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

12 MAY 2016

Mr. 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: Jon

Thank you for your April 13, 2016, request to remove the "Beach Closings" Beneficial Use Impairment (BUI) at the St. Clair 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. Clair 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. Clair 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: Melanie Foose, MDEQ
Rick Hobrla, MDEQ
Rajesh Bejankiwar, IJC
Wendy Carney, EPA, GLNPO
Rose Ellison, EPA, GLNPO

RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
OFFICE OF THE GREAT LAKES
LANSING

JON W. ALLAN
DIRECTOR

April 13, 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:

The purpose of this letter is 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. Clair 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. Clair River AOC.

Enclosed please find documentation to support this recommendation, including the BUI removal Briefing Paper prepared by the OGL's technical staff. The St. Clair River Binational Public Advisory Council provided a letter supporting this recommendation, dated February 4, 2016. A copy is enclosed.

Also note that a public comment period was held between February 22, and March 23, 2016. One comment was received during the comment period.

We value our continuing partnership in the AOC Program and look forward to working with the GLNPO in the removal of BUIs and the delisting of AOCs. If you need further information concerning this request, please contact Ms. Melanie Foose, OGL, at 517-897-3244, or you may contact me.

Sincerely,

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

Enclosures
cc/enc: Mr. Marc Tuchman, USEPA
Mr. John Perrecone, USEPA
Ms. Rose Ellison, USEPA
Mr. Rick Hobrla, MDEQ
Ms. Melanie Foose, MDEQ

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

## Issue

The Michigan Department of Environmental Quality (MDEQ), Office of the Great Lakes, Areas of Concern (AOC) Program staff recommend the removal of the Beach Closings Beneficial Use Impairment (BUI) for the St. Clair River AOC based on the review of relevant documentation pursuant to the process and criteria set forth in the draft *Guidance for Delisting Michigan's Great Lakes Areas of Concern* (*Guidance*) (MDEQ 2015). This recommendation is made with the support of staff from the United States Environmental Protection Agency (USEPA), Great Lakes National Program Office, the MDEQ Water Resources Division (WRD), the St. Clair County Health Department (SCCHD), and the St. Clair River Binational Public Advisory Council (BPAC).

## Background

The St. Clair River is one of five binational AOCs in the Great Lakes region sharing a boundary with Canada. The boundary of the AOC includes the entire river from the Blue Water Bridge (connecting Sarnia and Port Huron) to the southern tip of Seaway Island, west to St. John's Marsh, and east to include the north shore of Mitchell's Bay on Lake St. Clair (Figure 1) (OMOE and MDNR 1991).

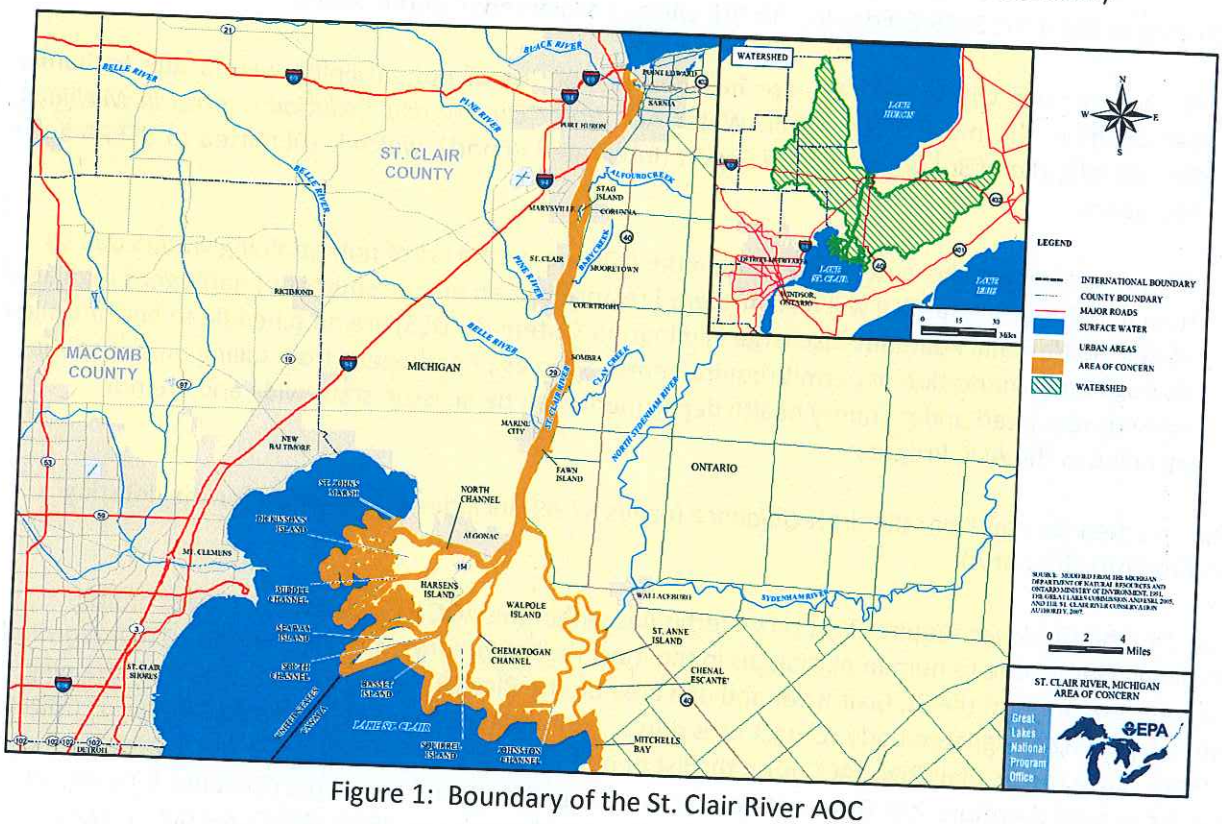



Figure 1: Boundary of the St. Clair River AOC

"The St. Clair River was identified as an AOC due to the following types of problems: conventional pollutants (e.g. bacteria), heavy metals, contaminated sediments, fish consumption advisories, impacted biota and beach closings" (OMOE and MDNR 1991).

According to the 1991 St. Clair River Remedial Action Plan (RAP) the Beach Closings BUI was determined to be impaired on both the United States (U.S.) and Canadian sides of the river as "beach closings occur along the Ontario shore of the St. Clair River due to coliform bacteria densities which exceeded both Ontario and Michigan standards" and even though " there have been no beach closings in Michigan all areas downstream of Michigan Combined Sewer Overflows (CSOs) are identified as impaired areas due to the periodic discharge of inadequately treated sewage" (OMOE and MDNR 1991). As of the Stage 2 update in 2008, "...CSOs, storm sewer outfall discharges and discharges from the Sarnia Water Pollution Control Centre and the Port Huron Waste Water Treatment Plant still constitute major sources of pollution to the St. Clair River and contribute to beach closures" (MDEQ 2008).

Four BUIs will remain impaired on the U.S. side of the St. Clair AOC: Restrictions on Fish and Wildlife Consumption, Bird or Animal Deformities or Reproductive Problems, Restrictions on Drinking Water Consumption or Taste and Odor Problems, and Loss of Fish and Wildlife Habitat.

