

CHAPTER 12 LAMP WORKPLAN ACTIONS AND PROGRESS

12.1 Summary

Seven agencies now work together to implement the Lake Ontario LaMP through an updated binational workplan. This workplan became effective in January 2007 and enhances binational efforts to restore and to protect Lake Ontario and its biological resources. The workplan now identifies agency activities according to four major work areas:

- Chemical Contamination and Monitoring;
- Physical and Biological Impacts and Environmental Assessments;
- Public Outreach, Consultation, Reporting, and Communicating Actions; and
- Other Action Initiatives (e.g. the nearshore and climate change).

The workplan is a fundamental component in the LaMP process to direct limited resources, identify priorities, and maintain progress towards achieving the goals and objectives. The revised workplan now combines the previous short term and long term plans into one document. It accomplishes this by listing activities under the four major work areas and then identifying, in separate columns, short term (3 year) and longer term (5 year) outputs.

An additional column in the workplan reports on the status or assessment of each activity. The short term (3 year) outputs for each activity have been established to be consistent with the commitments of the Canada-Ontario Agreement (COA). The long term (5 year) outputs also reflect the desired results.

New activities identified under the expanded four major work areas include: fish populations, additional ecosystem indicators where appropriate, the Binational Biodiversity Conservation Strategy, agency and plan links, water levels, nearshore areas, climate change, and research. The activity listings address many topics including outreach and stewardship. However, in the near term special attention is to be concentrated on the following activities:

- Conducting Lake Ontario Intensive Cooperative Monitoring during 2008,
- Continuing reduction of critical pollutant loadings to Lake Ontario,
- Reporting on ecosystem indicator status and invasive species efforts,
- Evaluating sediment and tributary samplings,
- Broadening partnerships to implement habitat conservation strategies,
- Conducting public outreach to benefit the stakeholders and LaMP,
- Incorporating nearshore plans into LaMP planning,
- Continuing to assess impact of climate change on Lake Ontario.

Note: This workplan now includes the 5 year plan activities and therefore Appendix D (previously containing a standalone 5-year workplan) is to be deleted from the Status Report binder document in 2008.

**Lake Ontario Lakewide Management Plan
Binational Workplan (2007-2011)**

ACTIVITY	2007-2009 Outputs	Status - Assessment	Desired 2011 Outputs
<p>1. Update Ecosystem Indicators: make progress on additional indicators and define pollutant reduction targets.</p>	<p>2007 –Agency sign-off for Chapter 3 addressing Ecosystem Indicators has been accomplished and wording now incorporated into LaMP binder.</p>	<p>The LaMP addresses eleven Ecosystem Indicators Chapter 3 contains current information and will be reviewed for updating in the Status Report 2010.</p>	<ul style="list-style-type: none"> • Adopt indicators as appropriate; develop data and target level goals for indicators; • Report on progress; use trend data. • To update in 2010
<p>2. Update Critical Pollutant List & Status:</p>	<p>2008-09 - Consider listing/delisting chemicals; and, relationship to BTS.</p>	<p>Sources & Loadings of critical pollutants updated in Status Report 2006</p>	<ul style="list-style-type: none"> • Assure critical pollution prevention strategies are sound. • Present data for better public understanding. • Continue to assess environmental impact(s).
<p>3. Evaluate Sediment Core data:</p>	<p>2007 – collect two sediment core samples (one from the Lake Ontario central basin & one from the Niagara River bar). 2008 – Review workshop strategies, recommendations, and need for further sediment core/assessment and costs.</p>	<p>Funded coring conducted in 2007 at the Niagara Bar and in deepwater deposition zone (Rochester Basin); Analyses and reporting are underway.</p>	<p>Determinations to be consistent with the SOLEC indicators and a long-term binational monitoring plan. LaMP to evaluate sediment core data as a new LaMP indicator of contaminants. Focus will be on surficial sediments and trends.</p>
<p>4. Update Cooperative Monitoring activities:</p>	<p>2007 – Two Cooperative Monitoring Workshops have been held which involved agency staff and academic scientists/modellers/ researchers. 2007 - Publish workshop report including issue papers and recommendations 2008 – conduct Lake Ontario Cooperative Monitoring 2009 – Analyses of Lake Ontario Data</p>	<p>March 27-28, 2007 conducted Chemical workshop Oct 23-24 2006 conducted Biological workshop Five main areas of Assessment:</p> <ul style="list-style-type: none"> • Offshore • Nearshore/shoreside • Lower Foodweb • Lake trout • New Technologies 	<p>LaMP parties to continue data analyses; publish synthesis reports; facilitate long term approach to binational monitoring strategy. Continue Cooperative Monitoring Years on a five year cycle for identification of improved understanding of ecosystem processes for Lake Ontario. Propose a State of Lake Ontario Conference/ Workshop to present results of Cooperative Monitoring</p>

