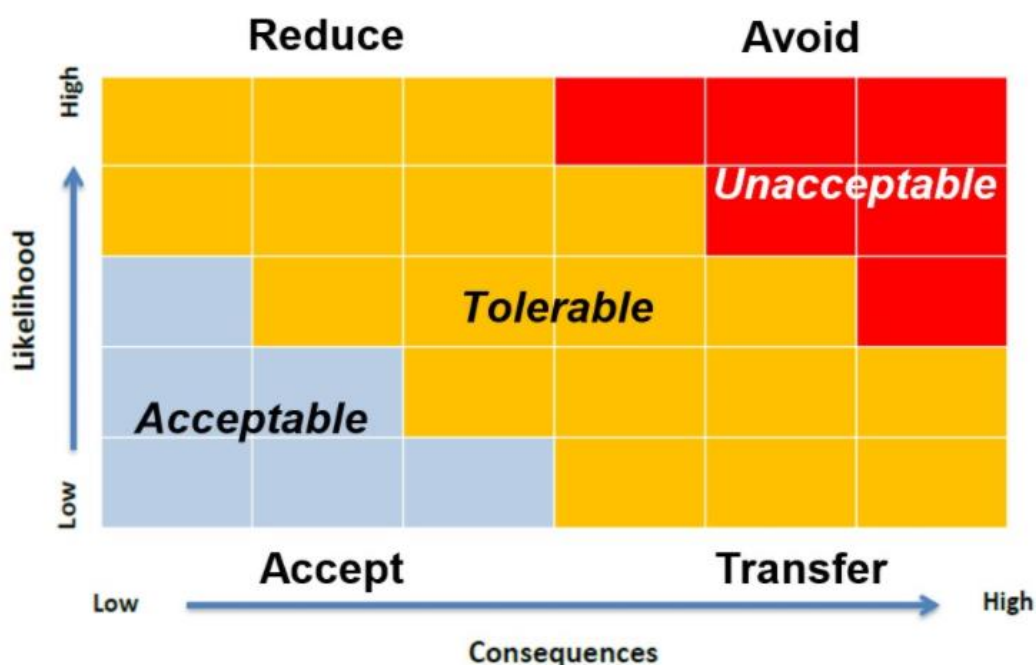
An HRVA contributes to building resilience to disasters by understanding risk, risk drivers, and risk reduction strategies. There are many ways to build resilience in a community and this chapter begins to prioritize the likelihood and consequence of the risks of each hazard being considered while leading 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 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 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

