Bridging the gap: Exploring the potential for community-based watershed monitoring to enhance ecosystem health and watershed governance in Canada

Chris Garda[1], Heather Castleden[2], Amy Buckland-Nicks[1], Jeff Blair[1], Cathy Conrad[3], & Sackville Rivers Association

Dalhousie University[1], Queens University[2], Saint Mary's University[3]

Email: heather.castleden@queensu.ca

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CURA H_2O

(Community University Research Alliance)

"…..to increase community capacity for integrated water monitoring and management in Canada and abroad."

Research Themes

- 1: Community-Based Monitoring (CBM)
- 2: CBM Data Collection
- 3: Linkages between government and CBM groups
- 4: CBM and Ecosystems

Overview of Projects

Amy Buckland-Nicks

Keys to Success: A Case Study Approach to Understanding Community-Based Water Monitoring Uptake in Governmental Decision-Making

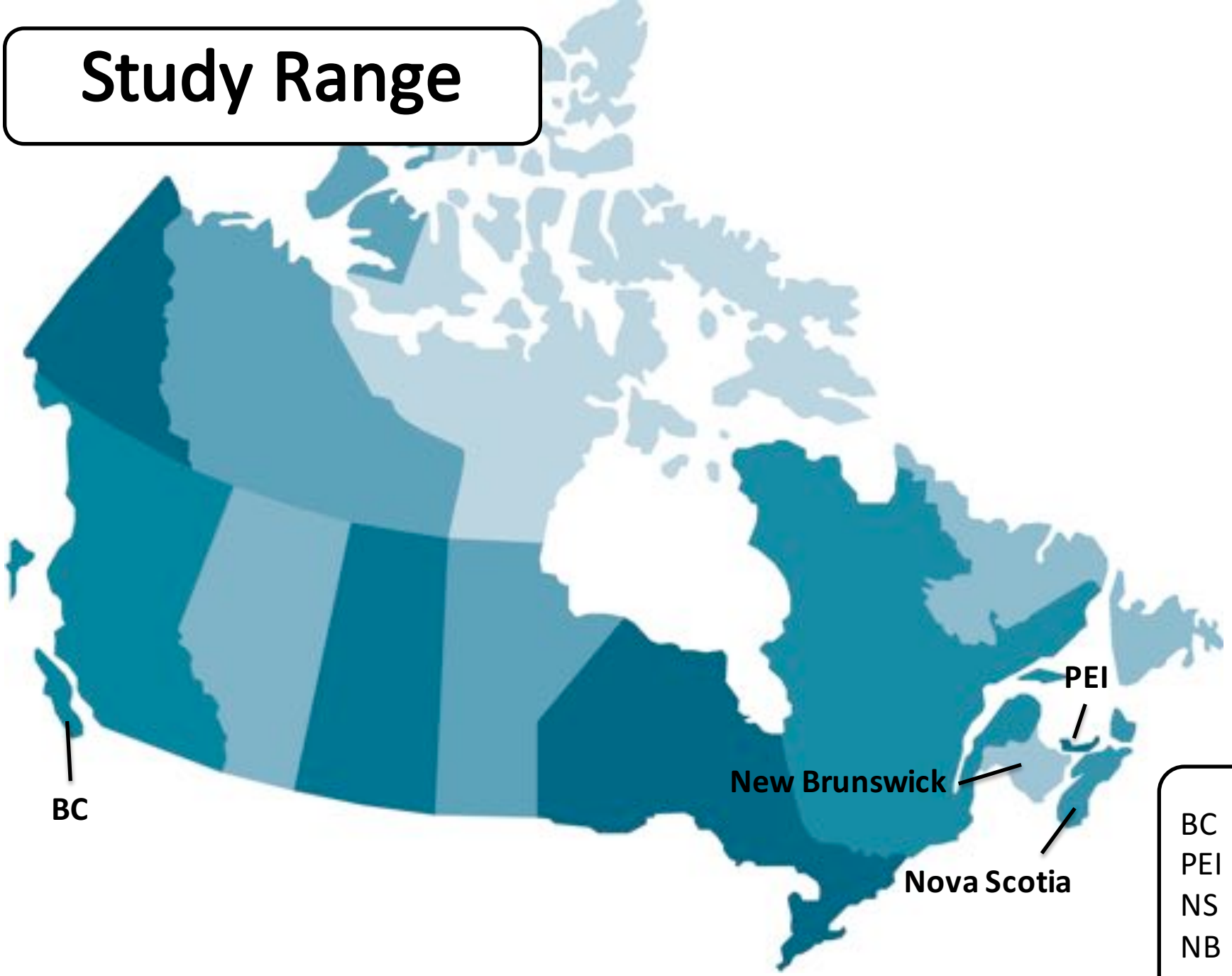
Chris Garda

Assessing Aquatic Ecosystem Health: Can Community-Based Monitoring Contribute to Health Benefits Within the Ecosystems it Monitors?