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<ul style="list-style-type: none"> Coordinate Side-by-Side analytical comparisons among participating LaMP parties. 	<p>2007 to 2008 – Party participants to evaluate data from Phase IV.</p> <p>2008 – Participants to prepare summary of data & submit a report to the LaMP on the comparability of results. (summary reports from 2005 are pending)</p> <p>Due to good preliminary results, the Side-by-Side analysis has been incorporated into Cooperative Monitoring implementation.</p>	<p>The Side-by-Side comparisons have verified a consistency and confidence level in data to proceed with and focus on the next phase of cooperative monitoring.</p>	<p>LaMP to facilitate coordination amongst the Parties concerning the practical application of the comparability evaluation.</p>
<ul style="list-style-type: none"> Coordinate Atmospheric Deposition study. <p>Lake Ontario Toxic Surveys - chemicals monitoring surveys.</p>	<p>2008 –calculate loads of dioxins and PCBs to Lake, based on sampling.</p> <p>2007 – Ontario sediment cores and sample analyses.</p> <p>2007 to 2009 – MOE to conduct Lake Ontario Urban Interface - pathways of legacy and emerging chemicals.</p> <p>2008 – EC-three open lake surveys</p> <p>2008 – OMOE - nearshore survey</p> <p>2008 – OMOE to conduct Lake Ontario - Intensive Chemical Monitoring Passive Monitoring Array (emerging chemicals) nearshore/offshore and intake zones</p> <p>2008 – report on Niagara River Mussel BioMonitoring</p>	<p>Reported on mercury load calculations and other findings and incorporated into LaMP Status Report 2006.</p>	<p>LaMP to prepare synthesis report and define the impact of Atmospheric Deposition on the lake.</p> <p>OMOE & EC continue data analyses.</p> <p>LaMP to prepare synthesis report.</p> <p>Examples: YOY, fish tissue, Gull eggs</p>

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<p>5. CDN – Canadian Source Monitoring & Assessment:</p> <ul style="list-style-type: none"> • Report on priority watersheds to include status information; remedial measures; monitoring; recommendations for further action. 	<p>2007-08- EC to do further confirmation & follow-up sampling. EC to report on follow-up work (areas with PEL exceedances) with recommendations for further action. EC/OMOE to prioritize areas and develop workplan for follow-up work/trackdown strategies. EC/OMOE to prepare final report with recommendations for PEL exceedances.</p>	<p>MOE to work with partners to continue to implement the Provincial Monitoring Network within Lake Ontario tributaries and provide information to LaMP partners. Tributary loadings are being estimated using existing data by the Lake Ontario Consortium Study under Source Water Protection</p>	<p>Address issues arising from collated data.</p>
<p>5. US – United States Source Monitoring & Assessment</p>	<p>2007 to 2009 - EPA Tributaries Sampling for critical pollutants, analyze samples and prepare report.</p>	<p>New data will be incorporated into Chapter 6 of the Lake Ontario Status Report 2010.</p>	<p>Focus on chemical presence and environmental impacts to determine trackdown priorities and necessity of remedial measures</p>

ACTIVITY	2007-2009 Outputs	Status - Assessment	Desired 2011 Outputs
<p>6. CDN – Canadian Source Trackdown:</p> <ul style="list-style-type: none"> • <u>PCB trackdown</u> at 12 Mile Creek, Cataraqui River & Etobicoke Creek. • <u>Mouth of the Trent River (Bay of Quinte watershed)</u> – High levels of Dioxins/Furans have been located in the sediment at the mouth of the Trent River. • <u>Pringle Creek/Whitby Harbour</u> – OMOE identified elevated levels of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans in sediment and biota. 	<p><u>12 Mile Creek</u> – On-going follow-up being conducted. Voluntary sampling being conducted by the City of St. Catharines.</p> <p><u>Etobicoke Creek – 2007</u> continue with Etobicoke Creek PCB Trackdown to isolate PCB sources and work with support local MOE District actions, as needed, to abate source(s) of PCBs</p> <p><u>Cataraqui River – 2007</u> Re-assessment phase: conduct monitoring to assess remedial measures (dredging) undertaken and report on post clean-up assessment</p> <ul style="list-style-type: none"> • 2007 ecological risk assessment initiated in spring. Draft report expected in Fall 2007 • 2007 ecological risk assessment to be completed. Final report on findings in 2008 	<p>Continue with 12 Mile Creek/L. Gibson PCB Trackdown work to isolate source(s)</p> <p>Scientists to work with/support local MOE District actions, as needed, to abate source(s) of PCBs</p> <p><u>Trent River Mouth</u></p> <p>The Preliminary Human Health Risk Assessment Report, prepared in July 2006 for the Trent River Mouth Steering Committee, concluded that there is no additional health risk for people using the Trent River mouth area for swimming.</p> <p>The OMOE identified a former wood preserving site as an ongoing source of dioxins and furans to the river and is actively working with the company to determine the extent of the contamination and to find solutions to reduce and/or control the contamination.</p> <p>The Ecological Risk Assessment report concludes that there is no justification for removal of the sediment and recommends to:</p> <ul style="list-style-type: none"> • require further contaminant source control; • delineate further contaminated sediment deposition in the western Bay of Quinte; and • update/ initiate an ecological risk assessment and/or a sediment management assessment in the future should source control be unsuccessful. 	<p>Continue work on 12 Mile Creek & Cataraqui River.</p> <p>OMOE to complete report on 12 Mile Creek; determine & implement remedial action plans for 12 Mile Creek, Etobicoke Creek and Cataraqui River if and where required.</p> <ul style="list-style-type: none"> • Plan additional trackdown work within identified priority watershed areas if warranted. • OMOE is currently carrying out further studies to assess remedial options.

