



LAKE ONTARIO LAKEMIDE MANAGEMENT PLAN UPDATE '05

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New Membership Enhances LaMP Capabilities

The LaMP has broadened its membership. With an expanding focus on the ecology of the lake system and the state of fish and wildlife habitat and populations federal and provincial fishery and wildlife agencies have been called on for their expertise.

In November 2004, the LaMP Management Committee expanded its membership to include Fisheries and Oceans Canada, United States Fish and Wildlife Service and the Ontario Ministry of Natural Resources.

The participation of these agencies will allow better integration of fish and wildlife objectives and indicators into the LaMP.

The expertise of our new members is reflected in this edition of *Update* in an article on fish populations.

Also in this edition of *Update*, you will read about highlights of LaMP activities over the past year including updates on cooperative monitoring and estimates on critical pollutant loadings to Lake Ontario.



Lake Ontario LaMP Management Committee members: (left to right) Don Zelazny (New York State Department of Environmental Conservation), Rob MacGregor (Ontario Ministry of Natural Resources), Kofi Fynn-Aikins (U.S. Fish and Wildlife Service), Mike Whittle (Fisheries and Oceans Canada), Richard Raeburn-Gibson (Ontario Ministry of the Environment), seated: Co-Chairs Mario Del Vicario (USEPA) and Susan Humphrey (Environment Canada). Photo Credit: Environment Canada

Public Meeting to Focus on Stewardship

The Lake Ontario LaMP is hosting a Public Meeting in Kingston, Ontario! The meeting will be held at the **Marine Museum of the Great Lakes**, on the shores of Lake Ontario, on June 9, 2005 from 7:00 p.m. to 8:30 p.m. We will have short presentations by LaMP representatives as well as the Centre for Sustainable Watersheds and the Finger Lakes — Lake Ontario Watershed Protection Alliance. There will be time for discussion at the end of the presentations. For more information on the Marine Museum go to: <http://www.marmus.ca/>. Parking is free.

Great Lakes Regional Collaboration

In December 2004, U.S. states bordering the Great Lakes, and tribal leaders convened for the signing of the Great Lakes Declaration. The document outlines a comprehensive plan to clean up the Great Lakes and the major waterways that feed them. The Declaration encourages the protection and restoration of the Great Lakes ecosystem through a unified partnership among governments.

The collaboration is in response to President Bush's executive order in May 2004, establishing a 10 member Cabinet-level Great Lakes Task Force, led by the U.S. Environmental Protection Agency, to coordinate Great Lakes efforts among states and U.S. federal agencies. This group effort also includes tribal leaders, town mayors and environmental groups. It is the largest formal relationship of its kind, focused on the environmental and economic health of the Great Lakes basin, and it sets forth a framework for establishing committees, lines of communication and goals leading to cleaner water.



Signing of the Great Lakes Declaration: Gov. Blagojevich (IL), Gov. Jennifer Granholm (MI), Senator Beverly Gard (IN), Frank Ettawageshik, Chairman of Little Traverse Bay Band of Odawa Indians, Lt. Governor Carol Molnau (MN), Gov. Taft (OH), Past EPA Administrator Mike Leavitt, Gov. Doyle (WI), Mayor Fillippi (Erie, PA), Dennis Schornack (Commissions), Gov. Pataki (NY). Photo credit: USEPA

Strategy Teams have been set up for habitat, persistent bioaccumulative toxic chemicals (PBTs), indicators/monitoring, invasive species, Areas of Concern, coastal health, sustainable development and non-point source issues. Members of the Lake Ontario LaMP are participating in these teams. A preliminary restoration plan will be completed in December 2005. The final outcome will be a new Great Lakes Strategic Plan.

- **The Next Phase of the Canadian Great Lakes Action Plan**
- **Botulism in Lake Ontario**
- **The Status of Lake Ontario Fish Populations**

The Next Phase of the Canadian Great Lakes Action Plan

In the federal Budget 2005 announcement, the Government of Canada committed a further \$40 million over the next five years “to bring forward the next phase of the Great Lakes Action Plan.” In addition, it makes substantial allocations towards climate change and sustainable municipal infrastructure, and invests in transboundary air quality in Ontario, an alien invasive species strategy and control measures for toxic substances and contaminated sites.

