UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
GREAT LAKES NATIONAL PROGRAM OFFICE
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

27 JUL 2016

Jon W. Allan, Director
Office of the Great Lakes
Michigan Department of Environmental Quality
525 West Allegan Street
P.O. Box 30473
Lansing, Michigan 48909-7973

Dear Mr. Allan:

Thank you for your July 18, 2016, request to remove the "Beach Closings" Beneficial Use Impairment (BUI) at the St. Marys River Area of Concern (AOC), MI. As you know, we share your desire to restore all of the Great Lakes AOCs and to formally delist them.

Based upon a review of your submittal and the supporting data, the U.S. Environmental Protection Agency hereby approves your BUI removal request at the St. Marys River AOC. In addition, EPA will notify the International Joint Commission of this significant positive environmental change at this AOC.

We congratulate you and your staff, as well as the many federal, state, and local partners who have worked so hard and been instrumental in achieving this important environmental improvement. This progress will benefit not only the people who live and work in the St. Marys River AOC, but all the residents of the Great Lakes basin as well.

We look forward to the continuation of this important and productive relationship with your agency and the Binational Public Advisory Committee as we work together to delist this AOC in the years to come. If you have any further questions, please contact me at (312) 353-4891, or your staff may contact John Perrecone, at (312) 353-1149.

Sincerely,

Chris Korleski, Director
Great Lakes National Program Office

Printed on Recycled Paper

cc: John Riley, MDEQ
Rick Hobrla, MDEQ
Rajesh Bejankiwar, IJC
Wendy Carney, EPA, GLNPO
Ted Smith, EPA, GLNPO

STATE OF MICHIGAN
OFFICE OF THE GREAT LAKES
LANSING

RICK SNYDER
GOVERNOR

JON W. ALLAN
DIRECTOR

July 18, 2016

Mr. Chris Korleski, Director
Great Lakes National Program Office
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard (G-17J)
Chicago, Illinois 60604-3507

Dear Mr. Korleski:

I am writing to request the United States Environmental Protection Agency (USEPA), Great Lakes National Program Office's (GLNPO) concurrence with the removal of the Beach Closings Beneficial Use Impairment (BUI) from the St. Marys River Area of Concern (AOC). The Michigan Department of Environmental Quality (MDEQ), Office of the Great Lakes (OGL) has assessed the status of this BUI in accordance with the state's *Guidance for Delisting Michigan's Great Lakes Areas of Concern*, and recommends that the BUI be removed from the list of impairments in the St. Marys River AOC.

Enclosed please find documentation to support this recommendation, including the BUI Removal Recommendation prepared by Office of the Great Lakes staff. The St. Marys River Binational Public Advisory Council provided a letter of support for this action, dated June 1, 2016. A copy is included.

Please note that a public comment period was held from June 13, to July 12, 2016. No input was received during the 30-day comment period.

We value our continuing partnership in the AOC Program and look forward to continuing to work with GLNPO in the removal of other BUIs and the delisting of AOCs. If you need further information concerning this request, please contact Mr. John Riley at 517-284-5045, or you may contact me.

Sincerely,

Jon Allan, Director
Office of the Great Lakes
517-284-5035

Enclosure
cc/enc: Mr. Marc Tuchman, USEPA
Mr. John Perrecone, USEPA
Mr. Ted Smith, USEPA
Mr. Rick Hobrla, MDEQ
Mr. John Riley, MDEQ

Removal Recommendation
Beach Closings Beneficial Use Impairment
St. Marys River Area of Concern

Issue

The Michigan Department of Environmental Quality (MDEQ), Office of the Great Lakes, Areas of Concern (AOC) Program recommends the removal of the Beach Closings Beneficial Use Impairment (BUI) from the U.S. side of the St. Marys River AOC, based on the review of relevant documentation and in accordance with the process and criteria set forth in the *Guidance for Delisting Michigan's Great Lakes Areas of Concern* (*Guidance*) (MDEQ, 2015). This recommendation is made with the support of the St. Marys River Binational Public Advisory Council and staff from the United States Environmental Protection Agency (EPA), Great Lakes National Program Office.