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<p>6. US – United States Source Trackdown:</p>	<p>2007 – <u>Genesee River</u> - Monroe County to conduct next phase study of PCBs in Rochester’s westside Interceptor System.</p> <p>2007 to 2008 – <u>Buffalo River</u> - Sediment Remediation Feasibility Study to be conducted on the lower River; the initial phase of Legacy Act funding has been awarded by EPA.</p>	<p>Ongoing</p>	<p>LaMP to incorporate results of trackdown activities and progress in remediating / controlling contaminant sources in future LaMP reports.</p> <p>NYSDEC to follow-up on additional monitoring and remedial actions where indicated.</p> <p>Conduct monitoring, assess data, and report on source trackdown activities and implementation projects, as needed.</p>
<p>7. Chemical Contamination Reduction Strategies :</p> <ul style="list-style-type: none"> • Regulatory actions and pollution prevention 	<p>2007 to 2009 – LaMP to facilitate & coordinate transfer of information from LaMP Parties to appropriate enforcement, regulatory & remedial action branches of their agencies</p> <p>2007 to 2009 – LaMP to report new regulatory actions & progress of LaMP agencies.</p>	<p>Ongoing</p>	<p>LaMP to liaise with enforcement branch of LaMP agencies & track regulatory actions in the Lake Ontario basin.</p>

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<ul style="list-style-type: none"> Voluntary actions and pollution prevention 	<p>2007 to 2009 – Clean Sweep – Ontario Waste Agricultural Pesticides Collection Program to offer Ontario farmers safe, free disposal of outdated, de-registered, unwanted pesticides.</p> <p>2007 to 2009 – Monroe County, NY to implement a mercury educational and sampling effort funded by EPA.</p>	<p>LaMP to coordinate with Binational Toxics Strategy and agencies' hazardous waste minimization & pollution prevention programs to encourage action on sources polluting Lake Ontario.</p> <p>LaMP to identify existing grants & programs; develop a strategy for promotion of pollution prevention programs.</p> <p>LaMP to facilitate partnerships between stakeholder groups for promoting pollution prevention.</p>	<p>LaMP will work to bring together our partners with agency programs that deliver Binational Toxics Strategy's programs.</p> <p>LaMP to continue to promote pollution prevention strategies and programs through partnerships.</p> <p>LaMP to report on future pesticide clean sweeps in LaMP <i>Update</i>.</p> <p>Continue mercury educational effort in Monroe County, NY; LaMP to report on results of activities.</p>
<ul style="list-style-type: none"> Mass Balance Model for PCB load reduction activities. 	<p>2007 to 2009 – EPA to integrate new data from cooperative monitoring into the mass balance model for PCBs. Extend model to include the Niagara River and mercury and applicability for other critical pollutants.</p>		<ol style="list-style-type: none"> The LOTOX3 mass balance model (which includes the Niagara River), when utilized in conjunction with other regulatory tools, will be applied to improve the assessment and responses to Lake loadings LOTOX models have applications to TMDL considerations. Apply the LOTOX3 model to assist management decisions on when fish can be eaten and also influence the research on pathways and exposure.

ACTIVITY	2007-2009 Outputs	Status - Assessment	Desired 2011 Outputs
<p>1. Update Ecosystem Indicators and consider additional indicators and targets for physical and biological objectives as information becomes available:</p> <ul style="list-style-type: none"> • Mink and Otter indicator 	<p>2007 – Chapter 3, Ecosystem Indicators, was updated and incorporated into the Lake Ontario LaMP Status Report.</p>	<p>The LaMP addresses eleven Ecosystem Indicators.</p> <p>Chapter 3 contains current information and will be reviewed for updating in the Status Report 2010.</p>	<p>LaMP to identify & assemble information on additional indicators; adopt as appropriate.</p>
<ul style="list-style-type: none"> • Bald Eagle indicator 	<p>The research and impact assessment on the mink /otter indicator has been completed.</p> <p>Monitoring is ongoing and new information will be incorporated into the indicator reporting as it is available.</p> <p>2007 – Final report to be distributed to agency staff & potential partners such as local planning boards.</p> <p>2008 – Phase 2 Bald Eagle report now underway - to encourage partnerships to conserve & restore identified bald eagle habitat areas & to develop new nesting sites.</p>	<p>To update as information is provided.</p> <p>Ongoing</p>	<p>Researchers to continue the collection & analysis of harvest statistics on mink/otter and report on status and update as appropriate.</p> <p>LaMP to review status of bald eagle habitat efforts.</p>

