



Changing climate.  
Changing risks.

# Be prepared: understand and manage the risks around your home.

Cowichan is an amazing place to live. However, our region has natural hazards such as flooding, landslides, wildfires and earthquakes. We are also hit by extreme weather events like windstorms and heavy snow. This newsletter offers tips on how to prepare for hazards and reduce risk.

## The Cowichan Valley Regional District is developing a Natural Hazards Disaster and Risk Reduction Strategy.

Our goal is to help people, businesses and communities in our region adapt and thrive in the long term. We believe it is important that everyone learns more about risk and prepares for natural hazards and extreme weather.

Many of the natural hazards we face link to climate change. They will happen with greater frequency in the future. Cowichan's climate in the next few decades will be very different from the past. Climate projections predict hotter, drier summers and warmer, wetter winters with little to no snowpack.

The goal is to take steps now to reduce the consequences of climate-related risks. The CVRD is working with many partners to implement risk management at the community level. It is equally important to reduce risk at the neighbourhood and individual level.

This newsletter identifies hazards we face in our region. We also discuss risk mitigation projects happening now, and we offer tips and resources to help you and your neighbours prepare for the future. It's the first of many conversations we will have about changing climate and changing risks.

Being aware of potential hazards will help **you reduce the risks to you and your family.**

	<p><b>Increased intensity of winter storms results in:</b> flooding, landslides, power loss &amp; damage to houses.</p>	
	<p><b>Hotter, drier summers mean:</b> drought, wildfires &amp; poor air quality.</p>	
	<p><b>Rising sea levels lead to:</b> coastal flooding &amp; erosion.</p>	



# Stay ahead of hazards to cut your losses.

Managing risk means understanding the hazard and taking steps to reduce the consequences. Learn about some of the potential hazards around your home and across the region.



## Windstorms



Even a slight increase in wind speed can cause significant damage to many homes. Windstorms can damage and disrupt infrastructure, bringing down wires and blocking roads. Damage from high winds can happen anywhere in the region.

### ASK YOURSELF

- » Was I affected by a windstorm in the past?
- » Could I have done something before the storm to lessen the impacts?
- » Have I looked at ways to improve safety in my home?
- » Do I have supplies to carry me through if I lost power and/or phone service for an extended period?
- » How will I deal with damage and debris?

## Coastal storms & changes to sea level



Living along our beautiful coastal areas comes with benefits but also risks, such as storm surges, eroding coastlines and rising ocean levels and tides. The speed of this rise is uncertain, but ocean levels are expected to increase by over one metre before the end of the century, resulting in both temporary and permanent flooding of some areas in our region. Oceanside infrastructure and buildings will need to adapt to higher sea levels and future development must consider increased flood construction levels.

### ASK YOURSELF

- » Have I viewed a map of affected areas for sea level rise?
- » Do I live in or rely on services in the flood zone?
- » Have I seen examples of coastal impacts?

## Mud & debris flows



Our mountainous terrain has many steep drainages which, when super-saturated, are prone to mudslides, landslides, debris collection and wash outs. More intense storm events are projected with a changing climate, and could cross a critical threshold that will lead to more frequent events of this kind. Development activities on unstable slopes must be done with care to avoid increasing instability.

### ASK YOURSELF

- » Do I live along a ravine or natural drainage area?
- » Are the culverts clear and able to pass water and other materials if necessary?
- » Even if I don't live below a steep slope, do I rely on power lines or roads that are in these susceptible areas?
- » Could my property be putting a downslope neighbour at risk?
- » Do I have an emergency kit or supplies in case I am cut off (e.g. roads, power) for a few days?

## Stormwater & urban flooding



In some developed areas across the Cowichan region, some form of organized drainage system is in place to manage increased stormwater flow due to greater density and impermeable (paved) surfaces. Drainage may be managed by a simple roadside ditch or catch basins and pump stations. Occasionally these systems may be overwhelmed or backed up due to the volume of rain or associated flooding.

### ASK YOURSELF

- » Do I live in such an area?
- » Do I have a backflow protection system in place to protect my home?
- » Have I done a quick check of the catchment basins around my house to make sure they are clear?
- » Have I reviewed and upgraded my own drainage system around my home?

