

Let's talk about cumulative impacts

Vanderhoof
April 6, 2016

Nechako River near Fort Fraser, Photo Credit: WWF 2014

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The Cumulative Impacts
Research Consortium

UNBC UNIVERSITY OF
NORTHERN BRITISH COLUMBIA

Overview of the evening

- CIRC Presentation
 - What are cumulative effects/impacts?
 - Why is this focus important at this point in northern BC's history?
- Sharing stories and experiences
- Identifying next steps

The Cumulative Impacts of Resource Development Across Northern BC

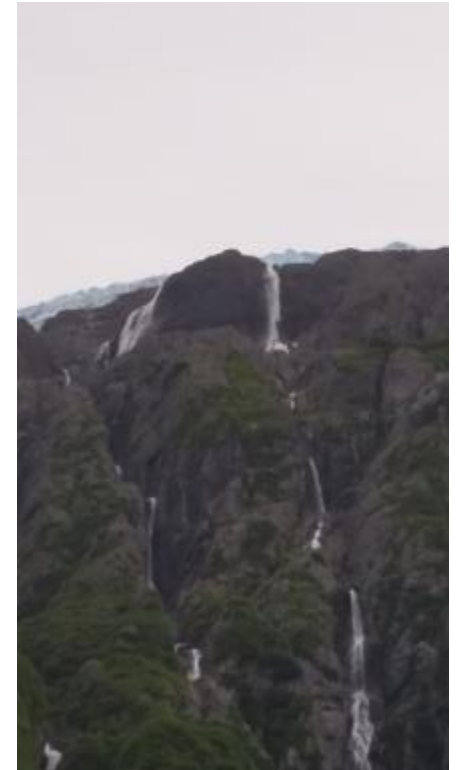


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Project Lead

Cumulative Impacts Research Consortium
University of Northern British Columbia

CIRC Event, Vanderhoof
April 6, 2016



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Acknowledgements

Steering Committee

Present: Greg Halseth (CDI); Marleen Morris (CDI); Margot Parkes (HRI – on sabbatical); Henry Harder (HRI); Rachael Wells (HRI); Art Fredeen (NRESi); Michelle Connolly (PICS)

Past: Kyle Aben (PICS); Leanne Elliott (NRESi)

Advisory Committee

Present: John Disney; Lana Lowe; Joan Chess; Jennifer Pighin; Nicole Cross; Andy Ackerman; Viva Wolf; Richard Kabzems; Wayne Salewski; Sandra Harris; Charl Badenhorst; Alan Madrigga; Rob Spitzer

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What are cumulative effects?



What's in a word? Cumulative 'effects'

“Cumulative effects are changes to the environment that are caused by an action in combination with other past, present and future human actions.” – CEAA 2014



FISH BEARING
STREAM
DISTURBANCE
FREE ZONE

“Cumulative effects are changes to social, economic and environment conditions caused by the combined impact of past, present and potential human activities or natural events.” – BC CEF 2015

(Cumulative) 'Impacts' and 'Effects'

- “death by a thousand cuts” or the “tyranny of small decisions”
- ‘Impacts’ = longer term consequences that flow from an effect or effects
 - The effects of effects
- ‘Cumulative impacts’ may occur when resource development is imposed on past land use and development activities in ways that leave lasting consequences for people, their communities, and the broader physical environment

*Proposed or Actual Change could involve a policy or a project

P
A
S
T

'Upstream' drivers of change in a region/landscape of concern



PROPOSED OR ACTUAL CHANGE*

A cascade of Effects & Impacts

Direct Effects
on environment,
community and health



F
U
T
U
R
E

**Impacts on community,
environment & health** as a
consequence of effects



Indirect Impacts
on environment,
community and health



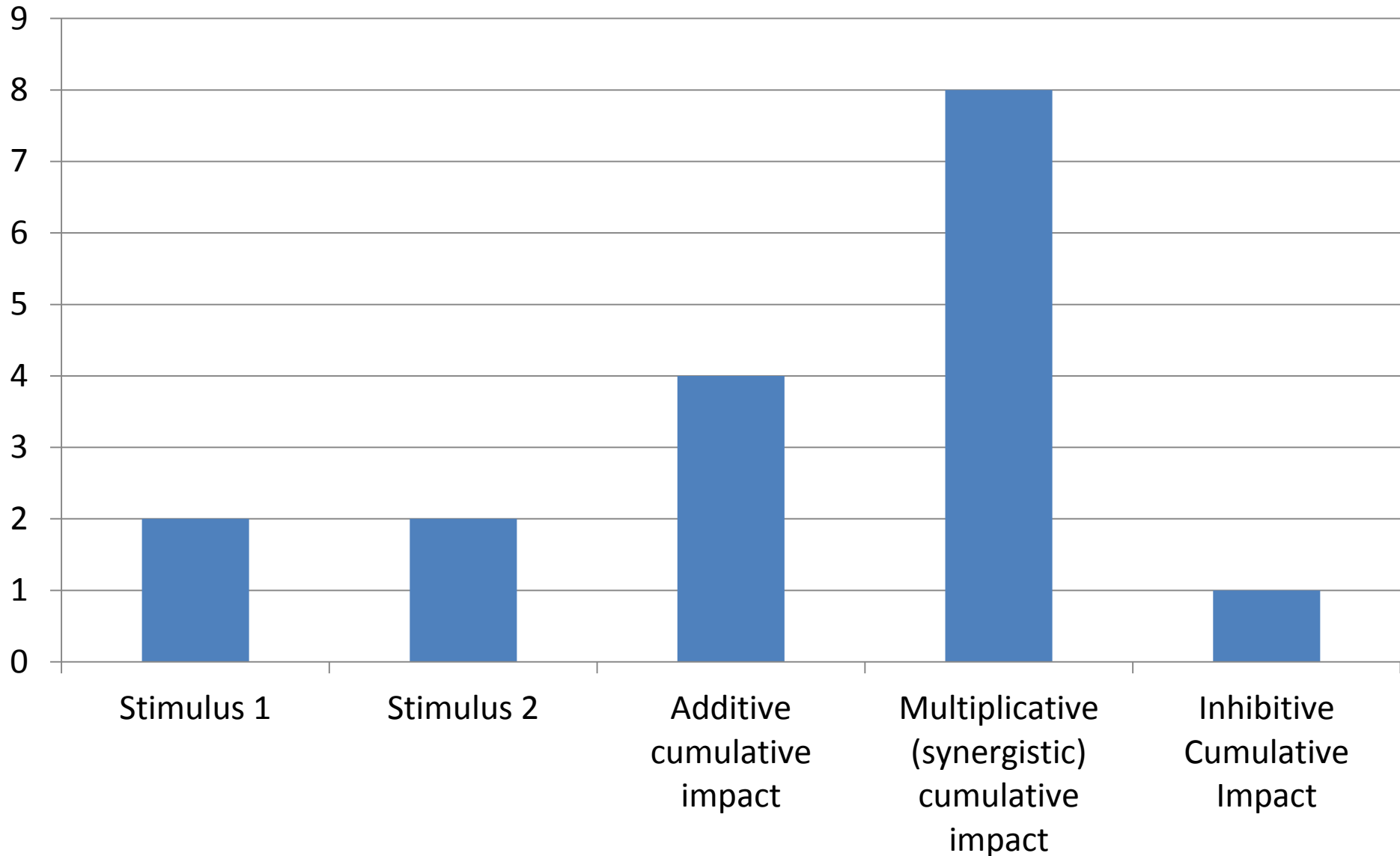
**Long-term, indirect
'downstream' impacts**



