VI. Areas of Concern

Areas of Concern in Lake Huron

In 1987, four Areas of Concern (Collingwood Harbour, Severn Sound, Spanish Harbour, and Saginaw River/Bay) were identified within the Lake Huron watershed, as well as the binational St. Marys River. Collingwood Harbour and Severn Sound in Canada were delisted in 1994 and 2003, respectively. Monitoring is ongoing in the AOCs to ensure that environmental quality is maintained. Each of the remaining Areas of Concern (AOCs) is being addressed through on-going programs, as described below.

For more information on AOCs, see the following websites:

- In Canada: http://www.on.ec.gc.ca/water/raps/intro_e.html
- In the United States: http://www.epa.gov/glnpo/aoc/index.html

Spanish Harbour, Ontario

At the Spanish Harbour AOC, all recommended actions were completed and in 1999, the area was the first in the Great Lakes to be recognized as an Area in Recovery. Sediments contaminated with trace metals (Nickel and Copper) in the river, harbour and Whalesback Channel are being monitored for natural recovery. . The benthic assessment of sediment (BEAST) methodology was applied to 15 sites in Spanish Harbour and in the Whalesback Channel in 2006. A risk-based, decision-making framework for the management of contaminated sediment, recently developed by the Canada-Ontario Agreement Sediment Task Group, was applied to the Spanish Harbour study. Data was used to refine previous modeling efforts to offer some predictions to estimate the recovery period. Draft results are currently being reviewed. At the same time, new developments in scientific risk assessment techniques have illustrated the need to revisit delisting criteria. Reviews and revisions of the benthos criteria will be completed in 2009.

A six year muskellunge re-introduction program involving many partner organizations has been completed and initial assessments are showing some very promising results. Wild young of the year muskie have been caught in Spanish Harbour for the first time in many years. See the Remedial Action Plan (RAP) for more details of OMNR projects in the AOC.

Saginaw River/Bay, Michigan

The Saginaw Bay watershed is one of Michigan's most diverse areas. The watershed is 14,016 square km (8,709 square miles) in size and is America's largest contiguous freshwater coastal wetland system. The watershed's rich resources support agriculture, manufacturing, tourism, outdoor recreations, and a vast variety of wildlife. The watershed is also affected by a variety of urban and rural environmental stressors, including industrial discharge, nonpoint source pollution, and habitat degradation. The Saginaw River/Bay AOC boundary extends from the head of the Saginaw River (at the confluence of the Shiawassee and Tittabawassee Rivers) to its mouth and includes the entire Saginaw Bay area.

The first Saginaw River/Bay Remedial Action Plan RAP completed in 1988 identified sediment contaminated with organic compounds (e.g., dioxins, furans and PCBs), fish consumption advisories, degraded fisheries and loss of significant recreational values as the major reasons for the AOC designation. Following substantial remedial progress within the AOC, the RAP was updated in 1994. The 1994 RAP identified and described 12 beneficial use impairments (BUIs) known to occur in the Saginaw River/Bay AOC. In 2001, the *Targeting Environmental Restoration in the Saginaw River/Bay Area of Concern (AOC): 2001 Remedial Action Plan Update* provided a list of targeted conditions that were viewed as important steps

toward delisting the designated BUIs in the AOC (PSC, 2002). The restoration priorities identified in the RAP included remediation of contaminated sediment, nonpoint pollution control, coastal wetland protection, and habitat restoration. In early 2008, the MDEQ completed a RAP Update which outlines remedial actions and BUI assessment results that have occurred since the 2001 RAP Update (MDEQ, 2008).

Many pollution reduction regulations and programs have been instituted since the designation of the Saginaw River/Bay AOC. Some have been aimed at reducing pollution in general across the country. Others have been focused in the AOC specifically. All have served, directly or indirectly, to improve the water quality conditions in the Saginaw River/Bay AOC.

