

Community Emergency Plan

Tyaughton Lake Area



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Key definitions

Emergency	An event that requires prompt coordination of actions to protect the health, safety or welfare of people, or to limit damage to property or the environment.
Hazard	A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.
Resilience	Resilience is the capacity to adapt; by persevering, recuperating or changing to reach and maintain an acceptable level of functioning. Disaster resilience is built through empowering organizations, communities and society to share responsibility for keeping hazards from becoming disasters.
Risk	The combination of the likelihood and the consequence of a specified hazard event happening.
Vulnerability	Physical, social, economic and environmental factors or processes, that increase the susceptibility of a community to negative impacts from hazards. It is also a measure of how well prepared and equipped a community is to minimize impacts and cope with hazards.

Community Emergency Plan

Tyaughton Lake Area

2017

Introduction

The SLRD Emergency Management Program provides emergency management services to the ~5,000 SLRD residents in the four Electoral Areas and partners closely with member municipalities. In addition to the Emergency Management Program, the SLRD funds and/or operates select Emergency Services in the region including:

- 9-1-1 Services
- Diking and drainage in Electoral Area D
- Fire and Rescue Services
- Wildfire Fuel Management Program.

Major emergencies and disasters are on the increase in Canada and worldwide. Disaster effects may be direct (e.g. damage to house, loss of income) or indirect (e.g. increased insurance premiums, reduced air quality due to smoke from wildfires elsewhere).

A number of communities in the SLRD are geographically isolated from traditional first responder organizations such as fire, police and emergency medical services. Communications and other infrastructure may be limited or prone to outages. The effect of this geographical separation is that communities will likely lead their own response, making community knowledge, preparation and skill building a vital aspect of emergency preparedness and increasing the resilience of these communities to adverse events.

The purpose of a Community Risk Assessment (CRA) is to guide practical steps in preparedness, response, recovery and mitigation that reduce both the likelihood of emergencies and the consequences when disaster cannot be avoided. Risk information also informs community residents, business owners, and institution managers of the hazards to expect and how best to prepare for them. Further, A CRA provides a platform from which to progress community-level emergency management and evacuation policy and planning.

A Community Action Plan (CAP) provides a blueprint for communities to increase their resilience through increasing skills, knowledge and connectedness – benefiting the community before a major emergency, during response and through the recovery process.

Community Overview

The Tyaughton Lake area encompasses a region at the foot of the South Chilcotin Mountains. There are many hiking and biking trail networks taking residents and visitors to Spruce Lake, Cinnabar Ridge, Taylor Basin, Mud Lakes and the Shulaps Range. Backcountry skiing is also a feature of the outdoor adventure offerings in the area. Mainly home to seasonal residents in the summer months, the Tyaughton Lake area includes the neighbourhood of Gun Creek, noting that this area is exposed to some hazards differently due to topography. The Tyax Lodge is also located in the Tyaughton Lake area, with staff and guests increasing the population at seasonally busy times.

The Tyaughton Lake area is exposed to interface fire risk due to the surrounding forest, hot dry summers, and increasing visitor numbers in the summer months. A severe weather event can isolate residents and delay outside assistance. While there is a BCAS base in Goldbridge, the distances from the nearest first responder agency bases in Lillooet and Pemberton combined with variable road conditions and limited, off grid or limited communications infrastructure generally mean that local community preparedness resources are key factors in emergency response.

Demographics

A mix of full time and seasonal residents plus guests in commercial accommodation.

Land Use

Single family homes, seasonal and commercial accommodation.

Critical infrastructure

Drinking Water	Independent water collection and supply per household.
Sanitary/Waste Water Treatment	Individual septic tanks or septic fields per building.
Electrical Power Systems	BY Hydro supply to some residences, independent power generation (e.g. wind, solar). Approx. 16 parcels of land on the east side of Tyaughton Lake that do not have BC Hydro supply, plus some additional individual properties spread throughout the area.
Gas Heating Systems	No residential supply other than individual tanks
Communications	Landline and internet access generally available. No cellphone reception.