'DOWNSTREAM'
impacts on environment, community & health

Source: Margot Parkes (forthcoming)

The nature of cumulative change



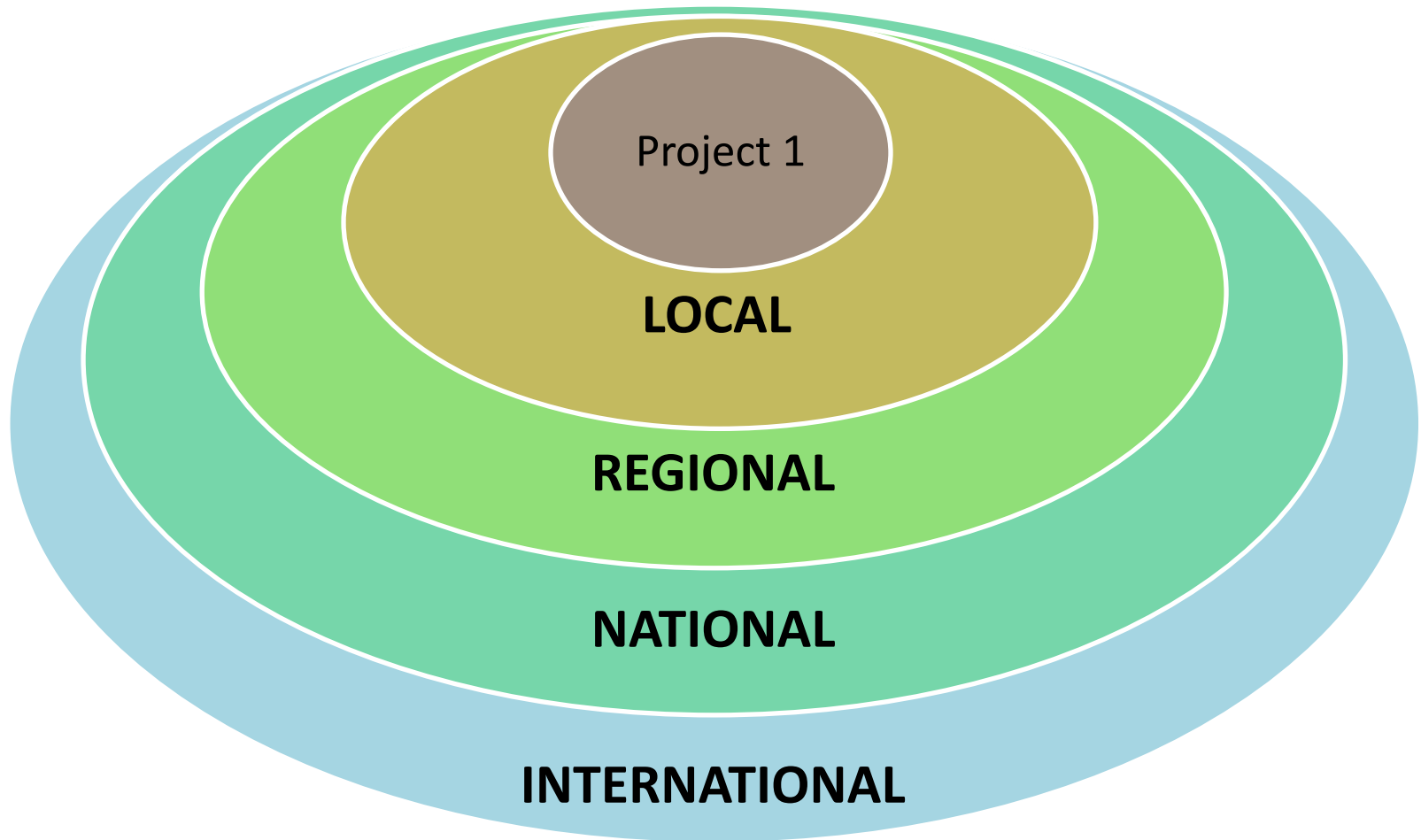
Examples of cumulative effects/impacts

- Air quality (SO₂ concentrations) from a smelter and a pulp mill
- Changes to stream flow from multiple run of river hydro projects
- Global climate change (and associated impacts)
- Boom and bust of resource economies

(Cumulative) Environmental Assessment Through an 'Impacts' Lens

- Narrow understanding of effects
 - Primarily associated with environmental change and 'valued ecosystem components'
 - Largely proponent driven through EA process (at least in BC)
- Limited spatial and temporal scale of assessment protocol
 - Assessment limited to project footprint
 - (Creeping) 'baseline' may already be affected or influenced by other developments
 - Lack of clarity around enforcement and requirement for long-term monitoring/mitigation

