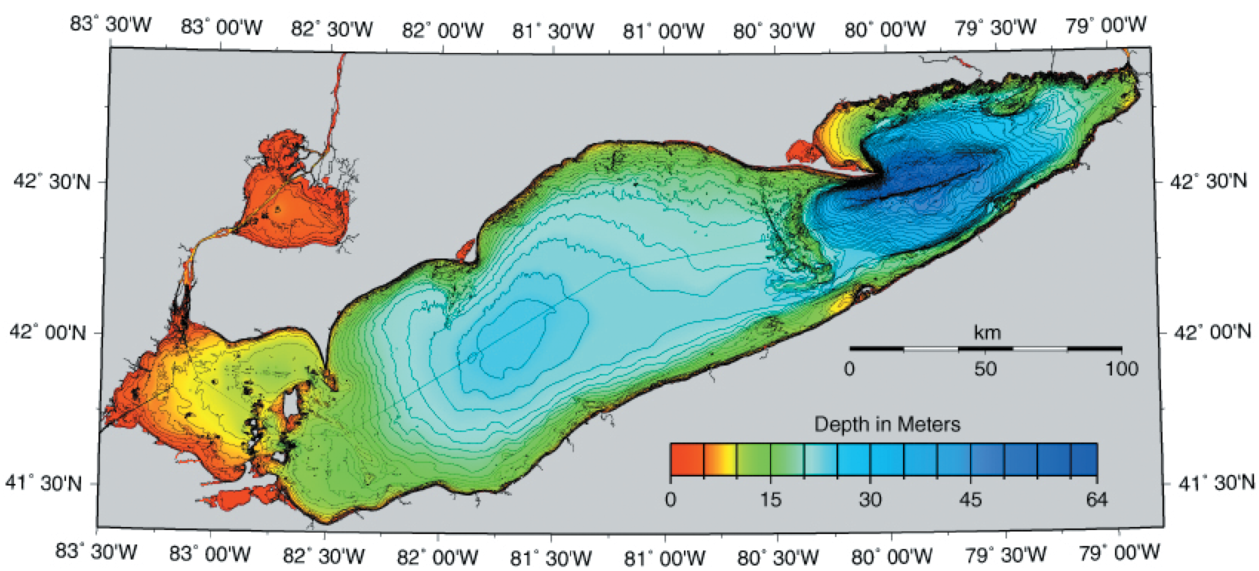
Section 2: Overview

2.1 Introduction to Lake Erie

The physical characteristics of Lake Erie have a direct bearing on how the lake ecosystem reacts to various stressors. Erie is the smallest of the Great Lakes by volume and next to smallest in surface area. As the shallowest of the Great Lakes, it warms quickly in the spring and summer and cools quickly in the fall. During long, cold winters, a large percentage of Lake Erie is covered with ice, and the lake often freezes over completely. Conversely, in warmer years, there may be no ice at all. The shallowness of the basin and the warmer temperatures make it the most biologically productive of the Great Lakes.

Lake Erie is naturally divided into three basins (Figure 2.1). The western basin is very shallow, with an average depth of 7.4 metres (24 ft.) and a maximum depth of only 19 metres (62 ft.). The central basin is quite uniform in depth, with an average depth of 18.3 metres (60 ft.) and a maximum depth of 25 metres (82 ft.). The eastern basin is the deepest of the three, with an average depth of 24 metres (80 ft.) and a maximum depth of 64 metres (210 ft.). The central and eastern basins thermally stratify every year, but stratification in the shallow western basin is rare and very brief, if it does occur. Stratification impacts the internal dynamics of the lake, physically, biologically and chemically. These physical characteristics cause the lake to function as virtually three separate lakes.

Figure 2.1: Bathymetry of Lake Erie illustrating that the lake is comprised of three distinct basins, primarily defined by depth



Lake Erie's long, narrow orientation parallels the direction of the prevailing southwest winds. Strong southwest winds and strong northeast winds set up extreme seiches, creating a difference in water depth as high as 4.3 metres (14 ft.) between Toledo and Buffalo (Hamblin, 1979). [Note: A new record of 5.1 metres (17 ft.) was set January 30, 2008 (Don Zelazny, NYDEC, personal communication).] The effect is most spectacular in the western basin where large areas of the lake bottom are exposed when water is blown to the northeast, or large areas of shoreline are flooded as water is blown to the southwest. Overall current and wave patterns in Lake Erie are complex, highly changeable and often related to wind direction (Bolsenga and Herdendorf, 1993).

