

# Executive Summary

Details on the Bullets Below are found in the Individual Subgoal Sections for the 2002, 2004, 2006, and 2008 LaMP Reports

**Goal: To Restore and protect the integrity of the Lake Michigan ecosystem through collaborative place-based partnerships.**

Strategic Action Agenda	Subgoals of the Lake Michigan LaMP	Significant Happenings 2000-2008	Next Steps
<p><b>Human Health</b></p> <p>Actions that prevent human exposure to pollutants in the ecosystem and prevent or minimize sources</p> <p>SOLEC Indicator Bundles</p> <ul style="list-style-type: none"> <li>• Human Health</li> <li>• Coastal Zone</li> <li>• Contamination</li> <li>• Land Use/Land Cover</li> </ul>	<p><b>Subgoal 1</b> We can all eat any fish</p> <p><i>Status</i></p> <ul style="list-style-type: none"> <li>• Mixed in 2008</li> <li>• Mixed/Improving by 2010</li> <li>• Sustainable by 2020</li> </ul> <p><b>Subgoal 2</b> We can drink the water</p> <p><i>Status</i></p> <ul style="list-style-type: none"> <li>• Sustainable in 2008</li> <li>• Sustainable in 2010</li> <li>• Sustainable in 2020</li> </ul> <p><b>Subgoal 3</b> We can swim in the water</p> <p><i>Status</i></p> <ul style="list-style-type: none"> <li>• Upgraded to moving toward Mixed/Improving in 2008</li> <li>• Mixed/Improving by 2010</li> <li>• Sustainable by 2020</li> </ul>	<p><b>2002</b></p> <ul style="list-style-type: none"> <li>• Fish advisories for mercury by USFDA and for dioxin by Michigan and Tribes</li> <li>• Grand Cal and Fox River AOC sediment cleanup plans underway</li> <li>• Sokaogon Chippewa Community Bans Burn Barrels</li> <li>• Grand Traverse Band of Ottawa and Chippewa Indians ban burning trash/garbage on tribal lands</li> <li>• TMDL workshops with regulators and stakeholders held</li> <li>• Mercury Phase-Out proposal proposed</li> <li>• Drinking water monitoring and reporting information available on the web</li> <li>• Great Lakes Beach Conference held</li> <li>• Beaches Environmental Assessment and Coastal Health Act of 2000</li> <li>• EPA and FDA issue joint mercury fish advisory</li> </ul> <p><b>2004</b></p> <ul style="list-style-type: none"> <li>• Legacy Act 2002 to clean up sediments passed and \$10 million appropriated for FY 2004, \$46 million proposed for FY 2005</li> <li>• Fish consumption advisory outreach programs developed for non-English speakers</li> <li>• Impaired waters strategy under development</li> <li>• Source water assessment programs almost completed</li> <li>• Public Health Security and Bioterrorism Preparedness and Response Act of 2002 being implemented</li> <li>• Drinking water education programs developed</li> <li>• Defense Department Developing Rapid Water Quality Testing Technology</li> <li>• Constructed wetland effectiveness researched</li> <li>• Chicago and Milwaukee to control CSOs</li> <li>• Cladophora alga resurges</li> </ul> <p><b>2006</b></p> <ul style="list-style-type: none"> <li>• Great Lakes Fish Monitoring Program Continues</li> <li>• Illinois Proposes 90 Percent Mercury Emissions Reduction</li> <li>• USEPA Issues New Mercury Rules</li> <li>• Source Water Assessment and Protection Program – States Complete All Assessments</li> <li>• Water Security Plan Required</li> <li>• Pharmaceuticals, Hormones and Other Organic Wastewater Contaminants in U.S. Streams More Identifiable</li> <li>• NEEAR Water Study Helps Set New Beach Alert Standards</li> <li>• Cladophora Alga Continues to Grow</li> <li>• Lake Michigan CSOs Studied</li> <li>• Michigan to Clean up Gallien River</li> <li>• Policy on Peak Wet Weather Discharges from Municipal Sewage treatment Facilities Proposed</li> </ul> <p><b>2008</b></p> <ul style="list-style-type: none"> <li>• <b>Auto mercury recovery program up and running in all 50 states</b></li> <li>• <b>Fish contaminants trending downward</b></li> <li>• <b>Evidence of pharmaceuticals being found in drinking water