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<ul style="list-style-type: none"> Fish indicators 	<p>2007 – Lake trout restoration plan is in the process of being updated by LOC.</p> <p>2008 – LOC State of the Lake Report to provide measures of fish indicators.</p> <p>2008 – Intensive monitoring year to provide improved lake-wide measures of lake trout status.</p> <p>2008 – LOC to update Fish Community Objectives including objectives and indicators for nearshore, offshore pelagic, and offshore benthic fish communities.</p> <p>2008/09 – LOC to adopt restoration plans for lake trout, lake sturgeon, and deepwater cisco,</p> <p>2008/09 – Atlantic salmon restoration to be advanced with research and implementation of restoration actions.</p> <p>2009 – American eel restoration to be advanced with research and implementation of restoration actions</p>	<p>Use LOC Fish Community Objectives as LaMP fish indicators</p>	<p>OMNR, NYDEC, USGS, USFWS, and DFO work through LOC to advance Fish Community Objectives and refine indicators for prey fish diversity and community health.</p> <p>OMNR, NYDEC, USGS, USFWS, and DFO work through LOC, to develop a new indicator for the fish community connected to the nearshore.</p> <p>Comprehensive management strategy for Lake Ontario, St. Lawrence River and Atlantic Coast (OMNR)</p> <p>OMNR to report on effectiveness of restoration actions to restore American eel populations in Lake Ontario.</p>

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<ul style="list-style-type: none"> Coastal Wetlands Indicator 	<ul style="list-style-type: none"> Work with Great Lakes Coastal Wetlands Consortium to develop implementation plan for proposed wetland indicators. Identify outputs and assess if that program activities are appropriate and viable to support the indicator. 	<p>Work underway, pilot protocols tested in Durham Region and Bay of Quinte</p> <p>Discussions also underway with IJC as part of adaptive management approach to proposed changes in water level regulation</p>	<p>Begin monitoring and reporting on coastal wetlands indicator.</p>
<ul style="list-style-type: none"> Physical Integrity 	<ul style="list-style-type: none"> 2008- Develop white paper indicator proposal on land use, imperviousness, urbanization and trends. 2008- Identify possible indicator and assess if program activities are appropriate and viable to support the indicator. 2009- LaMP to adopt indicator. 	<p>LaMP in planning steps of developing a white paper on possible indicator.</p> <p>Imperviousness maps being prepared by NCC/TNC as part of the Binational Biodiversity Conservation Strategy.</p>	<p>Begin monitoring and reporting on a physical integrity indicator.</p>
<p>2. Assessment of LaMP Beneficial Use Indicators:</p>	<p>See Beneficial Use Impairment bullet items directly below for consumption advisories, and degradations of benthos, plankton, and fish populations:</p>		

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<ul style="list-style-type: none"> Contaminants in fish (consumption advisories) 	<p>LaMP to review current status and trends and report. Activities include:</p> <p>2007 – MOE/MNR & NYDEC/ NYSDOH maintain/publish sport fish consumption advisories</p> <p>2008 – MOE/MNR to collect and analyse for chemical contaminants in juvenile fish and y-o-y fish in support of binational intensive chemical monitoring of Lake Ontario</p> <p>2008 – Gather fish tissue information, integrate and perform trend analyses leading to indicator assessment.</p> <p>2008 – LOC State of the Lake report provides summary of status and trends in contaminants in fish.</p> <p>2009 – Produce analytical report of preliminary findings.</p>	<p>Agencies continue contaminant analysis and assessment for input to consumption advisories including:</p> <ul style="list-style-type: none"> EPA annual monitoring of lake trout at North Hamlin/Oswego for Lake Ontario chemicals of concern. Collect & analyze salmonid eggs/ fillet muscle tissue from Salmon River Altmar Fish Hatchery for PCBs, organochlorine pesticides (OCs) & polybrominated diethyl ethers (PBDEs). OMOE/OMNR to continue program to sample sportfish in Lake Ontario and sportfish and Young-of-the-year at Areas of Concern, and analyze for contaminants. 	<p>EPA to continue annual fish monitoring for priority critical pollutants and emerging chemicals in whole fish.</p> <p>OMOE to continue annual fish monitoring for priority critical pollutants.</p> <p>LaMP to recommend management & regulatory policy efforts, if needed.</p> <p>The goal of the indicator is to eliminate the consumption advisories which represent environmental impacts in the fish</p> <p>The LOC report provides an overall assessment.</p> <p>LaMP to identify data gaps and make recommendations as appropriate.</p> <p>2010 – Produce LOC final report; incorporate BTS findings and recommendations.</p> <p>2010 – Synthesis and Report on Progress regarding agencies findings; identify additional needs; report on trends.</p>

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<ul style="list-style-type: none"> Degradation of Benthos, Phytoplankton, Zooplankton 	<ul style="list-style-type: none"> 2008 Ontario - Lower Aquatic Foodweb Whole Lake Assessment (MOE Near-shore Survey Assessment). LaMP working under the Cooperative Monitoring Initiative (CMI). 2009 Complete data analyses of Lake Ontario Lower Aquatic Foodweb Assessment (LOLA). 2009 LaMP to prepare LOLA synthesis report with recommendations for future actions. 	<ul style="list-style-type: none"> LaMP to better define indicators for lower food web. MOE to conduct Pickering shoreline cladophera project 2003 LOLA report was completed with information presented at workshop and articles published. Physiological indicators of Mysid health and growth are being developed. 	