Background

The 1992 Stage 1 Remedial Action Plan for the St. Marys River, prepared jointly by the Ontario Ministry of the Environment and the Michigan Department of Natural Resources (OMOE & MDNR, 1992), provides the following rationale for determining which BUIs were assigned to the AOC:

"*A determination as to whether a specific use impairment exists in the St. Marys River AoC was made using the Listing/Delisting Guidelines for Great Lakes Areas of Concern in conjunction with applicable standards, guidelines and objectives, where available. In the absence of standards, guidelines or objectives, impairment status is based on best professional judgement from the evidence available.*"

The rationale for inclusion of the Beach Closings impairment states:

"*Periodic advisories against swimming and bathing have been issued in Michigan due to high bacterial densities downstream of combined sewer overflows however, there have been no beach closings. The Sherman Park Beach, located upstream of all discharges, and the Sugar Island Township Park beach, located on Sugar Island, have not been closed and high levels of bacteria have not been found.*

Fecal coliform bacterial densities in excess of the PWQO (Provincial Water Quality Objectives) *and MWQS* (Michigan Water Quality Standards) *occur in Ontario waters downstream of storm sewers, industrial outfalls and the East End WPCP* (Water Pollution Control Plant)."

Removal Criteria

Michigan's revised 2015 statewide Restoration Criteria read in part as follows (*Guidance*, p. 37, Attachment A).

"This BUI will be considered restored when:

1. No waterbodies within the AOC are included on the list of non-attaining waters due to human pathogens in the most recent Clean Water Act *Water Quality and Pollution Control in Michigan: Section 303(d) and 305(b) Integrated Report* (Integrated Report), which is submitted to U.S. EPA every two years.

2. OR, in cases where waterbodies within the AOC are on the list of non-attaining waters due to human pathogens, this BUI will be considered restored when human sources of pathogens regulated under the National Pollutant Discharge Elimination System (NPDES) are on schedule to be controlled through implementation of permit requirements."

Rule 62 of Michigan's Water Quality Standards (WQS), being 323.1062(1) of the Part 4. Water Quality Standards (promulgated pursuant to Part 31 of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended), provides that: the daily geometric mean calculated from at least three samples must be below 300 *E. coli* per 100 milliliters for the water to be considered safe for swimming. After 30 days, a geometric mean is calculated for all the individual samples (with a minimum of five) collected within that time frame. This 30-day geometric mean must be below 130 *E. coli* per 100 ml for the water to be considered safe for swimming. A beach is closed if either the single-day or 30-day average bacteria count exceeds the established limit. For inclusion on the impaired waters list, the MDEQ uses a 10% exceedance threshold, with a minimum of five weeks of weekly data. For example, if in five weeks, either the daily maximum or 30-day geometric mean *E. coli* WQS were exceeded, that would be 20%, and that location would be included on the list of non-attaining waters.

AOC issues vs. ubiquitous problems

E. coli contamination occurs throughout the State of Michigan and, indeed throughout the U.S. and Canada. Many times, bacterial contaminants causing beach closings are from agricultural, wildlife sources, or failing septic systems, which the AOC Program has little ability to affect. However, efforts are underway to develop the ability to identify those contaminant sources. Regardless of source, bacterial contaminants are often discovered during routine water quality sampling as a result of non-point source stormwater runoff, as opposed to coming from regulated point source discharges.

Analysis

According to the 2014 Water Quality and Pollution Control in Michigan Sections 303(d), 305(b), and 314 Integrated Report (Integrated Report), 16 miles of the St. Marys River from the Lake Superior outlet to the Four Mile and Sugar Island Township Beaches remain impaired for total and partial body contact recreation, due to *E. coli* from occasional Combined Sewer Overflows (CSOs) from the Sault Ste. Marie, Michigan facility (MDEQ, 2014). Therefore, Tier 1 of the restoration criteria does not apply, rather Tier 2 is most appropriate for the current evaluation.

The Sault Ste. Marie, Michigan combined sewer system is currently in the process of being separated, with a deadline for completion of December 31, 2018, as required by the City's NPDES wastewater discharge permit (MI0020458). At that point, the St. Marys River will be removed from the State's list of impaired waters for *E. coli*, because it should no longer discharge untreated sewage. The source of *E. coli* will have been removed. Beginning in 2019, the municipal wastewater treatment plant will be required to store and treat volumes generated by the 25-year, 24-hour storm event without overflows.

The CSOs associated with the Sault Ste. Marie plant are regulated under an NPDES permit issued by the MDEQ, Water Resources Division. Each time a CSO discharge occurs, the plant tests the water for *E. coli* and provides the results to the Chippewa County Health Department. The Water Resources Division will continue to list the St. Marys River as non-attaining for pathogens until the CSO projects are complete, at which time, if the EPA and management agree, the river will be removed from the impaired list (Rippke, 2013).