**Removal Criteria**

According to the draft 2015 *Guidance*, 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 USEPA every two years.

2. OR, in cases where the 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. 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.

The attached excerpt from the draft *Guidance* (pages 37-39) includes the rationale for the delisting criteria (Attachment A).

Tier 1 of the *Guidance* requires that no waterbodies within the AOC be included on the list of non-attaining waters due to human pathogens in the most recent *Integrated Report*. In the 2014 *Integrated Report,* four areas of the St. Clair River and one area on the Black River are identified as non-attaining, not supporting designated body contact uses due to contamination by *Escherichia coli*. (Table 1) (MDEQ 2014). Since the St. Clair River AOC is on the list of non-attaining waterbodies, the Tier 1 criterion has not been met; therefore, the BUI must be assessed using the second tier of the *Guidance* focusing on the schedule for control of sources of human pathogens through the DEQ's NPDES permit process.

| Impaired Water (Sampling Location) | Reason for Non-Attainment | Full Body Contact Designated Use | Partial Body Contact Designated Use | TMDL |
|---|---|---|---|---|
| Marysville Water Filtration Plant | *E. coli* | Not Supporting | Not Supporting | No |
| City of Port Huron Water Filtration Plant | *E. coli* | Not Supporting | Not Supporting | No |
| Cuttle Creek, South of Marysville Upstream to Lake Huron Outlet at Port Huron | *E. coli* | Not Supporting | Not Supporting | No |
| St. Clair River Chrysler Beach | *E. coli* | Not Supporting | Fully Supporting | TMDL Scheduled for 2029 |
| Black River | *E. coli* | Not Supporting | Not Supporting | TMDL Completed on September 27, 2011 |

Table 1: Areas of non-attaining waters in the St. Clair River Area of Concern (MDEQ 2014)

**Analysis**

Frequent discharges from combined sewer overflows (CSOs) were a primary reason for the impairment of the Beach Closings BUI in the St. Clair River AOC. At the time of the 1991 RAP, there were "no beach closings in Michigan although all areas downstream of Michigan CSOs are identified as impaired areas due to the periodic discharge of inadequately treated sewage" (OMOE and MDNR 1991). In 1991, there were "53 CSOs which drain[ed] either directly to the St. Clair River or indirectly via its tributaries" (OMOE and MDNR 1991). Of the 53 CSOs discharging to the St. Clair River, only 4 were in Sarnia, with the remaining 49 CSOs discharging on the US side via four of the five operating wastewater treatment plants (WWTP) (Table 2) (OMOE and MDNR 1991). These five wastewater treatment plants are still in operation; however significant progress has been made in the reduction of CSOs from the 49 that were discharging in 1991, to only one CSO that remains in 2015. A map showing the locations of the CSOs present in 1991 is available in Attachment D.

| Name | MDEQ NPDES Permit Number | Receiving Water | Township | 1991 CSOs | 2015 CSOs | Year CSO Separation Complete |
|---|---|---|---|---|---|---|
| Marine City WWTP | MI0020893 | St. Clair River | Cottrellville | 13 | 0 | 1993 |
| City of Marysville WWTP | MI0020656 | St. Clair River | Port Huron | 3 | 0 | 1996 |
| Port Huron WWTP | MI0023833 | St. Clair River | Port Huron | 21 | 1 | December 31, 2019 |
| St. Clair County – Algonac WWTP | MI0020389 | St. Clair River | Clay | 0 | 0 | n/a |
| St. Clair WWTP | MI0020591 | St. Clair River | St. Clair | 12 | 0 | 1996 |
| Total | | | | 49 | 1 | |

Table 2: St. Clair River CSOs in 1991 and 2015

City of Port Huron

The City of Port Huron is located at the south end of Lake Huron in the Upper St. Clair River and is home to over 31,000 residents. The City had an aged wastewater infrastructure system as "approximately 80% of the sewers were built prior to World War II" (R. Clegg, personal communication, May 12, 2015). In 1998, "approximately 50% or 2,358 acres" of the City was "served by combined sewer systems" (DEQ 1998). At the time of the original RAP in 1991, the City of Port Huron had 21 CSOs which were a major contributor of *E. coli* to the St. Clair River (OMOE and MDNR 1991). In 1992, 19 outfalls remained and "conveyed 309 million gallons of wastewater to the AOC" (R. Clegg, personal communication, May 12, 2015). As a result, the City's wastewater collection system was a significant source of human pathogens to the St. Clair River during wet weather events; therefore upgrades to the infrastructure separating the combined sewers were necessary.

Beginning in the 1980's, "the City's NPDES permit required the development of a Long Term Control Plan (LTCP)" (Hufnagel and Clegg 2012) for sewer separation. Subsequently, the DEQ Director's Order issued on February 19, 1998 required that "the City shall complete the entire sewer separation project in not more than a 15-year time frame" (DEQ 1998).

To comply with the 1998 Director's Order, the City of Port Huron worked at multiple levels of infrastructure improvement throughout the city, including CSOs, private inflow removal and illicit discharge connections. After 32 projects completed between 1999 and 2015 at a cost of 176 million dollars, there is now only one remaining CSO outfall. This outfall services just 12 acres and conveys less than one million gallons of wastewater (R. Clegg, personal communication, May 12, 2015).

This last remaining CSO outfall, Outfall 005, is located at the end of McPherson Street and discharges to the Black River (Figure 2). This CSO is expected to be addressed as plans for the Blue Water Bridge Plaza continue between the City of Port Huron, the Michigan Department of Transportation (MDOT) and other state and federal agencies. As of December 2010, the Blue Water Bridge Plaza is currently planned as a 16 acre project, downsized from the original 56 acre plan. However, funding for construction of the plaza has not yet been provided. Although the separation of the CSO at Outfall 005 through the construction of the Blue Water Bridge Plaza is unknown, the Port Huron WWTP's most recent draft DEQ NPDES permit requires full CSO separation at Outfall 005 to be completed by December 31, 2021.

