

Executive Summary

Background

One of the most significant environmental agreements in the history of the Great Lakes was put in place with the signing of the Great Lakes Water Quality Agreement of 1978 (GLWQA), between the United States and Canada. This historic Agreement committed the U.S. and Canada (the Parties) to address the water quality issues of the Great Lakes in a coordinated, joint fashion. The purpose of the Agreement was to “restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem” (IJC 1993). The 1987 amendment to the GLWQA required the development of Lakewide Management Plans (LaMPs) which “shall embody a systematic and comprehensive ecosystem approach to restoring and protecting beneficial uses...they are to serve as an important step toward virtual elimination of persistent toxic substances...” This document represents the current LaMP for Lake Superior.

The Great Lakes Water Quality Agreement specifies that the LaMPs are to be completed in four stages. However, under a streamlined LaMP review and approval process, the LaMPs now treat problem identification, selection of remedial and regulatory measures, and implementation as a concurrent, integrated process rather than a sequential or staged one. In the Lake Superior LaMP, Stages 1 and 2 for critical chemicals were completed before the decision was made to integrate. Stage 3 was merged into LaMP 2000 as the critical chemicals chapter. To date, no other LaMP has a load reduction schedule for critical pollutants as required by the Agreement.

In addition, the LaMPs go beyond the requirement of a LaMP for critical pollutants and use an ecosystem approach, which integrates environmental protection and natural resource management. LaMP progress is now reported every two years. Adaptive management is used to allow the process to change as needed by building upon successes, accepting new information and drawing from public involvement and input. The LaMP therefore, can be adjusted over time to respond to the most pertinent issues facing the lake ecosystem. Additional details on this can be found in Chapter 1.

The Lake Superior LaMP is unique because of an additional agreement between the federal governments, states and province surrounding Lake Superior. Announced in 1991, the agreement, called the “Binational Program to Restore and Protect the Lake Superior Basin,” established a Zero Discharge Demonstration Program and a broader ecosystem approach.

The LaMP/Lake Superior Binational Program contains appropriate funded and proposed (non-funded) actions for restoration and protection to bring about actual improvement in the ecosystem. Actions include commitments by the Parties, governments and regulatory programs, as well as suggested voluntary actions that could be taken by non-governmental partners. LaMP 2000 identified these actions in six ecosystem themes: critical pollutants, aquatic communities, terrestrial wildlife communities, habitat, human health and developing sustainability. A LaMP update in 2002 reported on the success of those actions, and identified challenges remaining to achieve established goals and ecosystem objectives.

LaMP 2004

LaMP 2004 builds on the LaMP 2000 document; it incorporates all the LaMP 2000 chapters unless the chapters have been updated or rewritten. For example, the Critical Pollutants chapter remains the same, although a progress report detailing accomplishments and progress from 2002 to 2004 is included. Where the chapters remain the same as in LaMP 2000, a progress report presents an accomplishment summary of the 1) actions completed or underway to improve the lake, 2) challenges, and 3) next steps or changes to ongoing management actions.

Chapter 9, “Developing Sustainability,” has been revised to incorporate public input. A new ecosystem chapter, consolidating and updating information contained in chapters 6, 7, 8 and 10 of LaMP 2000, will be finalized in 2004 and incorporated into LaMP 2006. Chapter 4 (Critical Pollutants) similarly will be revised for LaMP 2006.

LaMP 2004 identifies data gaps and next steps for LaMP 2006. LaMP 2004 is available in CD-ROM format, and is designed to be printed in a loose-leaf format with general tabbed sections that can be inserted into a three-ringed binder. This format allows for easy updates, additions of new material and removal of outdated information.

A detailed guide to changes and instructions on how to update the LaMP 2000 document is contained in the Preface.