'Integration Imperative': Integrated Scale

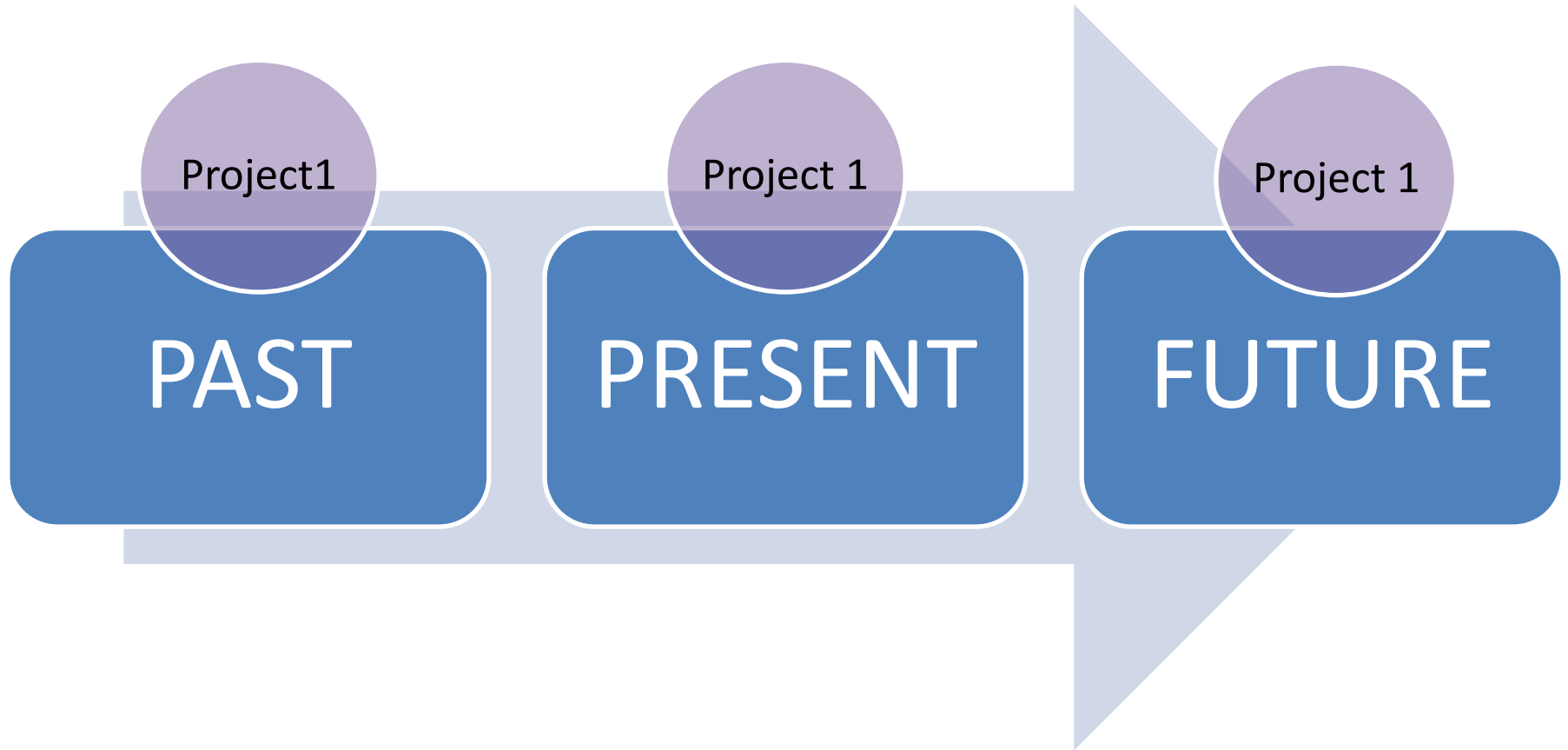


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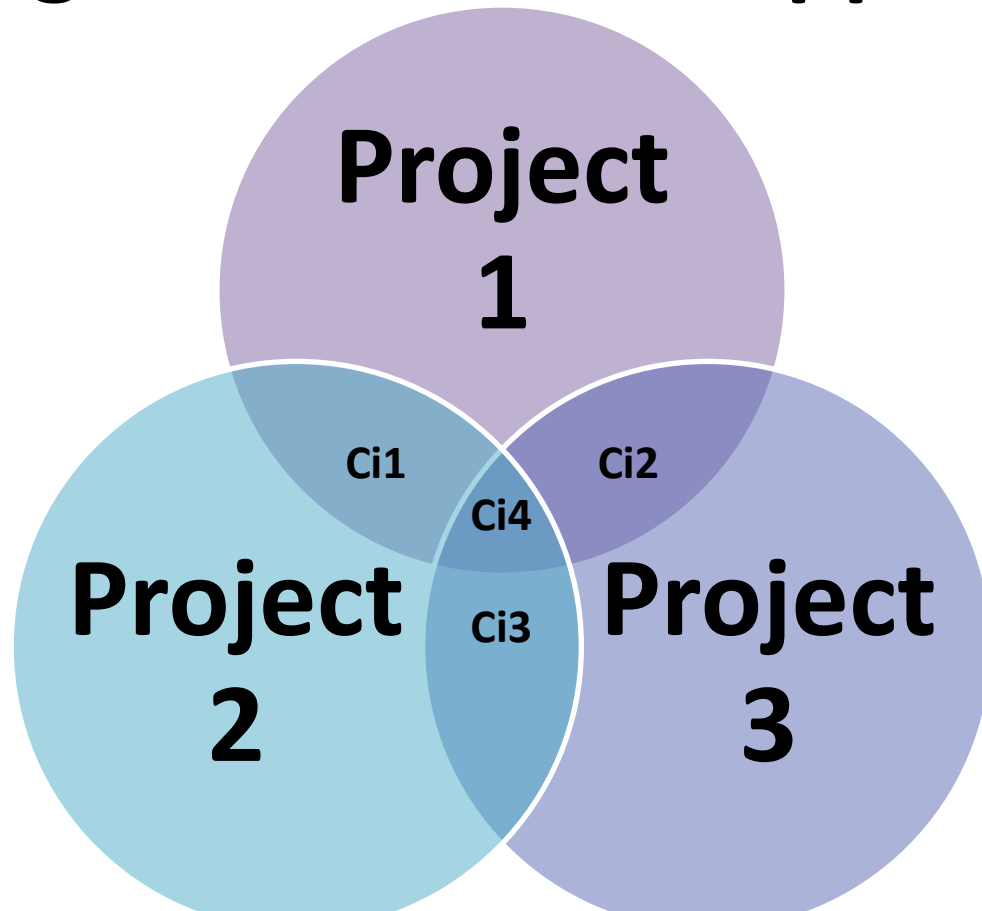
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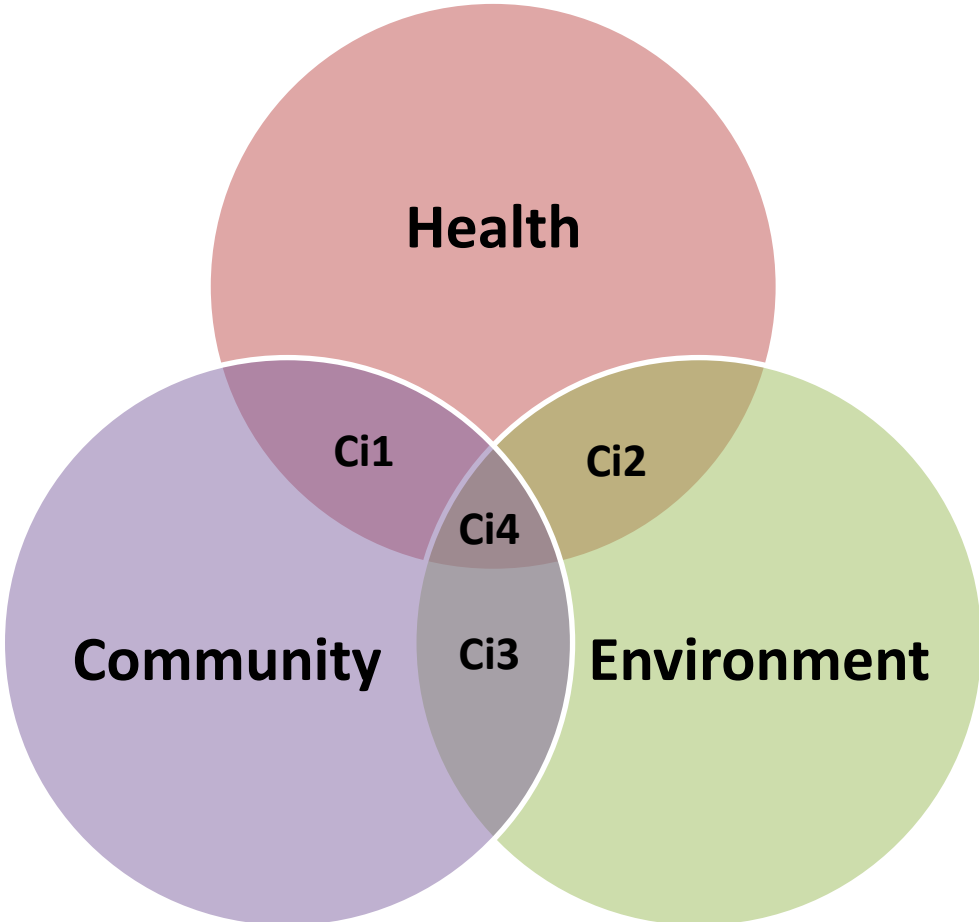
'Integration Imperative': Temporal Integration