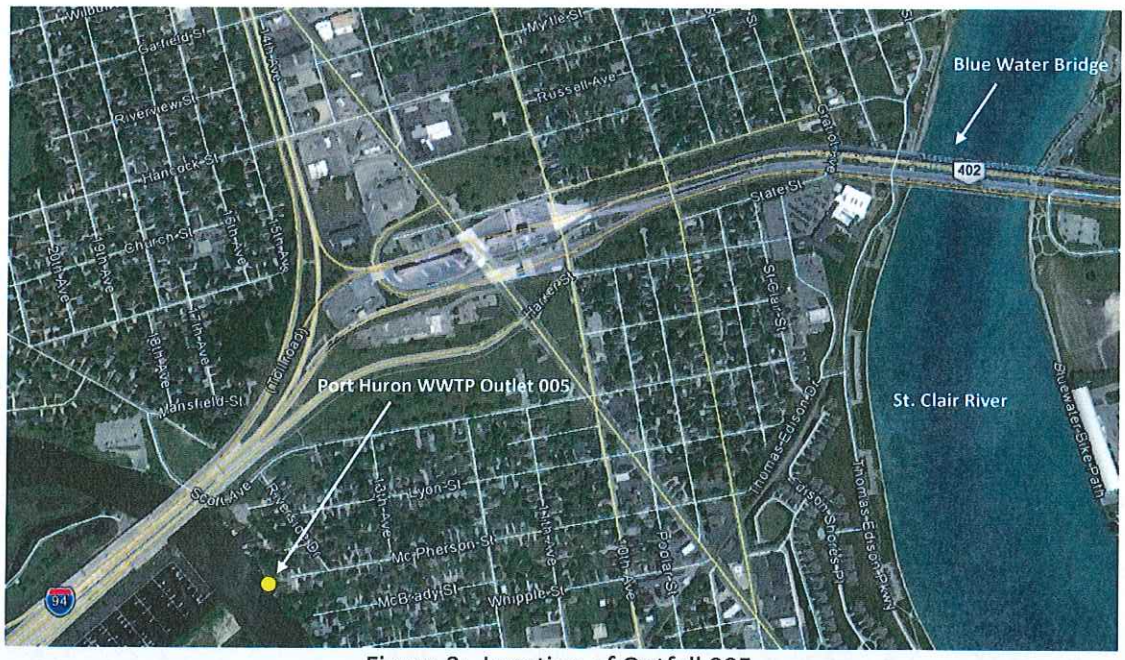



Figure 2: Location of Outfall 005

City of Marysville

*City of Marysville Sanitary Sewer Overflows*

The City of Marysville is located in the Upper St. Clair River just south of the City of Port Huron, and has "approximately 10,000 residents and encompasses an area of approximately 3,800 acres" (HRC 2015). The "sanitary and stormwater sewers were constructed as an interconnected, combined sewer system in the 1920's" (HRC 2015) and in the 1990s, the majority of the City's wastewater infrastructure was updated, with full CSO separation accomplished by 1996.

However, "despite major system improvements, the City was still experiencing sanitary sewer overflows (SSOs) thereby requiring the city to enter into a District Compliance Agreement (DCA) with the Michigan Department of Environmental Quality (MDEQ)" (HRC 2015). SSOs differ from CSOs in that they are "discharges of raw or inadequately treated sewage from municipal separate sanitary sewer systems, which are designed to carry domestic sanitary sewage only" (DEQ 2015). In 2010, to address the issue of SSOs, the City of Marysville implemented a three-part plan which included local system rehabilitation, WWTP upgrades, and sanitary storage designed to "improve the City's sanitary sewer system and eliminate SSOs and/or basement flooding" (HRC 2015).

The three-part construction plan to eliminate the SSO was completed in 2013 and included the rehabilitation of "over 100 sewer structures throughout its system" (HRC 2015). Monitoring to demonstrate the efficacy of the improvements was completed in 2015, and "no SSO has occurred since the WWTP improvements were completed and the operation optimized in 2013" (HRC 2015).

*City of Marysville Illicit Discharges*

In 2010, the SCCHD received Great Lakes Restoration Initiative (GLRI) funding as a subgrantee of the MDEQ in order to "understand and improve the water quality at several of the county's swimming beaches" including the Chrysler Park Beach in Marysville, Michigan (ECT 2013).

Part of this effort included the acquisition of grab samples at locations within the storm drain that discharge north of Chrysler Beach in the City of Marysville. The sampling was conducted in 2012 and showed elevated *E. coli* concentrations that were "high enough to suspect sewage as a potential source" (ECT 2013). The City of Marysville followed up with dye testing which revealed three illicit connections discharging from an outlet upstream of Chrysler Beach, identified at Outlet A in Figure 3. Subsequently, in 2014, the City of Marysville implemented a series of construction projects to remove each of the three illicit connections. Construction was successfully completed in 2014. Following the removal of the illicit connections, the SCCHD sampled Outlet A for *E. coli* on four wet weather occasions and all samples were found to be well within acceptable limits demonstrating that the illicit connections removal work was successful (Table 3).

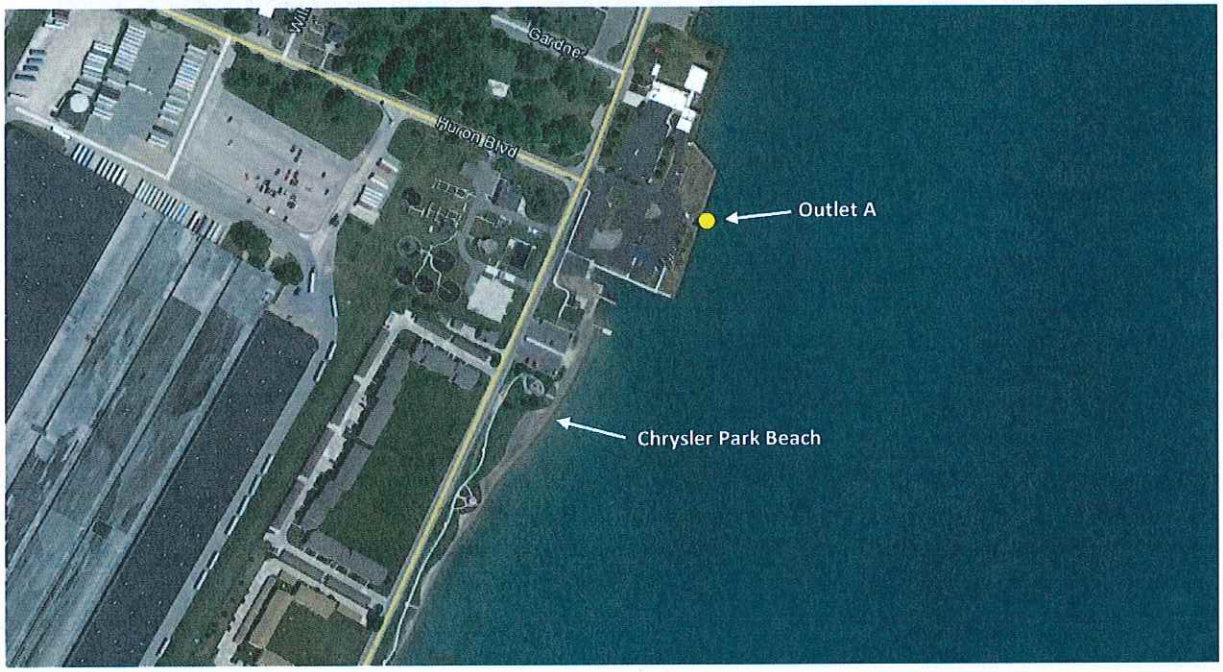



Figure 3: Location of the Illicit Connections Discharge Point

| Date of Sample | Sample Type | Sample Location | Analysis Method | Result Value* |
|---|---|---|---|---|
| July 28, 2014 | Individual | Outlet A | Colilert-18 Hour | 49.6 |
| August 4, 2015 | Individual | Outlet A | Colilert-18 Hour | 6.3 |
| August 14, 2015 | Individual | Outlet A | Colilert-18 Hour | 25.3 |
| August 19, 2015 | Individual | Outlet A | Colilert-18 Hour | 4.0 |

Table 3: Wet Weather Samples at Outlet A (SCCHD 2014)

Public Beaches

While the focus of the removal of this BUI is related to separation of combined sewers from wastewater treatment plants discharging to the AOC, the public's ability to swim and recreate in clean waters must still be a consideration. On the U.S. side of the St. Clair River, the public recreates along the shoreline and in the St. Clair river at multiple public and private locations. Three of these locations are public beaches that are monitored regularly by the SCCHD. Beach monitoring is conducted throughout the recreational season and the monitoring results as well as any resultant beach closures are posted to the DEQ's Beach Guard website at www.deq.state.mi.us/beach.

