

A STRATEGY FOR COORDINATING GREAT LAKES RESEARCH

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Council of Great Lakes Research Managers

A Strategy for Coordinating Great Lakes Research

1. Why address this challenge?

The stakes are high: the Great Lakes contain 20% of the world's fresh surface water and sustain an economy for 30 million people. The decline in heavy industry and the elimination of point discharges of pollutants into the Great Lakes in the 2 provinces and 8 states has yielded some progress however problems persist, including harmful invasive species, persistent toxic chemicals, excessive nutrient loading, climate change and habitat degradation. Aquatic invasive species are disrupting the food web, affecting the fishery and causing billions of dollars in damage to infrastructures such as water intakes. Although levels of persistent toxic chemicals are declining, they have been an enduring legacy for at least a hundred years and continue to pose a threat to human and wildlife health. New threats have been recognized from flame retardants, pesticides, endocrine disruptors, pharmaceuticals, harmful algal blooms and pathogens such as botulism and viral hemorrhagic septicemia virus. Destruction of habitats such as wetlands and river corridors is resulting in diminished flood retention by wetlands, siltation of rivers and harbors, and reduction of bird and wildlife populations.

Advances in science have revealed the incredibly complex nature of interactions between the physical, chemical, biological, and socio-economic components of the Great Lakes ecosystem. A coordinated multidisciplinary approach is required, and since these problems respect no boundaries, we need a binational partnership focused on sound science and informed decision making.

The complex nature of the problems facing the Great Lakes coupled with the prospect of limited resources demands that organizations nurture a strong collaborative spirit and create mechanisms for cost-effective national and international cooperation. The greatest advances in science have been achieved in the Great Lakes when the entire region pulled together all of the resources of the Great Lakes community to address a given problem. Past experience has shown that early and effective response to new threats to the Great Lakes ecosystem can help the region avoid expensive, long term control measures. The Council sees the development of a research coordination strategy as a key step towards effective management of basin-wide or lake-wide projects involving multiple jurisdictions. An effective research coordination strategy will also help U.S. and Canadian environmental agencies in the Great Lakes region meet their performance goals and best serve the needs of the public.

2. Background

Role of the IJC The Great Lakes Water Quality Agreement (GLWQA/Agreement) (1987) specifically tasks the International Joint

Commission (IJC) with rendering assistance and advice to the Federal, State and Provincial governments in the United States and Canada on matters related to research in the Great Lakes ecosystem (GLWQA, Article VII). In turn, the two federal governments agreed to use their best efforts to ensure that their principal research funding agencies would orient programs in response to research priorities recommended by the IJC (GLWQA, Article V). The governments also agreed to develop mechanisms for appropriate cost-effective international cooperation; and to ensure that research priorities are undertaken in accordance with the list provided in Annex 17 of the Agreement.

Function of the CGLRM The Council of Great Lakes Research Managers (CGLRM/Council) was created by the International Joint Commission (IJC) to serve as a principal advisor on research programs and needs. The Council's purpose is to enhance the ability of the IJC to provide effective leadership, guidance, support and evaluation of Great Lakes research as it applies to the provisions of the Great Lakes Water Quality Agreement. The Council's responsibilities include:

- promoting effective communication and collaboration between researchers and agencies in Canada and the United States;
- encouraging researchers to share their findings;
- compiling a summary of current and planned research programs related to the Great Lakes Water Quality Agreement, particularly those called for by Annex 17 - Research and Development;
- identifying and prioritizing research needs to identify gaps and encourage the U.S. and Canadian governments, the Parties to the Agreement, to shift funding toward studies directly relevant to the Agreement's purpose; and reviewing the impact of research recommendations made by itself, the Great Lakes Science Advisory Board, the Great Lakes Water Quality Board and the IJC.

Agreement Review The governments of Canada and the United States are required to conduct a comprehensive review of the operation and effectiveness of the GLWQA every six years. A review of the Agreement was triggered by the release of the International Joint Commission's 12th Biennial Report in 2004 and is currently underway. The two governments formed a binational Agreement Review Committee and began the review in April, 2006 using an open, transparent and inclusive process. The process employs a number of Review Working Groups that will finish their analysis late in calendar year 2006. After receiving the working group report, the Agreement Review Committee will draft an agreement review report to the Binational Executive Committee (BEC) in early January 2007.