increasing</b></li> <li>• <b>States building programs to dispose of medicines</b></li> <li>• <b>All Lake Michigan states' source water assessments completed</b></li> <li>• <b>More water efficiency resources becoming available</b></li> <li>• <b>Number of beaches monitored up, but number of days closed trending downward</b></li> <li>• <b>Cladophora becoming larger problem in Lake Michigan</b></li> <li>• <b>Type E Botulism causes bird die-offs</b></li> <li>• <b>More health departments developing predictive models for determining when to close beaches</b></li> <li>• <b>More sanitary survey resources made available</b></li> </ul>	<ul style="list-style-type: none"> <li>• Develop an Impaired Waters Strategy</li> <li>• Continue to address sediments and focus more on nearshore contamination</li> <li>• Support a mercury product stewardship phase-down</li> <li>• Hold collection events for e-waste and pharmaceuticals</li> <li>• Work with new WaterSense label and Energy Star program to promote benchmarking energy performance of water utilities</li> <li>• Continue Watershed Academy to ensure land use and planning take account of source water issues protection needs</li> <li>• Seek funding to develop a source water protection GIS system including recharge areas</li> <li>• Enhance local public water supply security awareness</li> <li>• Identify resources for public water suppliers to ensure that by 2011 80% of the community water systems will be substantially implementing source water protection plans</li> <li>• Identify opportunities to work with the Great Lakes and St. Lawrence Cities Initiative conservation framework of 15% reduction from 2000 to 2015</li> <li>• Continue to implement actions outlined in the Great Lakes Regional Collaboration's Coastal Health Strategy</li> <li>• Continue to improve beach monitoring and public notification.</li> <li>• Develop and disseminate a standardized sanitary survey tool to identify contamination sources at Great Lakes beaches.</li> <li>• Promote measures that will reduce or eliminate pollution sources at Great Lakes beaches.</li> <li>• Continue support of Great Lakes Beach Association conferences.</li> <li>• Disseminate information and training tools on the use of forecast models at Great Lakes beaches.</li> </ul>

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<p><b>Restoration and Protection</b></p> <p>Actions that restore, enhance, and sustain the health, biodiversity, and productivity of the ecosystem</p> <p>SOLEC Indicator Bundles</p> <ul style="list-style-type: none"> <li>•Biotic Communities</li> <li>•Coastal Zone</li> <li>•Aquatic Habitats</li> <li>•Invasive Species</li> <li>•Land use/Land Cover</li> <li>•Resource Utilization</li> <li>•Climate Change</li> </ul>	<p><b>Subgoal 4</b> All habitats are healthy, naturally diverse, and sufficient to sustain viable biological communities</p> <p><b>Status</b></p> <ul style="list-style-type: none"> <li>• Mixed in 2008</li> <li>• Mixed/Improving by 2010</li> <li>• Sustainable by 2020</li> </ul>	<p><b>2002</b></p> <ul style="list-style-type: none"> <li>• Perch population still dropping</li> <li>• Northwest Indiana Advanced Identification of Wetlands Study underway</li> <li>• Keystone species (diporeia) in Lake Michigan food web vanishing</li> <li>• Supreme Court Ruling narrows wetland regulation</li> <li>• Wisconsin passes wetlands protection law</li> <li>• Piping Plover critical habitat designated by USFWS</li> <li>• <i>Antrim County, Michigan Wetland Protection ordinance rescinded</i></li> <li>• Wolf populations recovering</li> <li>• Habitat and Land Use Management Tool Box under development</li> <li>• Established a 1994 baseline for land cover</li> <li>• NIPC "Biodiversity Recovery Plan" document produced</li> <li>• Northwest Indian greenway plan unveiled</li> <li>• Sturgeon restoration efforts begin</li> </ul> <p><b>2004</b></p> <ul