The Chrysler Park Beach is located in the City of Marysville and both the Marine City Beach and the Marine City Diving Area are located in Marine City (Figure 4).

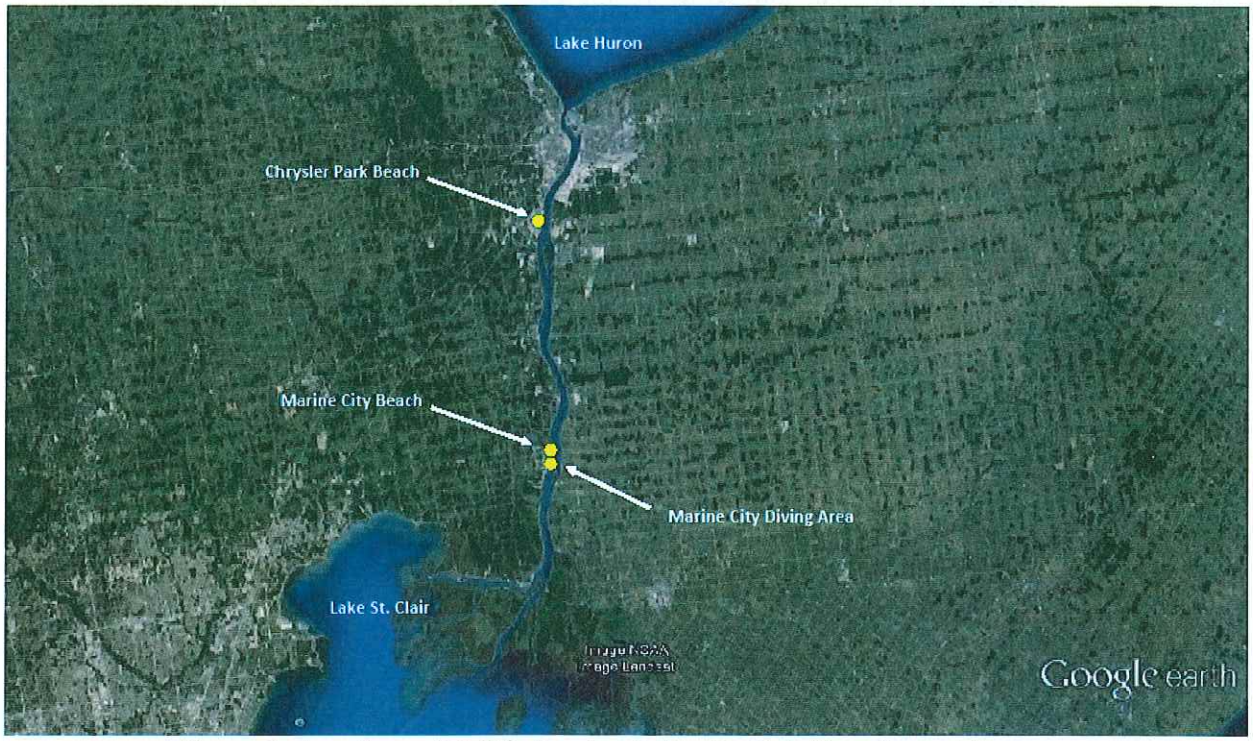



Figure 4: Locations of Public Beaches in the St. Clair River Area of Concern

*Marine City Public Beaches*

The Marine City Beach and the Marine City Diving Beach are both located in Marine City, Michigan and are routinely monitored by the SCCHD. The SCCHD began sampling in 1997 and the only time the Marine City Diving Beach was closed due to *E. coli* levels was for three days in 1998. The Marine City Beach has never been closed due to *E. coli* levels (K. Shinn, personal communication, August 20, 2015).

*Chrysler Park Beach - City of Marysville*

The Chrysler Park Beach includes 1,000 feet of shoreline located in Marysville, Michigan. Chrysler Park Beach has had a history of closures due to high *E. coli* levels caused by both storm water runoff and

wildlife such as Canada geese. The beach closure information from 1997 to 2015 is available in Attachment E.

In 2012, the City of Marysville was awarded a GLRI grant from the USEPA in the amount of $500,000 in order to complete a green infrastructure project designed to improve the conditions at the beach after many years of closures due to high bacteria levels. "The goals of the project were to improve water quality at the beach, reduce beach closures, and eliminate the Beach Closures Beneficial Use Impairment (BUI) for the St. Clair River Area of Concern (ECT 2015)." This was accomplished by the installation of "rain gardens and bioswales to filter stormwater runoff from 2.5 acres" by reducing, "the amount of impervious surfaces by 0.7 acres" and by adding"17,300 square feet of planting beds to deter geese from congregating on the beach" (ECT 2015).

Following the completion of the green infrastructure improvements, during the recreational season in 2014, the SCCHD performed their normal beach monitoring in addition to eight wet weather samples. "The Michigan Public Health Code sets the Total Body Contact Standard daily geometric mean limit at 300 E. coli colonies per 100 mL of water" therefore, all dry weather and wet weather samples from 2014 "were well within acceptable limits" (S. Demick, personal communication, September 25, 2014). The wet weather sampling data is available in Attachment F.

Total Maximum Daily Load (TMDL) at Chrysler Park Beach

It is important to note that although significant improvements have been made in the separation of combined sewers, the elimination of SSOs, and the disconnection of illicit discharges; beach closures due to the presence of *E. coli* may still occur and have occurred for the recreational season in 2015. The issue of beach closures related to *E. coli* is a statewide issue and does not only occur within the Great Lakes Areas of Concern. High levels of human pathogens occur in approximately half of Michigan's rivers and streams and due to this widespread problem, the MDEQ WRD is currently developing an *E. coli* TMDL to cover all Michigan's impaired waters. According to the 2014 Integrated Report, the Chrysler Park Beach is listed as scheduled to have a TMDL by 2029; however with the development of a statewide *E. coli* TMDL, the process is likely to be significantly faster. A statewide *E. coli* TMDL could be in place as early as 2017 (M. Rippke, personal communication, August 26, 2015).