The Budget states that \$8 million per year will build on past achievements to “improve the ecological integrity of the Great Lakes ecosystem. This initiative will continue the environmental restoration of key aquatic areas of concern identified under the Great Lakes Water Quality Agreement between Canada and the United States, thereby restoring the ecological and economic development potential of these areas.”

Budget 2005 will provide \$85 million over five years for an Invasive Alien Species Strategy that will focus on enhanced preventative measures. This will include an additional \$2 million per year over the next five years for the Sea Lamprey Control Program to control the presence of sea lampreys in the Great Lakes.

Budget allocations for climate change are the most significant of all the new funds earmarked for environmental initiatives. Budget 2005, “makes significant investments aimed at reducing greenhouse gas emissions, and developing science and technology that will help build the framework for a comprehensive and sustainable response to the challenge of climate change.”

Botulism in Lake Ontario

Several outbreaks of botulism in fish and bird populations were reported in Lake Ontario in 2004. The most affected area was in the north east part of the lake on the Canadian side. The outbreak, first reported in August 2004, continued into November.

Botulism is a disease caused by toxins released from naturally occurring bacteria in the lake bottom. Once fish ingest the bacteria, toxins are released in their bodies. If other animals eat the infected fish, they too become infected.

Although there are no documented cases of people in the Great Lakes area being affected by Type E Botulism as a result of swimming or drinking water, caution is advised. In areas with a history of botulism outbreaks do not handle dead or dying animals, and keep children and pets away.

Further information is available online at:

<http://www.seagrant.sunysb.edu/botulism/default.htm>
<http://www.dec.state.ny.us/website/dfwmr/faqbotu.html>

And by contacting NYSDEC's Region 9 Office in Buffalo, NY at (716) 851-7200.

The Status of Lake Ontario Fish Populations

The Lake Ontario LaMP is reviewing the status of fish populations, an indicator of the health of the lake. Fish populations are currently considered to be unimpaired based on data from the mid 1990s that showed: the recovery of lake whitefish and walleye; strong salmon and trout populations; stable non-native prey fish stocks, and naturally reproducing lake trout all signs of a recovering ecosystem. However, new information shows more recent changes in Lake Ontario fish populations.

Fish populations in Lake Ontario have changed in the last 100 years. Before the early 1900s, there were 61 species of fish in Lake Ontario. Since that time, at least seven species have been lost, seven species have been accidentally introduced to the lake, and seven species have been purposely introduced.

The prey fish community in Lake Ontario has changed dramatically. Non-native alewife and rainbow smelt are the most abundant prey fishes in Lake Ontario and as such they are the main source of food for salmon, trout and walleye. Recent research shows that alewife and smelt contain high levels of thiaminase (an enzyme that causes vitamin B deficiency in fish) and consumption of these prey species contributes to high mortality of the offspring of salmonids. This impedes efforts to restore native species in Lake Ontario, including Atlantic salmon and lake trout. In addition, prey fish abundance particularly that of the non-native alewife and rainbow smelt is now low and predicting future trends in these species is not possible.

Walleye, a prized recreational fish, have declined in abundance to less than half of that observed in the late 1980s. Reasons for this decline include changes in habitat, fishing pressure, changes in the fish community in the near shore and declines in alewife, their most important prey fish.

Populations of lake whitefish have declined recently due to a change in their primary food source. A steep decline in *Diporeia hoyi*, a small shrimp-like creature, in Lake Ontario, occurred at the same time as the invasion of zebra and quagga mussels in the early 1990s. *Diporeia* served as a source of food for many fish species such as alewife and lake whitefish. Lake whitefish began a steady



American eel. Photo credit: Fisheries and Oceans Canada.

decline following the virtual disappearance of *Diporeia*, and little to no survival of young whitefish occurred from 1998 to 2002. The lake whitefish still supports a small commercial fishery, however there are no apparent signs of recovery.