The Sault Ste. Marie, Michigan wastewater facility is currently operating within the corrective action plan in its NPDES permit, and the sewer separation project is on schedule. A Total Maximum Daily Load (TMDL) is in place for the Sault area tributaries that drain to the St. Marys. While faulty septic systems, wildlife, agricultural, and other non-point sources of *E. coli* may still contribute to occasional beach closures, based on Michigan's Beach Closings restoration criteria, there are no remaining issues to be addressed under the purview of the AOC Program.

Just over eight miles of Ashmun Creek is also listed in the Integrated Report as being impaired due to the presence of *E. coli* (MDEQ, 2014). It should be noted that Ashmun Creek has a TMDL and Implementation Plan in place that includes the Charlotte River, Munuscong River, Little Munuscong River, Waishkey River, and Sault Area Creeks (Montgomery Associates, 2012). While Ashmun Creek and other tributaries certainly influence local water quality in the St. Marys River, they are not included within the Area of Concern.

The state of Michigan maintains a database, known as the BeachGuard System (http://www.deq.state.mi.us/beach), a public resource provided by the DEQ for information on Michigan beach water quality sampling results and beach advisories and closures. Available data is submitted from a variety of sources, including local health departments that collect water samples and analyze them for bacterial contamination.

According to the BeachGuard database, Four Mile Beach in 2015 experienced two closings, on July 14th and August 25th. Both were attributed to unknown sources of bacterial contamination. There were no beach closings at this location during the 2014 season.

Stormwater and bacterial contaminant issues at Sherman Park were recently addressed through a project designed to improve stormwater drainage at the beach. In re-routing stormwater and establishing rain gardens, park visitors will enjoy less beach erosion and fewer closures due to *E. coli*. In recent years the beach had been closed more than 75 days due to E. coli. However, in 2015, Sherman Park had two beach closings: August 4th and 5th and August 25th and 26th. The August 4th and 5th closing is listed on Michigan's BeachGuard system as being due to bacteria from wildlife. The source of the other bacteria-related closing is listed as unknown. No closings are listed for the entire 2014 swimming season.

Brimley State Park similarly experienced two closings in 2015, August 18th through 20th and August 25th and 26th. The source of bacterial contaminants is not listed in the BeachGuard database for either closing. In 2014, several lateral sewer lines at the park that had been found to be leaking were replaced to remedy the sources. No closings are listed for the 2014 season. Plans are being advanced to improve stormwater infrastructure, similar to the recent Sherman Park project.

Each of these three beaches experienced elevated bacterial levels around August 25 and 26, indicating that those closings are most likely attributable to stormwater runoff. A check of Sault Ste. Marie weather records for August 23rd through 26th revealed a total of about 0.9" of rain for that period.

The Lake George Channel and Sugar Island Township Park beach were the focus of attention for a number of years, due to concerns regarding: CSOs, agricultural runoff, wildlife, septic systems, stormwater, and wastewater treatment facilities. Monitoring efforts including those conducted by the Sugar Island Monitoring Work Group, showed minimal bacterial contamination at the Township Beach from 2007 through 2009, largely attributed to stormwater runoff. More

recent sampling at the Beach has not turned up evidence to demonstrate bacterial contamination from any particular point source. The Sugar Island Township Park was closed twice in 2015, on August 12th and August 19th to 26th. BeachGuard attributes the seven-day closing to wildlife sources. No beach closings are listed for this location in 2013 or 2014.

A Sugar Island Monitoring Workgroup (SIMWG) was established in 2007 in response to periodic reports of floating solids with high *E. coli* levels in the Lake George channel. The SIMWG collected samples from 2007-2009 and provided a final report in 2010. The report noted that weekly *E. coli* samples were low in 2009 with no apparent trends during the monitoring period (SIMWG, 2010).

The recommendation to remove the Beach Closings BUI from the U.S. side of the AOC was discussed with the St. Marys River Bi-National Public Advisory Council (BPAC) at its March 17, 2016, meeting, where support was expressed for removal of the BUI. The BPAC submitted a formal letter of support for removal of the BUI, dated June 1, 2016, (Attachment B). This proposed action was public noticed via listing in the MDEQ Calendar. This document was posted on the MDEQ's AOC Program web page for public review and comment from June 13 through July 12, 2016. No written comments were received during the public notice period.

Consistent with the consultation requirements under the Four Agency Letter of Commitment, this removal recommendation was reviewed by Environment and Climate Change Canada, and the Ontario Ministry of Environment and Climate change. Both agencies responded supportively to the removal of the Beach Closings BUI on the U.S. side of the AOC.