To assist in the review, the IJC held a series of public consultations in the fall of 2005 to gather input for the two governments and it will also be providing

independent advice on the review. Accordingly, the IJC has requested that the Council provide advice on the review of the Agreement as it relates to research.

Other Regional Initiatives The Council's activities have taken place coincidentally with a number of large scale national initiatives. These include the U.S. Commission on Ocean Policy and Pew Ocean Commission studies (2000-2004), the review of the Canada-Ontario Agreement (2002), and the Great Lakes Regional Collaboration (GLRC) (2004-2005). Each of these efforts has prompted legislative proposals impacting Great Lakes management, restoration and protection. Useful examples of strategies developed in the past include the Binational Toxics Strategy, the Great Lakes Strategy 2002: A Plan for the New Millennium, and the Great Lakes Fisheries Commission's (GLFC) Science Program. The binational Cooperative Monitoring program and large scale research projects such as the International Field Year on Lake Erie, the Lake Ontario Lower Aquatic Food Web Study, the Lake Michigan Mass Balance Study and many others reviewed by the Council highlight the need for advance planning, coordination and establishing a strong network of communications at all levels. All of these efforts provide valuable lessons to inform and guide the Council's activities. One common thread found in all of these initiatives is the need for a framework for improved coordination amongst multiple jurisdictions. The Council sees the development of a binational research coordination strategy as a key step towards informed decision making, reaching consensus on and funding key research priorities, and the effective management of large scale research projects.

3. Purpose

The purpose of a Great Lakes Research Coordination Strategy is to define an overarching framework for Great Lakes research management including mechanisms for international cooperation that describe how the regional research organizations will develop, organize and coordinate large scale research projects. The Great Lakes Research Coordination Strategy encompasses a regional scale and is recommended for inclusion into the Great Lakes Water Quality Agreement, should the Agreement be revised.

4. Objectives

The Great Lakes Research Coordination Strategy will:

- Provide a binational, inter-agency process for identifying and addressing research priorities;
- Establish an ongoing dialog between policy makers and researchers;
- Provide for an informed process of developing, planning and funding research projects;
- Maximize effective collaboration amongst Great Lakes researchers to avoid duplication of operational effort and missed opportunities;

- Provide research, surveillance, modeling, interpretation and communication of results to support decision makers;
- Build capacity of existing research networks utilizing local expertise;
- Support research that leads to improved management policies and practices; and
- Effectively communicate the value of Great Lakes research to the public.

5. Principles

- Strive for long-term applicability (20-25 years) with the flexibility to address short term priorities and immediate needs.
- Employ a holistic approach that supports ecosystem management.
- Consider how efforts contribute to both pure and applied science.
- Reach a clear scientific understanding and consensus about the purpose of a particular project within the research community.
- Participate only in well coordinated research projects with goals that are consistent with an institution's mandate or mission.
- Allow sufficient time to plan the project.
- Assign dedicated staff to lead the effort.
- Establish measurable performance goals for the project.
- Prioritize issues and activities so that the project can be scaled to fit any funding scenario.
- Integrate research, monitoring, and modeling wherever feasible.
- Anticipate emerging issues and thematic issues that may be the source of short term research needs. Prepare research plans in advance, even if funding is not available, and be prepared for the time when a crisis hits and managers require information.
- Be creative in terms of sharing resources amongst organizations.
- Build local capacity.
- Utilize local research networks.

6. Strategic Considerations

Many large scale research projects carried out over the past 30 years were discussed during workshops sponsored by the Council of Great Lakes Research Managers in 2004-2006. Managers of these projects offered new ideas and shared lessons learned with participants. A review of the proceedings revealed that successfully coordinated research efforts share many common features, these include:

Common Features of a Successful Research Coordination Effort:

Planning

- A committed team is developed from local research networks with sufficient time to direct strategy and to talk with one voice.

- Clear and achievable goals and objectives for the project are defined that:
 - Prioritize research
 - Prioritize issues
 - Prioritize indicators (both environmental and performance indicators)
 - Use standardized protocols
- Realistic timelines are set for developing the project, seeking funding, implementing the project upon receipt of funding, and reporting on a regular basis to multiple audiences.
- Regular project team meetings are held.

Funding / Administration

- Managers clearly identified both how much money was needed AND what it was needed for.
- Public, not-for-profit, academic, aboriginal, municipal/county, regional, provincial/state, federal government and appropriate private sector interests were all involved from the onset as equal partners.
- Agreements were signed to forge consensus; providing avenues for accountability; defining roles and assigning responsibilities.
- Advisory committees based on thematic research issues were used as needed.
- Innovative ways for Canadian and U.S. groups to work together were incorporated (scholarships, grants, etc.)