	<p>Minto Communications Society (MCS) services all residential neighbourhoods in the BRV with fixed wireless internet, with the exception of Marshall Lake who use satellite internet.</p> <p>Internet comes into the valley via the TELUS microwave link which is shared with the landline phone service. From the TELUS central office in Gold Bridge, there is a 2km fibre link that runs along the hydro lines in Gold Bridge to the MCS office at 104 Haylmore Ave in Gold Bridge. If those hydro lines are still standing, the office has back up battery power for the internet that will run for 3 days and then there is the option to use generator power after that. Most of MCS repeater sites have back up battery or are solar/wind powered so hydro outages do not overly affect service provision. In an emergency situation MCS can provide internet connectivity to residents and emergency responders at the 104 Haylmore Ave office which is shared with the Bridge River Valley Community Association. If emergency internet service is required in other neighbourhoods MCS can provide it at a central location, depending on the situation.</p> <p>With respect to Telus, there are approximately 16 parcels of land on the east side of Tyaugton Lake that do not have these services, (no 9-1-1). As well as some additional individual properties spread throughout the area.</p>
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Response Capabilities

Structural fire	No structural fire service.
Wildland interface fire	BC Wildfire crews are dispatched from Lillooet, with support from Pemberton. BRV is within the Lillooet Fire Zone of the Kamloops Fire Centre.
Medical	There is 1 BCAS unit stationed in Gold Bridge, approximately 20 kilometers and a 35 minute drive away via Road 40.
Police	Nearest RCMP detachment in Pemberton, though RCMP respond from Lillooet during winter months.
Evacuation	A 'telephone tree' notification (including amateur radio operators) or a direct door-to-door notification system led by identified community contacts is recommended for areas of predominantly rural and recreational property where people either do not have phone/internet access or specifically come to these areas to get away from being 'connected'.
Communication	Landline and internet access subject to any infrastructure impacts, with the exception of 16 properties on the east side of Tyaugton

	Lake and other individual properties that do not have access to these services.
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Hazard, Risk and Evacuation

TYAUGHTON LAKE AREA HAZARD PROFILE

HAZARD					
Flood	Debris Flow/ Landslide	Interface Fire	Storm/ Utility failure	Earthquake	Hazardous Material
Yellow	Orange	Red	Red	Yellow	Green

KEY:*

HIGH RISK
MODERATE RISK
LOW RISK
UNLIKELY

*Note that risk does not equal impact. A low risk event may still occur with high impact.

The risk assessment of the following four hazards examines the communities together, where appropriate, and considers areas separately where the level of risk differs. Hazard exposure may vary between areas due to variables such as geographical differences.

Evacuation Routes

The main evacuation routes from the area is to Lillooet via the Lillooet Pioneer Road (Road 40), and the chosen evacuation route in the event of a major emergency will depend on threat, location and time to evacuate, and will be at the direction of first responders. The recommended evacuation route will be printed on the official evacuation notice delivered by First responders and/or published on the SLRD website.

Muster Point Tyaughton area: (to be confirmed by community)

Muster Point Gun Creek area: (to be confirmed by community)

Community Muster Points are used if evacuation is by bus or RCMP escort due to road conditions, or to receive additional information or supplies (e.g. bottled water) before evacuating.

Types of Evacuation

Evacuation Alert

This is the time to get ready to leave, putting together 'grab and go' bags with essential supplies, papers and prescriptions, and making any other arrangements to leave the property with all household members and pets. Residents may self-evacuate (voluntary) during this time, particularly if they have mobility issues or health conditions that may make it difficult to evacuate quickly. This is also the time to move livestock to safer areas.

Evacuation Order

Mandatory evacuation occurs when a population is ordered to leave a defined area according to a formal written document that outlines the impact area and why an evacuation is necessary.

Shelter-in -Place

Essentially, an instruction to the public to stay inside for safety reasons. It may also mean "seal the room", i.e. take steps to stop outside smoke or other contaminants from entering the room.

Evacuation Rescind

Formal notification that it is safe to return to the evacuated area. The affected area may still be under an Evacuation Alert under further notice, if the hazard still presents a threat.

Interface Fire

The Tyaughton Lake Area is located in a wildfire environment. Wildfires will happen – exclusion is not a choice. The variables in a wildfire scenario are:

- when the fire occurs, and
- where the fire occurs.

During the summer of 2009, a wildfire of note threatened the area and there is a history of wildfire starts, which have fortunately not resulted in structural loss for this area. Potential ignition of an interface fire includes a lightning or human caused forest fire, a structural fire in the community that spreads to the wildland area, and ignition relating to a vehicle accident or sparking.

The consequences of an Interface Fire event have the potential to be severe/catastrophic for the Tyaughton Lake area.