Today, non-native stocked and naturalized fish like Chinook and Coho salmon, rainbow trout and brown trout, are the most abundant top predators in the lake. All of them support economically important fisheries. While many of these species reproduce naturally in the lake, the fisheries are heavily supplemented by stocked fish. Some 5-6 million fish are stocked in Lake Ontario annually, and most are not native to the lake. Many of the remaining off shore native fish species are considered stressed.

Prior to 1960, lake trout (a LaMP indicator species), were self sustaining in Lake Ontario and supported major fisheries. Today their existence in the lake depends on stocking by the state of New York and province of Ontario. Stocked lake trout do not survive well. Even though there are signs of wild or natural reproduction among young fish, it is unclear how many survive to adulthood. Monitoring in both Ontario and New York shows significant declines in lake trout with the most notable occurring in eastern Lake Ontario. In near shore areas of the lake, the decline of other native species is also occurring.

In light of these recent changes in the fish population, the LaMP Management Committee is re-evaluating the status of this beneficial use impairment.

For more information:

See the Annual Reports of the New York State Department of Environmental Conservation (NYSDEC) and the Lake Ontario Management Unit, Ontario Ministry of Natural Resources (OMNR). These reports are available from:

NYSDEC, Lake Ontario and St. Lawrence River Units, Cape Vincent, NY 13618 and Watertown, NY 13601

Lake Ontario Management Unit, OMNR, RR#4, Picton, Ontario K0K 2T0

The OMNR report is also available at http://www.glfco.org/lakecom/loc/mgmt_unit/index.html

American Eel in Trouble

The American eel was once an important component of Lake Ontario biodiversity that provided significant socio-economic benefits. Recruitment to Lake Ontario has now failed and eels are at risk of disappearing from Lake Ontario and the Upper St. Lawrence River. Eels migrate into Lake Ontario as juveniles. They remain in the lake for 8 to 14 years before leaving to spawn in the Sargasso Sea. Eels in these waters are all large, highly fertile females that are considered to be extremely important to the entire species. The American eel is doing so poorly in Lake Ontario and throughout its entire range, that inter-jurisdictional initiatives are under way to protect the species. The cause of the decline involves a multitude of factors that are complex and poorly understood.

Understanding the Distribution and Feeding Patterns of Lake Ontario Waterbirds

Herring gulls are one of the Lake Ontario LaMP's ecosystem indicators, however most of what we know of gull and other waterbird behavior is based on observations made from shore and little is known of their distribution and behavior in the open lake. In September of 2003 the first open lake waterbird survey was conducted by U.S. and Canadian students led by Prof. Tom Langen and Michael Twiss of Clarkson University as part of a one-week limnology course. The waterbird survey was added to the schedule of LaMP sampling activities being conducted from the USEPA's *Lake Guardian* giving the students an opportunity to live and work on an active research vessel. Teams of students and experienced bird watchers worked in shifts over a six-day period carefully noting the location of each bird sighting as the vessel criss-crossed the lake. Notes were made on what the birds were doing such as flying or actively feeding.

Eighty-six percent of the birds observed were herring and ring-billed gulls. Bonaparte's gulls, great black-backed gulls, horned grebes, common loons, black terns and double crested cormorants were also observed. Most waterbirds were feeding more than five kilometers from shore well out of the visible range of shoreline bird watchers. Double-crested cormorants were the exception with most cormorants feeding less than five kilometers from shore. This information helps us understand the role that waterbirds play in the Lake Ontario foodweb.

For more information contact Prof. Tom Langen at tlangen@clarkson.edu.



The EPA research vessel Lake Guardian provided a perfect platform to make open lake waterbird observations. Photo credit: Michael Twiss, Clarkson University.