style="list-style-type: none"> <li>• Diporeia density continues to decrease</li> <li>• Dam removals in southeastern Wisconsin improve fish habitat</li> <li>• Nature Conservancy develops Biodiversity Blueprint</li> <li>• Chicago signs migratory bird treaty</li> <li>• Bald eagles return to Little Calumet River</li> <li>• Manistee Watershed grant</li> <li>• Wisconsin non-point source regulation promulgated</li> </ul> <p><b>2006</b></p> <ul style="list-style-type: none"> <li>• Little River Band Release Sturgeon Fingerlings</li> <li>• Boardman River Dams settlement Executed</li> <li>• Perch Young of the Year larger in number</li> <li>• Michigan and Other States Set Wetland Restoration goals</li> <li>• USFWS Awards grant to restore Hegewisch Marsh</li> <li>• Piping Plover agreement in place</li> <li>• Wisconsin DNR works to protect dwarf lake iris</li> <li>• Diporeia density continues to decrease</li> <li>• Wolves thriving, delisting proposed</li> <li>• Chicago Wilderness Report Card released (<a href="http://www.chicagowilderness.org">www.chicagowilderness.org</a>)</li> </ul> <p><b>2008</b></p> <ul style="list-style-type: none"> <li>• <b>Fish population decreased in 2007</b></li> <li>• <b>Hersey Dam removed from Muskegon River and Sturgeon River Dam removed and river restored</b></li> <li>• <b>States and federal government develop new plan for Lake Michigan Lake trout</b></li> <li>• <b>GLFC releases 2007 Report and Environmental Objectives for lake Michigan</b></li> <li>• <b>More sturgeon than thought found in Muskegon, Manistee, Grand, and Kalamazoo Rivers</b></li> <li>• <b>Michigan DEQ report outlines impacts of beach maintenance</b></li> </ul>	<ul style="list-style-type: none"> <li>• Collaborate with the Great Lakes Fishery Commission on protecting near and offshore spawning reefs</li> <li>• Develop process to refine habitat restoration targets through public discussion and promote work toward targets</li> <li>• Continue to support components of biodiversity plans through the Watershed Academy.</li> <li>• Identify species sensitive to ground and surface water interaction and their current distribution</li> <li>• Provide GIS tools and land use models in workshops to promote knowledge of and protection of key habitat areas</li> <li>• Promote new stream buffers, wetlands, and dam removals using federal, state, local, and private resources and monitor loss and gain trends</li> </ul>

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<p><b>Sustainable Use</b></p> <p>Actions that concurrently sustain the health of the environment, the economy, and the communities of the ecosystem</p> <p>SOLEC Indicator Bundles</p> <ul style="list-style-type: none"> <li>•Contamination</li> <li>•Biotic Communities</li> <li>•Invasive Species</li> <li>•Coastal Zones</li> <li>•Aquatic Habitats</li> <li>•Human Health</li> <li>•Land Use/Land Cover</li> <li>•Resource Utilization</li> <li>•Climate Change</li> </ul>	<p><b>Subgoal 5</b> Public access to open space, shoreline, and natural areas is abundant and provides enhanced opportunities for human interaction with the Lake Michigan ecosystem</p> <p><b>Status</b></p> <ul style="list-style-type: none"> <li>• Mixed in 2008</li> <li>• Mixed/Improving by 2010</li> <li>• Sustainable by 2020</li> </ul> <p><b>Subgoal 6</b> Land use, recreation, and economic activities are sustainable and support a healthy ecosystem</p> <p><b>Status</b></p> <ul style="list-style-type: none"> <li>• Mixed in 2008</li> <li>• Mixed/Improving by 2010</li> <li>• Sustainable by 2020</li> </ul>	<p><b>2002</b></p> <ul style="list-style-type: none"> <li>• Governors and Premiers sign Great Lakes Charter Annex 2001</li> <li>• Indiana moves into Coastal Zone Management program</li> <li>• Wisconsin Smart Growth act</li> <li>• Historic Agreement to Manage Fisheries in 1836 Treaty Waters</li> <li>• Economic valuation studies by