Information Management

- Project outcomes were integrated between organizations.
- Information management was coordinated with agreed upon, common procedures and a solid communications plan.
- Opportunity was provided for feedback.
- The project outcomes were communicated in an understandable format for everyone – from layperson, to scientist, to managers to policy developers.
- A high degree of accountability was ensured - Taxpayers need to know where their money is going.

7. Using the Council to facilitate implementation of the Research Coordination Strategy

The International Joint Commission's Council of Great Lakes Research Managers (CGLRM) is well positioned to assist in implementing the Strategy. As stated in the Great Lakes Regional Collaboration Strategy to Restore and Protect the Great Lakes:

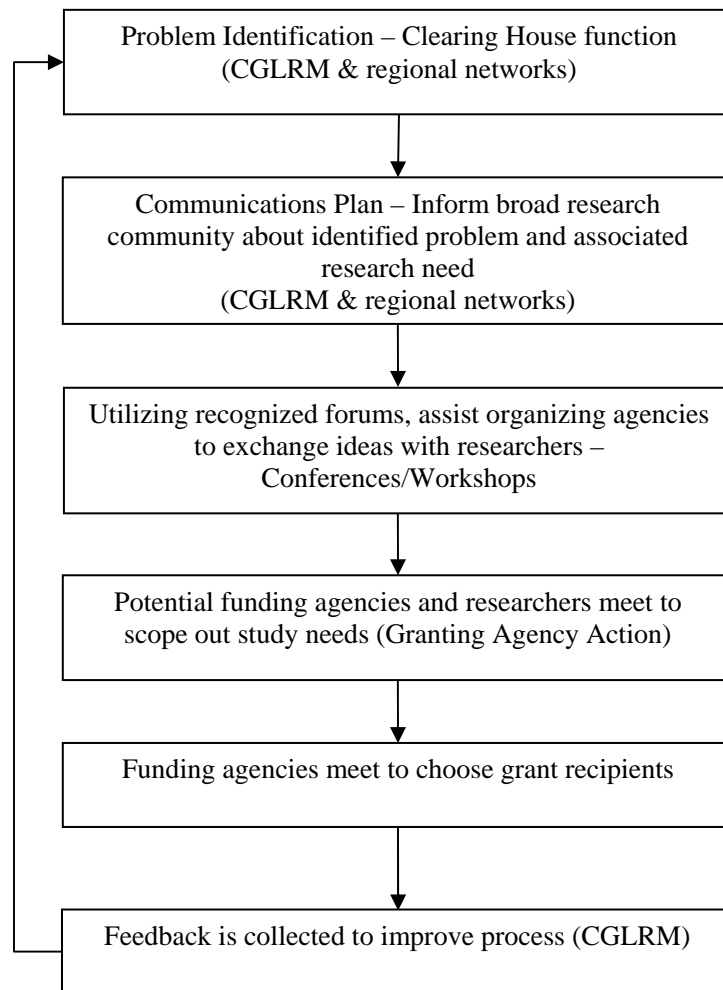
“With members representing every research organization from Canada and the U.S. in the Great Lakes basin, the CGLRM can be an effective

coordinating body to support managers and decision-makers in fulfilling the goals of the GLWQA and the GLRC. The CGLRM has the capacity to work with other organizations, such as the GLFC, LaMP and RAP committees, the BEC, and various federal, provincial, tribal, state, and local governments to collectively promote international research of highest priority for informing solutions to Great Lakes ecosystem problems.”

The Council’s research coordination activities may be summarized in three steps outlined below.

Providing a Forum for Open Communications

The following flow chart illustrates the role of the Council in implementing the research coordination strategy in an idealized setting with established networks, forums and well defined roles. When necessary, the Council will need to assist by providing suitable forums, establishing links between communication networks and bringing interested parties together.



This “hands-on” facilitating role is a key aspect of the strategy. The Council will actively seek to provide venues for the exchange of information between researchers and granting agencies. An effective communications plan will be used to ensure rapid and effective communication at all levels. Researchers in touch with what is happening in the field need to be assured that new ideas will receive the attention and full consideration of decision makers. A recognized forum will be established where research ideas can be presented and discussed with representatives of the entire Great Lakes research community.