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<ul style="list-style-type: none"> Degradation of Fish populations 	<p>2008 – LOC State of the Lake Report provides fish community indicators and measures of status of lake-wide fish populations. Includes status of fish populations in nearshore, offshore pelagic, and offshore benthic areas of the lake. Data derived from assessments of sport and commercial fisheries, and fishery independent assessments in the lake and tributaries. Surveys carried out by OMNR, NYDEC, USFWS, DFO, USGS, and other partners.</p> <p>2008 – Use LOC State of the Lake Report to evaluate status of this impaired use indicator.</p> <p>2008 – Intensive monitoring year provides improved lake-wide measures of lake trout status.</p> <p>2008 – LOC updates Fish Community Objectives including objectives and indicators for nearshore, offshore pelagic, and offshore benthic fish communities.</p> <p>2008/9 – LOC adopts restoration plans for lake trout, lake sturgeon, American eel, and deepwater cisco.</p>	<p>LOC continues to coordinated lake-wide assessments of fisheries carried out by NYDEC, OMNR, USGS, USFWS, DFO and other partners. Results incorporated in LOC annual reports and State of the Lake reports.</p> <p>Cooperative Monitoring year provides opportunity for expanded fish community assessment including lake-wide lake trout assessment.</p> <p>NYSDEC Creel Survey to be carried out to obtain information on # of fish caught by species & other information in 28 Lake Ontario tributaries. Data will improve understanding & management of the fishery.</p> <p>USFWS to continue assessment of Niagara River lake sturgeon population.</p>	<p>Continue to use LOC Fish Community Objectives and State of the Lake Report to evaluate beneficial use impairment and consistency.</p> <p>Track annual report and encourage decision making to address impairment causes and better accomplish and define the fish community objectives (to address loss of native species, restoration and recovery planning)</p> <p>OMNR, NYDEC, USGS and partners advance research and development of approaches to introducing deepwater ciscoes in Lake Ontario.</p>

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<ul style="list-style-type: none"> Degradation of Fish populations continued 	<p>2008/9 – Atlantic salmon restoration is advanced with research and implementation of restoration actions included research into thiamine and food web interference with restoration success.</p> <p>2007/2008 – LOC advances plans to restore offshore food web with reintroduction of deepwater cisco. LaMP supports pursuit of resources for these restoration efforts.</p> <p>2007/08 – DFO conducting research into the role of thiamine in the diet of Atlantic Salmon as an impediment to restoration initiative.</p> <p>2007/08 – DFO conducting research on how the shift in diet during the development of Lake Trout and Chinook Salmon contributes to thiamine deficiency and impacts on reproductive success.</p> <p>2007/08 – 2010 – DFO funding a project to establish a conceptual framework and development of a Watershed-based Fish Passage Decision Tool for Science and Management Applications in DFO. OMNR is a partner in this project.</p>		<p>Provide scientific advice on impediments to native species restoration.</p> <p>Provide scientific advice on role of changing diet and alewife on thiamine deficiency in to both native and introduced salmonids.</p> <p>This work will serve in developing an assessment tool to help resource and habitat managers identify and prioritize dam development projects that will restore eel's free passage to quality rearing habitats. Barrier and stream network data used for eel can be applied to any diadromous or catadromous fish species (e.g. sturgeon and salmon).</p>

ACTIVITY	2007-2009 Outputs	Status - Assessment	Desired 2011 Outputs
<p>3. Assessment of other LaMP Indicators and impairment concerns:</p> <ul style="list-style-type: none"> Binational Biodiversity (Habitat) Conservation Strategy: 	<p>2007/2008 – EPA funded TNC to complete binational GIS data base of species & ecological systems; LaMP agencies to begin working with TNC on developing binational habitat strategy.</p> <p>2008 – Report on progress of Binational Biodiversity (Habitat) Conservation Strategy and relationship to LaMP workplan.</p>	<p>Workshop to discuss strategies held Dec. 2007.</p>	<p>LaMP partners to review binational strategy and develop implementation plans.</p>
<ul style="list-style-type: none"> Canadian Habitat Strategy Implementation: Assessment and Watershed Management. 	<p>Canada LaMP partners to identify & promote watershed management strategies in conjunction with Conservation Authorities (CAs) and other agencies.</p> <p>2008-09 – Check with the Ontario Conservation Authorities (CAs) on the status of Lake Ontario watershed plans</p> <p>2008-09 – Report on integrated watershed plans being prepared by CAs address source water protection plans.</p> <p>2008-09 – Report on natural heritage strategies being prepared by CAs are identified and incorporated into official municipal plans</p>	<p>MOE to initiate Source Water Protection Planning through engagement of Conservation Authorities, municipalities and other partner organizations and groups within Canadian portion of Lake Ontario basin</p> <p>MOE to ensure LaMP partners are kept apprised of progress on these watershed plans.</p>	<p>Canadian LaMP partners to establish partnerships between stakeholders to assist municipalities with the implementation of watershed management strategies.</p>