- American Eel in Trouble
- Understanding the Distribution and Feeding Patterns of Lake Ontario Waterbirds

- **Lake Ontario Atmospheric Deposition Study (LOADS): Measurement of Atmospheric PCBs at Sterling Nature Center**
- **U.S. and Canadian Scientists Talk Mud**

Lake Ontario Atmospheric Deposition Study (LOADS): Measurement of Atmospheric PCBs at Sterling Nature Center

By: Jim Pagano (SUNY Oswego), Tom Holsen (Clarkson University), and Mike Milligan (SUNY Fredonia)

Measurement of persistent chemicals is exceedingly difficult, due to the fact that overall concentrations in Great Lakes air and water are very small. Environmental chemists work around this problem by sampling very large amounts of air or water over long periods of time to get accurate measurements. For example, high-volume air samplers run continuously for 24 hours to collect adequate sample mass to measure in a state-of-the-art laboratory. The overriding concern with these chemicals is understanding the movement of these contaminants in the environment and to what extent they will eventually bioaccumulate in the Great Lakes food chain.

The measurement of pollutants in the environment is necessary to determine what effect and for how long these chemicals may adversely impact wildlife populations and humans. Many of the most troublesome environmental contaminants are persistent, bioaccumulative, and toxic (PBT). This essentially means that these chemicals: last for very long periods of time in the environment (persistent); have the potential to build up (bioaccumulate) in wildlife and humans; and have the potential to be hazardous (toxic) to wildlife and humans. PCBs are chemicals that are considered to be PBTs, and are included in the list of Lake Ontario LaMP's critical pollutants of concern.

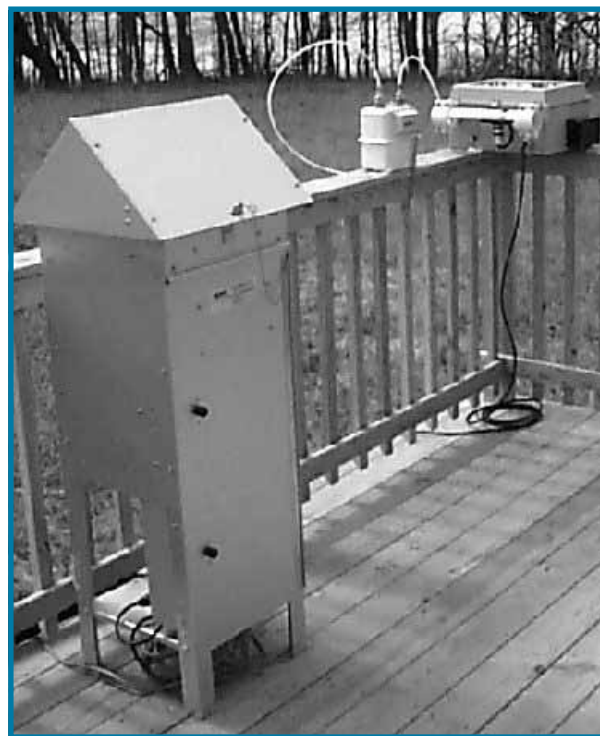
The LOADS project is a multi-year collaboration between scientists and agency personnel from Clarkson University, SUNY Oswego, SUNY Fredonia, University of Michigan, Environment Canada, and the U.S. Environmental Protection Agency. The LOADS sampling station operated by SUNY Oswego was selected to measure pollutants from either Lake Ontario or land-based sources as determined by wind direction.

Chemical measurements from the LOADS project will be used by resource managers, government agencies, and computer modelers to predict the long-term impact and effect of these chemicals on the environment.

One of the most important model predictions to be generated from the LOADS project data will be to assess the effect of reducing inputs of chemicals of concern to Lake Ontario to the future levels of these contaminants in Lake Ontario fish.

Samples were collected every six days between April 2002 and March 2003, matching the sampling protocols of the Integrated Atmospheric Deposition Network (IADN). IADN is a binational network of seven master air sampling stations located throughout the Great Lakes basin. Although the LOADS data are still under review, the following general statements can be made:

- Levels of atmospheric total PCBs measured on the southeastern shore of Lake Ontario at Sterling, N.Y. for the period 2002-2003 are higher than similar rural sites on the Great Lakes as reported by IADN between the years 1998-2000.
- A three-year average (1998-2000) of total PCBs at the Pt. Petre, Ontario IADN site approximately 50 miles across Lake Ontario on the northeastern shore indicates the concentrations measured at Sterling during 2002-2003 are about 4 times higher.
- The pattern (fingerprint) of PCBs measured at Sterling is markedly different than any of the other IADN sites, consisting of more higher-chlorinated PCBs. Air sampling conducted during three cruises aboard the RV Lake Guardian, indicate that Lake Ontario is not the source of the higher-chlorinated PCB fingerprint measured at Sterling.



