

# Monitoring in the Grand-Erie Interface: a framework in consideration of cumulative effects

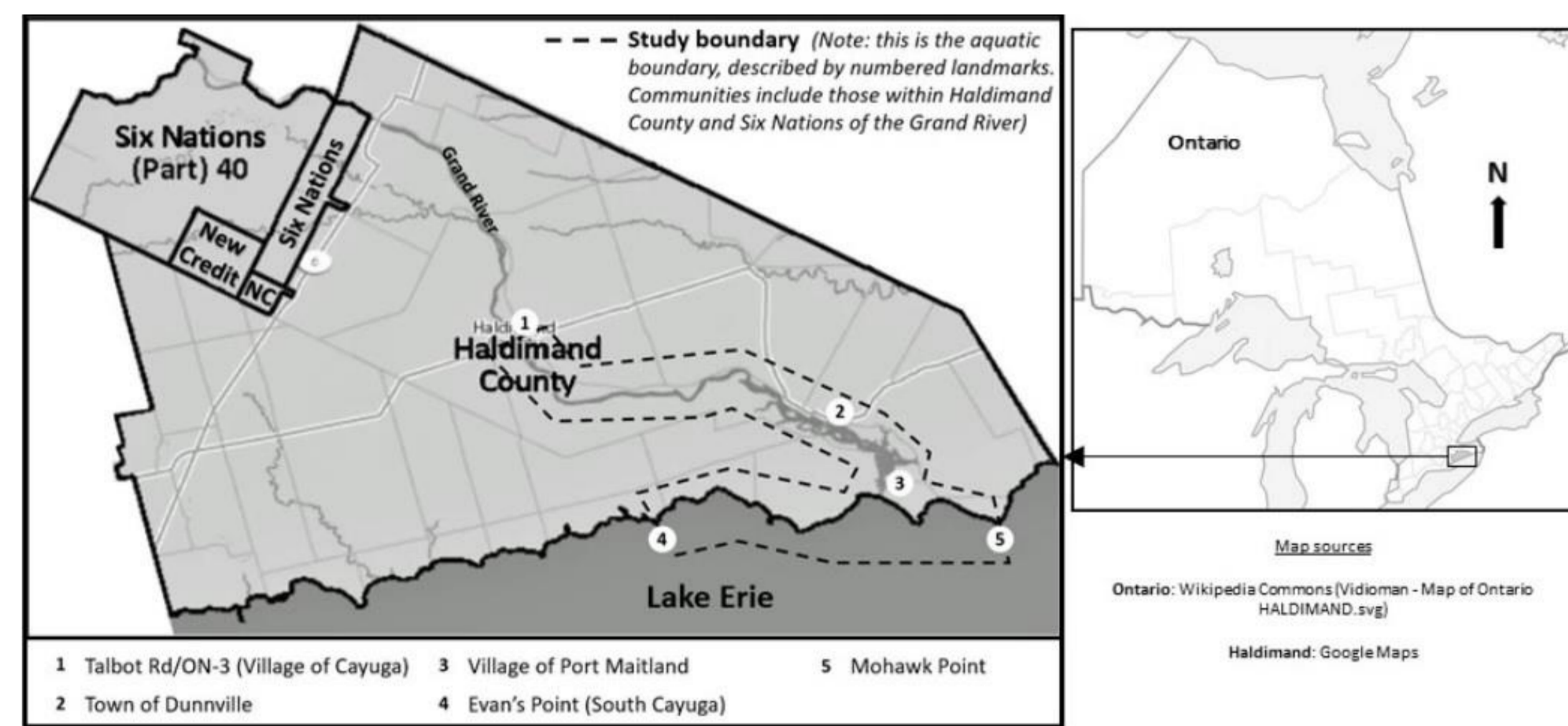
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## Intro

**Challenge:** Fragmented, uncoordinated monitoring in the area guided by Western Science, community views often excluded

**Goal:** Propose a monitoring framework for the interface (estuary) of the Grand River and Lake Erie that considers cumulative effects, is co-created by diverse stakeholders and connects to decision-making.



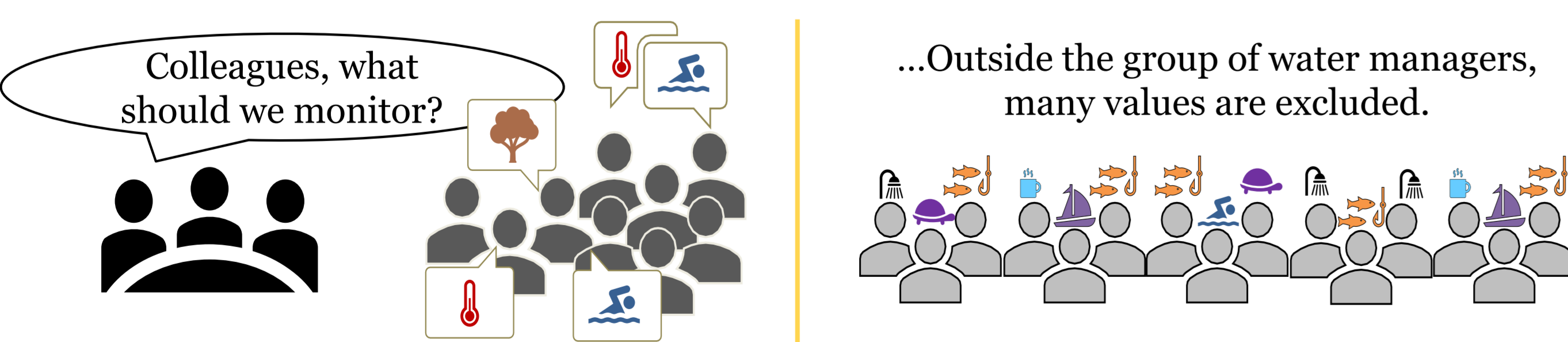
## Methods

### Community-based Participatory Action Research

- Stakeholder/Rights-holder consultations
- Reviewing documents and literature
- Participant observation (e.g., water management meetings, leading workshop at a national water conference)

### Exploratory study (Jan-Aug 2016)

- Monitoring review in partnership with Muskoka Watershed Council – preceded *Lake Futures/Global Water Futures*, reported here because the emergent indicator selection process (see Results section) is being used/adapted in this work.