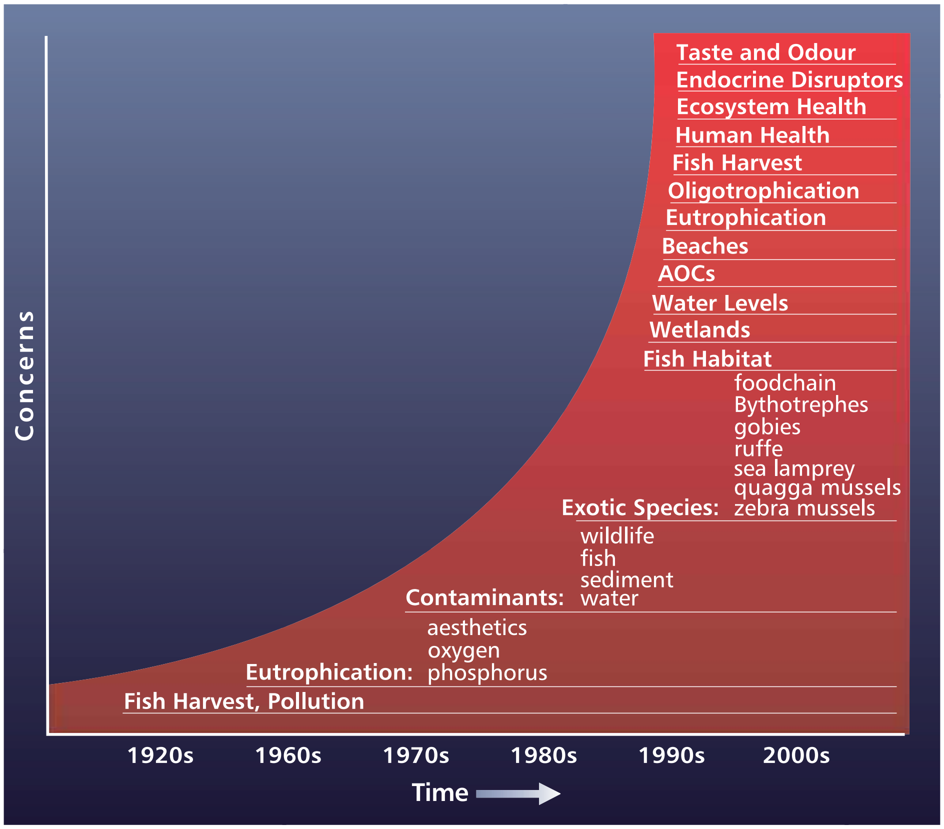
Eighty percent of Lake Erie's total inflow of water comes through the Detroit River. Eleven percent is from precipitation. The remaining nine percent comes from the other tributaries flowing directly into the lake from Michigan, Ohio, Pennsylvania, New York and Ontario (Bolsenga and Herdendorf, 1993). The Niagara River is the main outflow from the lake.

About one-third of the total population of the Great Lakes basin resides within the Lake Erie watershed. This amounts to 11.6 million people (10 million U.S. and 1.6 million Canadian), including 17 metropolitan areas, each with more than 50,000 residents. The lake provides drinking water for 11 million people.

Of all the Great Lakes, Lake Erie is exposed to the greatest stress from urbanization, industrialization and agriculture. Reflecting the fact that the Lake Erie basin supports the largest population, it surpasses all the other Great Lakes in the amount of effluent received from sewage treatment plants (Dolan, 1993). Lake Erie is also the Great Lake most subjected to sediment loading. Intensive agricultural development, particularly in southwest Ontario and northwest Ohio, contributes huge sediment loads to the lake. The Detroit River delivers sediment from the actively eroding shoreline of southeastern Lake Huron and Lake St. Clair. Long stretches of the Lake Erie shoreline experience episodes of active erosion, particularly during storms and periods of high water. The western basin is generally the most turbid region of the lake, and much of its sediment load eventually moves into the central and eastern basins. Suspended sediment can be considered a pollutant in itself, one that has profoundly influenced the ecology of the western basin and the river mouths of most of the Lake Erie tributaries. Most of the lake bottom is covered with fine sediment particles that are easily disturbed when the shallow lake is stirred up by winds.