Monitoring Station, Sterling, N.Y. , Photo credits: Jim Pagano (SUNY Oswego)

Updating the Estimates of Critical Pollutant Loadings to Lake Ontario

The LaMP continues to collect and evaluate new data on loadings of critical pollutants (PCBs, DDT and its metabolites, mirex/photomirex, dioxins/furans, mercury, and dieldrin) to Lake Ontario. By the 2006 reporting year, the LaMP will have updated the previously reported data for most sources. Some highlights are:

Upstream Sources: In the 2002 LaMP Update, Niagara River Toxics Management Plan (NRTMP) "Upstream/Downstream" data from 1996 through 1997 were used to estimate loadings to Lake Ontario. Since 1997, the NRTMP has improved its methods for measuring and estimating both PCBs and mercury coming from other Great Lakes and from the Niagara River basin. For 2006, all loadings will be updated to reflect NRTMP monitoring efforts from 1999 through 2001.

Canadian Point Sources: Updates to mercury loadings to Lake Ontario will be primarily based on data provided through Canada's National Pollutant Release Inventory. It is expected that reported point-source mercury loadings should be lower in 2006 than were reported in 2002. Reductions in point source mercury loadings are likely due in part to new sewer use by-laws in some Ontario municipalities, including the City of Toronto.

U.S. Tributaries: USEPA renewed tributary sampling of the Genesee River, 18 Mile Creek, Oswego River, Salmon River and the Black River during the period 2002 through 2005. Monitoring is expected to continue for the near future, and should improve the reporting of loadings from these tributaries. Smaller creeks that were not previously sampled will also be added to the monitoring regime. Estimated loadings will be reported in the LaMP 2006 report.

Atmospheric Deposition: IADN data continue to show that atmospheric deposition of DDT, dieldrin and mercury are of similar magnitude to upstream sources or in-basin discharges. IADN has also quantified mercury that evaporates directly from the Lake, data which were not available in 2002. The Lake Ontario Atmospheric Deposition Study will supplement IADN data with additional loading estimates based on ambient air, wet deposition and direct dry deposition samples from Sterling NY and from the USEPA R/V Lake Guardian. Sampling has been completed and loadings estimates will be available later in 2005.

Agricultural Pesticide Clean Sweeps: New York State Update

Over the years, Ontario and New York have significantly reduced and eliminated stores of unwanted and unusable agricultural pesticides held by farmers and others by holding voluntary pesticide collection events commonly referred to as Clean Sweeps. Combined Ontario and New York efforts have collected and safely disposed of more than 750,000 kg / 1,650,000 lbs of pesticides, including LaMP critical pollutants such as DDT, dieldrin, and mercury-based pesticides - all potential non-point source pollution threats to Lake Ontario water quality.

The New York State Department of Environmental Conservation (NYSDEC), in partnership with the New York State Department of Agriculture and Markets (NYSDAM), Soil and Water Conservation Districts, and the Cornell Cooperative Extension, is conducting a new round of agricultural pesticide collection efforts in the Lake Ontario basin as part of their Clean Sweep NY Program. The program provides a legal and economical opportunity to dispose of all canceled, obsolete or otherwise unusable pesticides and any elemental mercury used by a dairy or food storage facility. Triple-rinsed plastic or metal pesticide containers will also be collected and recycled. This latest round of pesticide collection efforts has included two Lake Ontario basin counties that have never held Clean Sweeps, Lewis and Jefferson.

The Clean Sweep NY Program hires a professional waste hauler to dispose of unwanted pesticides and elemental mercury; provides on-farm or on-site assistance, when needed; provides analytical services to identify unknown/unlabeled pesticide products; collects triple-rinsed metal and plastic pesticide containers for recycling; and provides on-farm pickup for predetermined structurally unstable containers.