The following are examples of progress that has been made since the 2001 RAP Update:

- With support from the Partnership for the Saginaw Watershed (the Partnership), the MDEQ formed two technical committees to assess the restoration status of the Restrictions on Drinking Water Consumption or Taste and Odor Problems and Tainting of Fish and Wildlife Flavor BUIs. For each BUI, the technical committee determined that restoration criteria outlined in the MDEQ's *Guidance for Delisting Michigan's Great Lakes Areas of Concern* (Guidance) had been met (MDEQ, 2006). In the May, 2007, a public meeting was held to discuss the restoration status of the drinking water BUI and to solicit public comment. The community expressed support for removing this BUI. The removal recommendation documentation was developed and submitted to the USEPA-GLNPO in January 2008 for consideration. A public meeting will be scheduled in the early 2008 to discuss the restoration status of fish flavour BUI.
- The Saginaw watershed is one of three priority watersheds under the Michigan's Conservation Reserve Enhancement Program (CREP). Implemented in 2001, the CREP is a 15-year program to reduce sediment, phosphorus, and nitrogen loadings entering the surface water of the Saginaw Bay, Macatawa River, and River Raisin watersheds. Through September 2007, the Saginaw Bay watershed has had the largest number of acres enrolled (47,976) in the program, and the highest percentage (79%) of all the CREP implementation sites. All 22 counties in the Saginaw Bay watershed have implemented CREP practices. The counties in the Saginaw Bay watershed with the most acreage enrolled in the program include Saginaw (9,369), Huron (8,337), Tuscola (7,196), and Arenac (5,036). The CREP program has installed over 29,000 acres of filter strips and restored over 14,000 acres of wetlands in the Saginaw Bay Watershed.
- In June 2006, the MDEQ Director requested the participation of a wide range of stakeholders on the MDEQ's Phosphorus Policy Advisory Committee. The charge to the committee was to identify the major source categories of phosphorus loadings to Michigan's surface waters, and for each of these categories, to review and compile the voluntary and regulatory management approaches that are being or could be used to control phosphorus. The Advisory Committees findings were reported in *Phosphorous Policy Advisory Committee: Final Report* (PSC, 2007). These findings will augment the Saginaw Bay Phosphorus Reduction Strategy, in place since 1987, and will lead to further improvements in phosphorous loading in the Saginaw Bay.
- The Saginaw Bay Coastal Initiative (SBCI) was launched in August, 2006 to coordinate regional efforts to support innovative approaches for expanding local tourism and economic development, while enhancing resource protection and improving the quality of the environment within the Saginaw Bay area. Many activities have taken place under the SBCI. The following are just a few examples of projects that have

been implemented to specifically address water quality issues, more information on these and other SBCI projects can be accessed through the SBCI website at: http://www.michigan.gov/deq/0,1607,7-135-7251_30353_42900---,00.html

- The Saginaw Bay Science Committee Pathogen Work Group was formed to address potential human health risks associated with the accumulation of the algal material on the shores of Saginaw Bay. The science committee was charged to address issues and needs regarding *Escherichia coli* (*E. coli*), pathogen risks, and to specifically address citizen concerns on the presence of *E. coli* in detritus material in the Saginaw Bay area. The findings of the Science Committee were reported in the *Saginaw Bay Coastal Initiative: Potential Public Health Risks Associated with Pathogens in Detritus Material ("Muck") in Saginaw Bay*.
- A Saginaw Bay High Quality Wetland Protection Technical Work Group has been formed to identify wetlands that are critical to Saginaw Bay and inform local authorities of the various methods that may be used to preserve these areas.
- Beginning in 2007, in response to the growing need to address the rapid spread of *Phragmites* in Saginaw Bay, the MDEQ and other stakeholders implemented a *Phragmites* control demonstration project along selected reaches of Phragmites infested public and private owned shorelines. The results of the demonstration project will be used to develop a public outreach and educational brochure describing treatment options, associated state permit requirements, and restoration opportunities.
- Ongoing remedial efforts continue to address contaminated sediments and floodplain soils within the watershed, including Saginaw Bay and Saginaw River.
- Significant progress has been made in conserving and restoring habitat within the Saginaw River/Bay AOC. Numerous local, state, and federal actions have permanently protected and restored large areas of fish and wildlife habitat. In particular, there has been significant private and non-profit investment of time and resources to protect and restore coastal wetland and fish spawning habitat. The Saginaw Bay Watershed Initiative Network (WIN), for example, was established to address sustainable community issues through balancing economic, social, and environmental priorities. Numerous projects have been funded to protect and restore the Saginaw Bay watershed. More information on WIN projects can be found on the WIN website at: www.saginawbaywin.org.
- In January 2008, the National Oceanic and Atmospheric Administration awarded a regional consortium of Great Lakes area universities and research organizations $760,000 for the first year of a five-year, $3.8 million pilot project to develop a new approach to analyzing and managing the cumulative effects of climate change, land use, invasive species, and other environmental stressors on Saginaw Bay and its surrounding ecosystem.

