



## CLIMATE RESILIENCE AND HAZARD LANDS

The focal areas for Climate Resilience in Area I includes: extreme weather, emergency preparedness, wildfire, flooding and erosion and water supply.

### CURRENT TRENDS

#### Climate Trends

- Higher average temperatures with winter warming at a faster rate than other seasons (increase of 2.8 degrees Celsius).
- Higher annual precipitation increasing in spring and summer (increase from 516 mm in 1985 to 971 mm in 2012).
- Increase in extreme heat days over 30 degrees and decrease in extreme snow events.



#### Emergency Preparedness

- Volunteer Fire services are provided by Pass Creek and Tarrys Fire Departments in Area I.
- BC Ambulance Service and RCMP Services are out of Castlegar and City of Nelson.
- Electrical service is provided by BC Hydro and Fortis BC and consists of above ground poles and wires that are susceptible to wind and snow damage.
- Water supply systems for emergency services are limited in both areas due to lack of hydrants or sufficient water supply in community water systems. Pass Creek accesses water from Shukin Road and Tarrys from two large tanks at the Kalesnikoff facility.
- There are several communities with limited access in the Plan area: Shoreaces, Glade, Pass Creek and Gibson Creek.



### Wildfire

- Increased rates of air quality advisories and fire danger rating days.
- Area I has wildfire education programs in place and FireSmart Assessments for private land owners.
- Treatment areas in Area I include: Upper Pass Creek, Upper and Lower Glade and Norn's Creek.
- Area I has high fire behavior threat class ratings, with high risk areas indicated to be Glade FSR, Upper Glade Road, Makonin Road, North Sentinel FSR, Gibsons Rialto FSR.
- Recent wild fire activity includes a 5,952 ha fire in Trozzo Creek (Area H) and a 20 ha fire in Merry Creek (Area J) in 2021.

### Flood and Erosion

- Flood risk is partially addressed along the Columbia River and Kootenay River by dam operations at Brilliant and Hugh Keenleyside.
- RDCK's Flood and Steep Creek Geohazard Risk Prioritization Study identified the Slocan River (moderate geohazard rating & high consequence rating) and Norris Creek (moderate geohazard rating & high consequence rating) as high priority areas for further study.



### Water Supply

- Water systems include: Brilliant (Waterworks District), Glade (Irrigation District), Playmor Junction (Improvement District), Voykin (Improvement District) and other small community systems
- Groundwater wells and surface water licenses serve the majority of residents not with community water systems – Glade and Norns Creek are designated community watersheds.
- Groundwater monitoring indicates that groundwater supply is stable and increasing at a rate of 0.2 m per year. Surface water resources are at risk of increased bacterial and turbidity issues due to rising temperatures.
- Water consumption rates vary per water system but are high in areas that use such systems for irrigation (on average 865 l/day in Columbia Basin, 1160 l/day used in West Robson and 480 l/day in Lucas Road, 3701 l/day in Ootischenia in summer months).
- Water quality data indicates insufficient treatment of surface water sources in the Plan area.

## WHAT DOES THE CURRENT OCP SAY?

The Ministry of Transportation and Highways is strongly encouraged to plan and construct an alternate access to Brilliant in order that access is maintained in event of an emergency.

Encouragement shall be given to the use of subdivision designs that accommodate services, such as emergency vehicles.

Maintain and enhance fire protection throughout the Plan Area.

All subdivision and development proposals located in an alluvial fan shall be required to address flood hazard issues.

Flood proofing regulations on setback of buildings and structures from water bodies and elevation of ground floors above water bodies shall be articulated.

To protect environmentally sensitive lands such as steep slopes, floodplains, watersheds and soils subject to erosion from land uses having major environmental impacts.

To consider a Tree Cutting Bylaw to regulate the tree cutting on private lands where natural hazards are evident.

New and improved domestic water supply systems shall be designed and constructed to provide hydrants and sufficient flows for fire protection in case of emergencies, fire equipment can be interchanged and critical repairs made.

### OPPORTUNITIES

RDCK has undertaken the following work in Climate Adaptation:

- Emergency Preparedness
- Interface Wildfire Management
- Floodplain and Risk Mapping
- Water Conservation

which can be further incorporated into land use policy and hazard development permit areas

### CHALLENGES

- Uncertainty exists in the impacts of Climate Change
- The existing rural land development pattern is subject to potential hazards
- Emergency preparedness is constrained in limited access communities
- CPR rail lines and major highways create a risk for transportation incidents related to hazardous materials – communities such as Brilliant and Shoreacres are at increased risk of rail related incidents

## RESOURCES

Flood and Steep Creek Geohazard Risk Prioritization Study (2019) & RDCK Floodplain Mapping Area I and J Community Wildfire Protection Plans (2016 & 2019)

Area J State of Climate Adaptation Report (2017)

Columbia Basin Trust



Stay Involved:

<https://rdck.ca/PlanAreaI>