Over the years, as use of the lake and land use around the basin changed, so too did the issues of concern in Lake Erie. The most important issues and the timeframe during which they appeared are illustrated in Figure 2.2. It is interesting to note how some of the issues recur, albeit due to different reasons. Commercial overfishing, pollution and habitat destruction began to take a toll in the late 1800s, and popular commercial fish populations plummeted. Many of the drinking water intakes for the major populated areas were moved far offshore to avoid epidemics of waterborne diseases, such as typhoid, resulting from raw sewage discharge. Nuisance conditions, floating debris, and odors were increasingly common.

Figure 2.2: Changing issues in Lake Erie over time



Lake Erie was the first of the Great Lakes to demonstrate a serious eutrophication problem. Already the warmest and most biologically productive of the Great Lakes, increased nutrient loadings beginning in the1950s quickly made it too productive. Results of this accelerated eutrophication were unhealthy, unattractive and odiferous. Algal blooms caused thick green and blue-green slicks on the water surface; turbidity increased due to more algae and suspended sediment in the water column; and excess *Cladophora*, a long, green, filamentous alga, covered the shoreline in slimy masses and mounded up on beaches when it died. A result of this increased productivity was oxygen depletion in the bottom waters of the lake as algae died, settled to the bottom and decomposed. The central basin is particularly susceptible to oxygen depletion because summer stratification forms a relatively thin hypolimnion at the bottom that is isolated from oxygen-rich surface waters. Oxygen is rapidly depleted from this thin layer as a result of decomposition of organic matter. When dissolved oxygen levels reach <1mg/l, the waters are considered to be anoxic. In addition to stressing and/or eliminating biological communities, anoxia changes chemical processes on the bottom, regenerating phosphorus from the sediments and recycling it back into the water column.

Accelerated eutrophication spanned the 1950s to the 1970s, with much of the central basin becoming anoxic. Phosphorus was deemed to be the main culprit (Burns, 1985). A comprehensive binational phosphorus reduction strategy was implemented to reduce phosphorus discharge from wastewater treatment plants, limit the use of phosphorus-containing detergents in the watershed, and to develop and encourage the use of best management practices to reduce phosphorus runoff from agricultural operations.

Increased industrialization and the formulation of new chemicals to aid in pest control led to concern about contaminants and the accumulation of persistent toxic chemicals in water, sediment, fish and wildlife. The development of extensive pollution control regulations, improvements in treatment technologies, adoption of stringent water quality standards, bans on production and use of certain chemicals, waste minimization, and pollution prevention have greatly reduced the direct discharge of contaminants. However, the lingering effects of these historic discharges, such as contaminated sediments and fish consumption advisories, and a greater public awareness of the environment, raised further concerns about contaminants in the late 1970s that have continued to the present.

Efforts to restore lake trout, the extirpated top-predator in the cold waters of the eastern basin, were thwarted in the late 1970s and early 1980s by mortality caused by the non-native invasive sea lamprey. Sea lamprey invaded Lake Erie and the upper Great Lakes after the Welland Canal was expanded in the early 1900s (Eshenroder and Burnham-Curtis, 1999). Their abundance increased during the 1970s to the point that the implementation of control efforts was begun in 1986.

The introduction of zebra mussels in the late 1980s triggered a tremendous ecological change in the lake. Zebra mussels have changed the habitat in the lake, altering the food web dynamic, energy transfer and how nutrients and contaminants are cycled within the lake ecosystem. Additional non-native invasive species such as the quagga mussel, goby, and several large zooplankton species have further complicated the system.

By the mid 1980s and through the 1990s, Lake Erie had essentially achieved the phosphorus levels established under the Great Lakes Water Quality Agreement programs as those needed to eliminate the effects of eutrophication. Over the last decade, however, in-lake concentrations of total phosphorus have been on the increase. While this trend is not currently statistically significant, it is of great practical concern in that it may represent a reversal of decades of successful management for this key driver of lake health. Most hypotheses implicate zebra and quagga mussels for changing the nutrient dynamics in the nearshore areas. The decreased phosphorus levels in the water column and increased lakebed nutrient concentrations, due to zebra and quagga mussel activities, are commonly referred to as the nearshore shunt. The mussels are processing and recycling nutrients in the shallower nearshore areas where they reside, effectively keeping much of the in-lake and incoming phosphorus in the nearshore zone. In addition to in-lake cycling, there has been an increase in the amount of phosphorus entering the lake over the last few years from more frequent and intense storm events. The phenomenon of altered storm event intensity and timing may be a particularly important driver of phosphorus concentrations in the lake. Monitoring over the last decade is also showing a significant increase in the dissolved (bioavailable) phosphorus component of nutrient loads from major tributaries in Ohio.

