Kootenay and Slocan River confluence

RDCK Risk Tolerance Policy: Project Introduction

Presented by:

BGC Engineering

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BGC Team

Elisa Scordo, M.Sc., P.Geo

Principal Hydrologist (BGC)

Project Manager*

Kris Holm, M.Sc., P.Geo

Principal Geoscientist (BGC)

Project Review*

(*) Team Overlap with the RDCK and Village of Salmo Floodplain Management Bylaw Review

Geohazards pose risks to life and property. Land use planning requires areas be 'safe for the intended use' - however RDCK has no formal definition of 'safe'.

Johnson's Landing Slide July 2012, Canadian Press

Risk tolerance criteria can provide a consistent basis for evaluating whether development applications meet “safe for the intended use” expectations.

Individual Risk – is the potential for the death of an individual on a specific property in any given year, and is referred to as the Annual Probability of Death of an Individual (PDI).

The Town's objective is to avoid new risk associated with steep creek hazards exceeding these thresholds and reduce existing risk to within these thresholds over time. Steep Creek Study Areas, Development Hold Zones, Hazard Zones and Erosion Zones have been established by the Town in order to achieve this.

Safety Risk Tolerance

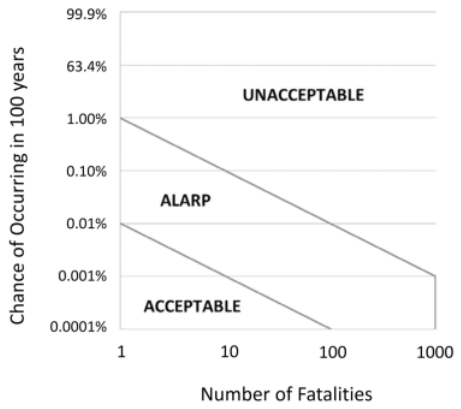
3.5.1 Canmore's safety risk tolerance criteria for development impacted by steep creek hazards are established as follows:

a. Group risk is within an acceptable or As Low As Reasonably Practicable (ALARP) range as shown in Figure 1; and

b. For new development, the individual risk (PDI) shall not exceed 1:100,000, and

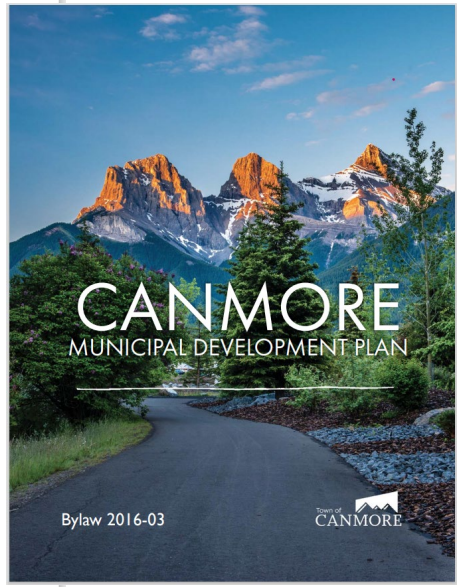
c. For existing development, the individual risk (PDI) shall not exceed 1:10,000.

Figure 1



14.

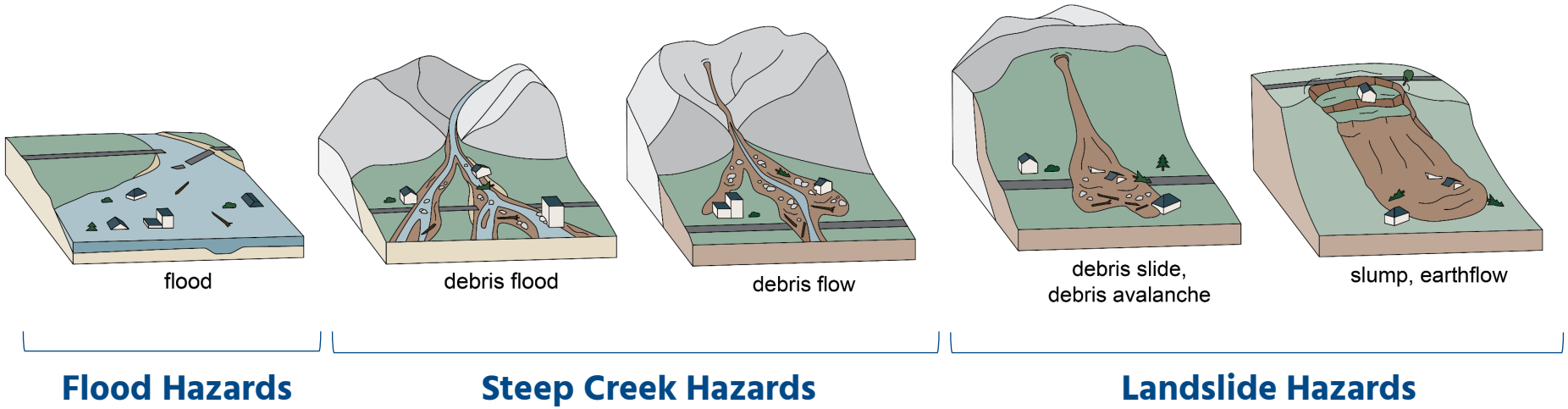
Bylaw 2016-03 Municipal Development Plan



The project aims to develop a "safe for use intended" policy to help guide risk-informed planning decisions that enhance community resilience against natural hazards in the RDCK.

This work is focused on:

- **Life-loss (safety) risk tolerance criteria**
- **Geohazard-related risk**



Key project tasks include:

- **Comparative analysis and best practice review:**
  - Review of best practices from Canada and internationally
  - Review of existing RDCK policies and processes related to risk tolerance
- **Stakeholder engagement (e.g., First Nations, RDCK, Qualified Professionals)**
- **Risk tolerance criteria and policy language development**
- **Recommendations and reporting**

The project began in October 2025 and is scheduled to be completed for May 2026:

Thank you!

Slocan River

Supplemental Information

Key Terminology

- **Consequence:** expected impact or outcome resulting from the occurrence of a hazardous event (Fell et al., 2005)
- **Geohazard:** geological processes or conditions which can be a source of risk (Lee & Griffiths, 2024)
- **Life-Loss (Safety) Risk:** the estimated likelihood of injury or death, often expressed as the annual probability of fatality for an individual, or probable life loss over a period of time for groups
- **"Safe for the use intended":** a determination by a qualified professional that the land is considered to pose an acceptable level of risk for its proposed use, as required by Section 86 of the Land Title Act to certify development approvals in areas subject to hazards.
- **Risk:** the effect of uncertainty on objectives (ISO 31000)
- **Risk tolerance criteria:** thresholds used to determine whether a given level of risk is acceptable for a specific use.
- **Vulnerability:** expected degree of loss resulting from a hazard intensity (Fell et al., 2005)

Closing

This presentation required a number of complex issues to be reduced to general concepts in a series of concise bullet points, photographs, and/or diagrams. The content of this presentation is not intended for design decisions or construction. This presentation is for general informational purposes only. BGC Engineering Inc.'s report(s) may contain more specific details concerning the issues identified in this presentation. Please consult BGC for further clarification if you have any questions or concerns.

Prepared by:
Elisa Scordo, Kris Holm

Client:
RDCK

Reviewed by:
Lauren Hutchinson, Sophia Zubrycky

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Contact us

Elisa Scordo

Principal Hydrologist

escordo@bgcengineering.ca | 604-367-7770

BGC Locations

CANADA
VICTORIA
VANCOUVER
KAMLOOPS
CALGARY
EDMONTON
TORONTO
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