Northeast-Midwest Institute, Lake Michigan Federation, and University of Wisconsin Sea Grant</li> <li>• Lake Michigan Potential Damages study continues in sixth year</li> <li>• USGS Lake Michigan Trends Project funded</li> <li>• USGS Pollutants of Concern list developed</li> <li>• Upland Michigan Land Use report</li> <li>• Federal two-year ban on drilling under the Great Lakes continued in 2003</li> <li>• Michigan moratorium on drilling under the Great Lakes</li> <li>• Dams removed in Milwaukee and Muskegon Rivers</li> <li>• Menominee tribe purchases proposed Crandon Mine site</li> <li>• Groundwater studies document unsustainable withdrawal</li> <li>• UIC study shows economic benefits of sediment clean ups</li> </ul> <p><b>2004</b></p> <ul style="list-style-type: none"> <li>• Crandon Mine site purchased by tribes</li> <li>• Northwest Indiana mayors join to remake Indiana lakeshore.</li> <li>• Lake Michigan water trail proposed</li> <li>• Chicago launches new water agenda.</li> <li>• Michigan governor outlines comprehensive water agenda.</li> <li>• MMSD creates river revitalization program using easement acquisition.</li> <li>• Chicago diversion deficit reduced faster than planned</li> </ul> <p><b>2006</b></p> <ul style="list-style-type: none"> <li>• Marquette Plan to open Indiana shore</li> <li>• Marquette Plan Phase 1 honored by American Society of Landscape Architects</li> <li>• Lake Michigan Watershed Trail proposed and under development</li> <li>• Sleeping Bear Dunes Developing New General Plan</li> <li>• Great Lakes Governors and Premiers Sign Great Lakes Charter Annex Implementing Agreements</li> <li>• Michigan passes new water withdrawal law</li> <li>• Illinois Governor Orders new water supply study</li> <li>• Lake Michigan diversion “debt” likely repaid in 2004 water year</li> <li>• Michigan court decree on walkable beaches</li> </ul> <p><b>2008</b></p> <ul style="list-style-type: none"> <li>• <b>Predicted impacts of climate change on water resources identified</b></li> <li>• <b>Marquette Plan Phase II Visioning Plan launched</b></li> <li>• <b>Chicago area nature centers found rich in public benefit</b></li> <li>• <b>Fishtown, Michigan receives NOAA Preserve America Initiative grant</b></li> <li>• <b>Michigan and five tribes agree on tribal hunting and fishing</b></li> <li>• <b>Chicago Wilderness launches “No Child Left Inside” program</b></li> <li>• <b>International Upper Great Lakes Study preliminary report indicates the armored layer of the St. Clair River is stable and not eroding</b></li> <li>• <b>USEPA issues Green Infrastructure policy that is shared with state, local, and tribal governments and watershed groups</b></li> <li>• <b>Chicago developing comprehensive climate change strategy</b></li> <li>• <b>Brookings Institute releases three studies on Great lakes regional economic leadership and stability</b></li> </ul>	<ul style="list-style-type: none"> <li>• Partner with the growing coastal zone management programs in the Lake Michigan basin to ensure that the issue of public access to the lake is balanced with protection of the ecosystem</li> <li>• Support a dialogue on green marinas (see Chapter 9) among states and Sea Grant programs</li> <li>• Determine protection status of world’s largest collection of fresh water sand dunes</li> <li>• Promote public involvement in preservation and stewardship of special natural areas and public access:</li> <li>• Broaden the dialogue with state and local government land-use planners and decision-makers to balance environmental and recreational needs through the Lake Michigan Watershed Academy</li> <li>• Provide tools for local communities to understand the value of the resource from a lakewide perspective and develop long-term management programs</li> <li>• Identify open space multi-use opportunities and tools for such things as flood retention parks and open