St. Clair and Black River 2008 and 2009 *E. coli* Monitoring

In 2008 and 2009, the Upper St. Clair River and the Lower Black River were assessed for compliance with Michigan's Water Quality Standards for *E. coli*. Sampling was performed for a total of 25 weeks on the St. Clair River and for 17 weeks on the Black River. Sampling included both dry and wet weather events. The study concluded that "ambient *E. coli* concentrations in the St. Clair River are very low" with only "one exceedance of Michigan's Water Quality Standards for *E. coli*" from a sample collected at the confluence of the Black River and following a four inch rain event over the course of four days (RTI & ECT 2009). On the Black River, "ambient *E. coli* concentrations" were found to be "fairly low" with two exceedances of Water Quality Standards (RTI & ECT 2009). The authors of the report concluded that "the sources [of *E. coli*] likely include untreated combined sewer overflows, failing septic systems" and "illicit connections to the storm sewer system" (RTI & ECT 2009). Therefore, it is important to reiterate the date of the study which was conducted in 2008 and 2009. Since the study was finalized, and as discussed in the *City of Port Huron* section of this document, substantial work upgrading the City of

Port Huron's infrastructure has occurred, eliminating many of the sources of *E. coli* found during the 2008 and 2009 monitoring period.

Canadian Status of the Beach Closings BUI

On the Canadian side of the St. Clair River AOC, the Beach Closings BUI is currently designated as impaired but is under assessment. *E. coli* monitoring of Canatara Park and Mitchell's Bay public beaches is conducted regularly, and thirteen additional beaches where the public is known to recreate were monitored between 2011 and 2013. The results of monitoring will be presented to the BPAC in the near future for review and discussion separate from this document (D. Strang, personal communication, September 22, 2015).

**Conclusion and Recommendation**

In 1991, when the Stage 1 RAP was written, 49 CSOs existed on the U. S. side of the St. Clair River. Over the past two decades, substantial infrastructure improvements have been implemented, most recently in the Cities of Port Huron and Marysville. All of the original 49 CSOs have been separated on the U. S. side of the St. Clair River with the exception of only one located in the City of Port Huron. Separation of this final CSO will be required by December 31, 2021 under the most recent draft NPDES permit. Additional projects including removal of illicit connections in the City of Marysville and the green infrastructure project at Chrysler Park Beach have further reduced sources of both human and animal pathogens allowing for safe recreation at the beaches along the shoreline of the St. Clair River.

Based on review of all pertinent data, the MDEQ AOC Program staff request approval on this recommendation to remove the Beach Closings BUI from the U.S. side of the St. Clair River AOC.

This removal recommendation was discussed with the St. Clair River BPAC during their regular meetings on September 29, 2015, December 1, 2015, and January 26, 2016. The St. Clair River BPAC submitted a formal letter of support for removal of the BUI on February 4, 2016.

In accordance with the Four Agency Letter of Commitment, Environment and Climate Change Canada (ECCC) and the Ontario Ministry of the Environment and Climate Change (OMOECC) were consulted on the removal recommendation. The removal recommendation was also discussed during the Four Agency Managers teleconference meeting on March 24, 2016. ECCC and OMOECC did not have any comments or objections to the removal of the BUI.

The proposed action was published in the MDEQ Calendar for public notice on February 22, 2016. One written comment letter was received.

Prepared by: Melanie Foose, St. Clair River AOC Coordinator
Great Lakes Management Unit
Office of the Great Lakes
Michigan Department of Environmental Quality
April 12, 2016

**Attachments**

A – Beach Closings, pages 37-39 of the *Guidance*
B – St. Clair River AOC Binational Public Advisory Council Letter of Support
C – St. Clair River AOC Binational Public Advisory Council Meeting Minutes
D – Map of St. Clair River CSOs in the United States and Canada in 1991
E – Beach Closure Days at Chrysler Park Beach
F – 2014 Wet Weather Sampling Results for Chrysler Park Beach

**References**

*Accomplishing Dual Objectives: Controlling CSO Discharges While Rebuilding Infrastructure.* Carol L. Hufnagel, P.E., Robert E. Clegg, P.E. WEFTEC 2012

Beach Guard: http://www.deq.state.mi.us/beach/

Clegg, Robert, personal communication, May 12, 2015

Demick, Steve, personal communication, September 25, 2014

Environmental Consulting & Technology, Inc. 2015. Chrysler Beach Stormwater Improvement Project Great Lakes Restoration Initiative Grant Final Report USEPA Contract Number 00E01106

Environmental Consulting & Technology, Inc. 2013. St. Clair County Health Department 2010-2012 Beach Monitoring Final Report

Hubbell, Roth & Clark, Inc. 2015. Report for Post Construction Flow Metering Study for City of Marysville, St. Clair County

Michigan Department of Environmental Quality. 2015. Guidance for Delisting Michigan's Great Lakes Areas of Concern, revised. MI/DEQ/WB-06-001(Draft)

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 Environmental Quality, Water Resources Division. Combined Sewer and Sanitary Sewer Overflow Information System. http://www.deq.state.mi.us/csosso/cso_sso_info.shtml

Michigan Department of Environmental Quality. 2008. Stage 2 Remedial Action Plan for the St. Clair River Area of Concern. Office of the Great Lakes, Michigan Department of Environmental Quality, Lansing, Michigan

Michigan Department of Environmental Quality. 1998. Director's Order to the City of Port Huron

Ontario Ministry of the Environment and Michigan Department of Natural Resources. 1991. The St. Clair River Area of Concern Environmental Conditions and Problem Definitions, Stage 1 Remedial Action Plan

Rippke, Molly, personal communication, August 26, 2015

RTI International and Environmental Consulting & Technology, Inc. 2009. St. Clair River & Black River *E. coli* Monitoring To Support TMDL Development and Area of Concern Delisting

Shinn, Keri, personal communication, August 20, 2015

Shinn, Keri, personal communication, August 24, 2015

St. Clair County Health Department. 2014. Marysville Monitoring Site Wet Weather Results

Strang, Donna, personal communication, September 22, 2015

**Attachment A**

**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:

3. 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 USEPA every two years.

4. OR, in cases where the 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 NPDES are on schedule to be controlled through implementation of permit requirements. 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.

### 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 USEPA 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. Clair River AOC Binational Public Advisory Council
## Letter of Support for the Removal of the Beach Closings BUI

St. Clair River
BINATIONAL PUBLIC ADVISORY COUNCIL

February 4, 2016

Mr. Rick Hobrla
Office of the Great Lakes
Michigan Department of Environmental Quality
525 West Allegan Street
Lansing, Michigan 48909-7973

Dear Mr. Hobrla:

On January 26, 2016 the St. Clair River Binational Public Advisory Council (SCRBPAC) for the St. Clair River Area of Concern voted to accept the new state delisting criteria for the Beach Closings Beneficial Use Impairment (BUI). At the same meeting the SCRBPAC voted to accept the Removal Recommendation for the St. Clair River Area of Concern Beach Closings BUI for the US side of the St. Clair River as presented by Melanie Foose on behalfof the Michigan Department of Environmental Quality.

Along with that, BPAC wishes to emphasize our collective desire to see continued and increased support for the St. Clair County Health Department's beach monitoring program. This program is vital for continued demonstration of improvement in water quality and to safeguard public health. Recent years have seen a continual decline in available funding for St. Clair County's efforts, and consequently a decrease in beaches monitored from 20 beaches to just 8 beaches.

We request that you initiate the formal review and removal process for this BUI. Thank you for your time and attention to this matter.