Coincidently with the increasing dissolved phosphorus loads and nearshore nutrient concentrations, *Cladophora* growth has been increasing, *Microcystis* blooms are occurring in the western and central basins, and a new species of cyanobacteria – *Lyngbya wollei* – began a population explosion near the mouth of the Maumee River in 2006. Hypoxia/anoxia in the central basin remains a concern.

Changes in land use, development, and the construction of various shore structures have significantly altered the original habitat available along the Lake Erie shoreline. Many of the wetlands have been drained, filled or altered so they no longer function naturally. Shore structures associated with development or built to protect shore property from high water levels have inhibited the natural flow of beach building materials along the shoreline and, consequently, the status of the natural habitat.

2.2 LaMP Structure and Process

Under the Great Lakes Water Quality Agreement (GLWQA) of 1978, as amended by Protocol in 1987, the United States and Canada (the Parties) agreed, "…to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin Ecosystem."

To achieve this goal, the Parties agreed to develop and implement Lakewide Management Plans (LaMP) for each lake, in consultation with state and provincial governments. The 14 beneficial use impairments listed in Annex 2 of the GLWQA (Table 2.1) are a main focus of LaMPs.

The GLWQA calls for LaMPs specifically to address persistent bioaccumulative toxic substances, particularly those that are causing or likely to cause beneficial use impairments. Ecosystem objectives specific to each lake are to be established to guide LaMP efforts toward defined endpoints. Based on achieving these ecosystem objectives, the LaMPs provide a binational structure for addressing environmental and natural resource issues, coordinating research, pooling resources and making joint commitments to improve the environmental quality of the lakes.

In 1993, a temporary binational Implementation Committee was formed, consisting of members of all the state, federal and provincial agencies with jurisdiction over Lake Erie. The charge to this group was to create a framework upon which to build the Lake Erie LaMP. This committee produced the Lake Erie LaMP Concept Paper (U.S. EPA 1995). In addition to addressing critical pollutants, the Implementation Committee felt the integrity of the Lake Erie ecosystem would not be fully protected or restored unless other factors such as habitat loss, nutrient and sediment loading, and non-native invasive species were addressed as well. Therefore, they recommended the scope of the LaMP be broadened to include these other environmental stressors. This decision directed the agencies to embody a stronger overall ecosystem approach in the development of the LaMP. In 1995, binational committees were established to begin actively working on the development of the Lake Erie LaMP. A Status Report was completed in 1999 (U.S. EPA and Environment Canada 1999).

In order to explain clearly the geographic scope of the Lake Erie LaMP, three aspects needed to be defined. First, beneficial use impairments were assessed within the waters of Lake Erie, including: the open waters, nearshore areas, and river mouth/lake effect areas. Second, the search for the sources or causes of impairments to beneficial uses is being conducted in the lake itself, the Lake Erie watershed, and even beyond the Great Lakes basin. Third, management actions needed to restore and protect Lake Erie may need to be defined and implemented outside of the Lake Erie basin.

Table 2.1: IJC Listing Criteria for Establishing Impairment (IJC, 1989)