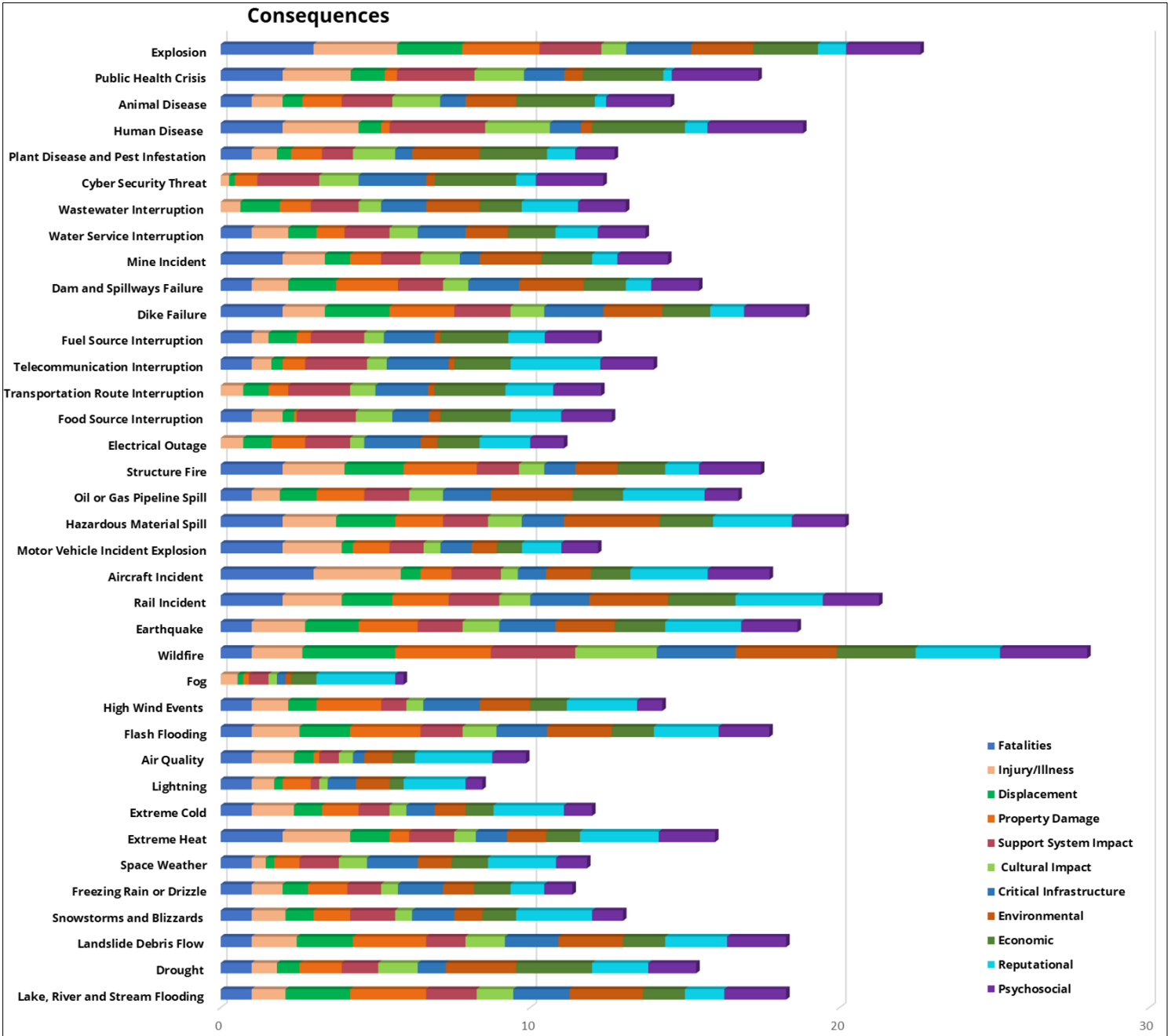
Priority		Hazard List	Current Likelihood	Consequence Total	Future Likelihood
1		Wildfire	D - Likely	28	D - Likely
2		Explosions	B - Unlikely	23	B - Unlikely
3		Rail Incidents	D - Likely	21	D - Likely
4		Hazardous Material Spill	D - Likely	20	D - Likely
5		Dike Failure	B - Unlikely	19	C - Probable
6		Human Disease	D - Likely	19	D - Likely
7		Earthquake	A - Rare	19	B - Unlikely
8		Lake, River, and Stream Flooding	D - Likely	18	E - Almost Certain
9		Landslide/ Debris Flow	C - Probable	18	C - Probable
10		Aircraft Incident	B - Unlikely	18	B - Unlikely
11		Flash Flooding	D - Likely	18	D - Likely
12		Structure Fire	E - Almost Certain	17	E - Almost Certain
13		Public Health Crisis	D - Likely	17	E - Almost Certain
14		Oil or Gas Pipeline Spill	B - Unlikely	17	C - Probable
15		Extreme Heat	D - Likely	16	D - Likely
16		Dam and Spillways Failure	B - Unlikely	15	B - Unlikely
17		Drought	C - Probable	15	D - Likely
18		Animal Disease	C - Probable	15	D - Likely
19		Mine Incident	B - Unlikely	14	C - Probable
20		Hurricane/ Typhoon/High Wind	C - Probable	14	D - Likely
21		Telecommunications Interruption	D - Likely	14	D - Likely
22		Water Service Interruption	C - Probable	14	D - Likely
23		Wastewater Interruption	B - Unlikely	13	C - Probable
24		Snowstorms and Blizzards	E - Almost Certain	13	E - Almost Certain
25		Plant disease and Pest Infestation	D - Likely	13	D - Likely
26		Food Source Interruption	D - Likely	13	D - Likely
27		Cyber Security Threat	D - Likely	12	D - Likely
28		Transportation Route Interruption	D - Likely	12	D - Likely



Priority	Hazard List	Current Likelihood	Consequence Total	Future Likelihood
29	 Fuel Source Interruption	C - Probable	12	D - Likely
30	 Motor Vehicle Incident	E - Almost Certain	12	E - Almost Certain
31	 Extreme Cold	D - Likely	12	D - Likely
32	 Space Weather	B - Unlikely	12	B - Unlikely
33	 Freezing Rain or Drizzle	E - Almost Certain	11	E - Almost Certain
34	 Electrical Outage	E - Almost Certain	11	E - Almost Certain
35	 Air Quality	E - Almost Certain	10	E - Almost Certain
36	 Lightning	E - Almost Certain	8	E - Almost Certain
37	 Fog	E - Almost Certain	6	E - Almost Certain



Consequence Summary



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.

- 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 Town of Smithers to provide Fire Protection to a specified area of Electoral Area A. (see Appendix A)
- Agreement with the Village of Telkwa to provide Fire Protection to a specified area of Electoral Area A. (see Appendix A)

Rail Disaster

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

Airport Safety Plan

- The Smithers Regional Airport is mandated in accordance with Transport Canada Aerodrome Standards & Recommended Practices TP312E maintain and update an Emergency Response Plan for the airport grounds, operations, and air space under their jurisdiction.