This Lakewide Management Plan Report 2004 is not intended to be extensively circulated to the public; the agencies plan to produce a separate document to inform the public on Binational Program activities. Citizens of the basin, as partners and stakeholders in the Binational Program, are strongly encouraged to become actively involved. The Lake Superior Binational Public Forum can be reached at 1-888-301-LAKE (1-888-301-5253).

Accomplishment and Next Steps Highlights 2002 to 2004

The Lake Superior Binational Forum

The Lake Superior Binational Forum, the primary public body associated with the agencies responsible for carrying out the Binational Program, has been key to establishing an effective multi-stakeholder process. The Forum has held many workshops over the years for the purpose of acquiring necessary background information to help develop recommendations and proposals for sustainable development, human health and reducing the Lake Superior nine critical pollutants. The Forum has also published many documents on key issues relating to the LaMP.

Accomplishments include:

- initiating joint projects on chemical reductions, outreach and stewardship;
- organizing elected officials in two states, four cities, and one tribe to sign a proclamation declaring the third Sunday in July 2003 as Lake Superior Day; and
- holding workshops on household garbage burning, mercury, and riparian areas.

- The mercury workshop in Thunder Bay in June 2003 featured speakers on human health issues, the mercury inventory of Lake Superior sources, and on a variety of mercury reduction activities, including those in the municipal, industrial, and commercial sectors.

Next Steps include:

- establish Lake Superior stewardship and awards program;
- expand and celebrate Lake Superior Day;
- expand outreach on residential garbage burning;
- prepare and publish a newspaper insert; and
- continue public input sessions at Forum meetings.

Superior Workgroup

The activities below represent accomplishments by the various committees of the Lake Superior Workgroup.

Critical Pollutants

Accomplishments include:

- Mercury pollution prevention and awareness (e.g. progress in dental sector, collection of thermostats, fluorescent tubes, auto switches, thermometers, and button batteries);
- Residential garbage burning awareness campaigns;
- Progress on contaminated sediment assessment and cleanup;
- Declines in contaminants in Herring Gull eggs and sportfish; and
- Declines in number and geographic extent of sportfish consumption restrictions.

Next Steps include:

- Continued implementation of LaMP 2000 priority activities;
- Preparation of a 2005 report to review milestones and update reduction strategies;
- Continuation of sediment remediation in both countries; and
- Continuation of Stormwater Management to prevent pollutant loadings.

Habitat

Accomplishments include:

- Implementing watershed management and forest stewardship projects;
- Progress to establish a National Marine Conservation Area;
- Implementing monitoring, assessment and inventory projects; and
- Implementing habitat restoration projects including fish passage culvert, dam removal, stream restoration, riparian improvement and wetland restoration.

Next Steps include:

- Update information in the public kiosk network;

- Consolidate LaMP ecosystem chapters by Summer 2004;
- Develop consensus on status and trends of habitat conditions; and
- Develop recommendations for the protection and restoration of ecological functions.

Terrestrial Wildlife

Accomplishments include:

- Monitoring and inventory of herptiles, native and rare plants, peregrine falcons, bald eagles, spruce beetles, lynx, wolf, beaver, otter, deer, and breeding birds;
- Initiation of development and evaluation of monitoring protocols;
- Initiation of a wood turtle recovery plan;
- Initiation of an invasive species framework, planning and treatment;
- Completion of herptile and soil invertebrate indicator projects, including a herptile workshop; and
- Completion of inventories of recovery plans and species at risk.

Next Steps include:

- Development and implementation of a biological community-based monitoring program;
- Identify method to monitor land use change;
- Refinement of herptile monitoring plans; and
- Development of inventory and control projects for invasive species.

Aquatic Communities

Accomplishments include:

- Completion of a hydro acoustic survey;
- Restoring or rehabilitating critical habitat for brook trout and other fish in 14 tributaries;
- Initiation of strategy on walleye rehabilitation;
- Establishment of lake-wide sturgeon rehabilitation effort;
- Development of GIS database related to timber cutting cycles, tree planting programs, brook trout habitat, buffers, and reduction of erosion and sedimentation in Lake Superior tributaries;
- Developing environmental objectives to support Lake Superior's Fish Community Objectives;
- Continuation of fish surveillance surveys to document range expansion of ruffe and detect other Aquatic Nuisance Species (in 2003, round goby and white perch were discovered and confirmed in Thunder Bay Harbour, Ontario); and
- Continuation of sea lamprey management and control activities.

