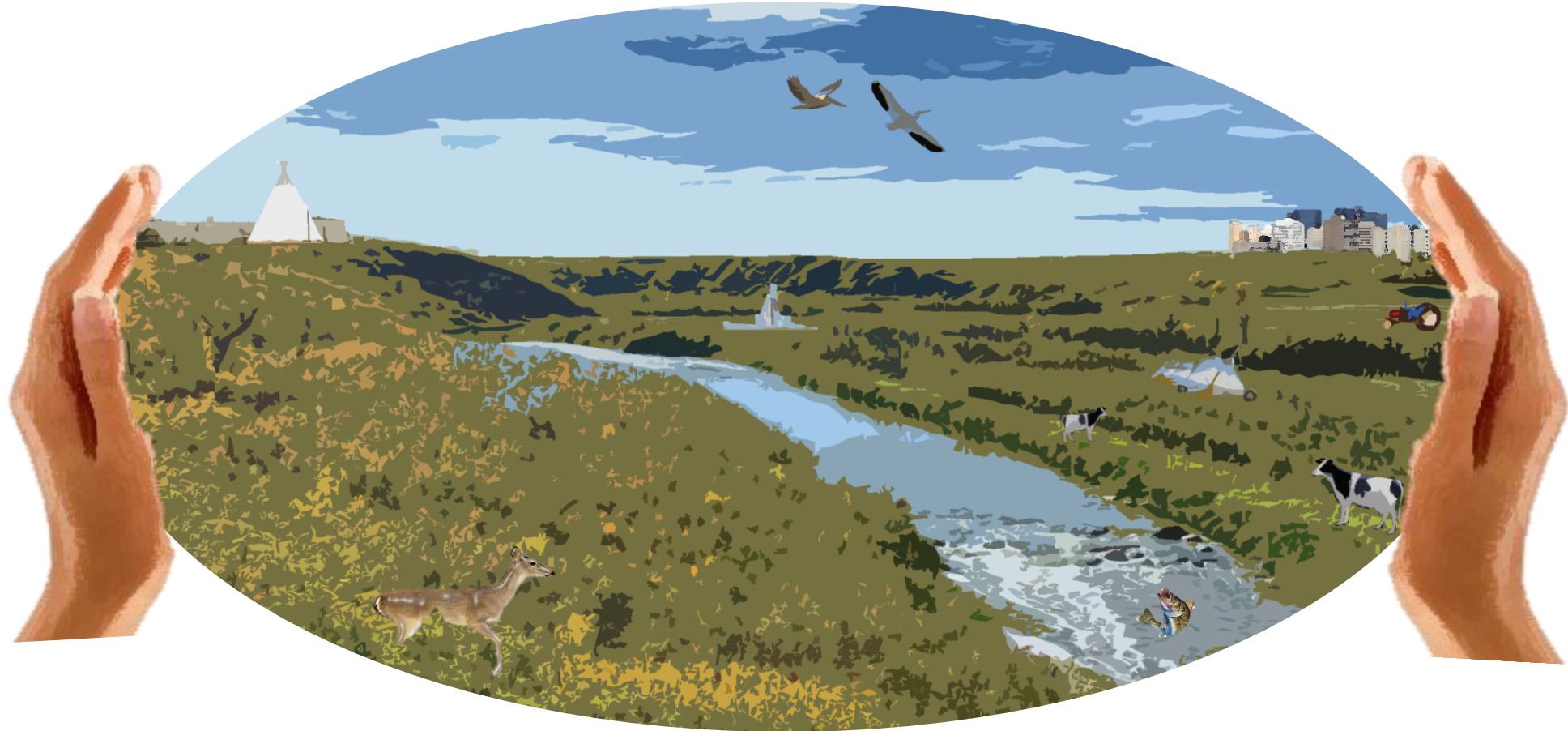


Reconsidering Environmental-Cultural Flows in Development Decision-Making in Canada through Grounded Theory



1. Background information

a) Definitions

b) Canadian Context

2. Research Questions

a) Past, Potential, and Practice

3. Methodology

4. Findings

a) Challenges

b) Scoping Review

c) Grounded Theory

5. Discussion

a) Significance

b) Application

BACKGROUND

Environmental and Cultural Flows Internationally and in Canada

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Definitions - Environmental and Cultural Flows



Anderson et al. 2019

PG. 4



UNIVERSITY OF
WATERLOO

FACULTY OF
ENVIRONMENT

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Environmental and Cultural Flows in Management and Assessment

“Integrate environmental flow management into every aspect of land and water management.”