Collection efforts were held in the eastern Lake Ontario basin in Herkimer, Jefferson, Lewis, Madison, Oneida, Otsego and Hamilton Counties in the Fall of 2004. Spring 2005 collections were held in the east-central basin including Onondaga, Oswego, Cayuga, and Cortland Counties. Upcoming collections targeting the west-central part of the basin are scheduled for the week of November 6-11, 2005 in Wayne, Monroe, Livingston, Ontario, Seneca, and Yates Counties.

This program is free of charge for New York growers and commercial applicators applying products to agricultural commodities. Other potential holders of pesticides such as applicators, local municipalities, and retail/distribution establishments can approach NYSDEC and request to participate in this program.

For more details on participation eligibility, related costs and other details please visit Clean Sweep NY's website at www.cleansweepny.org or call 1-877-SWEEPNY (1-877-793-3769). A report developed by EPA, NYSDEC and NYSDAM summarizing the results of agricultural pesticide collection efforts in New York State up to 2002 is available at www.epa.gov/glnpo/bns/pesticides/nypestcleanswp.

- Updating the Estimates of Critical Pollutant Loadings to Lake Ontario
- Agricultural Pesticide Clean Sweeps: New York State Update

U.S. and Canadian Scientists Talk Mud

In March 2004, the LaMP hosted a binational Lake Ontario sediment workshop. Agency experts shared the results of open water and nearshore investigations, improved their understanding of the nature and significance of sediment sources of critical pollutants to Lake Ontario, and reached consensus on the next steps in the development of a binational sediment monitoring program. Workshop highlights will be featured in the next LaMP Update.

- **Public Involvement**
- **LaMP Interacts with Water Level Study Representatives**
- **Lake Ontario Areas of Concern**

Public Involvement

The Lake Ontario LaMP is expanding its Public Involvement program by moving its public meetings around the Lake Ontario basin - this year, the LaMP will be going to Kingston, Ontario.

The theme for this year's meeting is Stewardship, and will include presentations from Canadian and U.S. environmental groups. The LaMP will plan future public meetings for other areas around the basin.

The Kingston meeting will be held at the **Marine Museum of the Great Lakes**. Educating the public about Lake Ontario and its ecosystem is the focus of a new exhibit at the Museum. The two-year exhibit, opened Earth Day, April 22, 2004, was created through an innovative partnership between the Ontario Ministry of the Environment, the Marine Museum, and the Community Foundation of Greater Kingston, with the cooperation of Environment Canada.

The exhibit reviews the environmental history of Lake Ontario, outlines the Lake Ontario Lakewide Management Plan, and promotes individual actions in protecting the environment. While the exhibit appeals to a broad audience, the primary focus is on young people, and includes a strong interactive component.

This exhibit represents a unique, creative partnership between the LaMP and local community groups that are committed to environmental education and stewardship.

For more information on the activities of the Lake Ontario LaMP, please refer to www.binational.net.

LaMP Interacts with Water Level Study Representatives

The LaMP is closely monitoring the progress of the International Joint Commission's (IJC) Lake Ontario-St. Lawrence River Water Level Study. The LaMP held several meetings with the study representatives and also invited them to participate in a Lake Ontario LaMP break-out session during the State of the Lakes Ecosystem Conference (SOLEC) in Toronto in October 2004. The LaMP has formally encouraged the IJC to develop and implement an adaptive management approach that will recognize the importance of LaMP objectives, thereby helping to ensure that the results and benefits of the water level study can be sustained and evolve over the years to come. The LaMP has also requested that it be given access to the various models and databases developed by the study. The Study's Public Interest Advisory Group will hold public consultations in every region during the summer of 2005. For additional information, go to www.losl.org.

Lake Ontario Areas of Concern

Introduction

There are nine Areas of Concern (AOCs) identified around Lake Ontario. Two of these are binational for which separate Remedial Action Plans (RAPs) have been developed and are being implemented on the Canadian and U.S. sides.