space with commuter bike trails, among others</li> <li>• Assist development of Green: Marina, Highway, and Golf Course programs for the basin to reduce inputs of nutrients, pesticides, and other pollutants into basin waters</li> <li>• Promote studies that investigate the status of groundwater resources and their impact on water quality, aquatic habitat, and levels of Lake Michigan</li> <li>• Support studies to determine sustainable yields for Great Lakes water resources</li> <li>• Continue to promote studies that investigate the economic value of remediating contaminated sites as reported in LaMP 2006</li> <li>• Promote a basin-wide opportunities for green areas that sequester carbon</li> 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<p><b>Remediation and Pollution Prevention</b></p> <p>Actions that achieve substantial pollution reduction by remediating sites, controlling pathways, preventing or minimizing sources</p> <p>SOLEC Indicator Bundles</p> <ul style="list-style-type: none"> <li>• Contamination</li> <li>• Land Use/Land Cover</li> <li>• Invasive Species</li> </ul>	<p><b>Subgoal 7</b> Sediments, air, land, and water are not sources or pathways of contamination that affect the integrity of the ecosystem</p> <p><i>Status</i></p> <ul style="list-style-type: none"> <li>• Mixed in 2008</li> <li>• Mixed/Improving by 2010</li> <li>• Sustainable by 2020</li> </ul> <hr/> <p><b>Subgoal 8</b> Aquatic and terrestrial invasive species are prevented and controlled</p> <p><i>Status</i></p> <ul style="list-style-type: none"> <li>• Downgraded to moving toward Mixed/Deteriorating in 2008, possible deterioration</li> <li>• Mixed/Improving by 2010</li> <li>• Sustainable by 2020</li> </ul>	<p><b>2002</b></p> <ul style="list-style-type: none"> <li>• Lake Michigan Mass Balance (LMMB) findings published</li> <li>• PCB levels in lake trout achieving equilibrium</li> <li>• U.S. EPA Atrazine Reassessment initiated</li> <li>• IADN results consistent with LMMB findings</li> <li>• Bush administration announced climate change and “Clear Skies” initiatives</li> <li>• 1999 Toxic Air Emissions inventory released</li> <li>• U.S. EPA published Air Great Lakes Deposition (GLAD) Strategy</li> <li>• PCB/mercury Clean Sweep in Cook County, IL</li> <li>• Wisconsin mercury regulations</li> <li>• States act to control animal operations</li> <li>• New aquatic nuisance species found in Lake Michigan</li> <li>• Michigan Ballast Water Bill</li> <li>• St. Lawrence Seaway Corporation to incorporate ballast water practices</li> <li>• Chicago River invasive species dispersal barrier installed</li> <li>• ANS Task Force and Great Lakes Panel on ANS continue work to control ANS</li> </ul> <p><b>2004</b></p> <ul style="list-style-type: none"> <li>• Corps funding secured for building permanent Asian Carp barrier on Chicago River system</li> <li>• Wisconsin begins mandatory rural NPS program</li> <li>• Michigan and Indiana add animal operation to permits</li> <li>• Milwaukee Metropolitan Sewerage District adopts mercury dental program.</li> <li>• Michigan proposes new NPDES permit for CAFOs</li> <li>• National Aquatic Invasive Species Act of 2003 passed.</li> </ul> <p><b>2006</b></p> <ul style="list-style-type: none"> <li>• Quagga Mussels Increasing in Number to Compete for Food with Native Mussels</li> <li>• Sound and Bubble Barrier Could Deter Asian Carp</li> <li>• PCB, Mercury and Nutrient findings from LMMB:</li> <li>• Forecasted PCB concentrations in lake trout may permit unlimited consumption as early as 2039 at Sturgeon Bay and 2044 at Saugatuck <ul style="list-style-type: none"> <li>• PCB trends indicate that concentrations are declining in all media</li> <li>• Atmospheric deposition is the major current route of PCBs to the lake (from sources inside and outside the basin)</li> <li>• Chicago urban area is a substantial atmospheric source of PCBs to Lake Michigan</li> <li>• There is a dynamic interaction among water, sediments, and the atmosphere where large masses of PCBs from sediments cycle into and out of the lake via the atmosphere as vapor phase</li> <li>• The current major source of mercury to the lake is from atmospheric deposition.