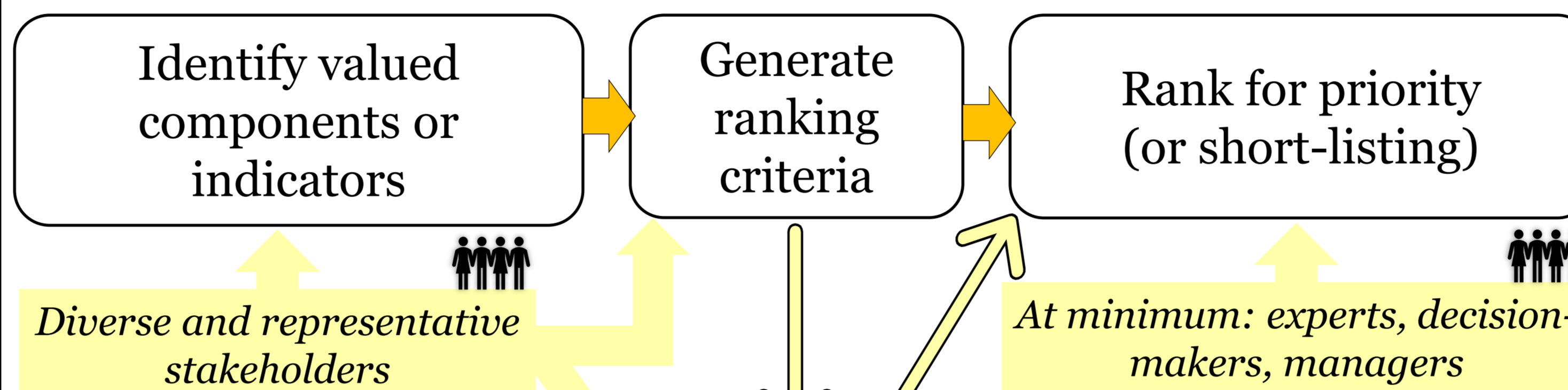
### Phases of this research

- Monitoring review (Sep 2018-Aug 2019)
- Key Informant Interviews (Oct 2018-Aug 2019)
- Three other phases – see Next Steps

## Results

### Exploratory study

A new Criteria-based Ranking process for selecting and/or prioritizing indicators was developed and tested:



### Examples of criteria

Importance to self	Ease of measuring (tools)	Level of control over change
Importance to ecosystem	Ease of monitoring (process)	Magnitude of undesired impact

### Monitoring review (early outcomes)

Review of nine monitoring programs using 22 criteria.

#### Done well:

- Relatable and/or stakeholder-driven indicators
- Long-term continuous data available alongside short-term snapshots
- Indicators measured are reported upon
- Contact information is provided



#### Done poorly (descending from weakest aspect):

1. Indigenous Knowledge considered
2. Community-based monitoring contributes to datasets, reporting
3. Funding provided to community for monitoring
4. Multiple reporting formats (e.g., reports, interactive maps)
5. Clear management and monitoring roles
6. Cumulative stressors/effects are measured/quantified
7. Data or metadata are available (freely or upon request)
8. Interim progress is reported (for long-term plans/goals)
9. Whole-watershed approach (water quality, quantity, biomonitoring)
10. Monitoring linked to management, decision-making and/or projects



## Conclusions

- The Criteria-based Ranking process is a helpful and efficient approach for standardising indicator selection and incorporating diverse perspectives
- Monitoring design and implementation can and should be more collaborative, coordinated and inclusive of diverse views and needs
- Currently, monitoring and decision-making are not well-connected

## Next Steps

- Public engagement (Jun-Sep 2019) at the Great Art for Great Lakes event series and a photojournalism workshop
  - Public perspectives, ideas and will guide priorities of the proposed monitoring framework
- Data case study (Nov 2019-May 2020)
  - Using results of interviews and public engagement, existing monitoring data will be utilized in new ways to demonstrate how cumulative effects may be considered
- End User Workshop (Apr 2020)
  - The proposed monitoring framework is co-created with those who may implement it



## Publications

### Exploratory study papers

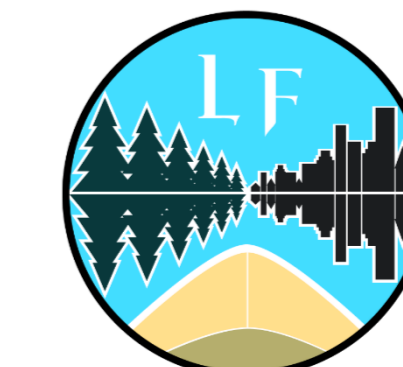
- Ho, E. 2018. Criteria-based ranking (CBR): A comprehensive process for selecting and prioritizing monitoring indicators. *MethodsX*, 5: 1234-1329.
- Ho, E., Eger, S., and Courtenay, S. 2018. Assessing current monitoring indicators and reporting for cumulative effects integration: A case study in Muskoka, Ontario, Canada. *Ecological Indicators*, 95: 862-876.



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