Introduction

Community based monitoring (CBM) of ecosystems is where citizens and community groups participate substantively and constructively in monitoring the status & trends in ecosystem health.

**WHY?**
- increased public demand for monitoring
- enhanced awareness by public of environmental stressors (e.g. climate change)
- perceived threats of stressors on ecosystems (e.g. biodiversity)
- inability of government agencies to meet monitoring needs due to changing priorities and limited resources

There are many well recognized benefits to CBM (e.g. promoting public education of ecosystem services, increased public contribution to decision making, promoting public education of ecosystem services).

Benthic biomonitoring uses benthic macroinvertebrates as indicators of ecosystem health because of their responsiveness to environmental degradation.

Conservation Authorities (CAs) provide monitoring, stewardship, environmental advisory services and partner with all levels of government, private industry, and community groups. This enables CAs to act as a bridge between local decision makers and the public and to play an important role in promoting the use of CBM information in local decision making processes.

Objectives

1) Assess the patterns in collaboration between CAs and CBM groups
2) Determine factors that influence how partnerships between CAs & CBM groups collecting benthic monitoring data are formed and maintained
3) Determine if and how data collected by CBM groups is used by CAs

Methods

**CASE STUDY:** to supply depth and context to surveys and help generate hypotheses regarding objectives 2 and 3.

**CAs:** Upper Thames River, Grand River, Ausable Bayfield, Toronto Region, Rideau Valley

**CBM Groups:** Urban and Rural Biomonitoring and Assessment Network (URBAN), Citizen Scientists, City Stream Watch

**Interviews** - CA Staff and Board Members (30 completed), CBM group Coordinators and Volunteers (14 completed)

**Document Analysis** - CA: agendas and meeting minutes, watershed report cards, press releases, newsletters, CBM group: protocols, field manuals, data sheets, and newsletters (acquisition in progress)

**Participant Observation** - CA Board meetings (10 observed), CBM group training and reporting presentations (3 observed), participated in benthic monitoring programs of both the CAs and CBM groups (7 field days completed)

**SURVEYS:** provide overview of the patterns of collaboration between community groups, CBM groups and CAs and to test the hypotheses generated from the case studies

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Application

**PRELIMINARY RESULTS:**
- CA staff collect and interpret various types of data to determine the status and trends of freshwater ecosystem health.
- A number of CAs maintain benthic monitoring programs but most partnerships with community groups do not involve collection of this data by volunteers.

CBM that provides quality information while broadly engaging the community will be a critical tool in the development of collaborative, locally-driven, science-based protection plans.

**THIS RESEARCH WILL:**
- Address the organizational and social barriers related to the integration and use of CBM data in decisions made by CAs
- Contribute to the integration of CBM in expert freshwater benthic biomonitoring
- Offer recommendations to both CA and CBM groups on how to improve their collaborations as well as the contribution of CBM information in freshwater management.