

Removal Recommendation Degradation of Aesthetics Beneficial Use Impairment St. Clair River Area of Concern

Issue

Based on two cycles of monitoring data collected by Michigan Department of Environmental Quality (MDEQ) staff, the Office of the Great Lakes (OGL), Areas of Concern (AOC) program requests concurrence with its recommendation to remove the Degradation of Aesthetics Beneficial Use Impairment (BUI) from the US side of the St. Clair River AOC. This request is made with the support of the St. Clair River Binational Public Advisory Council (BPAC) and in accordance with the process and criteria set forth in the *Guidance for Delisting Michigan's Great Lakes Areas of Concern* (Guidance) (MDEQ, 2008).

Background

The following description is paraphrased from the 2005 Remedial Action Plan update, discussing specific aesthetic problems at the time:

The Degradation of Aesthetics BUI was impaired in the St. Clair River as a result of oily surface films, spills and combined sewer overflow (CSO) events from the cities of Port Huron and Sarnia. However, over time, five CSOs were eliminated in the City of Port Huron and two CSOs in Sarnia were replaced. Improvements to sewage treatment and storm water systems in Ontario and Michigan, improvements in the St. Clair Waste Water Treatment Plant (WWTP), continued sediment remediation offshore of the Sarnia Industrial Complex, and the maintenance of habitat restoration projects were expected to contribute to the removal of the BUI (Environment Canada, 2005).

2011 Aesthetics Monitoring

Two cycles of assessments were conducted in 2011, in accordance with the MDEQ's 2011 Statewide Aesthetics Assessment Workplan and Monitoring Protocol. Each of the St. Clair River monitoring sites was assessed as follows.

The date, time, GPS coordinates, weather conditions and water temperature were recorded. Three water samples were collected in glass jars from below the water surface to assess water color, clarity and turbidity. All three sample jars were photographed together against a white backdrop. Any odors from the sample jars, visible debris, and obvious pollution (if any) in the River were recorded. Digital photographs were taken along the shoreline to the left, to the right, straight across, and directly into the water, along with any other condition, debris, etc. worthy of recording. Evidence of recreational activity, such as empty bait containers or people swimming was noted, along with any other observable conditions that may influence the decision as to the presence of a designated use impairment or a designated use being employed. Based on the total of those observations, each site was assessed as to whether it met the criteria for removing the Degradation of Aesthetics BUI.

At most monitoring locations, a minimum of five photographs were taken and are available upon request, as are the individual monitoring data sheets completed at each site. Specific monitoring locations were chosen based on: historical RAP documents, input received from the BPAC, best professional judgment and personal knowledge of the MDEQ AOC coordinator, and physical access to the waterbody.

Overall, it appears that aesthetic conditions in the St. Clair River AOC have improved considerably, when compared with historic reports of those conditions from years ago. Many of the aesthetic conditions described in early RAPs and other related documents simply no longer exist. In part, this may be due to the successful implementation of National Pollutant Discharge Elimination System (NPDES) program permitting, an increasing sense of resource stewardship by local resource users, improved environmental practices implemented by municipal, commercial and industrial operations in the AOC, and increased advocacy and educational outreach by organizations seeking to enhance and protect the resource.

Removal Criteria

According to the *Guidance*, this BUI will be considered restored when monitoring data for two successive monitoring cycles indicates that water bodies in the AOC do not have any of the following physical properties in unnatural quantities which interfere with any designated use:

- turbidity
- foams
- color
- settleable solids
- oil films
- suspended solids
- floating solids
- deposits

For the purposes of this criterion, these eight properties impair aesthetic values if they are unnatural – meaning those that are manmade (e.g., garbage, sewage), or natural properties which are exacerbated by human-induced activities (e.g., excessive algae growth from high nutrient loading). Persistent, high levels are those defined as long enough in duration, or elevated to the point of being injurious, to any designated use listed under Rule 323.1100 of the Michigan WQS. Natural physical features which occur in normal ecological cycles (e.g., logjams/woody debris, rooted aquatic plants) are not considered impairments, and in fact serve a valuable ecological role in providing fish and wildlife habitat.

