NATURAL ASSETS
AND
"NATURAL" DISASTERS

The Path to Climate Change Resiliency

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TERRITORIAL ACKNOWLEDGEMENT

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TABLE OF CONTENTS

- About Me
- Context
- Definitions
- Research Questions
- Literature Review
- Current Guides
- Expected Outcomes

ABOUT ME

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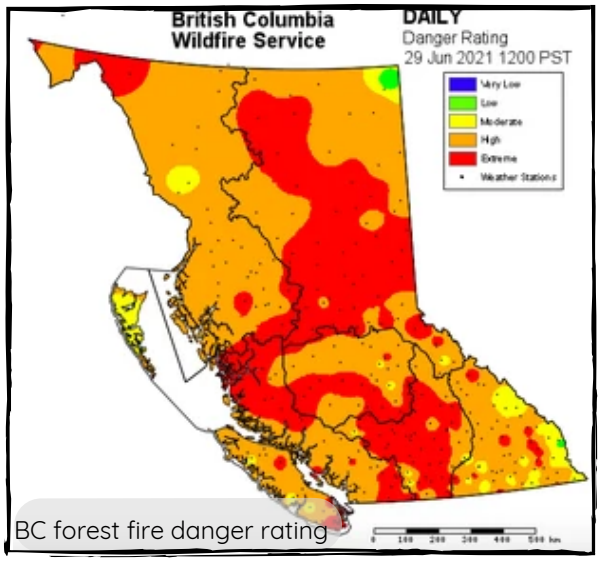
CONTEXT

Mudslide on Hwy 99 North of Vancouver

Family on boat, Abbotsford BC

Paramedic, St. John's Hospital Vancouver



BC forest fire danger rating

Handing out water in Vancouver

COST OF DAMAGE AND REPAIRS

WILDFIRES

BC: allocated $136 million for direct fire costs (2021-22)

Fort McMurray fire in 2016: $9 billion for repairs, rebuilding, and insurance claims

FLOODS

No preliminary estimates yet in BC

Abbotsford 2021: ~$1 billion

Alberta flood 2013: ~3.5 billion for repairs, rebuilding, and insurance claims

ECONOMY

Port of Vancouver: ~$250-500 million worth of goods travel through daily

DEFINITIONS

CLIMATE RESILIENCE

The ability to anticipate, prepare for, and respond to hazardous events, trends, or disturbances related to climate (C2ES).

NATURAL ASSETS

Biological/environmental features and ecosystems that provide people with vital ecosystem services.

NATURAL ASSET INVENTORY

A list of natural assets that assess the importance, practicality, restoration requirements, and value of local natural assets.

RESEARCH QUESTION

In light of severe weather and the elevated effect of climate change, how can we use natural assets to prepare for the future?

SUB-RESEARCH QUESTIONS

- Are existing inventories and initiatives missing a deeper understanding of the impacts of the climate crisis?
- Are the inventories showing any trend analysis that lead to action?
- How can the Federation of Canadian Municipalities use a natural assets framework to guide climate change actions?

LITERATURE REVIEW

TOWN OF GIBSONS 2009

- Aquifer Mapping Report
- Eco-asset Strategy
- Financial Planning and Reporting

COHORT 1 2017

- City of Nanaimo, BC
- District of West Vancouver, BC
- Grand Forks, BC
- Region of Peel, ON
- Town of Oakville, ON

COHORT 2 2020

- City of Courtenay, BC
- District of Sparwood, BC
- City of Oshawa, ON
- Town of Florencevillle-Bristol, NB
- Town of Riverview, NB
- Village of Riverside-Albert, NB

COHORT 1

NANAIMO

- Buttertubs Marsh Conservation Area
- Cost to replace: $4,694,295
- Climate change conditions: $7-9 million

WEST VANCOUVER

- Brothers Creek
- Cost to replace: $300,000

GRAND FORKS

- Kettle River Floodplain
- Provides ~$500-3500/ha in flood damage reduction

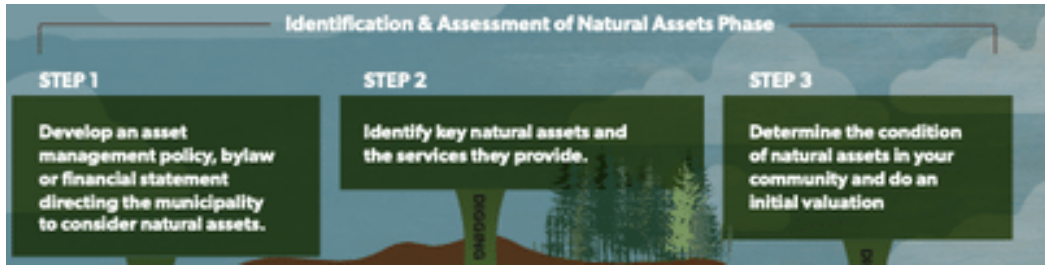
PEELE

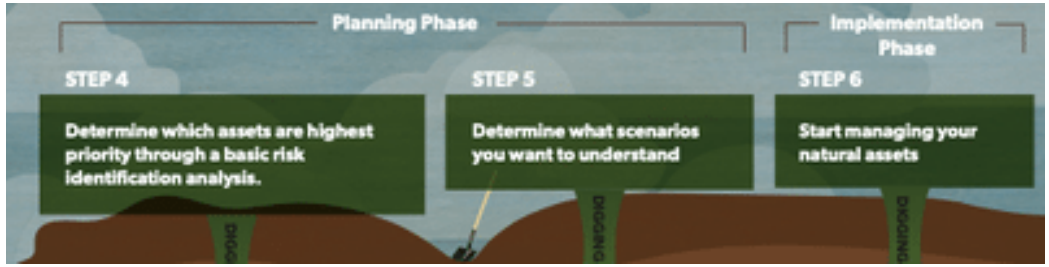
- Watersheds
- Cost to replace: $704 million
- Climate change conditions: $764 million

OAKVILLE

- Maple Hurst Remnant Channel
- Cost to replace: $1.2-1.4 million

CURRENT GUIDES





STEP 1

Define the scope of natural assets.

STEP 2

Inventory the natural assets by collecting and organizing existing information about the assets.

STEP 3

Conduct a condition assessment of the assets.

STEP 4

Conduct a risk assessment of the assets.

STEP5

Quantify existing service levels from the assets.

STEP 6

Develop scenarios to explore alternative management plans and future implications to existing service levels.

STEP 7

Quantify services levels under alternative scenarios.

STEP 8

Develop operation and management plans based on existing conditions, risks, and desired service level trajectories.

EXPECTED OUTCOMES

link to policy change

tie into the asset management plan

simple to follow and use

build community resiliency

"The future will either be green or not at all."

- Bob Brown

THANK YOU

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