The 'Integration Imperative': Integrated Sectoral Approach



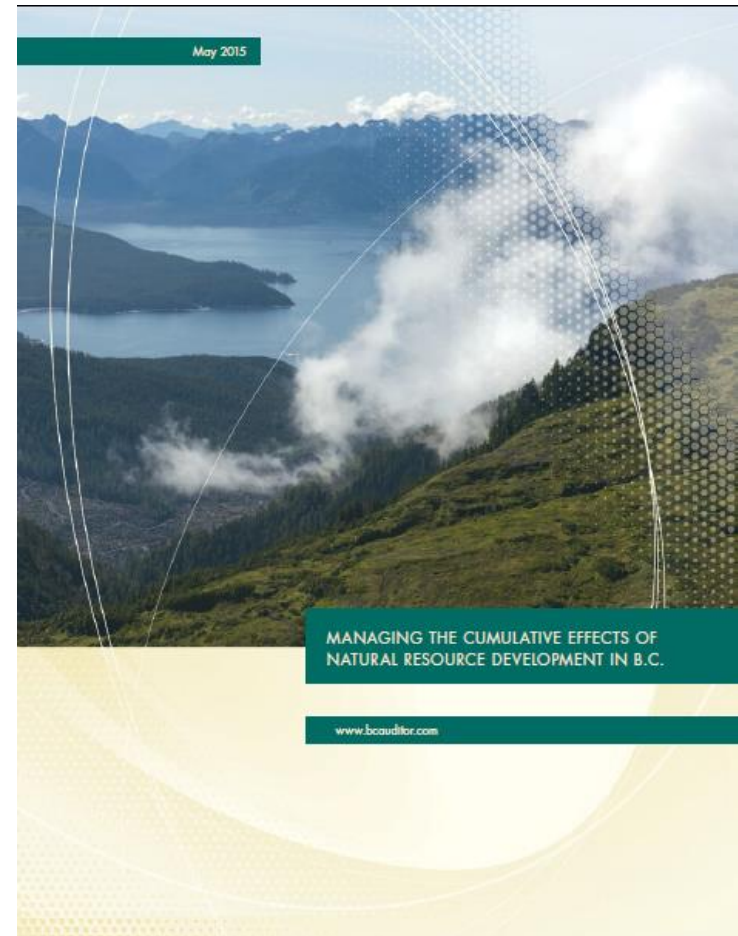
'Integration Imperative': Integrated Values



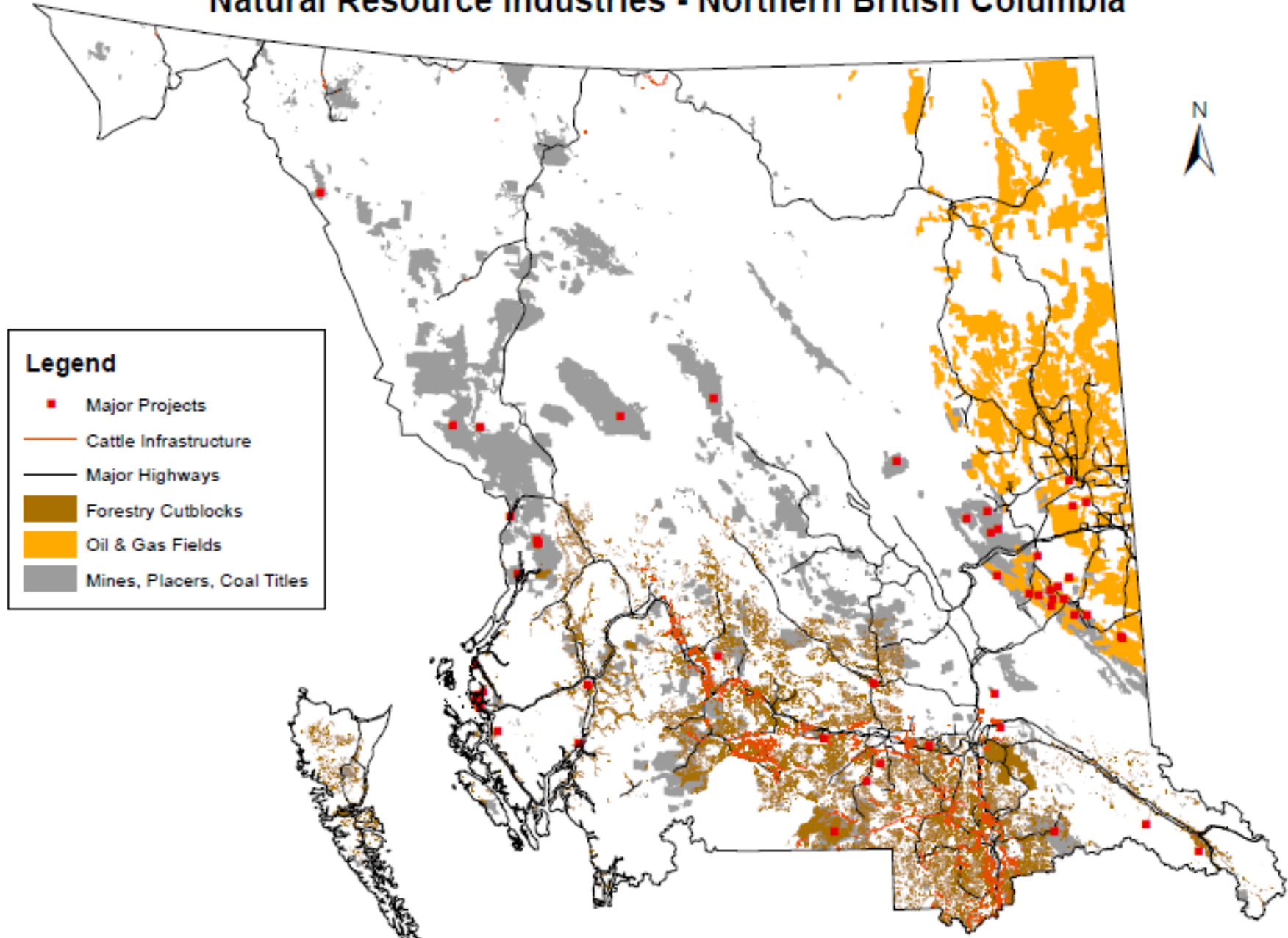
Why this focus now?