Binational Areas of Concern

Niagara River: The Niagara River AOC extends the entire 60 kilometres length of the Niagara River from Lake Erie to Lake Ontario. RAP implementation is continuing on the Canadian side of the AOC, with a focus on reducing non-point source pollution, upgrading municipal infrastructure and restoring fish and wildlife habitat in the Welland River watershed and adjacent tributaries. Efforts to characterize the risk of PCB contamination at Lyons Creek and develop a sediment management strategy are ongoing. The RAP partners are also leading a review of delisting criteria and impairments.

For the U.S. side of the AOC, priority activities are continuing to address: inactive hazardous waste site remediation; source control programs; stream water quality and fish and wildlife habitat improvements. Within the AOC and watershed, priorities include: ongoing programs to continue to focus on fish consumption restrictions; habitat evaluation; and contaminant trackdown in key tributaries such as Gill Creek, Cayuga Creek and Two Mile Creek. Restoring and maintaining an improved quality of life in the ecosystem of the Niagara River and its watershed is the goal.

St. Lawrence River: The St. Lawrence River AOC is a complex jurisdictional area involving the interests of Canada, the United States, Ontario, Quebec, New York State, and the St. Regis Mohawk Tribe at Akwesasne.

The Canadian RAP effort is focusing on continued implementation of the strategic plan and priority activities to ensure implementation of all remedial actions by 2008. A review of delisting criteria and impairments, and the development of a comprehensive monitoring plan is also underway. The Cornwall Sediment Strategy has been developed with local community input and will be completed in 2005. Habitat restoration, non-point source reductions, and planning initiatives will ensure that mechanisms are in place to continue to achieve long terms goals even after RAP delisting targets are met.

For the New York part of the AOC at Massena, members of the Cornwall RAP, Massena RAP, and St. Regis Mohawk Tribe are working together in an intergovernmental forum to share information related to the AOC indicators and to make progress towards delisting individual use impairment indicators defined in the RAPs. Following the completion of remedial activities, a reassessment of the use impairment indicators and the causes and sources is planned.

Canadian Areas of Concern

Hamilton Harbour

Cleanup of the severely contaminated sediment at Randle Reef (and other locations in the Harbour) and upgrading of the City of Hamilton's wastewater treatment and combined sewer system, remain as priorities. A preliminary engineering study for the Randle Reef Project is underway as is the preparation of the draft environmental assessment report. Work could begin in 2006, but scheduling will depend on obtaining necessary government approvals and finalizing partnership funding agreements. In 2004, Hamilton City Council gave unanimous approval to a \$330 million grant application for upgrades required to Hamilton's wastewater treatment system. The City also initiated an optimization program for the Woodward Wastewater Treatment Plant focused on meeting final RAP effluent targets.

Toronto and Region

Planning to address use impairments has advanced well over the past several years: the City of Toronto has started implementing its Wet Weather Flow Management Plan to ease stormwater impacts; the Toronto Waterfront Revitalization Corporation has adopted sustainability as a core value and is actively supporting both aquatic and terrestrial ecological projects as part of its planning; and the Toronto and Region Conservation Authority, the lead for RAP implementation, has developed a Targeted Terrestrial Natural Heritage Strategy System for the Toronto City Region. The RAP continues to support the development and implementation of these plans, as well as funding new science, monitoring, policy development and public involvement and stewardship initiatives.

Bay of Quinte

Federal scientists have determined that in order to sustain the gains that have been made in the reduction of phosphorus to the Bay, summertime sewage treatment plant loadings need to be maintained at current levels. A top priority for the RAP therefore, is putting in place a multi-partner strategy to maintain phosphorus inputs at current levels. Other priorities include the development and implementation of pollution prevention and control plans for all coastal municipalities, and the development of action plans for fish and wildlife impairments.

Port Hope Area of Concern

Cleanup of Port Hope Harbour is being undertaken as part of the Port Hope Area Initiative. This Government of Canada project is led by Natural Resources Canada and implemented through the Low-Level Radioactive Waste Management Office. The project, which is currently undergoing an environmental assessment, will clean up and consolidate all historic low-level radioactive waste in the municipality of Port Hope in one new local, long-term waste management facility. The environmental assessment and regulatory phase is expected to be completed in 2007.