Beneficial Use Impairment	IJC Listing Criteria
Restrictions on Fish and Wildlife Consumption	When contaminant levels in fish or wildlife populations exceed current standards, objectives or guidelines, or public health advisories are in effect for human consumption of fish and wildlife.
Tainting of Fish and Wildlife Flavor	When ambient water quality standards, objectives, or guidelines for the anthropogenic substance(s) known to cause tainting are being exceeded or survey results have identified tainting of fish and wildlife flavor.
Degraded Fish and Wildlife Populations	When fish or wildlife management programs have identified degraded fish or wildlife populations. In addition, this use will be considered impaired when relevant, field validated, fish and wildlife bioassays with appropriate quality assurance/quality controls confirm significant toxicity from water column or sediment contaminants.
Fish Tumors and Other Deformities	When the incidence rates of fish tumors or other deformities exceed rates at un-impacted control sites or when survey data confirm the presence of neoplastic or pre-neoplastic liver tumors in bullheads or suckers.
Bird and Animal Deformities or Reproductive Problems	When wildlife survey data confirm the presence of deformities (e.g. cross-bill syndrome) or other reproductive problems (e.g. eggshell thinning) in sentinel wildlife species.
Degradation of Benthos	When the benthic macroinvertebrate community structure significantly diverges from un-impacted control sites of comparable physical and chemical characteristics. In addition, this use will be considered impaired when toxicity (as defined by relevant, field validated bioassays with appropriate quality assurance/quality controls) of sediment associated contaminants at a site is significantly higher than controls.
Restrictions on Dredging Activities	When contaminants in sediments exceed standards, criteria, or guidelines such that there are restrictions on dredging or disposal activities.
Eutrophication or Undesirable Algae	When there are persistent water quality problems (e.g. dissolved oxygen depletion of bottom waters, nuisance algal blooms or accumulation, decreased water clarity, etc.) attributed to cultural eutrophication.
Restrictions on Drinking Water Consumption or Taste and Odor Problems	When treated drinking water supplies are impacted to the extent that:1) Density of disease-causing organisms or concentrations of hazardous or toxic chemicals or radioactive substances exceed human health standards, objectives or guidelines; 2) Taste and odor problems are present; or 3) Treatment needed to make raw water suitable for drinking is beyond the standard treatment used in comparable portions of the Great Lakes which are not degraded (i.e. settling, coagulation, disinfection).
Recreational Water Quality Impairments	When waters, which are commonly used for total-body contact or partial-body contact recreation, exceed standards, objectives, or guidelines for such use.
Degradation of Aesthetics	When any substance in water produces a persistent objectionable deposit, unnatural color or turbidity, or unnatural odor (e.g. oil slick, surface scum).
Added Costs to Agriculture or Industry	When there are additional costs required to treat the water prior to use for agricultural purposes (i.e. including, but not limited to, livestock watering, irrigation and crop spraying) or industrial purposes (i.e. intended for commercial or industrial applications and noncontact food processing).
Degradation of Phyto/ Zooplankton Populations	When phytoplankton or zooplankton community structure significantly diverges from un-impacted control sites of comparable physical and chemical characteristics. In addition, this use will be considered impaired when relevant, field-validated, phytoplankton or zooplankton bioassays (e.g. *Ceriodaphnia*; algal fractionation bioassays) with appropriate quality assurance quality controls confirm toxicity in ambient waters.
Loss of Fish and Wildlife Habitat	When fish or wildlife management goals have not been met as a result of loss of fish or wildlife habitat due to a perturbation in the physical, chemical or biological integrity of the Boundary Waters, including wetlands.

Environment Canada and the U.S. Environmental Protection Agency are the federal co-leads for the Lake Erie LaMP. Other agencies involved in the process include:

Canada

- Agriculture and Agri-food Canada (invited)
- Fisheries and Oceans Canada
- FOCALerie (Federation of Ontario Conservation Authorities of Lake Erie)
- Health Canada (invited)
- Ontario Ministry of Agriculture, Food and Rural Affairs
- Ontario Ministry of the Environment
- Ontario Ministry of Natural Resources

United States

- Agency for Toxic Substances and Disease Registry
- Michigan Department of Environmental Quality
- Michigan Department of Natural Resources
- Natural Resource Conservation Service
- New York State Department of Environmental Conservation
- Ohio Department of Natural Resources
- Ohio Environmental Protection Agency
- Pennsylvania Department of Environmental Protection
- Seneca Nation of Indians (invited)
- US Army Corps of Engineers (invited)
- US Fish and Wildlife Service
- US Geological Survey

Binational Observers

- International Joint Commission
- Great Lakes Fishery Commission

Senior managers from each jurisdiction were invited to participate on the Lake Erie LaMP Management Committee, the group charged with overseeing the development of the Lake Erie LaMP. A number of committees and subcommittees were established to assist the Management Committee in fulfilling its charge. The primary supporting committee under the Management Committee is the Lake Erie Work Group. The Work Group carries out the directives of the Management Committee and oversees the creation and progress of the various subcommittees. The Work Group prepares or oversees all the documents prepared under the LaMP and presents them to the Management Committee for review and approval. Per the direction of the GLWQA, the Lake Erie Concept Paper proposed significant public involvement be utilized throughout the LaMP process. The Lake Erie Binational Public Forum was created to provide front line coordination and communication with the interested public, and to initiate additional public activities. The Forum contributed to and reviewed the technical background documents used to prepare the LaMP as well as implemented a number of public outreach and education projects in support of the LaMP. The original organizational structure of the Lake Erie LaMP is presented in Figure 2.3.