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<ul style="list-style-type: none"> • US Habitat Strategy Implementation 	<p>2007- EPA funded New York Rivers United project to begin a review of opportunities to restore upstream passage along Lake Ontario tributaries.</p> <p>2007-2008 Binational habitat conservation strategy to be developed.</p>	<p>New York Rivers United completed its review of priority dams and selected several for further review. Projects were started on 2 dams.</p> <p>NYSDEC Comprehensive Wildlife Conservation Strategy completed; with this, the focus is on species in greatest need of conservation & management needs & strategies.</p> <p>Binational Habitat Conservation Strategy nearing completion; implementation plans will take place after strategies are agreed upon.</p>	<p>New York Rivers United project to begin the second phase of review. The results will be reviewed by US LaMP partners to determine next steps.</p> <p>US LaMP partners will promote implementation of identified binational habitat priorities.</p>

ACTIVITY	2007-2009 Outputs	Status - Assessment	Desired 2011 Outputs
<ul style="list-style-type: none"> Water quality surveys and Biomonitoring (for routine and ongoing Lake Ontario monitoring and assessment) 	<p>2007/2008 – NYSDEC, USFWS & Cornell University cooperative monitoring. Conduct annual monitoring of phosphorus, chlorophyll a & zooplankton in NY waters. Results to be reported annually in NYSDEC Lake Ontario Unit, the St. Lawrence Unit Annual Report to the Lake Ontario Committee, & the LaMP.</p> <p>2007/2008 – EPA to monitor Lake Ontario Spring & Summer at open lake stations each year.</p> <p>2008 – EC to conduct open lake water quality surveys.</p> <p>2007/08 – DFO Annual fall assessment of mysid and <i>Diporeia</i>.</p> <p>2008 – Lake Ontario Binational Cooperative Monitoring Year – collaboration of many agencies to sample lake water & biota and assess the state of the lake.</p>	<p>Ongoing</p> <p>2008 Lake Ontario Monitoring Year is in the planning stages.</p>	<p>Continue NYSDEC, USFWS & Cornell University annual cooperative monitoring of phosphorus, chlorophyll a and zooplankton in NY waters. Results to be reported annually in NYSDEC Lake Ontario Unit, the St. Lawrence Unit Annual Report to the Lake Ontario Committee, & the LaMP.</p> <p>EPA to continue annual open lake water quality monitoring.</p> <p>Agencies will determine future cooperative actions.</p>

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<ul style="list-style-type: none"> Other – Work with Great Lakes Fishery Commission’s Lake Ontario Committee to identify priority projects & investigations; develop common indicators. 	<p>2008 – Provide input to Lake Ontario Committee (LOC) revised Fish Community Objectives for Lake Ontario.</p> <p>2008 – LaMP to work with LOC to use Fish Community Objectives and State of the Lake report to update the status of beneficial use impairments for fish populations.</p> <p>2008/09 – LOC works with the LaMP to use LaMP ecosystem objectives to develop environmental objectives to support the Fish Community Objectives.</p>	Ongoing	Continue to partner, share information with Great Lakes Fishery Commission and the Lake Ontario Committee.

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4. Invasive species	<p>2007 – Review results of the LOLA project</p> <p>2007/2008 – USFWS to continue annual survey for Ruffe in Genesee River.</p> <p>2007/2008 – USFWS, DFO and MNR to conduct surveys for distribution of New Zealand mudsnails and <i>Hemimysis</i>.</p> <p>2007/08. DFO AIS monitoring to conduct <i>Hemimysis anomala</i> survey in many Great Lakes locations including Lake Ontario.</p> <p>2007/08 – DFO Centre of Expertise for Aquatic Risk Assessment (CEARA) and OMNR to conduct biological synopsis and risk assessment for <i>Hemimysis anomala</i>.</p> <p>2007/08 – DFO, Transport Canada and CAISN conducting ballast water monitoring to determine if ballast water exchange/flushing procedures provide sufficient protection against AIS, or whether it will be necessary to implement more stringent regulations for ballast water management.</p> <p>2007/08 – DFO conducting research to quantify the risk associated with inter-lake movement of commercial ships as a pathway for the secondary spread of aquatic invasive species (AIS). Results will determine whether or not requirement of ballast treatment technologies should be implemented for the Great Lakes' shipping fleet.</p>	<p>2006 LaMP Status Report (Chapter 4) addresses the update on information and research on invasive species and recommends appropriate management options and strategies</p> <p>Results may be reported at GLFC annual meetings.</p> <p>Results may be reported at GLFC annual meetings.</p> <p>Risk assessments are published as formal science advice within DFO</p> <p>Results will be published as reports or peer-reviewed science papers.</p>	<p>Share LOLA findings with agencies charged with AIS management.</p> <p>All LaMP parties to continue to liaise with appropriate agencies in working on the management & prevention of new AIS.</p> <p>USFWS will continue work on distribution, abundance and impacts of various AIS and newly introduced species</p> <p>AIS monitoring program to continue but species and pathways may vary annually.</p> <p>Risk assessments will be conducted for DFO national priorities. May include Lake Ontario depending on priority setting in the CEARA workplan</p> <p>Protection of Lake Ontario from the risk of introduction of AIS through 100% compliance on exchange regulations or the implementation of additional control strategies.</p> <p>Protection of all the Great Lakes from the risk of spread of AIS throughout the basin from the Great lakes shipping fleet.</p>