</li> <li>• Modeling results suggest that a significant amount of the existing mercury settling out of water is being recycled back into the system.</li> <li>• Lake Michigan phosphorus loads and concentrations are low and below GLWQA and IJC targets</li> <li>• Tributaries are the major source of phosphorus to Lake Michigan</li> <li>• Highest concentrations can be observed in selected nearshore zones near tributary mouths and in Green Bay</li> </ul> </li> <li>• Green Bay clean-up agreements announced</li> </ul> <p><b>2008</b></p> <ul style="list-style-type: none"> <li>• Lake Michigan Mass Balance resampling results released showing reductions in calculated loads of PCBs and mercury</li> <li>• Draft GLRC mercury Product Stewardship phase-down strategy released</li> <li>• Great lakes basin program for soil erosion and sediment control reauthorized</li> <li>• New Grand Calumet River Great Lakes Legacy Act Project Agreement signed.</li> <li>• Michigan begins to apply AOC delisting document</li> <li>• St. Lawrence Seaway Corporation require all ships coming to the Great lakes from foreign waters must flush ballast tanks with sea water</li> <li>• 20<sup>th</sup> anniversary of introduction of zebra mussels into the Great lakes see their numbers declining and invasive quagga mussels numbers increasing at rates higher than zebra mussels at their height</li> <li>• VHS virus found in all Great lakes</li> <li>• New ANS Mysidacea found in Lake Michigan</li> <li>• Chicago Sanitary and Ship Canal Electric Barrier fully funded</li> <li>• Black carp listed as an injurious species</li> </ul>	<ul style="list-style-type: none"> <li>• Impacts of climate change</li> <li>• Lack of comprehensive understanding of pollutant movement and remediation makes the goal of reaching sustainability by 2020 difficult</li> <li>• Impacts of increased global mercury emissions</li> <li>• Increasing monitoring of existing and emerging stressors on the lake</li> <li>• Need to set delisting targets for Areas of Concern and resources to implement cleanup actions</li> <li>• Conduct education and outreach on aquatic invasive species.</li> <li>• Eliminate ship and barge-mediated introductions and spread of AIS in the Great Lakes.</li> <li>• Enact federal, state, and/or local governments measures that ensure the region’s canals and waterways are not a vector for AIS.</li> <li>• Take immediate steps at the federal and state government level to prevent the introduction and spread of AIS through the trade and potential release of live organisms.</li> <li>• Establish a Great Lakes Aquatic Invasive Species Integrated Management Program to implement rapid response, control, and management programs and assess the effectiveness of those programs.</li> </ul>

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<p><b>Information Sharing, Collaboration and Stewardship</b></p> <p>Actions that provide data access and exchange, facilitate involvement, and build capacity</p> <p>SOLEC Indicator Bundles</p> <ul style="list-style-type: none"> <li>• Contamination</li> <li>• Biotic Communities</li> <li>• Invasive Species</li> <li>• Coastal Zones</li> <li>• Aquatic Habitats</li> <li>• Human Health</li> <li>• Land Use/Land Cover</li> <li>• Resource Utilization</li> <li>• Climate Change</li> </ul>	<p><b>Subgoal 9</b> Ecosystem stewardship activities are common and undertaken by public and private organizations in communities around the basin</p> <p><b>Status</b></p> <ul style="list-style-type: none"> <li>• Mixed in 2008</li> <li>• Mixed/Improving by 2010</li> <li>• Sustainable by 