Oil and Gas Pipeline Spill

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

Mitigation Measures for Consideration

The RDBN currently provides the following programs to residents:

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.
- [Neighbourhood Emergency Preparedness Program \(NEPP\) for Area A](#) residents 2022 pilot project– program designed to build neighbourhood level resiliency.
- Public Awareness for Emergency Preparedness on [Facebook](#) and the RDBN Website [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 [Smithers Telkwa Official Community Plan](#) 2014.



- Smithers [Official Community Plan 2010](#) (to be reviewed in 2022) includes flood and environmental development permit areas.
- Telkwa [Official Community Plan 2011](#).
- [RDBN Housing Needs Assessment 2021](#).
- [Village of Telkwa Housing Needs Assessment 2020](#).
- [Town of Smithers Housing needs Assessment 2020](#).
- [Age Friendly Assessment and Action Plan 2016](#).
- [Village of Telkwa Integrated Community Sustainability Plan](#) 2011.

Environmental and Structural Mitigation

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

Wildfire

- [Smithers Wildfire Protection Plan 2012](#).
- Telkwa Community Wildfire Protection Plan 2008.
- Crown Land Wildfire Risk Reduction 2020/2021¹. This program is funded in Area A in the following prescribed mitigation areas:
 - Hudson Bay Mountain 110Ha.
 - Smithers Telkwa WRR Plan 41,858.
 - Wetzinkwa Comfor - Site Level 300ha.
 - Wetzinkwa Comfor – Operational 100 ha.

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.

¹ Ministry of Forests, Lands, Natural Resource Operations, and Rural Development Crown Land Wildfire Risk Reduction Community Resiliency Investment Projects will be completing fuel management planning and treatment activities focusing on provincial Crown land located around communities. Prescribed fire (including planning and operational treatments) and the development of a comprehensive provincial prescribed fire program. Risk reduction activities targeting provincially identified critical infrastructure, beginning with critical response infrastructure such as government-owned radio repeaters, weather stations and airtanker bases. March 2021. Source:
<https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prevention/funding-for-wildfire-prevention/crip/wrr>



Rural Fire Protection

- Agreement with the Town of Smithers to provide Fire Protection to a specified area of Electoral Area A. (see Appendix A)
- Agreement with the Village of Telkwa to provide Fire Protection to a specified area of Electoral Area A. (see Appendix A)

Flooding

- [RDBN Floodplain Management Bylaw No. 1878, 2020.](#)
- [RDBN Ebenezer Flats Flood Mitigation Study 2019.](#)
- [Ministry of Environment Floodplain Mapping.](#)
- Village of Telkwa dike management and planning.
- Stormwater mitigation features in municipalities and in the region with MOTI, e.g. storm sewers, culverts, ditches, overland flow on roadways, streams.
- Regional District Bulkley Nechako owns 56, 000 Sandbags, 9000 of them are in Area A located at the Transfer Station and the Smithers Fire Hall.
- [Village of Telkwa Floodplain Management Bylaw 2020.](#)

Land Slides and Erosion

- [Alluvial Fan Study \(Lake Kathlyn Area, Smithers\)](#) 1991.
- GEOTECHNICAL ASSESSMENT POTENTIAL TERRAIN HAZARDS (SLOPE STABILITY) LOWER VIEWMOUNT ROAD AREA2006.
- [EBENEZER FLATS/KIDD ROAD EROSION PROTECTION STUDY](#) 2008.

Geotechnical

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

Drought

- Town of Smithers Bylaw No. 1811 - Water Restriction.
- [Village of Telkwa Water conservation plan policy and bylaw.](#)

Air Quality

- [Bulkley Valley Lakes District \(BVLD\) airshed management plan.](#)
- [Town of Smithers and the Bulkley Valley Woodstove Exchange.](#)

Plant Infestations

- Seymour Lake Conservation Society – Yellow Floating Heart Mitigation and Yellow Iris Annual Control Projects - control the introduction and expansion of invasive plants such as yellow floating heart (*Nymphoides peltata*) and yellow flag iris (*Iris pseudacorus*); Educating local residents and lake users about lake; Lake monitoring projects such as water quality/chemistry sampling, and aquatic plant surveys. Seymour Lake Conservation Society, BC Lake Stewardship Society, Northwest Invasive Plant Council, Ministry of Environment, and Ministry of Forests, Lands, and Natural Resource Operations.



- Lake Kathlyn Aquatic Weed Harvesting - Lake Kathlyn Protection Society.
- 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:
 - 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 A Risk Reduction Measures		
Description	Hazard	Partners <small>(To be determined by RDBN staff)</small>
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