Sincerely,

Patty Troy

Patty Troy
U.S. Chair SCRBPAC

Paulette Duhaime

Paulette Duhaime
U.S. Vice-Chair SCRBPAC

**Attachment C**

**St. Clair River AOC Binational Public Advisory Council**
**Meeting Minutes**

# ST. CLAIR RIVER BINATIONAL PUBLIC ADVISORY COUNCIL (BPAC)

## Minutes - Final
## Meeting 2016-1

Tuesday, January 26, 2016
St. Clair County Building, Conference Room A
200 Grand River Avenue
Port Huron, Michigan

ATTENDEES:

| | | |
|---|---|---|
| Donna Strang | Kathy Watts | Peter Westfall |
| Terry Burrell | Paulette Duhaime | Dan Collins |
| Kris Lee | Patty Troy | Sheri Faust |
| Judy Ogden | April White | Melanie Foose |
| Marina Plain | Naomi Williams | Fred Kemp |
| Lori Eschenburg | | |

REGRETS:

| | | |
|---|---|---|
| Darrell Randell | Phil Vallance | Theresa Warren |
| Craig Griffiths | Ted Briggs | |

GUESTS:
Lt. Paul Reid – St. Clair County, Marine Division
Cheri Meyer – Michigan Department of Environmental Quality, Office of the Great Lakes
Sally Hirzel
Wood Alef
Monica Hudson
Elizabeth Zimmer-Lloyd
Venessa Davis

**Call to Order and Introductions – P. Troy**
The meeting was called to order by Patty Troy at 6:35 pm.

**Adoption, Additions or Corrections of Draft Agenda – All**
The draft agenda was reviewed and additions or corrections were solicited from BPAC members.

**Moved by Terry Burrell and seconded by Kathy Watts that the draft agenda be accepted with the following revisions: 1) the National Wildlife Federation Lawsuit agenda item will be deferred as Neil Kagan was unable to attend the meeting and 2) after the Bird or Animal Deformities or Reproductive Problems BUI – MDEQ agenda item, Kris Lee would like to update BPAC on the Lake Erie and St. Clair Binational Forum.**

***CARRIED***

**Approval of December 1, 2015 Draft Minutes and Actions – All**
Actions arising from the last meeting on September 29, 2015 were reviewed along with the draft minutes.

**Moved by Fred Kemp and seconded by Terry Burrell that the draft minutes of December 1, 2015 be accepted.**

***CARRIED***

**Election of Officers - All**
The Chair asked that Fred Kemp facilitate the elections process. Fred Kemp called for nominations from the floor for the following four positions:

United States Co-Chair:
Patty Troy was nominated by Kris Lee. No other members were nominated. **Moved by Terry Burrell and seconded by Paulette Duhaime that nominations be closed and that a unanimous ballot be accepted.**

***CARRIED***

Canadian Co-Chair:
Kris Lee was nominated by Patty Troy. No other members were nominated. **Moved by Terry Burrell and seconded by Paulette Duhaime that nominations be closed and that a unanimous ballot be accepted.**

***CARRIED***

United States Vice Co-Chair:
Paulette Duhaime was nominated by Patty Troy. No other members were nominated. **Moved by Terry Burrell and seconded by Sheri Faust that nominations be closed and that a unanimous ballot be accepted.**

***CARRIED***

Canadian Vice Co-Chair:
Terry Burrell was nominated by Peter Westfall. No other members were nominated. **Moved by Paulette Duhaime and seconded by Patty Troy that nominations be closed and that a unanimous ballot be accepted.**

***CARRIED***

Statewide Public Advisory Council (SPAC) Representatives:
**Moved by Terry Burrell and seconded by Kris Lee that Patty Troy and Paulette Duhaime represent the St. Clair River Area of Concern BPAC on the SPAC.**

***CARRIED***

**Wake/Boating Laws and Enforcement – Lt. P. Reid**
At the September 29, 2015, BPAC meeting Wood Alef, a concerned citizen from Algonac, expressed to BPAC members concern over wakes created by boating traffic along the St. Clair River and the impact it was having on local shorelines (e.g., turbidity, damage to docks, etc.). At BPACs request, Lt. Paul Reid of the Marine Division of the St. Clair County Sheriff's Office attended the current meeting to provide an overview on regulations and enforcement surrounding this issue.

Lt. Paul Reid advised that there are 12 different types of no wake zones In St. Clair County that are regulated. In addition to speed restrictions, boaters must abide by rules governing required travelling distances from shore. In some counties, there are no markers or signage alerting boaters of these rules and due to capacity restraints, enforcement of these regulations can be limited. In response, in some areas, private land owners have erected signs on their properties alerting boaters of the laws, however, Lt. Reid cautioned that anyone considering this should first discuss with neighbors.

In an attempt to promote greater education on no wake laws with boaters, Lori Eschenburg, Planner with St. Clair County, will be creating a map that identifies no wake zones along the St. Clair River. This map will be made available to BPAC members and the public via numerous information sharing venues. BPAC members were

encouraged to contact Lt. Paul Reid should they have additional questions or comments about no wake zones and enforcement.

**Coastal Management Zone Program – C. Meyer**

Cheri Meyer, Public Access/Water Quality Specialist with the Michigan Office of the Great Lakes, provided BPAC members with an overview of the Coastal Zone Management Program. The goal of this program is to promote the management of cultural and natural resources within the coastal boundary. The program provides funding between $10,000 and $100,000 for projects supporting one or more of five focus areas:

1. Coastal Community Development – planning and managing future growth and development on lands adjacent to the coast
2. Coastal Public Access – protecting, restoring, creating, and enhancing public access to the Great Lakes
3. Coastal Habitat – protecting, managing, and restoring sensitive coastal habitats
4. Coastal Water Quality – protection of high quality water through the protection, restoration, and enhancement of critical coastal resources (e.g., wetlands)
5. Coastal Hazards – increase community resiliency to coastal erosion and flood hazards

**Beach Closings BUI – MDEQ – M. Foose**

*New State Delisting Criteria:*
Melanie Foose reported to BPAC members that the USEPA has accepted changes by the MDEQ to the Beach Closings delisting criteria and today was hoping to gain local support for the new criteria from BPAC.

Revised Criteria:
*According to the 2015 Guidance, this BUI will be considered restored when:*

*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.*

*OR, in cases where the 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. 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.*

**Moved by Terry Burrell and seconded by Sheri Faust that BPAC accept the new delisting criteria proposed by the MDEQ for the "Beach Closings" Beneficial Use Impairment (BUI) on the American side of the St. Clair River Area of Concern (AOC).**

***CARRIED***

*Removal Recommendation:*
Over the last few months, Melanie Foose has presented to BPAC an overview of the "Beach Closings" BUI assessment report for the American side of the St. Clair River. The report summarizes the significant work to reduce *E. coli* levels though the elimination of Combined Sewer Overflows (CSOs) and implementation of green infrastructure. The final CSO remaining is being addressed in 2021 under an NPDES permit for Port Huron. The report also provides a summary of water quality at beaches monitored by the St. Clair County Health Department. Comments and feedback from BPAC members have been incorporated as appropriate.

The report results are positive and recommend removal of "Beach Closings" as an "Impaired" BUI.