BC Auditor General Report

“Neither legislation nor other government directives explicitly requires FLNRO, or any other government ministry or agency, to manage cumulative effects when authorizing the use of natural resources. And current legislation and directives do not effectively support the management of cumulative effects across all of BC’s natural resource sector ministries and agencies.” – Office of the BC Auditor General, 2015



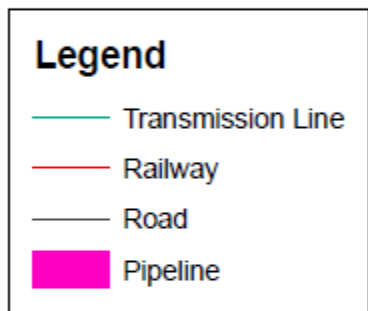
Natural Resource Industries - Northern British Columbia



Coordinate System: NAD 1983 BC Environment Albers
Projection: Albers - Created for Cumulative Impacts Research Consortium

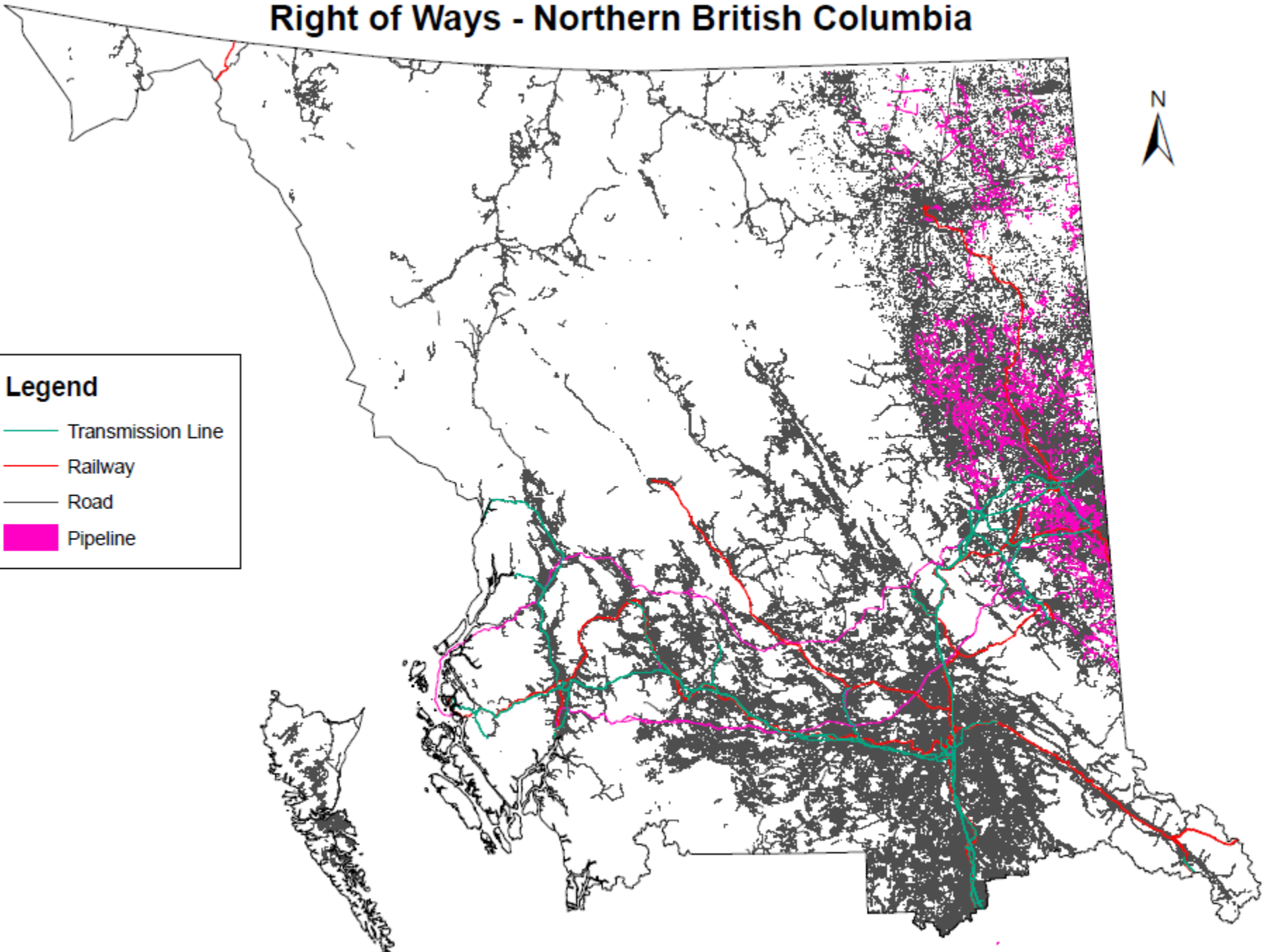
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Right of Ways - Northern British Columbia