U. S. Areas of Concern

Eighteenmile Creek RAP

The Niagara County Soil and Water Conservation District (NCSWCD), funded by USEPA, continues to implement RAP coordination and management activities. DEC and EPA are to consult with the NCSWCD on next steps. RAP activities are focused on continuing the investigation and assessment of creek sediments; evaluating possible sources of PCBs and other contaminants in the watershed; remediating inactive hazardous waste sites; correcting sewer overflows; and continuing surveillance activities.

Rochester Embayment RAP

Monroe County Department of Health as well as the County's Water Quality Coordinating Committee continue to provide coordination and management of RAP activities. The Monroe County Soil and Water Conservation District has recently developed an Agricultural Environmental Management Strategic Plan (draft plan addressing 2005-2010) for the county. The nearshore problem areas of Lake Ontario involving algae, weeds, and nutrients continue to be a focus.

Oswego River RAP

The Oswego River RAP Stage 3 Delisting Document has been transmitted to the International Joint Commission (IJC) for formal comments. After IJC comments are addressed, a public consultation period is planned, and the Final Stage 3 document will be prepared prior to communication with the U.S. Department of State on delisting the AOC.

- **Lake Ontario Areas of Concern Continued**



- **What is the LaMP?**
- **Next Steps**
- **For More Information**

What is the LaMP?

The Lake Ontario Lakewide Management Plan (LaMP) is a binational cooperative effort to restore and protect the health of Lake Ontario by reducing chemical pollutants entering the lake and addressing the needs of the fish and wildlife living in the watershed.

Building on the Lake Ontario Toxics Management Plan developed in 1987, Environment Canada, the United States Environmental Protection Agency, the Ontario Ministry of the Environment, New York State Department of Environmental Conservation, Fisheries and Oceans Canada, United States Fish and Wildlife Service and the Ontario Ministry of Natural Resources are all working together to achieve the goals of the LaMP.

Next Steps

The LaMP is broadening its efforts to restore and protect Lake Ontario and its biological resources. The multi-year workplan is a fundamental component in maintaining progress and is now in the third year of its five year schedule. The workplan is being continuously reviewed and revised to include the activities that the new members of the Lake Ontario Management Committee bring to the table to enhance the LaMP.

Binational cooperative monitoring and individual U.S. and Canadian work will track down contaminant sources and estimate loadings to the lake. A long-term binational monitoring protocol will use sediment core data to track progress in reducing contaminant inputs to Lake Ontario as well as to identify any new contaminants. Major U.S. tributaries to the lake are being monitored twice a year for the presence of the LaMP's critical pollutants of concern to establish trends and track progress in reducing levels of contaminants.

Habitat protection and restoration continues to be a focus of the LaMP. The binational bald eagle habitat assessment work provided information for the project to go to the next step, which will be the selection of specific sites and the construction of bald eagle nesting platforms. This will go a long way toward restoring the bald eagle to its historical nesting territories.

From the data developed in the U.S. and Canadian habitat assessments, the LaMP will begin to evaluate habitat indicators which might be proposed. As part of the LaMP's effort to restore fish habitat, a review of opportunities to restore upstream fish passage will begin in 2005.

The LaMP will continue to keep abreast of the outcome of the IJC water level study to ensure that the LaMP objectives are considered. Coordination and joint meetings with other groups such as the Lake Ontario Committee will continue.

Ongoing activities to meet with existing groups, forming partnerships to assist in LaMP projects, and interacting with the public to promote more stewardship opportunities will continue in the future.

The changing ecosystem has brought new challenges to the LaMP and we are determined to continue working with our partners to address those challenges in the future.

For More Information

Please visit our Web site at www.binational.net or contact:

In Canada:

Ms. Marlene O'Brien
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L7R 4A6

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Fax: (905) 336-6272
e-mail: marlene.obrien@ec.gc.ca

In the United States:

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