## Wildfires



Much of the region is forested land and subject to wildfires. Interface fires, where a wildfire threatens residential areas or infrastructure, pose a risk in rural and semi-rural areas and on the fringes of village and urban centres. FireSmart planning can protect your property from wildfire. Based on recent large wildfires elsewhere in British Columbia, all portions of the community are likely to be at risk or affected by smoke.

### ASK YOURSELF

- » Have I made sure my property is FireSmart? ([firesmartcanada.ca](http://firesmartcanada.ca))
- » Can I reduce my exposure?

## Algae & water quality



Warm water, low water levels and crowded beaches put additional stresses on our watercourses. The CVRD continues to experience water quality declines during warm weather, affecting recreation, water intakes and fisheries. Somenos, Quamichan, Shawnigan and Cowichan Lakes have all had large algae blooms in recent years. Depending on the algae type, this may pose a risk for human exposure. For example, Quamichan Lake suffers from growth of a cyanobacteria-producing algae that makes it extremely dangerous to enter the water at certain times.

### ASK YOURSELF

- » Do I know where to check water quality status?
- » Do I know where my water intake is?
- » Do I have a water treatment system in place?

## Drought



Hotter and drier summers are becoming the new normal in the Cowichan region. Both surface water and ground water sources throughout the region are threatened by reduced water supply and increasing water demand.

### ASK YOURSELF

- » If I'm on a well, is there a fallback plan if it goes dry?
- » Do I have a way to get water in case a fire occurs?
- » If I'm in a water service area, can I reduce my consumption to conserve for fire flows?

## River flooding



Rivers and streams often spill over their banks onto the surrounding floodplain. Low-lying areas adjacent to these streams flood regularly and are unsuitable for certain types of development. Increasing intensity of winter storms due to climate change may lead to higher flood levels in the future.

### ASK YOURSELF

- » Do I live along a river or water course?
- » Do I have a way to get out in an emergency?

## Earthquakes



Our region is situated within a seismically active part of the world. Building codes include seismic requirements and individuals are urged to prepare to be self-sufficient for up to a week in the event of a major earthquake.

### ASK YOURSELF

- » Do I have an earthquake plan?
- » Have I ever practiced my plan?
- » How big is my emergency kit?
- » Is my house directly on a seismic line?

## Lake flooding



Extended heavy rainfall during an 'atmospheric river' or a 'pineapple express' event can raise water levels and flood shoreline areas quickly and unexpectedly. Cowichan Lake and Shawnigan Lake have flood construction levels to ensure that houses surrounding the lakes are protected. But many houses, roads and infrastructure are already built within these areas.

### ASK YOURSELF

- » Do I live or work in a flood prone area?
- » Do I know the flood elevation below which things might get wet?
- » Do I store valuables or contaminants like solvents in that zone? If so, are they raised off the floor?
- » Is my septic field below the water line?

# Adapting to risk

## What we're doing

The CVRD is currently undertaking a review of the region's floodplains, coastal zones and other areas of high vulnerability. This work, and the recently completed climate projections for the region, are being used to assess the current level of vulnerability to a range of hazards, as well as to identify ways we can plan ahead to mitigate risk.

The CVRD has also recently completed a risk assessment of all its infrastructure, including public facilities, dams and other utilities, in order to ensure that we are prepared and able to continue to provide the necessary levels of service to residents during disasters.

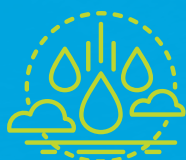
## What can you do to be prepared?

1.



Identify hazards on your property or in your neighbourhood.

2.



Put together an emergency kit and plan for you and your family.

3.



Sign up for a preparedness workshop. (see below)

To learn more, pick up a copy of the CVRDs Emergency Preparedness Workbook at any CVRD recreation centre, municipal office or local library. Visit the CVRD New Normal ([www.newnormalcowichan.ca](http://www.newnormalcowichan.ca)) and Natural Hazards ([www.cvrld.bc.ca/hazards](http://www.cvrld.bc.ca/hazards)) pages to find more information on the region's changing climate, natural hazards and public safety.