Binational Area of Concern: St. Marys River

The St. Marys River is a 112 km (70 mile) connecting channel between Lakes Superior and Huron and is subject to many activities under the binational RAP. Accomplishments on the Canadian side have included process improvements at the Algoma Steel mill, the addition of secondary treatment at the East End Wastewater Treatment Plant, installation of sewage overflow tanks, rehabilitation of the sewer system in areas of high infiltration, the development of wetland protection strategies, the recovery of walleye populations, the design

of habitat features in the city's waterfront development, and installation of an activated sludge treatment facility to reduce the oxygen demand and suspended solids in the discharge water of the St. Marys Paper mechanical pulp mill. Another accomplishment was the Environmental Management Agreement between Algoma Steel, Environment Canada (EC), and the Ontario Ministry of Environment (OMOE), which resulted in many improvements to both air and wastewater discharges.

Current RAP projects on the Canadian side include a spring rainbow creel survey conducted by OMNR in 2006 and 2007 and a short duration lake herring creel survey in Potagannissing Bay in 2007. Tissue was also collected and sent to the OMOE for contaminant analysis. In addition, a RAP Coordinator was hired in January of 2008 to assist in implementing the RAP and provide leadership on consultation with community participants in the implementation of the RAP. This was made possible by Canada-Ontario Agreement (COA) funding in a unique partnership of the Sault Ste. Marie Region Conservation Authority, the OMOE and EC.

In Michigan's portion of the AOC, the Cannelton Industries site dredging began in September 2006 and was completed in 2007. The $8 million (U.S.) cleanup eliminated approximately 227 000 kilograms (500,000 pounds) of chromium and 11 kilograms (25 pounds) of mercury from the St. Marys River. The only known remaining contaminated site in Michigan's portion of the AOC is the decommissioned manufactured gas plant downstream of the Sault Edison power plant beside MCM Marine. Consumers Energy has removed a total of 10 435 tonnes (11,503 tons) of contaminated soil and 6 821 tonnes (7,519 tons) of contaminated sediment from the site. Following removal, the upland areas, shoreline, and nearshore river bottom were stabilized and improved. The need for removal of additional river-based sediments is currently being investigated.

In the spring of 2007, the St. Marys River Binational Public Advisory Council (BPAC) received a PAC support grant from MDEQ to develop the fish and wildlife restoration criteria and Restoration Plan for Michigan's portion of the AOC. The BPAC is also currently in the process of comparing criteria outlined in the Stage 2 RAP with Michigan's statewide Guidance criteria. Determination of the final suite of criteria for Michigan's portion of the AOC is expected to be complete by the end of June, 2008. Binational consultation will occur throughout the entire process. The MDEQ will proceed with approving the BUI restoration criteria for the Michigan side of the St. Marys River AOC, as it has with other Michigan AOCs, by the end of 2008.

There have been a number of activities carried out cooperatively in the St. Marys River AOC. Since 1999, the St. Marys River Fisheries Task Group, of which the OMNR and the Michigan Department of Natural Resources (MDNR) are members, has conducted sport fish harvest, fish population and annual young of the year walleye surveys on the river. Since 2006, the Task Group has completed an angler fish harvest survey, a fish population gillnet survey, and an annual young of the year walleye electrofishing survey. Reports published by the Task Group may be viewed at http://www.glfc.org/lakecom/lhc/lhchome.php#pub.

In addition to monitoring the St. Marys River fisheries, binational cooperation has occurred to address water quality issues. In response to concerns from residents about beach closings and water quality along the north shore of Sugar Island in the Lake George Channel in the summer of 2006, U.S. and Canadian agencies partnered with local and tribal representatives to form the Sugar Island Monitoring Work Group in 2007. The purpose of the Work Group was to develop and carry out a coordinated monitoring plan for the St. Marys River along the north shore of Sugar Island and the Lake George Channel. Members of the Work Group conducted water quality monitoring, characterized the severity

of water quality impairment, and identified potential sources of bacteria and floating solids.

The U.S. and Canadian agencies, in corporation with the Work Group, also held the Sugar Island and Lake George Channel Public Symposium in May, 2007, at the Cisler Center, Lake Superior State University in Sault Ste. Marie, Michigan. The purpose of the Symposium was to provide the public with information about water quality impairments observed in 2006, and to discuss the coordinated monitoring and event response procedures planned by Work Group members during 2007. After over 17 weeks of monitoring, the Work Group ceased monitoring operations for the winter (though regulatory monitoring continues year-round). In total, over 800 samples were collected. The Work Group is now in the process of preparing a report and developing recommendations for another coordinated monitoring effort in 2008.

References

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