As the LaMP moved from development to more of an implementation stage, the LaMP structure changed. The current structure is depicted in Figure 2.4. The LaMP has established a research connection via association with the Lake Erie Millennium Network (LEMN). The LEMN was co-convened by the Great Lakes Institute for Environmental Research at the University of Windsor, U.S. EPA's Large Lakes Research Station, the National Water Research Institute of Environment Canada, and Ohio Sea Grant-F.T. Stone Laboratory of the Ohio State University. The LEMN hosts a biennial conference on the status of Lake Erie and identifies current research needs, and works with the LaMP to organize workshops to address various research needs and data gaps.

In an effort to accelerate the entire Great Lakes LaMP process, the Binational Executive Committee (BEC) issued a resolution in July 1999 that recommended a change from the four- stage LaMP process, described in the GLWQA, to production of a biennial document on LaMP status (Table 2.2). This allows planning and implementation to occur simultaneously rather than sequentially, and puts more emphasis on implementation than on document production and review. Having comparable documents for all of the lakes will help to set priorities and identify the issues that may need to be addressed on a Great Lakes basinwide scale.

Figure 2.3: Original organizational structure of the Lake Erie LaMP

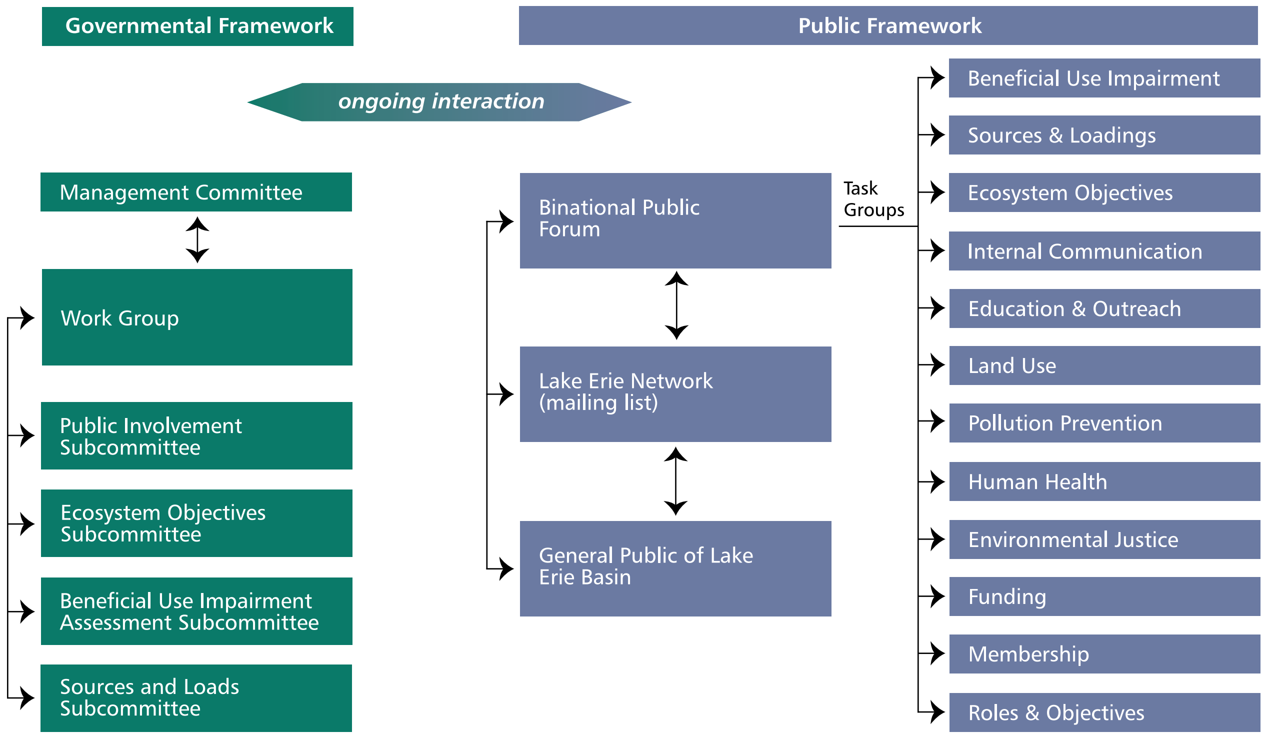


Figure 2.4: Current LaMP organizational structure

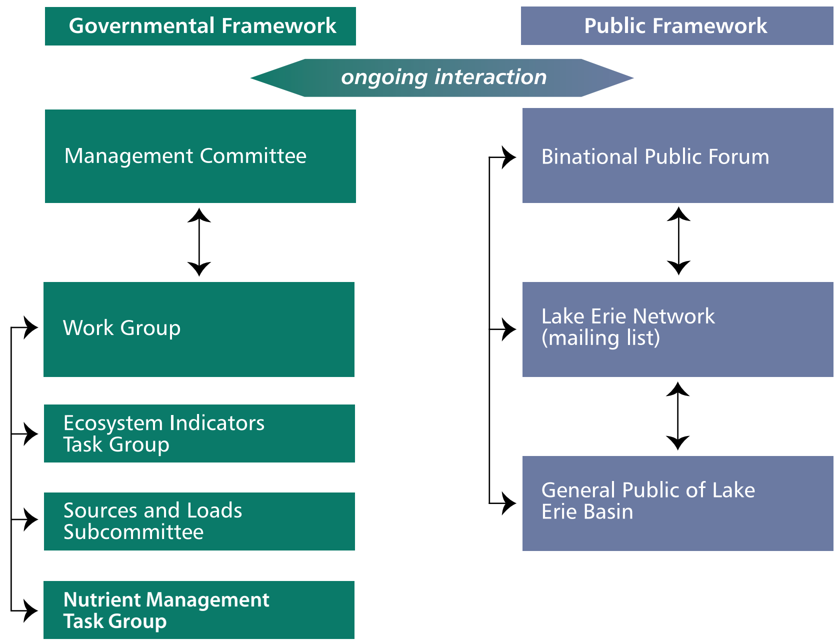


Table 2.2: Binational Executive Committee Consensus Position on the Role of LaMPs in the Great Lakes Restoration Process

The development and implementation of Lakewide Management Plans (LaMPs) are an essential element of the process to restore and maintain the chemical, physical, and biological integrity of the Great Lakes ecosystem. Through the LaMP process, the Parties, with extensive stakeholder involvement, have been defining the problems, finding solutions, and implementing actions on the Great Lakes for almost a decade. The process has taken much longer and has been more resource-intensive than expected.

In the interest of advancing the rehabilitation of the Great Lakes, the Binational Executive Committee calls on the Parties, States, Provinces, Tribes, First Nations, municipal governments, and the involved public to significantly accelerate the LaMP process. By accelerate, we mean an emphasis on taking action and a streamlined LaMP review and approval process. Each LaMP should include