Next Steps include:

- Continuation of acoustic projects on prey fish monitoring and critical shallow water habitat quantification;
- Continuation of work on rehabilitation of coastal brook trout, walleye and sturgeon populations;

- Establishment of environmental objectives for Lake Superior;
- Establishment of a lower trophic level monitoring program for Lake Superior;
- Reporting on the status of lake herring;
- Identifying inland aquatic systems in need of rehabilitation or protection; and
- Examining feasibility of using sea lamprey pheromones as an additional tool for control and management of sea lamprey.

Human Health

Accomplishments include:

- Participation in the establishment of a Great Lakes basin-wide Human Health Network.

Next Steps include:

- Continue seeking membership to the Network;
- Help the Lakes set human health priorities and action steps; and
- Outreach on human health concerns and risks to Great Lakes human health officials.

Sustainability

Accomplishments include:

- Initiating the Community Awareness Review and Development (CARD) project; and
- Expanding the baseline indicators project so as to develop land-use indicators.

Next Steps include:

- Continuation of the CARD project;
- Initiation of the Lake Superior Stewardship/Leadership School;
- Promoting water conservation, marketing waste reduction and energy efficiency, understanding sprawl; and
- Promoting sustainability workshops.

Challenges of the Binational Program

In general, the next steps for the Binational Program are to continue to implement projects identified in LaMP 2000, advocate the benefits to decision makers and the public to ensure continued support for toxic chemical reduction activities, continue communication and outreach activities that will achieve measurable progress toward the Binational Program goals, prepare various internal and public reports, including LaMP 2006, and seek additional funding. Future accomplishments will be dependent upon commitments by governments, NGOs and individuals to support the science, resource management and legislative activities that will protect and restore the basin.

Habitat challenges include ongoing support and maintenance of the geographic database and projects associated with the Lake Superior Decision Support System, information gaps on the status and trends of habitat conditions, developing management recommendations, participation on the Habitat Committee by members of agencies and organizations, and educating the public

on important habitat and ecological resources in the Lake Superior basin by expanding the use of interactive information kiosks.

Integrative work is necessary to inventory, monitor and manage terrestrial wildlife. The development and implementation of a biological community-based monitoring program remains a long-term goal. Plans for herptile monitoring will be refined and work on medium sized carnivores (the remaining suite of species to evaluate) will begin. Throughout the LaMP process improper land use has consistently been identified as an important contributor to environmental impairment. A method by which land use change can be monitored over time and used to track progress towards LaMP implementation is needed.

Stresses and their impacts on aquatic ecosystems continue to be a challenge in the Lake Superior basin. Challenges include establishing agency support for and maintenance of long-term biota and habitat monitoring programs; ensuring the maintenance of healthy aquatic communities on rivers with, and those identified for hydro power development; completing around the lake mapping of nearshore fish habitat; preventing invasion and transport of non native species; funding continued monitoring efforts for invasive species and fish community changes and status; protecting critical lake and tributary habitats; and expanding knowledge of aquatic systems and the human induced perturbations that may have changed or limited their productivity.

Even though the idea of sustainability has long provided a foundation for the Lake Superior Binational Program, it is difficult to decide how we should go about facilitating sustainable practices on the ground. To promote practices that provide for sustainable outcomes requires consideration of a variety of issues that go beyond the prevention of pollution. To produce a truly sustainable society, we must grapple with issues that are more general in scope than those associated with other aspects of the LaMP. Though progress has been made, we are still a long way from promoting a full range of social and economic initiatives that will make for a sustainable future.