Jeff Blair

Understanding Community Connections in Nova Scotia's Participatory Water Monitoring Programs

Study Range



BC = 2
PEI = 2
NS = 3
NB = 2

Project 1 – Keys to Success

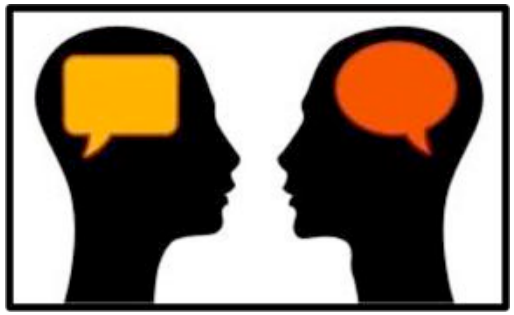
By: Amy Buckland-Nicks

- What are the dominant factors that contribute to the successful integration of community-based water monitoring (CBWM) information in governmental decision-making?

- What recommendations can be drawn from the experiences of these watershed groups for government agencies, other watershed groups, and CURA H2O?

Methodology

Case Study	Semi-structured Interviews	Coding
4 watershed group case studies	29 interviews with group coordinators and government connections.	Deductive and inductive coding.



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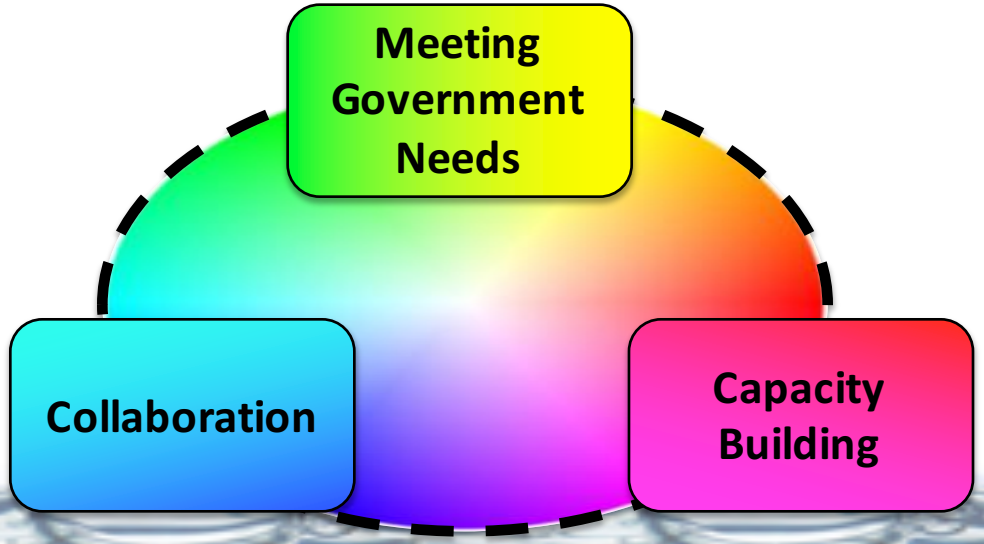
Project 1 – Findings

- Meeting government needs, capacity building, and collaboration are mutually reinforcing factors that facilitated the use of CBWM in decision-making.
- Strong leadership and reciprocal activities helped watershed groups and government to build mutual trust and capacity for collaboration with CBWM.



- Aligning intensive, basic, and balanced CBWM program designs with goals helps to maximize the contribution of CBWM to enhancing integrated water resource management.
- Limitations to long-term CBWM and use of citizen science in governmental decision-making require a multi-faceted approach to influencing decision-making.