**Moved by Terry Burrell and seconded by Lori Eschenburg that the recommendation to remove the "Beach Closings" BUI on the American side of the St. Clair River AOC be accepted.**

***CARRIED***

**ACTION** – Patty Troy and Paulette Duhaime will draft a letter of support to the MDEQ on the removal of the "Beach Closings" BUI on the American side of the St. Clair River AOC. In the letter, they will express BPACs recommendation that beach water quality monitoring programs continue to be supported.

**Bird or Animal Deformities or Reproductive Problems BUI – MDEQ – M. Foose**

Melanie Foose provided BPAC members with a brief overview of results from a recently released assessment of the "Bird or Animal Deformities or Reproductive Problems" BUI for Michigan Great Lakes AOCs. Information contained in this report will be used to draft the narrative for the BUI assessment report for the St. Clair River AOC. The report includes information on deformity rates and the reproduction of Bald Eagles (*Haliaeetus leucocephalus*), Mink (*Neovison vison*) and Tree Swallows (*Tachycineta bicolor*) along with the BPAC recommended sampling and analysis of forage fish in the St. Clair River. Results are positive. Next steps in presenting to BPAC may include a webinar or presentation by one of the scientists.

**ACTION** – BPAC members will review the document and send Melanie Foose (foosem@michigan.gov) any questions and/or comments by February 26, 2016.

**Lake Erie and St. Clair Binational Forum – K. Lee**

Kris Lee advised BPAC members that there is no longer funding for the Lake Erie and St. Clair Binational Forum but that funding is currently being sought to maintain the Coordinator position. The forum has a good website with lots of information. The forum leads are looking to integrate the website into another until funding to maintain it is available again. Kris Lee suggested that an opportunity to do this may be through the Friends groups.

**OMOECC, EC, MDEQ and USEPA Updates on Canadian and American Projects – T. Briggs, A. White, M. Foose and R. Ellison**

*OMOECC Update:*

Ted Briggs was unable to attend the meeting. No update was available.

*EC Update:*

- April White reported to BPAC that Environment Canada has had an official name change and is now called Environment and Climate Change Canada (ECCC).
- Three applications for the St. Clair River AOC are currently being reviewed for funding under the 2016-2017 Great Lakes Sustainability Fund.
- Four BUIs are currently being actively worked on for the Canadian side of the St. Clair River and include 1) "Bird or Animal Deformities or Reproductive Problems", 2) "Restrictions on Dredging Activities", 3) "Beach Closings" and 4) "Restrictions on Drinking Water Consumption or Taste and Odor Problems".
- ECCC is currently preparing a five-year work plan outlining science and monitoring activities required in the St. Clair River AOC.
- Discussions continue with Dow Chemical Canada regarding the Sediment Management Project.
- In collaborations with Walpole Island First Nation, a science symposium is being planned for March that will provide the opportunity to update the local community on a number of research projects conducted in the area (e.g., fish tumor sampling, frog deformity sampling).

*MDEQ Update:*

Melanie Foose reported that all habitat projects are complete. The restoration sites will be monitored this spring and summer after which a BUI removal document can be drafted. BPAC members inquired as to whether the data from the monitoring activities are made publically available.

*USEPA Update:*

Rose Ellison was unable to attend the meeting. No update was available.

**Committee Reports**

*Statewide Public Advisory Council – P. Troy and P. Duhaime:*

No Statewide Public Advisory Council (SPAC) meeting has been held since the last BPAC meeting. The next meeting is scheduled for March 1, 2016, the day before the annual AOC Conference in Dearborn, Michigan. Patty Troy requested that anyone who wishes to attend the two day AOC conference contact her prior to Friday, January 29, 2016, as that is the deadline for submission of requests for travel funding.

*Friends of the St. Clair River – Canada – D. Randell and T. Burrell:*
Terry Burrell reported on recent Friends of the St. Clair River (FOSCR) activities (Canada). The Annual General Meeting was held on December 2, 2015. FOSCR has recently provided funding towards coastal wetland projects in the Mitchell's Bay area along with the River RAP Education Program at the St. Clair Region Conservation Authority (SCRCA). The FOSCR continues to produce an E-Newsletter three times a year. Some BPAC members reported that the E-Newsletter does not print properly and inquired if the email could include a printer friendly version.

**ACTION** – Donna Strang will contact Ken Hall, the FOSCR webmaster and see if a printer friendly version of the E-Newsletter can be made available.

*Friends of the St. Clair River – USA – S. Faust:*
Sheri Faust reported on recent Friends of the St. Clair River activities (USA). The second Winter Bird Blast event is scheduled for February 20, 2016. The event will include a guided hike along the St. Clair River shoreline followed by the opportunity to paint a winter owl scene. The monthly speaker series also continues with the next talk occurring on January 27, 2016. Dave Dortman will talk about freshwater mussels, their biology, life history, identification and local importance. Talks are scheduled on the fourth Wednesday of every month. Lastly, Sheri Faust requested that everyone save-the-date for the upcoming Sturgeon Festival in Port Huron on Saturday, June 4, 2016.

*BPAC Membership Subcommittee – A. Kerr and F. Kemp:*
Fred Kemp reported that the BPAC Membership Subcommittee will be seeking guidance from BPAC regarding whether vacant positions should be filled or if BPAC should continue on as a smaller group.

**ACTION** – A conference call between the BPAC chairs, co-chairs, and Fred Kemp will be scheduled to discuss the BPAC membership list and vacant positions.

*Canadian RAP Implementation Committee – P. Vallance:*
Kris Lee reported on behalf of Phil Vallance who was unable to attend the meeting. There has not been a Canadian RAP Implementation Committee (CRIC) meeting since the last BPAC meeting. CRIC will be meeting on February 25, 2016.

*Four Agency Managers Work Group – T. Briggs:*
Melanie Foose reported on behalf of Ted Briggs who was unable to attend the meeting. The next Four Agency Managers Work Group meeting is scheduled for March 24, 2016.

**Other Business**

- Sheri Faust, president of the Friends of the St. Clair River group (USA), has been chosen as the recipient of the Blue Water Woman Government Professional Woman of the Year and will be celebrated at a ceremony in February. Patty Troy expressed congratulations on the well-deserved honor to Sheri on behalf of BPAC.
- Patty Troy reported hearing of continued paper fiber discharges from the Dunn Paper facility and requested Judy Ogden to verify this with her contacts through Blue Water Sports Fishing Association.
- Patty Troy reported that the MDEQ draft Integrated Report was released and summarizes a number of different assessments for Michigan's waters. A representative will be invited to an upcoming Friends of the St. Clair River – USA speaker series event.

- Patty Troy participated in a webinar that provided an overview of the statewide TMDL development.
  **ACTION** – Patty Troy will send Donna Strang the link to the TMDL webinar presentation to circulate to BPAC members.
- Paulette Duhaime attended the State of the Strait conference in Ypsilanti, Michigan on December 9, 2015. The conference is held every two years and includes presentations by academic and government agencies on recent studies along the corridor such as wetland assessments, habitat projects, etc. Paulette recommended that BPAC become more involved at this conference in the future.
- Lori Eschenburg reported that remaining signs created as part of the Blueways signage project are completed and installed. The informational signs provide overviews of the local history of the region and can be viewed at different locations along the Thomas Edison Parkway.