2020</li> </ul> <p><b>Subgoal 10</b> Collaborative ecosystem management is the basis for decision-making in the Lake Michigan basin</p> <p><b>Status</b></p> <ul style="list-style-type: none"> <li>• Mixed in 2008</li> <li>• Mixed/Improving by 2010</li> <li>• Sustainable by 2020</li> </ul>	<p><b>2002</b></p> <ul style="list-style-type: none"> <li>• Lake Michigan Forum developing Stewardship trust</li> <li>• State of Lake Michigan Conference held - November 2001</li> <li>• Forum/Grand Valley State University "Making Lake Michigan Great Tour" continues to educate about Lake Michigan ecosystem during summer cruises</li> <li>• Great Lakes Strategy released in 2002 by U.S. EPA</li> <li>• Great Lakes Human Health Network established</li> <li>• Voluntary monitoring Conference March 2002</li> <li>• Wingspread Accord signed</li> <li>• Participation by regional councils in watershed planning and water supply conferences</li> </ul> <p><b>2004</b></p> <ul style="list-style-type: none"> <li>• Watershed Academy training held and 6 regional conferences held or planned</li> <li>• Indiana Coastal Zone program gives out first grants</li> <li>• Illinois Conservation Congress recommends investigation of CZM participation</li> <li>• Great Lakes Cities Initiative launched</li> <li>• Illinois Ecosystem Partnership for Lake Michigan in development</li> <li>• Waukegan recognized as an EPA Environmental Justice community</li> <li>• Great Lakes restoration bill introduced into Congress</li> <li>• EPA utilizes watershed focus</li> <li>• Mona Lake Watershed Stewardship Assessment completed</li> <li>• Illinois-Indiana-Wisconsin planning agencies agree to consistent groundwater planning</li> </ul> <p><b>2006</b></p> <ul style="list-style-type: none"> <li>• President signs Executive Order organizing Great Lakes Regional Collaboration</li> <li>• Great Lakes Regional Collaboration sees participation by numerous organizations and releases report and recommendation in December 2005</li> <li>• Regional planning agencies follow-up on Phase II Watershed Academy activities</li> <li>• Lake Michigan Forum performs watershed assessment for Baird Creek</li> <li>• NIRPC releases Water Conservation and Protection Toolkit</li> <li>• NIPC releases 2040 regional framework plan with tools for decisionmakers</li> <li>• Michigan and Indiana Cooperate in Developing the St. Joseph River Watershed Management Plan</li> <li>• Great Lakes governors and Premiers sign Great Lakes Charter Annex Implementation Agreements</li> </ul> <p><b>2008</b></p> <ul style="list-style-type: none"> <li>• <b>USEPA using watershed scale for implementation more frequently</b></li> <li>• <b>Michigan builds "Clean Marina" program</b></li> <li>• <b>USEPA and Forest Service sign agreement to restore water quality in national forests</b></li> <li>• <b>Binational toxics Strategy under review</b></li> <li>• <b>Great Lakes and St. Lawrence Mayors develop water conservation goals</b></li> <li>• <b>Great lakes Water Quality Agreement under review</b></li> </ul>	<ul style="list-style-type: none"> <li>• Develop projects utilizing the Lake Michigan LaMP watershed fact sheets, land use management tool box and exploration of other tools.</li> <li>• Provide additional education and outreach materials on water conservation and source water protection.</li> <li>• Continue the Lake Michigan Watershed Academy, support GIS and modeling workshops and obtain and provide small implementation grants to local communities.</li> <li>• Continue to build layers for the on-line habitat atlas.</li> <li>• Hold FY 2009 State of Lake Michigan Conference in Milwaukee, Wisconsin.</li> <li>• Continue the research vessel boat tour – Making Lake Michigan Great combined with outreach and teacher workshops.</li> <li>• Continue publication of the Lake Michigan Partnership Directory in each LaMP</li> <li>• Continue development and linkage of local watersheds with basin-wide issues and activities through the Watershed Academy and partnering with state programs</li> <li>• Coordinate LaMP and GLBTS efforts on PCBs and mercury</li> <li>• LMMCC continues leadership role for collaborative monitoring in 2010</li> <li>• Coordinate with the four Coastal Management programs to explore partnership opportunities</li> <li>• Explore partnerships with key EPA volunteer programs like Climate Change, Clean Ports, Clean Marinas, and Pesticide Environmental Stewardship</li> </ul>