appropriate actions for restoration and protection to bring about actual improvement in the Great Lakes ecosystem. Actions should include commitments by the governments, parties and regulatory programs, as well as suggested and voluntary actions that could be taken by non-governmental partners. BEC endorses the April 2000 date for the publication of "LaMP 2000," with updates every two years.

BEC is committed to ensuring a timely review process and will be vigilant in its oversight.

The BEC respects and supports the role of each Lake Management Committee in determining the actions that can be achieved under each LaMP. BEC expects each Management Committee to reach consensus on those implementation and future actions. Where differences cannot be resolved, BEC is committed to facilitating a decision. BEC recognizes the Four-Party Agreement for Lake Ontario and the uniqueness of the agreed upon binational workplan.

The LaMPs should treat problem identification, selection of remedial and regulatory measures, and implementation as a concurrent, integrated process rather than a sequential one. The LaMPs should embody an ecosystem approach, recognizing the interconnectedness of critical pollutants and the ecosystem. BEC endorses application of the concept of adaptive management to the LaMP process. By that, we adapt an iterative process with periodic refining of the LaMPs which build upon the lessons, successes, information, and public input generated pursuant to previous versions. LaMPs will adjust over time to address the most pertinent issues facing the Lake ecosystems. Each LaMP should be based on the current body of knowledge and should clearly state what we can do based on current data and information. The LaMPs should identify gaps that still exist with respect to research and information and actions to close those gaps.

Adopted by BEC on July 22, 1999.

2.3 Moving the Lake Erie Lakewide Management Process Towards Implementation (*Prepared by: Dan O'Riordan, U.S. EPA-GLNPO)*

Since publication of the Lake Erie LaMP 2006 Report, the LaMP Work Group, in partnership with the Water Quality Board of the International Joint Commission (IJC), the Lake Erie Millennium Network, the Great Lakes Commission, and the LaMP Management Committee, has sought to clarify how best to implement LaMP-related actions. It is difficult to identify and prioritize those actions that must be appropriately resourced to address the most serious problems facing Lake Erie, given the often complex and overlapping matrix of federal, state/provincial, and local jurisdictions.