The Council recognizes the importance of maintaining the integrity of the granting process and steps will be taken to ensure that decisions on Requests for Proposals (RFPs) will continue to be made independently at the agency level without interference. Following agency decisions on RFPs, a forum will be provided where agencies can alert researchers to impending RFP deadlines and discuss expectations about submissions.

The Council will help coordinate and sponsor new thematic workshops, expert consultations or “cyber-seminars” (web-based facilitated discussions) to identify research ideas and to foster the development of large scale collaborative research projects. Partnerships will be formed with existing research networks, academic institutions, the Great Lakes Fisheries Commission, the Great Lakes Commission, the Council of Great Lakes Governors, individual government agencies and non-governmental organizations to gain broad support and co-sponsors for thematic workshops.

The Council will work with partners to establish a stable source of funding for these forums (Great Lakes research coordination workshops / seminars). It will coordinate activities with existing workshops/conferences such as those sponsored by the International Association for Great Lakes Research (IAGLR) and the National Water Research Institute to maximize the use of existing events/resources and to ensure that events are held in each lake on a rotational basis.

Both managers and researchers will be involved in these efforts to ensure that all interested parties stay in touch with what is currently happening in the field. The workshop organizer (Council) will synthesize the ideas into a theme as a product of the workshop. The themes (ideas for a coordinated research effort), relevant issues, recommended priorities, leaders and other actions will then be communicated to agency representative to inform the granting process.

Advertising Ideas / Themes

The CGLRM will serve as a “Clearing House” where external Requests for Proposals (RFP's) from agencies can be easily accessed and publicized using the Council website. The themes/ideas for a research project will also be “advertised” by the Council and its partner organizations to ensure that granting

agencies are fully aware of scientific needs. The CGLRM list server could be used to advertise when and how RFPs would be released; early pre-award planning information. Partnerships would be formed with existing research consortiums, academic institutions, the Great Lakes Commission (GLC), the Council of Great Lakes Governors, the Great Lakes Sea Grant Network, individual government agencies and non-governmental organizations to provide additional channels of communication. The CGLRM and others such as the GLC through its Great Lakes Information Network could make requests for funding of research proposals widely known through their web sites.

Feedback about the process will also be obtained through an online forum or other cost effective means to facilitate continuous improvement.

The timing and cycling of RFPs should match the rotational cycle for cooperative monitoring established by the U.S. Environmental Protection Agency and Environment Canada.

Identifying Resources to Facilitate Collaborative Projects

Each regional collaborative research project will have some common elements such as:

- Work plan
- Timelines
- Budget
- Personnel Resources (Scientists, technicians, information managers, etc.)
- Equipment (Ships / equipment / stream gauges, etc.)

Past collaborative efforts suggest that a written work plan with well defined roles and responsibilities is essential for any project to succeed. This plan will be written by the organizing managers and team members once they are identified. Often the biggest challenge facing a project manager is identifying all of the interested parties and resources that can be brought to the table. Accordingly, a key part of the strategy is a regional “road map” of research facilities and scientific resources that can be brought to bear on new research themes as they are identified.

This “road map” will represent a resource list and contact list that may be maintained either in writing or electronically, will be subject to frequent updates and will be made readily accessible by the Council.

Regularly scheduled research coordination workshops implemented as a result of this strategy will incorporate opportunities for project managers to share ideas and lessons learned as part of the agenda thus instituting a mechanism for improvement.

Work plan for implementing the Strategy

Efforts to implement the research coordination strategy will be carried out in concert with action to implement the recommendations of the Great Lakes Regional Collaboration, the Canada-Ontario Agreement, other related efforts and partner organizations. An annual list of activities and budget requirements for tactical implementation of the strategy will be drafted, approved by the Council and submitted to the IJC as part of the Council's operating budget.

8. Conclusion

The task of coordinating research within the Great Lakes region is a serious challenge given the great number of organizations and the competition for scarce resources. Despite that, Great Lakes organizations have built a long history of excellent relations and cooperation on many fronts. The benefits of a collaborative approach are apparent to all and have played a significant role in successfully competing for government resources. The CGLRM can be an effective coordinating body to support managers and decision-makers in fulfilling the goals of the current or a revised Great Lakes Water Quality Agreement. Much has already been accomplished on special projects in many parts of the basin, however even more can be done with a regional approach to research coordination. The region must speak with one voice in a strategic manner in order to gain the necessary support for large scale coordinated research in the Great Lakes.