EVACUATION PROTOCOL

At the **Evacuation Alert** stage:

- Residents with mobility or chronic health issues may choose to voluntarily evacuate to ensure their safety and continuity of care. If they choose to stay at this time, they should contact the SLRD Emergency Program staff to discuss their situation and/or make arrangements with a neighbor if they do not have a vehicle, and their primary healthcare provider if evacuation is medically complicated (e.g. dialysis, oxygen tanks).
- All other residents should make preparations to leave, ensuring that they have a plan for the safe evacuation of all people and pets, gather essential documents, medicines and necessities of food, clothing and other items.
- A ‘telephone tree’ notification (including amateur radio operators) or a direct door-to-door notification system led by identified community contacts is recommended for areas of predominantly rural and recreational property where people either do not have phone/internet access or specifically come to these areas to get away from being ‘connected’.

At the **Evacuation Order or Tactical Evacuation** stage:

- At the direction of BC Wildfire Service, RCMP or other authorized First Responders, residents will evacuate according to the evacuation route directions given.
- All residents must leave, ensuring that all people and pets in their household safely evacuate, and taking the previously gathered essential documents, medicines, necessities of food, clothing and other items. If these items have not been gathered in advance, there may be no time to take anything at the time of evacuation.
- Emergency Support Services (ESS) will be provided to full time residents in the

evacuated area, including emergency accommodation if required.

Severe Storm (All Seasons)

The communities may become temporarily isolated by a severe winter snowstorm or a summer storm with high winds and torrential downpours. Winter heating is a concern, especially for vulnerable residents. Damage to independent utility infrastructure (e.g. solar or wind power generation) make take time to repair. Blocked roads and winter road conditions can compromise access to and by emergency services. Limited and off grid communication infrastructure could make reaching 9-1-1 service challenging.

EVACUATION PROTOCOL

- Shelter in place until storm has passed. Exit structures with caution due to potential for structural debris, fallen trees, pooling water and other hazards. If emergency assistance is required, call 9-1-1 if possible. If a storm related evacuation is required, follow the instructions of first responders and official information from the SLRD. Emergency Support Services (ESS) are available to full time residents of the affected area.
- Residents who are vulnerable due to health conditions should discuss a plan in advance with their primary healthcare provider. This may include voluntary self-evacuation when a severe storm event is forecast, access to a back up power supply, and additional supplies of medication or an emergency prescription.
- A ‘telephone tree’ notification (including amateur radio operators) or a direct door-to-door notification system led by identified community contacts is recommended for areas of predominantly rural and recreational property where people either do not have phone/internet access or specifically come to these areas to get away from being ‘connected’.

Debris Flow/Landslide

The Tyaughton Lake area has developed below or near steep slopes backing onto Crown owned forested land that has a number of feeder creeks and streams that flow into area lakes. The slopes above development have a variable landslide risk depending on vegetation, soil and rock ground composition, slope gradient and moisture content. For example, a fire in a forested area above and away from the community may destabilise previously stable soil, releasing woody debris and soil downslope during spring freshet or a high volume rain event.

EVACUATION PROTOCOL:

Evacuate if directed by first responders (imminent threat, tactical evacuation), and/or if an evacuation order is issued by the SLRD due to conditions being assessed as dangerous enough to warrant an evacuation of identified properties. First responders and the SLRD will take a conservative approach in assessing flood risk evacuation trigger points, to ensure resident safety. Evacuation will apply to all identified properties at risk, which may result in a partial or full evacuation of the affected community. Evacuation route will depend on the location of the slide, and whether a potential evacuation route is blocked due to a related landslide event.

Trigger points for evacuation are taken from the BC Forest Service Wet Weather Safety Guidelines (rainfall and snow melt), provincial experts and conditions at the time.

Evacuation Alert trigger points:

- Rainfall event forecast of 25 – 45mm or more in less than 24 hours
- Rainfall event forecast of 25 – 45mm or more in less than 24 hours, plus snow melt calculations (see table #1 below)
- Cumulative rainfall of 40mm or more over >5 days, with additional continued rain forecast and/or snow melt calculations (see table #1 below).

Snow Melt Soil Moisture Input

Snow melt is an important factor in determining the total soil moisture input. The following tables provide guidance as to the amount of snow melt **that must be added** to the precipitation forecast or recorded in a rain gauge in applicable situations. Snow melt must be considered at or above the slope where the melt event is occurring.