“Environmental flow assessment and management should be a basic requirement of Integrated Water Resource Management; environmental impact assessment; strategic environmental assessment; infrastructure and industrial development and certification; and land-use, water-use, and energy-production strategies.”

Brisbane Declaration and Action Plan, 2007



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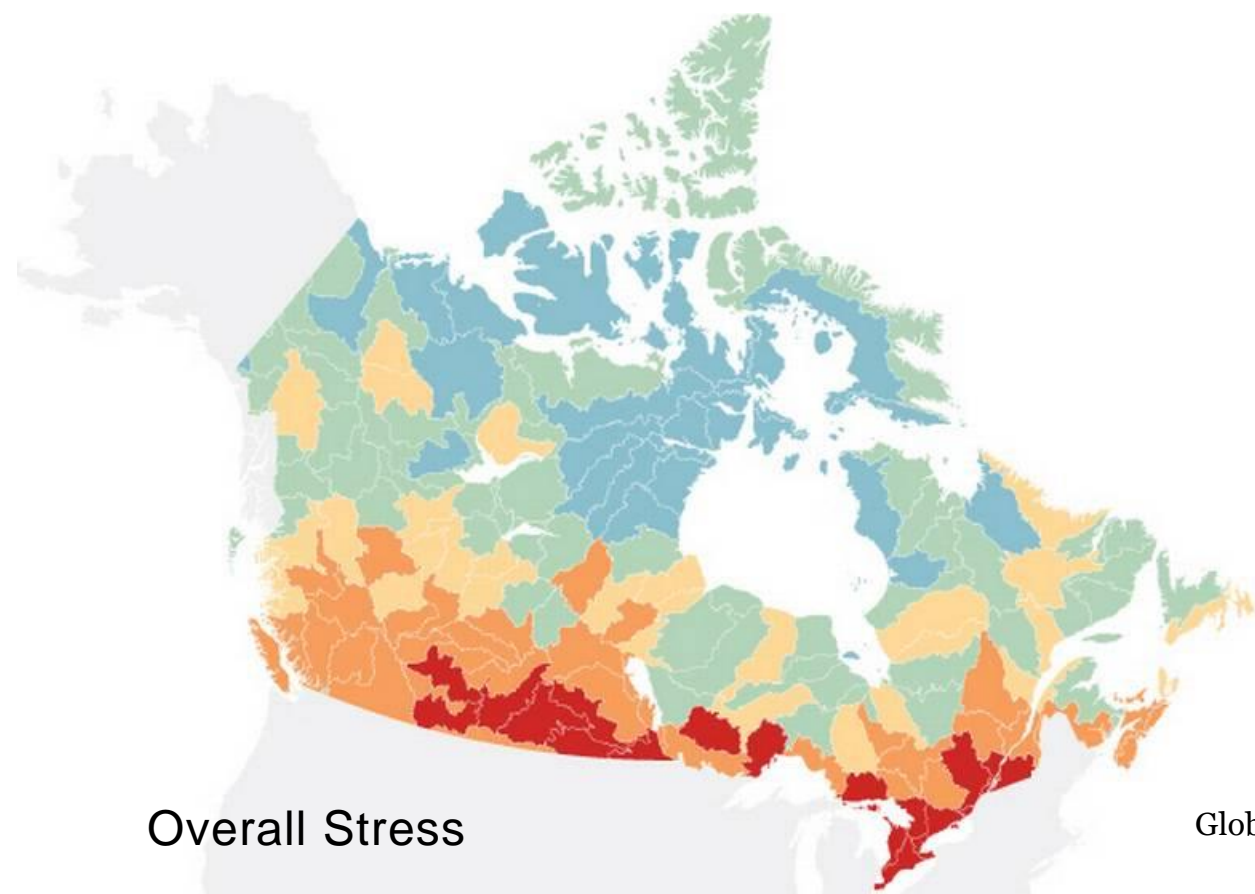
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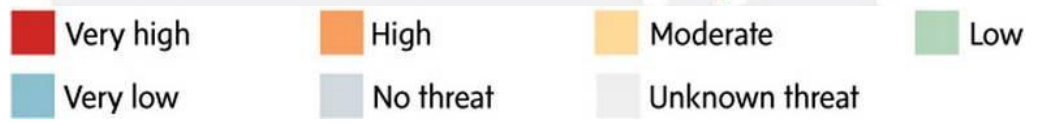
- a) Significance
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Canadian Context - Flows, Basin Planning, and Collaborative Consent



