



Natural Environment

Squamish is blessed with a rich natural heritage and a diversity of habitats and wildlife. Significant natural assets include the Squamish Estuary, Baynes Island Ecological Reserve, and the Mamquam Blind Channel. However, there are many unprotected sensitive ecosystems within Squamish and existing habitat is facing fragmentation. These areas provide important habitat to wildlife and fish including species at risk.

The majestic mountains, rivers and ocean that make Squamish such as attractive community also expose us to a number of natural hazards.

Squamish is located in the floodplain of 5 significant rivers and is also subject to coastal flooding which is expected to be intensified by climate change induced sea level rise. As the diking authority for community, the District is responsible for ownership, operation, and maintenance of dikes.

The Cheekye Fan is also exposed to significant landslide hazard potential on the south slopes of the Cheekye River.

Lastly, Squamish is subject to earthquakes due to its location along the subduction zone of the tectonic plates and interface fires from forested topography in and around the community.

Current Trends

- **Significant development pressure** due to rising property values in the lower mainland, the improved highway connection and recognition of desirable amenities in Squamish.
- **Increasing pressure on the natural environment.** We must manage growth to accommodate housing needs and tourism while protecting habitat and sensitive environmental areas (much of which is located on private land).
- **Lack of municipal regulations.** Squamish relies on provincial and federal protection for some key values such as Species at Risk, raptor nests and marine environments.
- **A limited land base.** With limited space to develop, there is considerable pressure on lands subject to natural hazards such as flooding.
- **Howe Sound environment improving.** After extensive remediation efforts, Howe Sound is showing signs of recovery and environmental improvement in recent years, including the return of important species like herring and larger mammals like whales and dolphins.

What does the current OCP say?

- The Cheekye Fan debris flow hazard has been studied. Consider additional studies to identify compatible land uses and mitigation strategies.
- Maintain 200-year flood protection standards along the Squamish, Mamquam, Stawamus, Cheekye and Cheakamus Rivers.
- Require a report prepared by a qualified engineer for all development proposals located within an identified natural hazard area.
- Non-residential uses Downtown are exempt from required flood construction elevation.
- Policies to support preservation of environmental values including specific guidance for the Squamish Estuary, environmentally sensitive areas, streams and riparian areas, coastal areas and bear management.
- Development permits areas to protect the natural environment and riparian areas.

Current Initiatives

Existing and ongoing initiatives:

- Ongoing dike improvements
- [Howe Sound Community Forum](#)
- [Bear Awareness program](#)
- Wildsafe BC: wildsafebc.com

New initiatives under development:

- [Integrated Flood Hazard Management Plan](#)
- [Marine Action Strategy](#)
- [Comprehensive Emergency Management Plan](#)
- [Mitigation strategies for the Cheekye Fan](#)
- Mapping environmentally sensitive lands
- Revisions to the [Development Permit Area guidelines](#) for the protection of riparian areas
- [Regional protocols](#) for management and disposal of invasive species

Challenges

- Significant development pressure on a limited land base leads to more development in hazardous areas.
- Climate change will impact natural hazard risks.
- Hazard mitigation is currently on an ad hoc basis. A comprehensive approach would be more effective.
- Funding for risk mitigation planning is challenging.
- Currently there is no risk tolerance criteria for development in the Cheekye Fan.
- Development Permit Area guidelines do not include comprehensive mapping or specific requirements.
- Invasive species, including Japanese Knotweed, have been identified in numerous locations.
- Floodplain and debris flow information not current.

Opportunities

- Limited coastal development to date so sea level rise can be accommodated as we grow and develop.
- Opportunity to renew thinking about development in the Cheekye Fan and develop risk tolerance criteria.
- Strong community values to protect marine and terrestrial environments and riparian areas.

For More Information

- [Smart Growth on the Ground – Foundation Research Bulletin: Squamish – Natural Hazards and Risk \(2005\)](#)
- [Squamish Estuary Management Plan \(2007\)](#)
- [Cheekye River \(Ch'kay Stakw\) and Fan: Expert Review Panel Report \(2015\)](#)
- [District of Squamish Site Alteration Bylaw No. 1886 \(Updated 2014\)](#)
- [Coastal Flood Hazard Mitigation Strategy and Flood Protection Options \(2015\)](#)
- [Integrated Flood Hazard Management Plan Background Report \(2015\)](#)
- [Sound Investment – Measuring the return on Howe Sound's Ecosystem Assets \(2015\)](#)