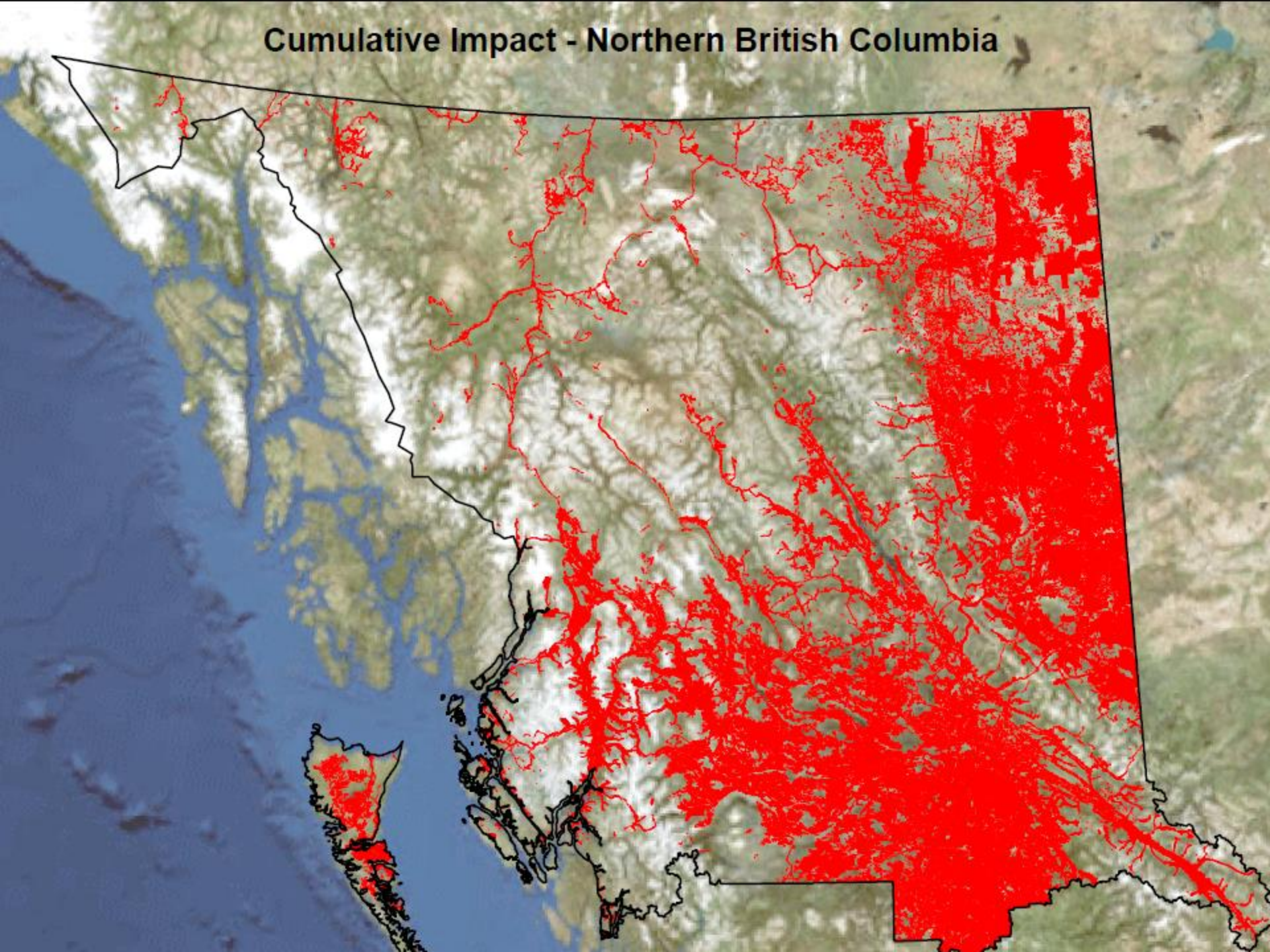


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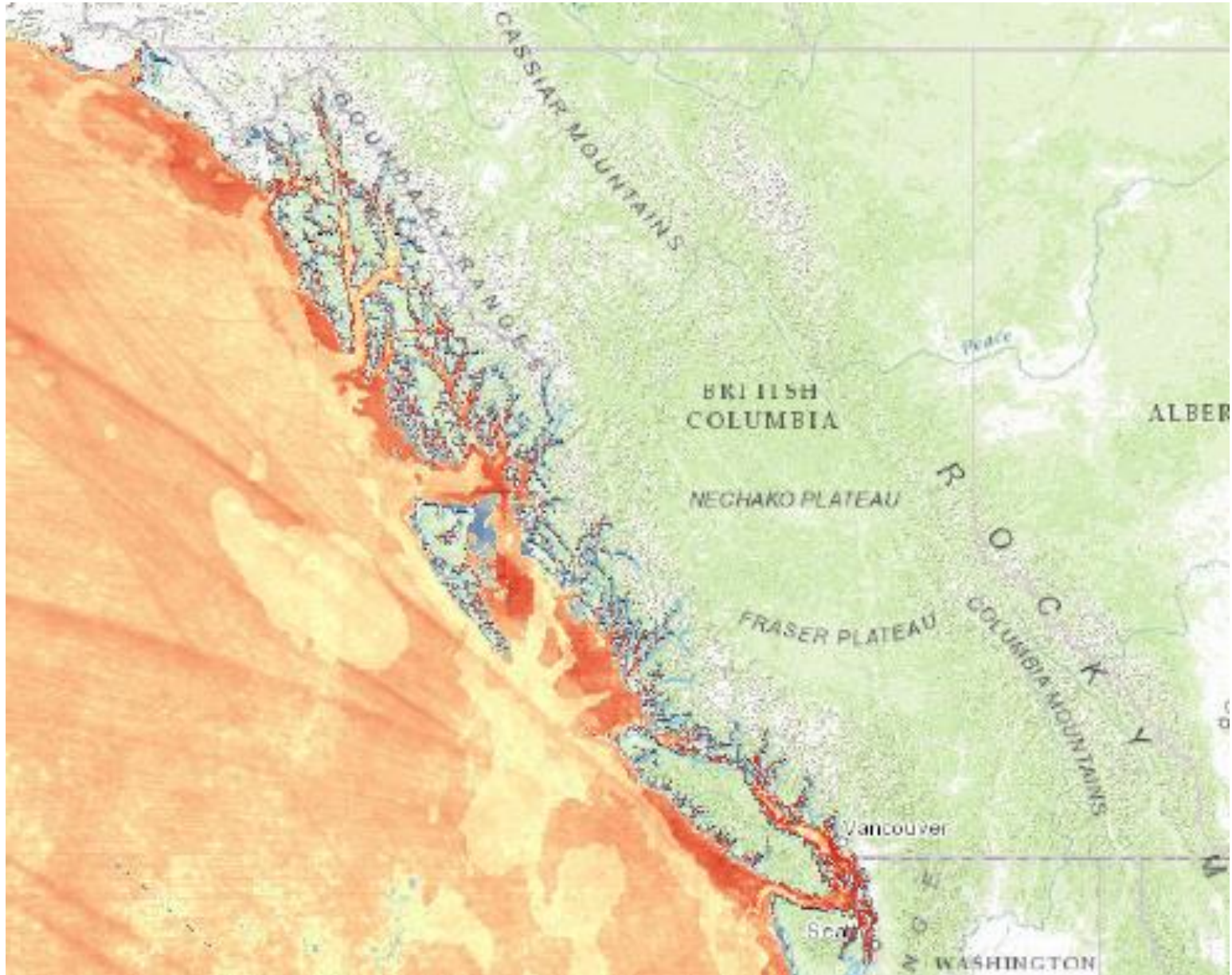
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Cumulative Impact - Northern British Columbia