Overall Stress

Globe and Mail, WWF 2017



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Research questions

Past – How have environmental-cultural flows been incorporated within Canadian Acts, policies, programs, and impact assessment in the past?

Potential – How would environmental-cultural flows be an asset to impact assessments conducted in watersheds through pre-planning in Canada?

Practice – How might these approaches be integrated more within higher-level assessment processes and practice in Canada to enable sustainable watershed decision-making?



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METHODOLOGY

A Social Sciences Approach

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- a) Definitions
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- a) Past, Potential, and Practice

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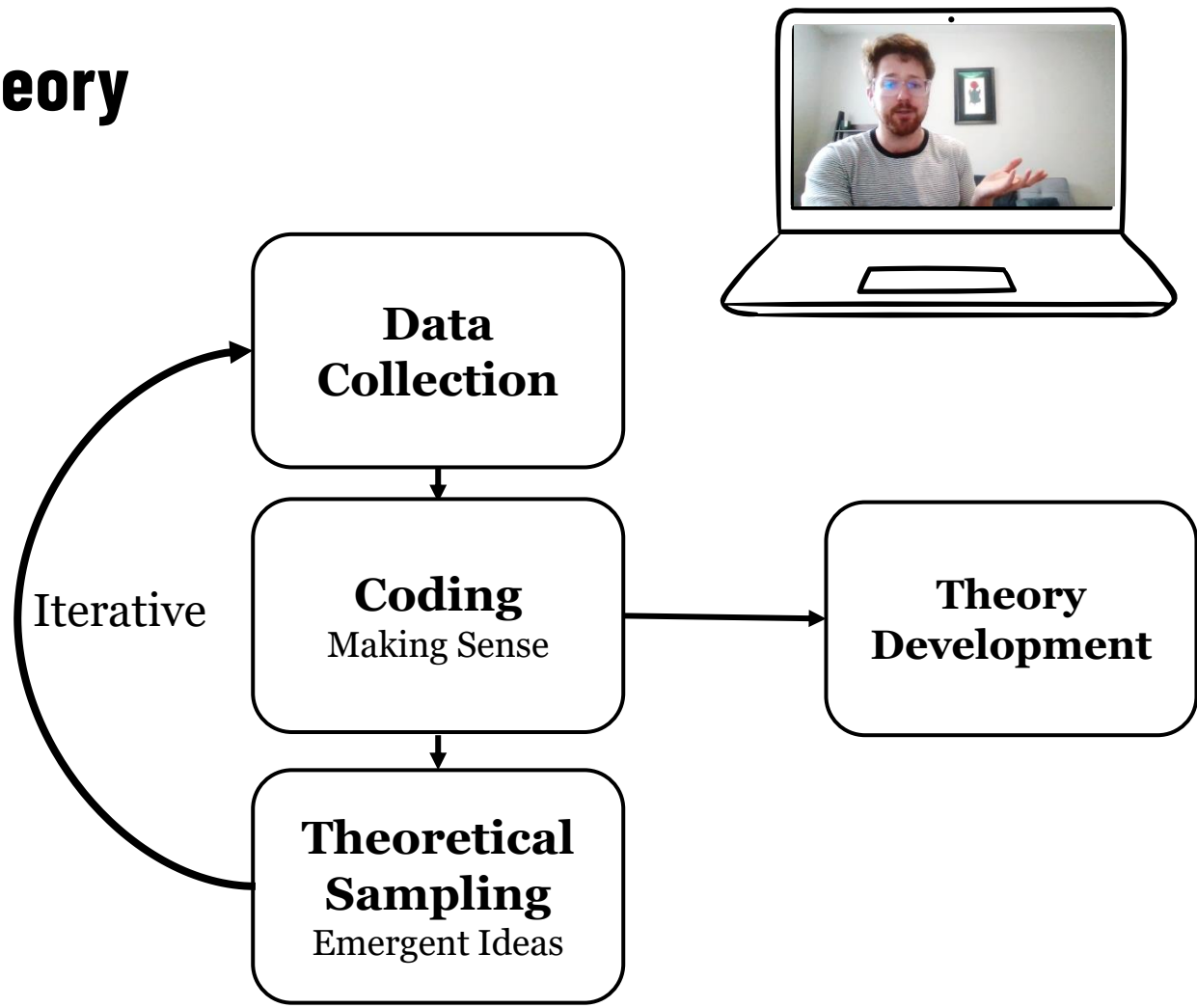
- a) Challenges
- b) Scoping Review
- c) Grounded Theory