2011 Aesthetics Monitoring Results and Analysis

The St. Clair River AOC was assessed on August 10 and October 26, 2011, see Figure 1 for locations. Five sites were assessed from shore between Algonac and Port Huron, on the US side of the AOC. Fish, ducks and shorebirds were observed, as were fishermen and evidence of people having fished from shore throughout the assessment areas. No debris, films, scum, or other conditions were noted in quantities which may interfere with any of the state's designated uses. A total of approximately 57 photos were taken, and 30 water samples were assessed through both monitoring cycles.

At the mouth of the Black River, a slight brown color was noted in samples collected during the initial assessment, but turbidity was low. A moderate rain event moved through the area the night prior to the second assessment. However, this did not appear to result in observable turbidity in water samples that were collected.

Rock rip rap, broken concrete and steel sheet piling were observed as methods for stabilizing shorelines, but these are ubiquitous conditions throughout waterfront areas and do not interfere with the state's designated uses.

No unnatural odors were detected, no foams or oil sheens were observed, and only minimal discarded debris, such as tires was found. Occasionally, the monitoring crew saw minimal floating trash that had washed ashore. It is the opinion of MDEQ staff that the US side of the St. Clair River AOC is no longer aesthetically impaired, following two rounds of monitoring.



Figure 1. St. Clair River Aesthetics Monitoring Locations.

It is important to note that the BPAC continues to raise concerns regarding sedimentation and nutrient inputs to the AOC from the Black River, which discharges to the St. Clair River at Port Huron. The BPAC submitted photos of the area, showing high turbidity, along with photos of water samples collected in jars with significant discoloration, presumably due to suspended solids. The position of the MDEQ is that these conditions are not persistent enough to indicate, nor is there any data to support such an assertion, that one of the state's designated uses is being impaired as a result. However, the MDEQ Water Resources Division plans to conduct monitoring in the Black River in 2012, as part of its five-year watershed monitoring cycle.

Recommendations

Based on observations, data and photographs collected during two successive monitoring cycles carried out by MDEQ AOC staff and a Water Resources Division Aquatic Biologist, and with the support of the St. Clair River BPAC, MDEQ program staff recommend removal of the Degradation of Aesthetics BUI from the US side of the St. Clair River AOC and request that the Director of the Office of the Great Lakes submit a letter requesting concurrence from the USEPA to remove this BUI. The St. Clair River BPAC discussed the issue in detail at its March 29, 2012 meeting. Members voted unanimously to support removal of the BUI. The BPAC submitted a letter dated April 9, 2012 expressing support for this action.

This proposed action will be public noticed for 30 days via posting to the Mich-RAP listserv, listing in the MDEQ Calendar, and posting to the St. Clair River BPAC's email list. Supporting documents will be posted on the MDEQ's AOC program web page for public review and comment through May 22, 2012. Submit written comments to John Riley, Michigan Department of Environmental Quality, Office of the Great Lakes, PO Box

30273, Lansing, Michigan, 48909-7773, or to rileyj2@michigan.gov by midnight on May 22, 2012. If requested in writing, a public hearing may be scheduled. All comments received by May 22, 2012 will be considered prior to final action. Additional details on this proposed action may be obtained from: John Riley, Office of the Great Lakes, 517-335-4122, rileyj2@michigan.gov.

References

Environment Canada, 2005. St. Clair River RAP Progress Report, 2005.

Michigan Department of Environmental Quality. 2008. Guidance for Delisting Michigan's Great Lakes Areas of Concern. MI/DEQ/WB-06/001.

Michigan Department of Environmental Quality, 2011. Statewide Aesthetics Assessment Workplan and Monitoring Protocol.

Prepared by: John Riley, Environmental Quality Analyst
Office of the Great Lakes
Michigan Department of Environmental Quality
April 13, 2012