ACTIVITY	2007-2009 Outputs	Status - Assessment	Desired 2011 Outputs
<p>5. Emerging Issues:</p>	<p>2007 – LaMP to facilitate & promote collection of information on emerging issues.</p> <p>2007 – LaMP to assess available information & research and recommend appropriate management options & strategies where necessary.</p> <p>2008 – US LaMP partners to determine interaction with Great Lakes Regional Collaboration strategy.</p>	<p>LaMP needs to identify what are the emerging issues (new and on-going) and develop action plans to address them.</p>	<p>LaMP to continue building awareness of emerging issues in the basin.</p>
<p>1. Partnerships</p>	<p>2007 to 2009 – LaMP to continue to seek out partnerships for public involvement opportunities; provide LaMP information, display, public outreach materials; continue partnership with the IJC water levels study.</p>	<p>Attended the “Annual Fish & Wildlife Festival and Youth Fishing Contest,” June 2, 2007 – Hyde Park, Niagara Falls, NY. The goal of this event is to educate the public about ongoing conservation and environmental activities in the Lower Great Lakes basin.</p>	<p>Promote & pursue the concept of establishing additional locations for LaMP displays at various existing museums, or other venues, on both the Canadian side and US side of the Lake Ontario basin.</p> <p>LaMP to work with other agencies as appropriate.</p>
<p>2. Stewardship</p>	<p>2007 to 2009 – LaMP to develop a strategy for more proactive promotion of stewardship; identify community-based actions & partnerships.</p> <p>Continued partnership with the Marine Museum in Kingston, to maintain EcoGallery featuring the LaMP.</p>		<p>LaMP helps local groups to implement “grass-root efforts” that make a difference on the ground and achieve LaMP needs.</p> <p>Provide expertise; develop capacity. Establish understanding of the LaMP, funding resources, and value added.</p>

ACTIVITY	2007-2009 Outputs	Status - Assessment	Desired 2011 Outputs
<p>3. Reporting:</p>	<p><i>LaMP Update</i> annually</p> <p>2008 – biennial <i>LaMP Status Report</i> in 2008 to highlight 20 years of progress of the LaMP/LOTMP and these chapter updates:</p> <ul style="list-style-type: none"> • State of the Lake • Habitat • PIC • AOCs • Next Steps • Workplan • Appendix C • Appendix D 	<p><i>LaMP Update</i> 2007 mailed to mailing list September 2007</p> <p>Planning for <i>LaMP Status Report</i> 2008 taking place</p>	<p>Publish <i>LaMP Status Report</i> every two years; and</p> <p>Publish <i>LaMP Update</i> annually.</p>
<p>4. Binational Public Meetings:</p>	<p>Joint Lake Ontario LaMP and Niagara River Toxics Management Plan (NRTMP) meeting to be held in Grand Island, NY.</p>	<p>Public meeting held October 24; (Joint management meetings conducted October 23-25, 2007).</p>	<p>Convene binational public meetings to assure LaMP understanding and public support.</p>

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<p>5. Outreach:</p>	<p>LaMP to review update of display; produce other materials as needed and required to facilitate public awareness and appreciation for LaMP activities and goals.</p> <p>Communicate “what is happening on Lake Ontario” both to the stakeholders and to senior management.</p> <p>Address new and evolving issues and establish connection of citizens to the lake.</p> <p>Demonstrate benefits and accomplishments from resources applied to LaMP.</p> <p>Update & maintain Lake Ontario LaMP website, and active mailing list.</p> <p>Encourage other Great Lakes and non-governmental organizations to add links from their websites to the Lake Ontario LaMP website.</p>		<p>LaMP materials communicate Vision and Goal for Lake Ontario and involve stakeholders to experience ongoing activities for restoration.</p> <p>Accomplish Lake Ontario message communication.</p> <p>LaMP to continue to update websites and the network of involved and interested groups and individuals.</p>
<p>6. SOLEC/IJC Meetings:</p>	<p>Participate in IJC Great Lakes Conference & Biennial Meeting (2007 and 2009) and SOLEC in 2008.</p> <p>Prepare briefing materials and other input to support the SOLEC process.</p>	<p>LaMP MC members present at IJC meeting 2007.</p>	<p>Participate in alternating biennial meetings of SOLEC (even years) and IJC Conferences (odd years).</p> <p>Ensure that SOLEC biennial meetings accurately reflect current LaMP assessments and trends.</p>