5. Discussion

- a) Significance
- b) Application

Methodology - Grounded theory

- Interviews from environmental-cultural flows and impact assessment individuals
- 34 Contributors
- Supported by scoping review (25 acts, 23 policies and programs, 39 federal impact assessments)



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FINDINGS

Environmental-Cultural Flows in Impact Assessment in Canada

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b) Scoping Review

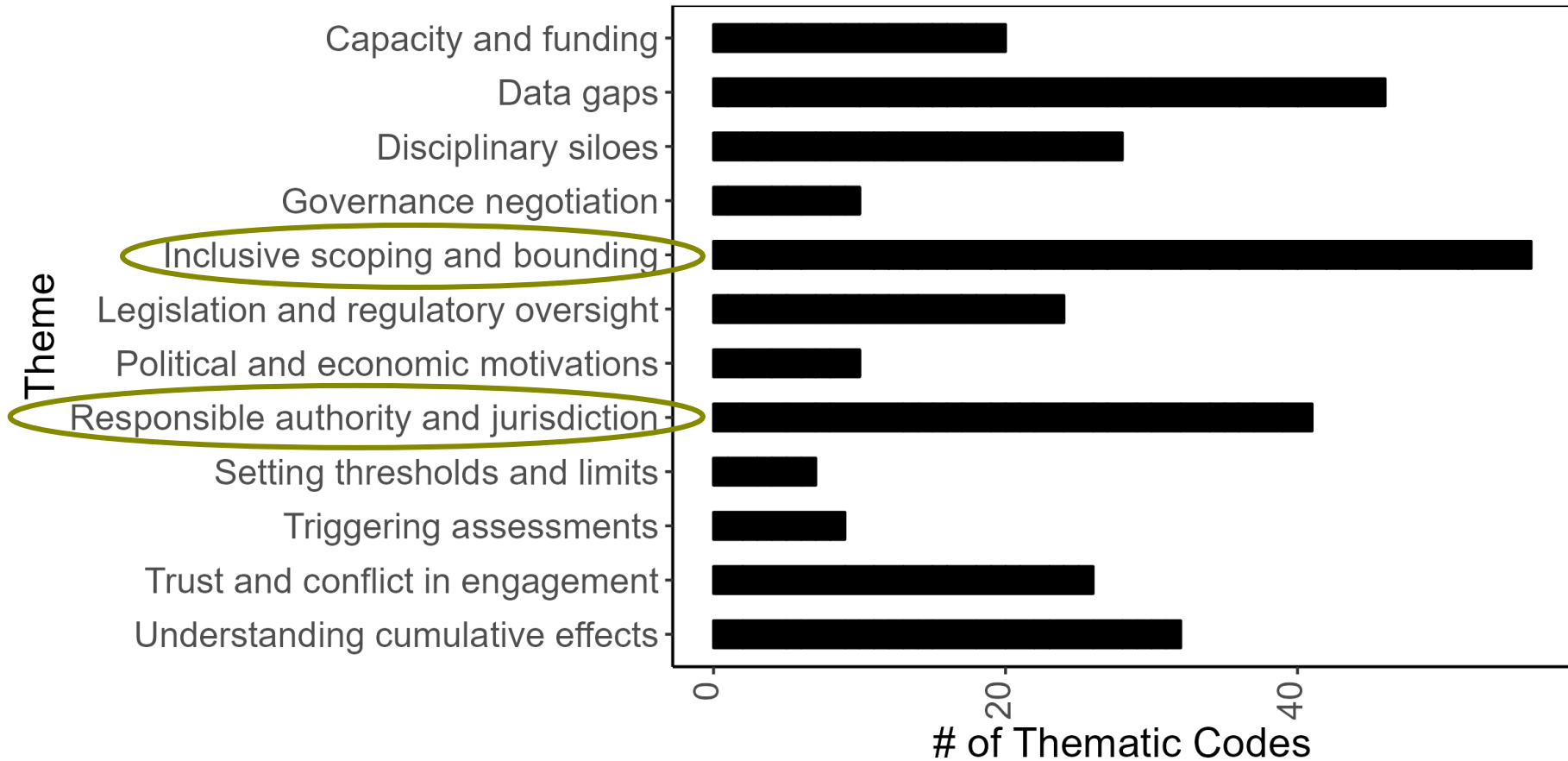
c) Grounded Theory

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b) Application

Inclusive scoping is the greatest challenge to assessing downstream and regional impacts



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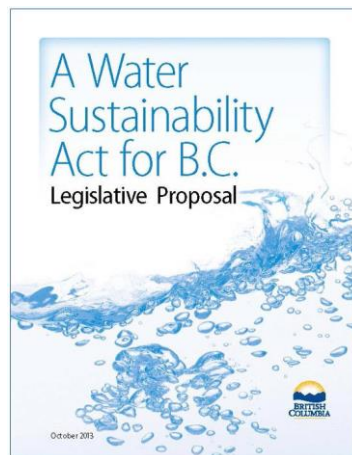
5. Discussion

- a) Significance
- b) Application

Environmental-cultural flow concepts in impact assessment focus on minimums and fish at project scales



Haves:



<https://waterbucket.ca/wcp/2014/03/16/historic-new-water-legislation-introduced-british-columbia/>



<https://www.saltwire.com/atlantic-canada/business/canada-disappointed-by-greenland-refusal-to-cut-atlantic-salmon-harvest-10059072/>



Canadian Dam Association

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- a) Definitions
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5. Discussion

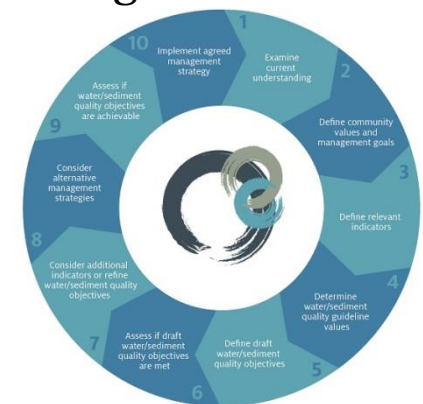
- a) Significance
- b) Application

Limited uptake of frameworks, social-ecological relationships beyond project boundaries, and broader planning objectives



Have-nots:

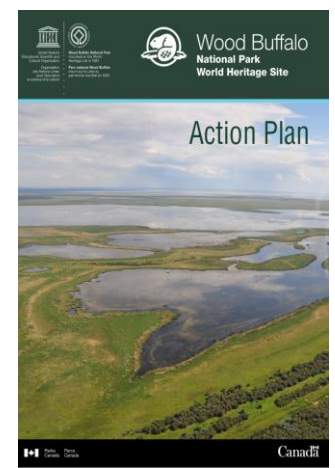
Management Framework



<https://www.waterquality.gov.au/anz-guidelines/framework>



<https://storymaps.arcgis.com/stories/6f04c13c501f4a71917f6966479176dc>



<https://parks.canada.ca/pn-np/nt/woodbuffalo/info/action>

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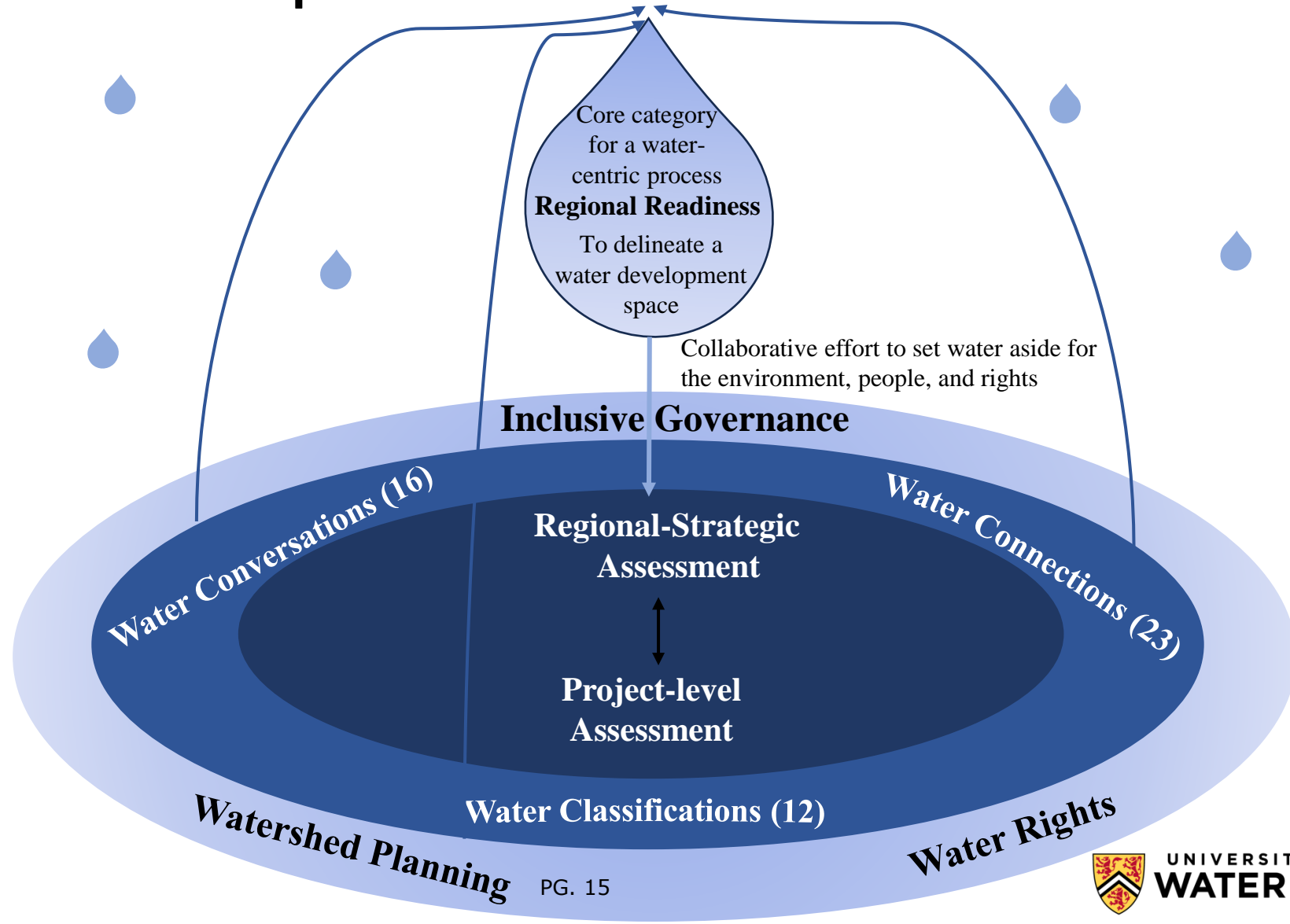
b) Application

THE GROUNDED THEORY

Environmental-Cultural Flows in Impact Assessment

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Environmental-cultural flow processes can be employed to establish regional readiness ahead of impact assessments



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Potential for Greater Oversight in Water Development Decision-Making in Regional-Strategic and Project-level Assessment

1. Opportunity for proponents/consultants to be immersed in how regional actors have already classified the watershed, defined water relationships, and identified what parts are capable of supporting and otherwise prepared for development.

2. New context to screen in, scope projects, and develop baseline information based on how projects are situated within diverse understandings of water.

3. Impacts on connections between water, ecosystems, and people are evaluated based on scenarios, participatory approaches, and local and Indigenous knowledge and science.

4. Impacts' significance can be assessed considering how water bodies are characterized along a gradient of readiness. Impacts will need to be managed in waterways to ensure classifications and relationships of different actors to ecosystems are maintained.



