Syilx Okanagan Flood and Debris Flow Risk Assessment:

Weaving *siwɬkʷ* (water) into Adaptation

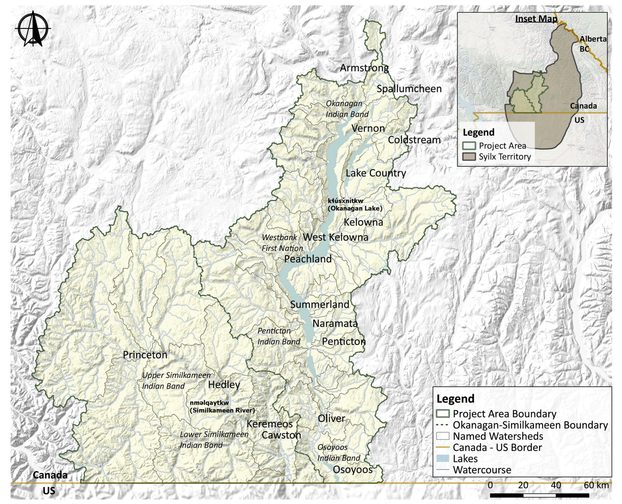
Adaptation Canada 2020
18-20 February 2020
Vancouver, BC

Background

Flood and debris flow are natural processes with positive ecosystem benefits. However, across *Syilx* Okanagan territory, recent events have also caused negative impacts in the form of flooded septic systems, erosion of fish-bearing creeks, and contaminant spills. Closed roads have affected access to services and land required to sustain livelihoods.

This project, led by the Okanagan Nation Alliance, had the goal to **understand risk due to flood and debris flow within the Okanagan-Similkameen region**, in order to support priority-setting of future work. It is part of ongoing adaptation efforts and is centred on building relationships and considering diverse views through complementary qualitative and quantitative analyses.

Project Area and Partners



Emergency Management BC (EMBC)
En'owkin Centre
Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD)
City of Kelowna
Village of Keremeos
District of Lake Country
Lower Similkameen Indian Band (LSIB)
Okanagan Basin Water Board (OBWB)
Okanagan Indian Band (OKIB)
Okanagan Nation Alliance (ONA)
Town of Osoyoos
Osoyoos Indian Band (OIB)
City of Penticton
Penticton Indian Band (PIB)
Regional Districts of Central and North Okanagan, and Okanagan-Similkameen (RDCO, RDNO, and RDOS)
Upper Similkameen Indian Band (USIB)
District of Summerland
Westbank First Nation (WFN)
City of West Kelowna

Terminology

The project worked with standard terminology and indicators. These are key to understanding the overall process and results.

Hazards

A **flood** occurs when surface water reaches higher than normal water levels and inundates land that is usually dry. For this project low, moderate and high magnitude flood scenarios were explored.

A **debris flow** is a rapid mass movement of saturated surface material down a slope. For this project a single scenario of debris flow susceptibility and generalized flow paths were explored.

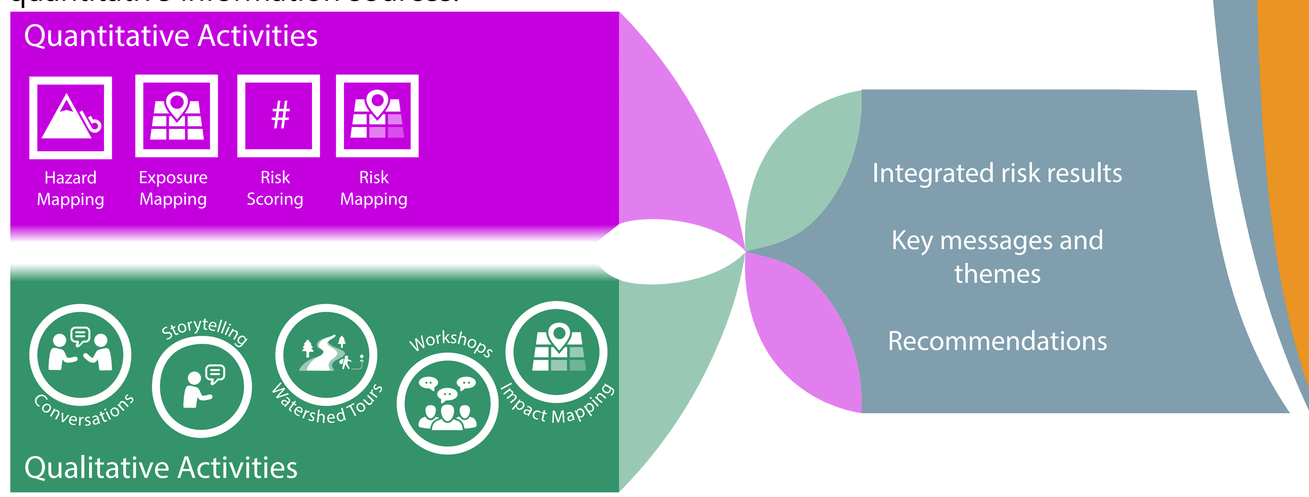
Consequence and Impact Indicators

Environment, Culture, Mortality, Affected People, Disruption, Economics

Risk = Hazard Likelihood X Consequence

Project Activities

A template was developed to gather and integrate a variety of qualitative and quantitative information sources.



Approach

Framing with *Syilx* perspective and multi-disciplinary western science for *holistic* understanding

Local Perspectives

tikt is the word for flood...[it's] shallower and not still like the lake

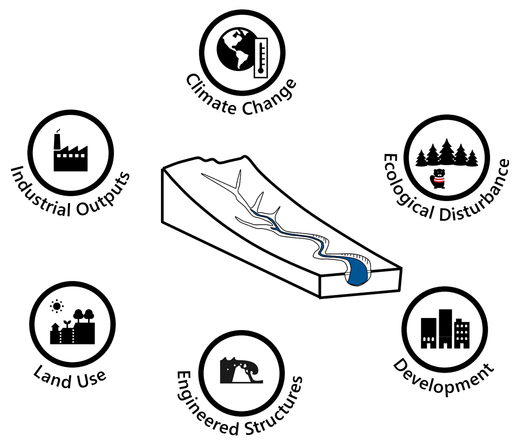
Richard Armstrong, *Syilx* Okanagan

"When we take care of the land and water, the land and water take care of us."

siwɬkʷ (Water) Declaration

enowkinwixʷ

Syilx process of decision making to solve issues, ideas through dialogue and always ensuring coexistence with the *tmixʷ*. It is knowledge that fills participants' heads like drops of water; decision making through consensus building.



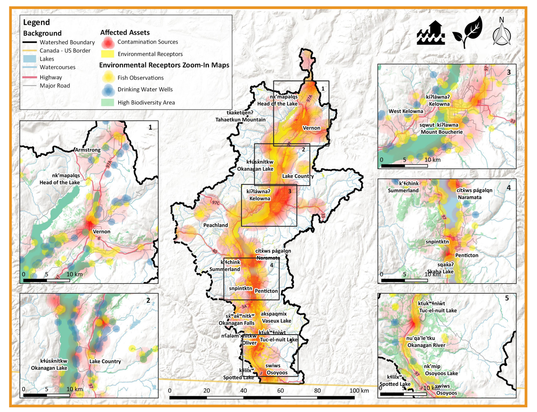
Cumulative Watershed Pressures

Best Practice

Sendai Framework for Disaster Risk Reduction

10 Golden Rules of Flood Management

(Sayers et al., 2014)

Scoring risk on a watershed scale for *relative* comparison

Spatial Risk Identification