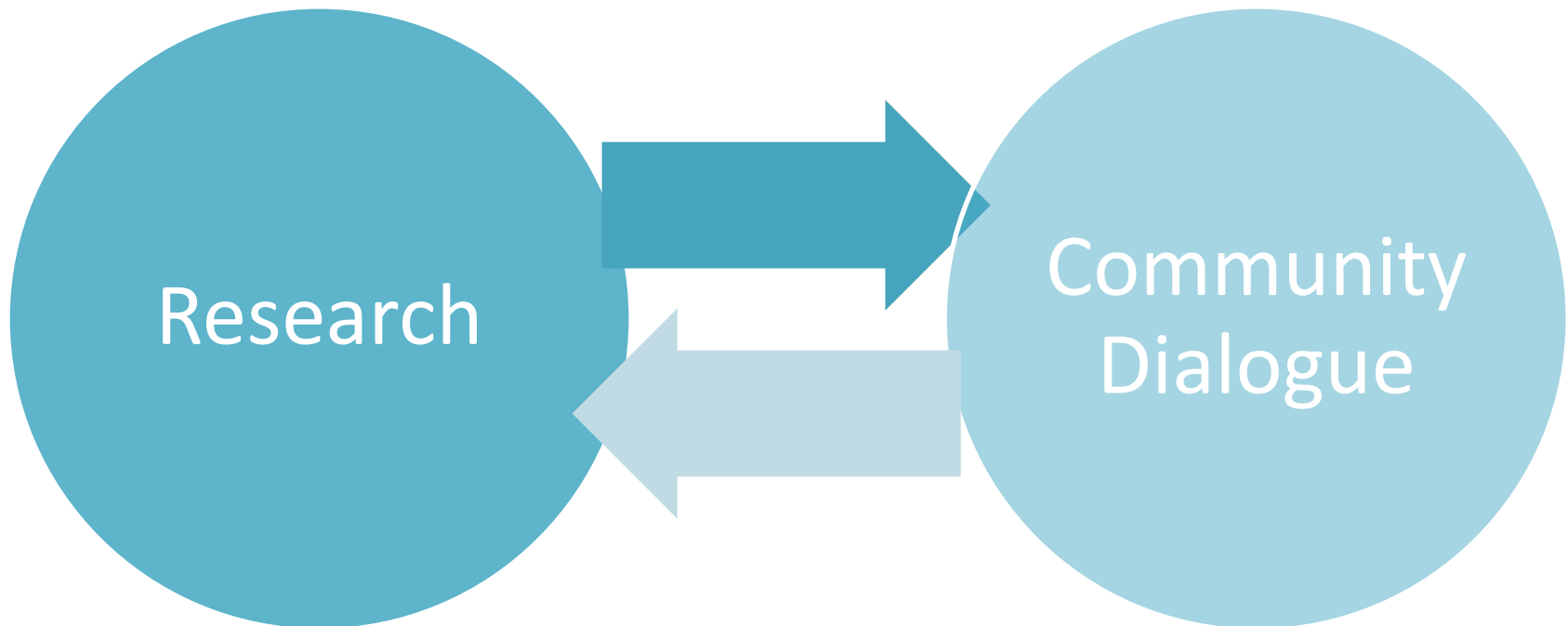


Cumulative Effects on BC's Coast



Map Credit: McClintock, SeaSketch

Our Approach



CIRC: On-going Research

1. Examining the community impacts of unconventional natural gas development in BC along the supply chain (SSHRC)
2. Examining the 'state of the art' of CEA in BC through interjurisdictional comparative case studies (UNBC / NSERC)
3. Developing new tools to assist decision-makers in assessing, monitoring and planning for cumulative impacts (BC Real Estate Foundation, w/ community partners)
4. Environmental and Community Health Observatory (CIHR, w/ 5 university partners, 10+ community partners)
5. Socioeconomic indicator development and storage (HRI w/ NHA and BC CDC)
6. Health Impacts of Resource Extraction and Development (NHA/FNHA)
7. Living library of CE Projects (PICS)

We want to hear from you!