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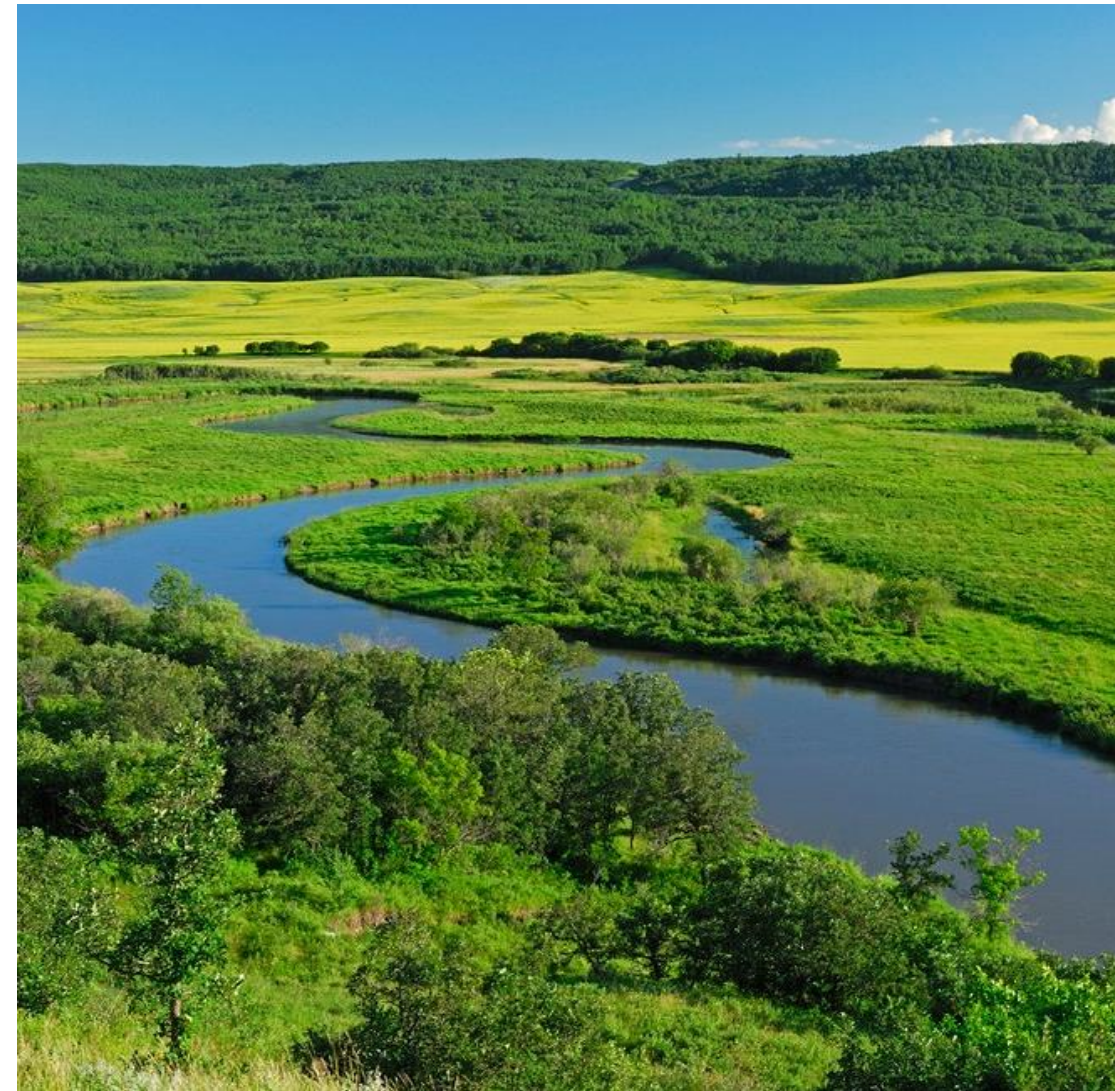
5. Discussion

a) Significance

b) Application

Discussion

- Inclusive systems scoping
- Steps to operationalize regional readiness
- Whose responsibility?
- Not exclusive to watersheds



<https://www.producer.com/farmliving/sask-s-quappelle-valley-makes-for-the-ultimate-road-trip/>



Acknowledgements

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- Committee and Partners
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- Funders
- You!



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