Recommendation

Based on review of existing data, technical input from the MDEQ Surface Water Assessment Section, EPA's Great Lakes National Program Office and the St. Marys River Binational Public Advisory Council, Michigan's Office of the Great Lakes recommends removal of the Beach Closings BUI from the U.S. side of the St. Marys River AOC.

Prepared by: John Riley, St. Marys River AOC Coordinator
Great Lakes Management Unit
Office of the Great Lakes
Michigan Department of Environmental Quality
July 2016

Attachments

A – Beach Closings; pages 37-39 of the *Guidance for Delisting Michigan's Great Lakes Areas of Concern*
B – St. Marys River BPAC letter supporting BUI removal, June 1, 2016

References

Michigan Department of Environmental Quality. 2015. Guidance for Delisting Michigan's Great Lakes Areas of Concern. Report OGL-002

Michigan Department of Environmental Quality. 2014. Water Quality and Pollution Control in Michigan 2010 Sections 303(d), 305(b), and 314 Integrated Report. Water Resources Division, Michigan Department of Environmental Quality, Lansing, Michigan.

Michigan Department of Natural Resources and Environment. 2011. City of Sault Ste. Marie Authorization to Discharge under the National Pollutant Discharge Elimination System. Permit No. MI0024058.

Montgomery Associates & Cadmus Group. 2012. Total Maximum Daily Load Implementation Plan for E. coli in Sault Sainte Marie Area Tributaries.

Ontario Ministry of the Environment & Michigan Department of Natural Resources. 1992. The St. Marys River Area of Concern Stage 1 Remedial Action Plan, *Environmental Conditions and Problem Definitions.*

Rippke, M. Lake Michigan Unit, Surface Water Assessment Section, Water Resources Division, MDEQ, Lansing, Michigan. February 26, 2013. Personal Communication.

Sugar Island Monitoring Work Group. 2010. St. Marys River – Sugar Island Monitoring: A Final Report of the Sugar Island Monitoring Work Group.

Attachment A
DRAFT
Beach Closings Restoration Criteria from the 2015
Guidance for Delisting Michigan's Great Lakes Areas of Concern

Beach Closings

Significance in Michigan's Areas of Concern

Originally eleven of Michigan's AOCs were listed as impaired due to beach closings from bacterial contaminants, including: River Raisin, Detroit River, Rouge River, Clinton River, St. Clair River, Saginaw River/Bay, St. Marys River, Kalamazoo River, Menominee River, Muskegon Lake, and Manistique River. The AOC Program tracking table with current information about which BUIs have been restored in each AOC can be found at: www.michigan.gov/deqaocprogram.

Michigan Restoration Criteria and Assessment

This BUI will be considered restored when:

1. No waterbodies within the AOC are included on the list of non-attaining waters due to human pathogens in the most recent Clean Water Act *Water Quality and Pollution Control in Michigan: Section 303(d) and 305(b) Integrated Report* (Integrated Report), which is submitted to U.S. EPA every two years.

2. OR, in cases where waterbodies within the AOC are on the list of non-attaining waters due to human pathogens, this BUI will be considered restored when human sources of pathogens regulated under the National Pollutant Discharge Elimination System (NPDES) are on schedule to be controlled through implementation of permit requirements.

Rationale

Practical Application in Michigan

These restoration criteria are based on Michigan's WQS for bacterial contamination. Rule 323.1062 of Michigan's WQS sets the maximum concentrations of *E. coli* that are acceptable for waters of the state to meet total- and partial-body contact recreation uses. The AOCs with a Beach Closing BUI have historically found persistent elevation of bacteria levels in their recreation waters, often due to the existence of sanitary sewer overflows and CSOs. This BUI does not address wide-spread, low level contamination from diffuse human sources of pathogens such as failing septic systems.

In accordance with Public Health Code (Act 368 of 1978), county health departments have the authority to monitor and evaluate public beaches to determine if the water is safe for bathing, swimming, or partial body contact recreation. While beach monitoring is a voluntary program, those county health departments that participate must monitor in accordance with Michigan's WQS.

County health departments which monitor public beaches must submit their sampling data to the MDEQ, which tracks monitoring results and uses the data to determine whether water

bodies are identified as impaired in the *Water Quality and Pollution Control in Michigan: Section 303(d) and 305(b) Integrated Report to* the U.S. EPA on Clean Water Act compliance.
Point source discharges from combined sewer overflows can be a source of pathogens to AOC waters. Requirements to eliminate the discharges under NPDES permits are the primary source control tool available to restore the BUIs. When source control is assured under regulatory programs, this BUI is considered restored.