Table #1: 24 Hour Snowmelt additions during rain-on-snow events

Average temperature	Open Area			Forested Area		
	Wind*			Wind*		
	Low	Moderate	High	Low	Moderate	High
0.5-2.0°C	3mm	10mm	25mm	1mm	5mm	11mm
2.1 – 5.0°C	15mm	35mm	75mm	5mm	10mm	25mm
5.1-10.0°C	25mm	70mm	120mm	10mm	28mm	40mm
10.1-15°C	35mm	95mm	160mm	15mm	40mm	60mm

***Low Wind** (<10 km/hr): Leaves and small twigs in constant motion speed; wind extends light flag

Moderate Wind (10-20km/hr, gusts >30km/hr): Small trees sway, maps/paper difficult to hold still.

High Wind (>20km/hr, gusts >40km/hr): Whole trees in motion, clouds moving rapidly, rain blowing sideways.

Tactical Evacuation trigger points:

Heavy rainfall is occurring, and ANY of the following are observed:

- Sudden muddy water in creeks (especially in gullies)
- Sudden lack of flow in creeks during wet weather
- Cracks appearing in the soil
- Small (anything $\geq 1\text{m} \times 1\text{m}$) sloughs of soil occurring
- Landslides occurring in the general area, or sounds of landslides occurring
- Blocked culverts
- Forecast rainfall is occurring, and stream full conditions are occurring or close to occurring.
- Thunderstorm or heavy rainfall event not forecast, generating torrential downpours and/or observed debris activity in the affected slide areas.
- Cumulative rainfall of 45mm over >5 days or more, with additional continued rain forecast, plus additional snow melt calculations from table #1 (above).

SLRD ALERT.

Be in the know, not in the dark.

Free emergency notification service
direct from the SLRD to you.

Text, voice message and email options

Sign up: <http://www.slrdbc.ca/SLRDArt>

Community Map – Tyaughton Area

(updated map will show Tyaughton and Gun Creek area, with community nominated muster points).

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Community Action Plan

The SLRD will work with community representatives every three (3) years to review, assess and update the Community Action Plan.

Historical Actions

- Independent water and waste treatment system may be a protective element in the event of damaged infrastructure in neighbouring communities.
- Some properties have carried out FireSmart mitigation activities including tree trimming and removal of woody debris.

Current and Future Potential Actions by the Community

- Establish a **Neighbourhood Emergency Team (NET)** in each community, with members who have completed a criminal record check (free for volunteers and required in order to be placed in many volunteer roles during disaster response). The SLRD can support the NET through training in basic emergency preparedness, evacuation notification, recovery considerations and other relevant topics that facilitate a two-way knowledge exchange of local government emergency processes and community capacity building. The SLRD can also connect communities to funding when it is available (e.g. FireSmart) and may sponsor a training session by an external provider for multiple communities if budget is available and there is sufficient demand. NET team members would be utilised in a disaster response as qualified volunteers under the direction of the relevant agency. The size of the NET, its organization and the level of training is at the discretion of the community and is independent of the SLRD.

NET team members may be progressively trained in:

- First Aid and simple triage
- Evacuation Processes
- Radio Communication
- Locating victims and resources
- BC Wildfire S-100 Basic Fire Suppression and Safety
- Work towards becoming an official FireSmart community. More information at : <https://www.firesmartcanada.ca>
- Hold community FireSmart clean up days once a year to pool resources and remove woody debris from around homes and trim trees in the fire ignition zones. The SLRD may assist with reimbursement for equipment such as wood chippers through the FireSmart grant programme, and provide advice and assistance through the BCWS if a safe burn pile can be established.
- Work with the SLRD to develop a basic Disaster Recovery Plan
- Fund generators for emergency power at agreed community locations

- Identify vulnerable residents and develop a plan with them for their continued safety in the event of a major emergency (EMBC resources available to assist planning)
- Identify and document skilled individuals in the community (e.g. doctors, nurses, electricians, engineers).
- Establish an evacuation notification system such as door-to-door notification, carried out by community identified and agreed representatives. Practice evacuation notification with the delivery of emergency preparedness public information resources to each house (these resources available through the SLRD)



Looking for more information to make your community Disaster Resilient?

SLRD www.slrdbc.ca/services/emergency-management

GENERAL <http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery>

ANIMALS <http://www.cdart.org/beprepared.htm>

COMMERCIAL LIVESTOCK <https://www.slrdbc.ca/inside-slrdbc/reports/commercial-livestock-relocation-guide>

FIRE SMART www.firesmartcanada.ca