Project 2 – Assessing Aquatic Ecosystem Health

By: Chris Garda

- Are CBWM organizations conducting activities that lead to observable or measurable improvements within the aquatic ecosystems that are being monitoring?

- If so, what are these activities and how are they being implemented?

- Is the photo-elicitation methodology capable of assessing restoration projects, and what are the strengths and weaknesses of this application?

Methodology

Phase 1 (Interviews)

- Primarily used to identify subject matter suitable to examine in the second research phase.

Phase 2 (Photo Elicitation)

- Focuses on the planning, conducting, and follow-up of the activities conducted.

Planning

Conducting

Follow-up

Before → **During** → **After**

Project 2 – Findings

- The implementation and identification of 'successful' restoration is hindered by the current project funding structure, availability of land, and lack of understanding and agreement within the scientific community.
- CBWM organizations are actively conducting restoration projects that mitigate or prevent further anthropogenic harm to aquatic ecosystems.
- The restoration process involves resource management agencies, regulatory approval, expert consultation, and project reporting.

- There are many examples of observable ecosystem improvements but examples of tangible measurable responses within aquatic ecosystems remains rare.
- The primary trigger for action was visual monitoring and long-term knowledge of watershed conditions.
- The photo-elicitation methodology was useful for assessing and identifying the observable benefits of restoration projects.

Research Outcomes

1) Increased understanding of how relationships between watershed organizations and decision-makers influence the sharing and use of CBWM data.

2) Facilitated integration of CBWM data into watershed management decisions.

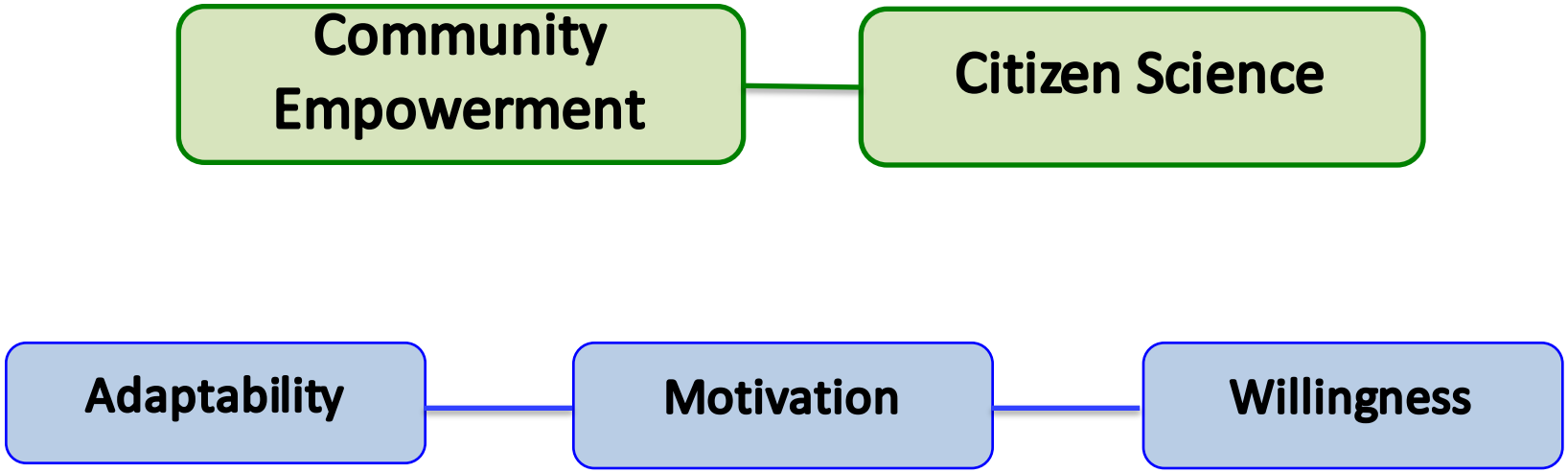
3) Increased awareness amongst CBWM organizations regarding ways of assessing impacts of their activities on aquatic ecosystem health.

4) Generated new knowledge in the academy, government, and society regarding the benefits of CBWM on aquatic ecosystem health.

5) Provided high-quality training and opportunities for students.

Relations to Drinking Water

What strategies will ensure local communities have access to data/information and the capacity to safely manage drinking water supplies?



Acknowledgements

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CURA H_2O Community-Based Water Monitoring and Management

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