Strategic Action Agenda	Subgoals of the Lake Michigan LaMP	Significant Happenings 2000-2004	Next Steps
<p><b>Research and Monitoring</b></p> <p>Actions that monitor the ecosystem, reduce uncertainty, and inform our decisions</p> <p>SOLEC Indicator Bundles</p> <ul style="list-style-type: none"> <li>▪ Proposed new "Well-Being" bundle</li> </ul>	<p><b>Subgoal 11</b> We have enough information/data/understanding/ indicators to inform the decision-making process</p> <p><b>Status</b></p> <ul style="list-style-type: none"> <li>• Mixed in 2008</li> <li>• Mixed/Improving by 2010</li> <li>• Sustainable by 2020</li> </ul>	<p><b>2002</b></p> <ul style="list-style-type: none"> <li>• LMMB project findings</li> <li>• Lake Michigan Monitoring Coordinating Council monitoring and assessment inventory</li> <li>• Lake Michigan Monitoring Assessment report released</li> <li>• Beach monitoring program (BEACH) created by U.S. EPA</li> <li>• BEC statement and monitoring conference</li> <li>• IJC/Delta Institute/Lake Michigan Forum Air Deposition Workshop</li> <li>• Great Lakes Wetlands Consortium consolidates wetland information</li> <li>• EPA/ORD wetlands indicators</li> <li>• LaMP pollutant list review</li> <li>• Beach Conference, web site, and manager's group</li> </ul> <p><b>2004</b></p> <ul style="list-style-type: none"> <li>• National Park Service monitoring begins</li> <li>• Lake Michigan Monitoring Council develops 2005 intensive monitoring year plan</li> <li>• Midwest Spatial Information Partnership formed - Workshop held in conjunction with Lake Michigan Watershed Academy</li> <li>• LMMB data sets available</li> <li>• Ann Arbor Statement on long-range atmospheric transport proposed</li> </ul> <p><b>2006</b></p> <ul style="list-style-type: none"> <li>• USGS maintains surface water-quality network for streams in the Lake Michigan basin</li> <li>• GLNPO's Aquatic Contaminant Monitoring program completes FY 05 Intensive Year of Monitoring</li> <li>• First collaborative Lake Michigan basin-wide FY 05 Year of Intensive Monitoring completed</li> </ul> <p><b>2008</b></p> <ul style="list-style-type: none"> <li>• <b>Lake Michigan serves as national groundwater monitoring pilot</b></li> <li>• <b>EPA using new nearshore monitoring tool, the Traxus</b></li> <li>• <b>GLNPO continues water quality surveys on the newly renamed "Peter L. Wise Lake Guardian"</b></li> </ul>	<ul style="list-style-type: none"> <li>• Report on Lake Michigan nearshore and food web issues for Great Lakes Regional Research Information Network</li> <li>• Review monitoring and research to identify LaMP pollutants and trends to determine if LaMP pollutants list needs to be changed</li> <li>• Complete, analyze, and publish coordinated monitoring results for the lake intensive monitoring year 2005</li> <li>• Ensure Lake Michigan models will be documented further, and additional scenarios simulated with results shared through the LaMP and in other ways</li> <li>• Assist coordination for the intensive year and the national coastal assessment year monitoring programs for 2010</li> <li>• Use 2008 Lake Michigan Pilot funding, for sampling and analysis, to refine monitoring plans</li> <li>• Utilize FY05 and other monitoring data to aid in adaptive management review of LaMP Pollutant List (See page 11-2 and Appendix A for more information)</li> </ul>