Sources of pathogens from failing on-site septic systems regulated under county health departments can be an issue state-wide and are not included in the AOC Program.

1991 IJC General Delisting Guideline
When waters, commonly used for total-body contact or partial body-contact recreation, do not exceed standards, objectives, or guidelines for such use.
The IJC general delisting guideline for the BUI is presented here for reference. The Practical Application in Michigan subsection above describes application of specific criteria for restoration based on existing Michigan programs and authorities.

State of Michigan Programs/Authorities for Evaluating Restoration

Michigan assesses water bodies throughout the state on a 5-year basin rotation cycle according to the MDEQ's "Strategic Environmental Quality Monitoring Program for Michigan's Surface Waters" (MDEQ, 1997) and "Michigan Water Quality Strategy Update" (MDEQ, 2005). Each year, a set of targeted watersheds are sampled at selected sites for conventional and toxic pollutants, and biological and physical habitat/morphology indicators. The set of watersheds sampled rotates each year, with each major watershed in the state revisited every 5 years (see Appendix 1 for maps of the basin rotations). One element of the strategy is improved support for public beach monitoring.

The specific objectives of the beach monitoring element are to:

1. Support county health departments in determining whether waters of the state are safe for total body contact recreation.

2. Evaluate the effectiveness of MDEQ programs in protecting waters of the state from bacteria/*E. coli* contamination.

3. Develop and maintain a database into which counties can enter their beach monitoring data, and which the public can access for the latest information.

The beach monitoring element consists of two components that, in combination, provide data necessary to achieve these objectives. These include annual grants awarded to local governments/county health departments each year to monitor public beaches through a grant application package, and development and maintenance of a statewide beach database, which is available on the MDEQ web site (www.michigan.gov/deq - click on "Water," then "Water Quality Monitoring," and then "Beach Monitoring"). Counties enter data directly into the database.

The NPDES Program is administered by the MDEQ Water Division. It is applicable to discharges to waters of the state for the control of all forms of water pollution.

Attachment B
St. Marys River Binational Public Advisory Council
Letter of Support

ST. MARYS RIVER
BINATIONAL PUBLIC ADVISORY COUNCIL

June 1, 2016

Mr. Rick Hobrla
Office of the Great Lakes
Michigan Department of Environmental Quality

RE: Michigan Beach Closing Beneficial Use Impairment

Dear Mr. Hobrla,

Members of the Bi-National Public Advisory Council (BPAC), who represent stakeholders on both the U.S. and Canadian sides of the St. Marys River, have reviewed the findings related to beach closings, as well as efforts currently underway for monitoring and infrastructure upgrades. This information was provided to BPAC in a draft BUI removal letter provided by the MDEQ.

The BUI delisting criteria most appropriate for the Michigan Side of the St. Marys River is that which pertains to waterbodies within the AOC that are on the list of non-attaining waters due to human pathogens. As such, the MDEQ criteria have established restoration of this BUI as being attained "when human sources of pathogens regulated under the National Pollutant Discharge Elimination System (NPDES) are on schedule to be controlled through implementation of permit requirements".

We recognize that persistent non-point sources of bacteria, attributed to a variety of factors including the presence of stormwater runoff, wildlife, agriculture, and failing septic systems, remain present within the AOC. However, we recognize that such issues are equally problematic in non-AOC areas and will need to be dealt with through long-term research and planning initiatives which are currently outside the scope of the RAP.

With respect to known sources of bacterial input due to waste-water treatment plants, we hope that the separation of the combined sewer system in Sault Ste. Marie MI (on schedule for completion by the end of 2018) will ameliorate bacterial inputs caused by the discharge of untreated, or partially-treated sewage into the St. Marys River. We further hope that discharges from the waste-water treatment plant (as upgraded) will be adequately monitored and improved as needed as a result of the City's NPDES wastewater discharge permit which is currently in place. To

confirm the improved functionality of the waste-water treatment once the combined sewer system has been separated, BPAC recommends public communication of the post-project quality of the discharged wastewater.

As studies carried out to date have not revealed any RAP-specific issues related to the impairment of the Beach Closure BUI that will not be rectified by SSM Michigan's waste-water treatment plant upgrade currently underway, or otherwise addressed under the NPDES permitting requirement, BPAC supports MDEQ's recommendation to delist the Beach Closure BUI.

Sincerely,

Paula Antunes, Ph.D.
Canadian BPAC Chair

Emily Martin
U.S. 1st Vice Chair