chris.buse@unbc.ca | 778.349.4242 | @CIRC_UNBC

www.unbc.ca/cumulative-impacts

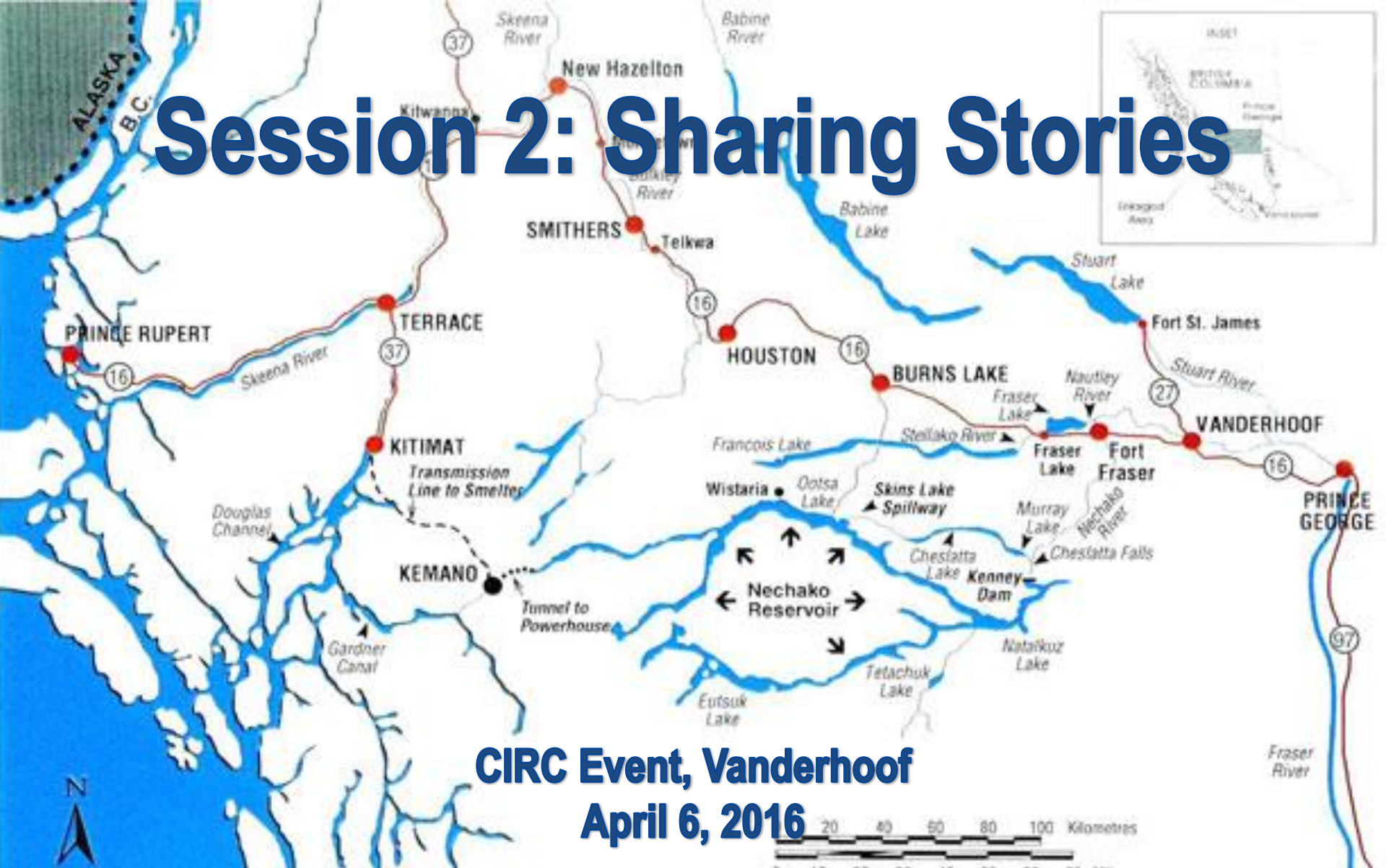


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Session 2: Sharing Stories



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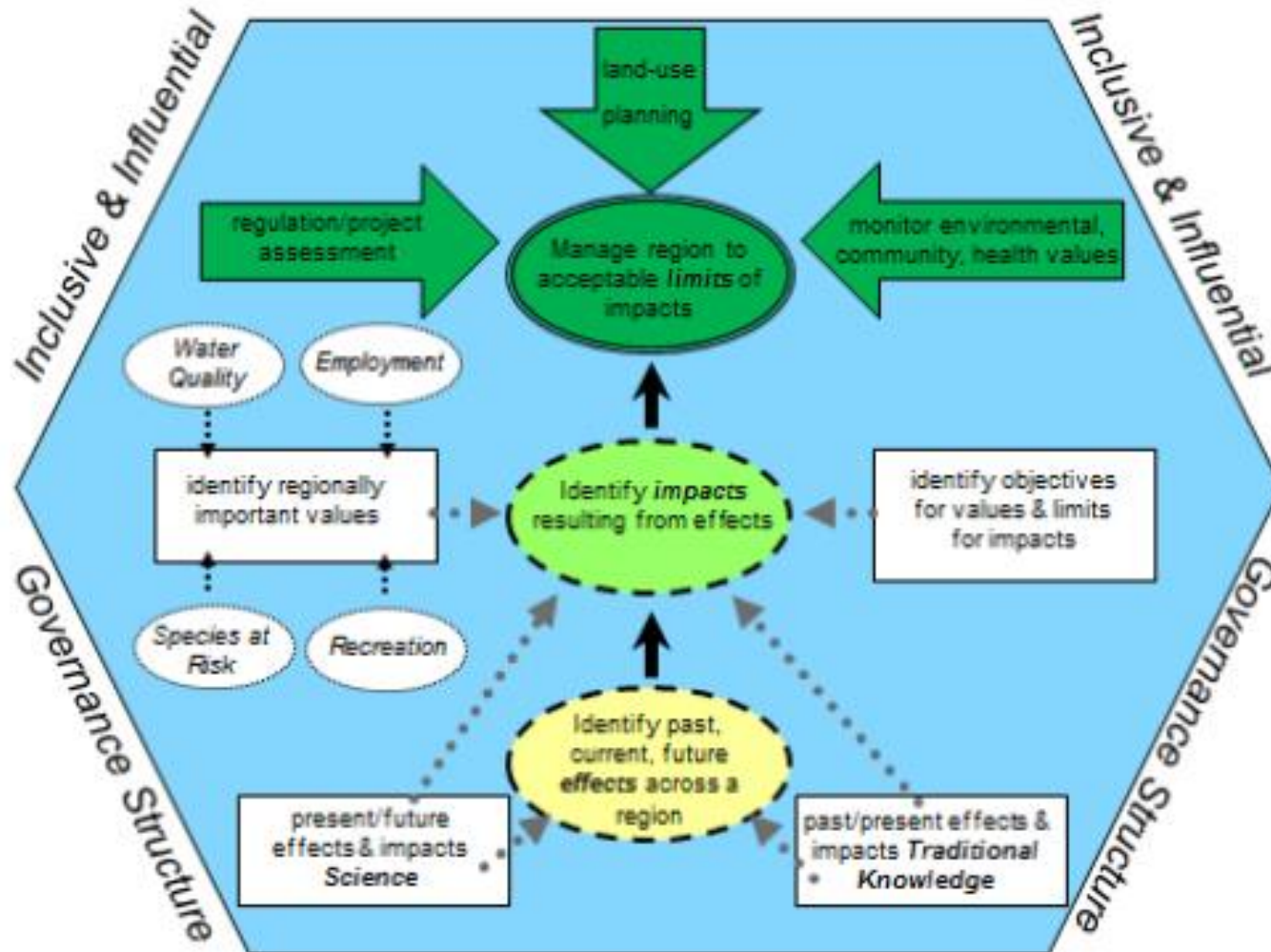
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- What are some of the similarities and differences between the stories that were shared at your table?
- What kinds of values are reflected in the stories that were shared (e.g. clean air, rights and title, relationship with the land, fish to fish for, etc.)?

About CIRC

CIRC: Research



Source: Gillingham et al. (forthcoming)

CIRC Approach to Community Engagement

- Principles to guide action:
 - Multi-stakeholder participation
 - Sustainability (in its broadest sense)
 - Large landscape vision
 - Integration
 - Aboriginal Rights and Title
- Rooted in 3 interrelated goals:
 1. Education
 2. Sharing
 3. Knowledge to action

Education: Understanding Cumulative Effects/Impacts



Sharing: Building Dialogue Across Northern BC



Knowledge to Action: Promoting Capacity



- Leveraging multiple ways of knowing into concrete partnerships and future directions for research and practice

Community Needs Identification

- “Lots of data, little information”
- Need for higher degree of meaningful and transparent community participation in research and resource development planning/operation
- Need for change by identifying entry points to address cumulative impacts before they emerge