An initial workshop, sponsored by the IJC's Water Quality Board, was conducted in Erie, PA, March 16-17, 2006, to explore ways to approach the challenges of jurisdictional complexity. Discussions at the workshop explored how best to coordinate "horizontal" jurisdictions (how the respective federal agencies of the United States and Canada interact) and how best to coordinate "vertical" jurisdictions (how federal, state/provincial and local governments interact) to achieve a common goal. This goal is identification and coordinated implementation of the actions needed to improve the chemical, physical, and biological integrity of Lake Erie through attainment of Lake Erie LaMP objectives.

On July 11-12, 2006, a second workshop was held in Erie, PA, to explore ways to open lines of communication among the 12 Lake Erie Area of Concern (AOC) Remedial Action Plan (RAP) groups, other watershed groups and the Lake Erie LaMP. The two-day program, facilitated by the Great Lakes Commission, included an overview of AOC, watershed and

LaMP activities on Lake Erie; a review of opportunities for RAP and watershed groups to collaborate with one another to best utilize programs and resources available at the federal, state/provincial and local levels; and how RAP and watershed groups can interact and coordinate with the broader LaMP community.

Using these workshops as a basis, in November-December 2006 the LaMP Work Group, Management Committee, IJC Water Quality Board, and Lake Erie Millennium Network conducted several discussions to explore potential projects to test or demonstrate that the LaMP process could function effectively as currently designed. Some of the questions raised included: What is the state of nutrient science? What are the research gaps? Do the Work Group and Management Committee as now comprised have a membership that could effectively implement on-the-ground LaMP actions? If not, how exactly should the membership and the LaMP-stakeholder base be adapted to become better poised to implement LaMP actions? What changes need to be made? Who *really* implements the LaMP? Is the LaMP process being effectively utilized to further the goals and objectives of the Great Lakes Water Quality Agreement?

Furthermore, given that a top priority identified in the LaMP 2006 report is better management of nutrients, and that the reason(s) for increased nutrient loads to Lake Erie is(are) scientifically inconclusive at this time, how should the LaMP partners proceed to implement LaMP actions in the face of scientific uncertainty? Although the Lake Erie LaMP has adopted an adaptive management approach in assessing threats to the lake based on the "weight of evidence" rather than the scientific certainty defining those threats, the question remains as to when there is enough information to provide a rationale to justify management actions.

By January 2007, the group decided to further explore the land-to-lake linkages that may explain increased nutrient loadings to the lake, particularly to the nearshore, so that a suite of management actions could be identified, implemented, and assessed. A three-day interrelated workshop was held in March 2007 at the University of Windsor, ON, to encourage scientists and managers to hone in on: how actions on the land influence the rise of nutrient loadings to the lake; how nutrients act within the nearshore; what data gaps exist; what further research is needed; and how to address complex jurisdictional matters when implementing LaMP-related actions.

Once the proceedings of the workshop were compiled, a core group of the Work Group and Management Committee analyzed the information and planned next steps. By September 2007, a path forward was drafted and presented to the full Work Group and Management Committee. The Management Committee adopted the plan September 13, 2007, and instructed the Work Group to proceed with it. This path forward further supports the intent of the Great Lakes Water Quality Agreement in better managing phosphorus input into the lake (Annex 3) and exploring the contributions from nonpoint sources (Annex 13).

Highlights of the Plan and Future Direction of the Lake Erie LaMP

After the September 2007 directive from the Management Committee, the core group developed a schedule of activities that will be the focus of the LaMP work plan over the next two years. Following are the key aspects of the plan:

1) Nutrient management will be the LaMP's immediate and intensive focus.
2) A Nutrient Science Task Group, comprised of key U.S. and Canadian scientists, will be convened to produce a summary report of nutrient science in the Lake Erie basin.
3) Using the summary report as its basis, a task group will draft a Binational Nutrient Management Strategy that identifies and supports ongoing nutrient management actions and identifies a suite of potential additional management actions necessary to achieve LaMP nutrient management objectives. The Strategy will be presented to the Management Committee for approval.
4) Stakeholder and public-consultation strategies in support of the Binational Nutrient Management Strategy will also be drafted.
5) The Management Committee will develop an implementation schedule to identify commitments by LaMP partner agencies to implement the Binational Nutrient Management Strategy.

6) A Work Group report to the Management Committee will review the effectiveness of the current LaMP structure for implementing the Binational Nutrient Management Strategy and, where necessary, recommend changes to LaMP membership and structure.
7) LaMP partners are encouraged to pursue or implement actions under their authorities that may lead to better nutrient management in their jurisdictions prior to the completion of the Binational Nutrient Management Strategy.

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