ACTIVITY	2007-2009 Outputs	Status - Assessment	Desired 2011 Outputs
<p>1. Internal Government Coordination:</p>	<p>Identify and communicate actions to accomplish LaMP goals</p>	<p>LaMP to continue to promote information & data transfer.</p>	<p>LaMP to make linkages with other programs conducted by own agencies to influence and contribute. Make updates and other outreach material available internally.</p>
<ul style="list-style-type: none"> Agency Coordination and Plan Links (e.g. AOCs, Fisheries, Habitat, wetlands, etc.) 	<p>Identify connections and activities contributing to LaMP objectives. Influence other programs to accomplish LaMP objectives. Build on Canada-Ontario Agreement (COA) Workplan. Identify program alignment(s) for agencies to address LaMP objectives.</p>	<p>Ongoing</p>	<p>Assure that coordination of agency programs address information and restoration needs for the LaMP. LaMP to make connections with other LaMPs and AOCs to share on issues of common concern.</p>
<ul style="list-style-type: none"> Links to other LaMPs: 	<p>Identify common goals and issues. Work with other LaMPs to accomplish Lake Ontario LaMP objectives. Dialogue / coordinate thru BEC and SOLEC mechanisms.</p>	<p>Ongoing</p>	<p>Address invasive species and ballast water impacts; take specific action; bring task group recommendations forward. Share information to address:</p> <ul style="list-style-type: none"> upstream sources out of basin stressors common areas of collaboration technology transfer

ACTIVITY	2007-2009 Outputs	Status - Assessment	Desired 2011 Outputs
<ul style="list-style-type: none"> Water Levels Control – Establish value added linkages to International Joint Commission's water levels study. 	<p>2007-08 – LaMP to integrate new technical data & information into LaMP reports, where applicable.</p> <p>2007-08 – LaMP to review Lake Ontario /St. Lawrence River water levels control study.</p> <p>2007-08 – determine LaMP role, monitoring needs, and regulation adoption strategy.</p>	<p>LaMP is participating in ongoing study reviews.</p>	<p>LaMP partners to follow the effects of any water levels control changes & develop adaptive management recommendations where feasible.</p>
<p>2. External Coordination:</p>	<p>Communicate and coordinate goals and projects with interested parties outside the LaMP.</p>	<p>Ongoing</p>	<p>Interested parties outside of the LaMP are aware of LaMP goals and projects.</p>
<ul style="list-style-type: none"> Information and data transfer: 	<p>LaMP to submit data for inclusion into other databases, such as the IJC database.</p> <p>LaMP to promote information exchange and the availability of data for the public and stakeholders.</p>	<p>Ongoing</p>	<p>LaMP to continue to promote information & data transfer.</p>
<ul style="list-style-type: none"> Facilitate Project Implementation 	<p>Identify and support partner initiatives to achieve LaMP goals.</p>	<p>Ongoing</p>	<p>Initiatives identified and supported.</p>
<p>3. Nearshore Plans/Projects: address environmental impacts</p>	<p>Determine how to address environmental impacts and incorporate nearshore plans and nearshore organizations into the LaMP workplanning</p>	<p>Ongoing</p>	<p>Assess implementation activities to benefit the nearshore</p>

ACTIVITY	2007-2009 Outputs	Status - Assessment	Desired 2011 Outputs
<p>4. Human Health Issues:</p>	<p>LaMP partners to liaise with the Binational and Canadian Great Lakes Public Health Networks, and/or Human Health agencies, to gather/exchange information on current & emerging human health issues of relevance to the LaMP.</p> <p>LaMP partners to identify actions & address current & emerging human health issues of relevance to the LaMP & make that information available to the public.</p> <ul style="list-style-type: none"> • MOE/MNR to collect and analyse chemical contaminants in sport fish from Lake Ontario. Use these data to update MOE/MNR “Guide to Eating Ontario Sport Fish.” • NYSDEC to collect and analyze sport fish for updating the New York State Department of Health “Chemicals in Sportfish and Game” health advisories. 	<p>LaMP continues to maintain connection with the Binational Great Lakes Human Health Network, the Canadian Great Lakes Public Health Networks, and Human Health agencies.</p> <p>LaMP continues to work with Network to gather/exchange information pertaining to human health.</p> <p>LaMP agencies continue to provide the public with advice on the safe consumption of Lake Ontario fish.</p>	<p>LaMP to continue awareness of human health concerns in the basin and connection with Binational Human Health Network.</p> <p>US and Canadian LaMP agencies to continue to provide updated information to the public on the safe consumption of Lake Ontario fish.</p> <p>LaMP partners, in association with human health organizations, the binational Great Lakes Human Health Network and the Canadian Great Lakes Public Health Network, will continue to promote human & ecosystem health within the Lake Ontario basin & will disseminate information on the human health impacts of environmental contaminants.</p>
<p>5. Climate Change:</p>	<p>Continue to assess the impact of climate change on Lake Ontario.</p>	<p>Ongoing</p>	<p>Assess impact of climate change on Lake Ontario water levels, species, and the lake basin.</p>
<p>6. Research and Monitoring:</p>	<p>Identify and support LaMP priorities for research and monitoring.</p>	<p>Ongoing</p>	<p>Accomplish needed research and monitoring for the Lake Ontario basin.</p>