**Next Meeting Date**
The next BPAC meeting will be held on either Wednesday, March 30, or Thursday, March 31, depending on availability of the Lambton-Kent District School Board. Kris Lee will confirm.

**Adjournment**
The meeting was adjourned by Patty Troy at 9:35 p.m.

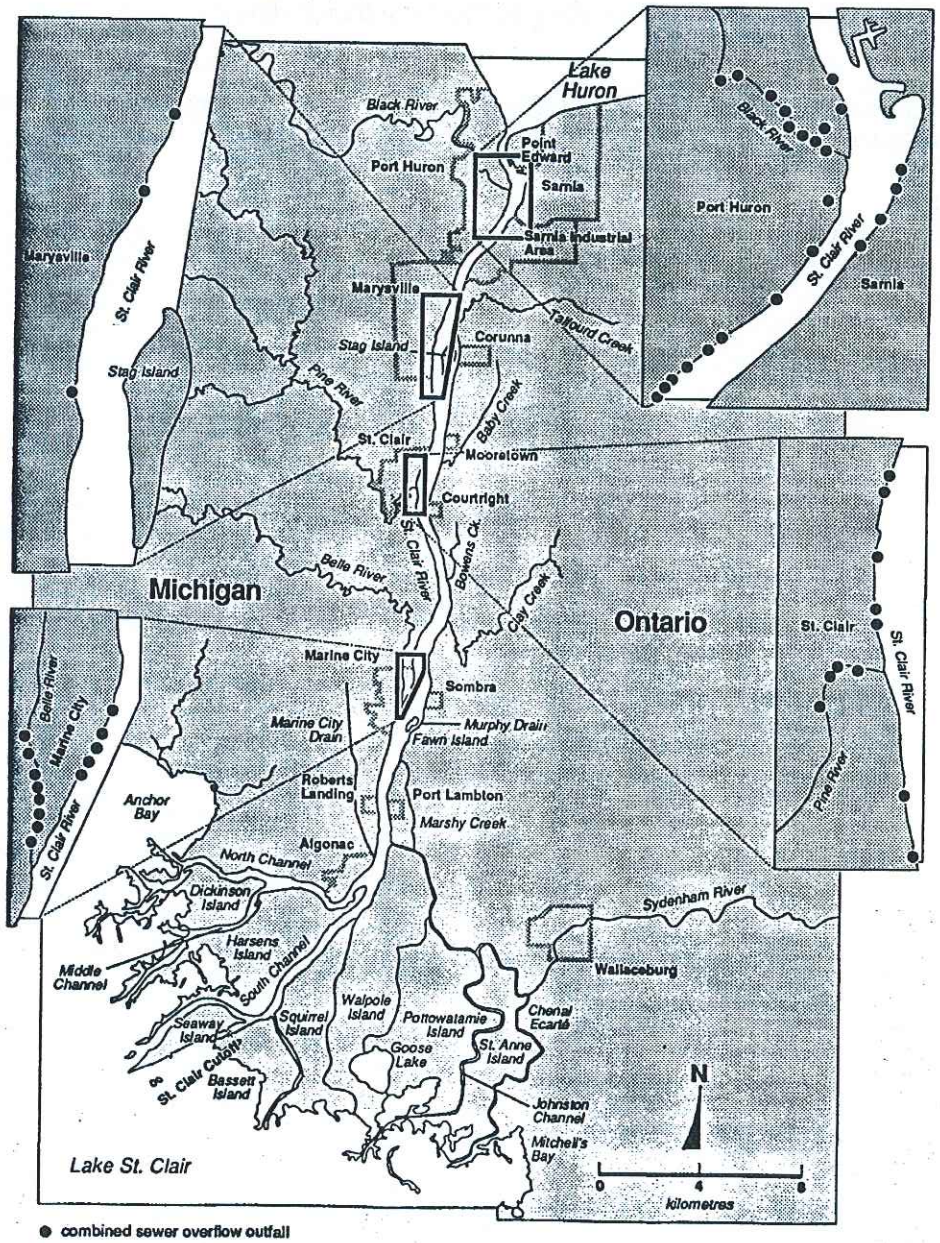
## Attachment D

## Map of St. Clair River CSOs in the United States and Canada in 1991

Figure 8.3

*St. Clair River Remedial Action Plan*

***The location of combined sewer overflow outfalls in Ontario and Michigan***




Source: OMOE and MDNR 1991

## Attachment E

## Beach Closure Days at Chrysler Park Beach

| Year | Days Closed | Reason | Source |
|---|---|---|---|
| 1997 | 1 | High Bacteria Levels | Unknown |
| 1998 | 2 | High Bacteria Levels | Unknown |
| 1999 | 3 | High Bacteria Levels | Unknown |
| 2000 | 1 | High Bacteria Levels | Unknown |
| 2001 | 1 | High Bacteria Levels | Unknown |
| 2002 | 4 | High Bacteria Levels | Unknown |
| 2003 | 2 | High Bacteria Levels | Unknown |
| 2004 | 0 | N/A | N/A |
| 2005 | 0 | N/A | N/A |
| 2006 | 2 | High Bacteria Levels | Unknown |
| 2007 | 1 | High Bacteria Levels | Unknown |
| 2008 | 0 | N/A | N/A |
| 2009 | 29 | High Bacteria Levels | Wildlife |
| 2010 | 7 | High Bacteria Levels | Unknown |
| 2011 | 1 | High Bacteria Levels | Unknown |
| 2012 | 11 | High Bacteria Levels | Unknown/Wildlife |
| 2013 | 0 | N/A | N/A |
| 2014 | 0 | N/A | N/A |
| 2015 | 4 | High Bacteria Levels | Unknown/Storm Water Runoff |

Number of Beach Closure Days at the Chrysler Park Beach in Marysville, Michigan
(K. Shinn, personal communication, August 24, 2015)

## Attachment F

## 2014 Wet Weather Sampling* Results for Chrysler Park Beach

| Date of Sample | Sample Type | Sample Location | Analysis Method | Result Value* |
|---|---|---|---|---|
| June 9, 2014 | Individual | North Chrysler Beach | Colilert-18 Hour | 6.3 |
| | Individual | Mid Chrysler Beach | Colilert-18 Hour | 6.3 |
| | Individual | South Chrysler Beach | Colilert-18 Hour | 19.5 |
| | Daily Mean | | Colilert-18 Hour | 9.1813 |
| June 18, 2014 | Individual | North Chrysler Beach | Colilert-18 Hour | 9.8 |
| | Individual | Mid Chrysler Beach | Colilert-18 Hour | 13.2 |
| | Individual | South Chrysler Beach | Colilert-18 Hour | 12 |
| | Daily Mean | | Colilert-18 Hour | 11.5787 |
| June 26, 2015 | Individual | North Chrysler Beach | Colilert-18 Hour | 45.7 |
| | Individual | Mid Chrysler Beach | Colilert-18 Hour | 11 |
| | Individual | South Chrysler Beach | Colilert-18 Hour | 4.1 |
| | Daily Mean | | Colilert-18 Hour | 12.7262 |
| July 9, 2014 | Individual | North Chrysler Beach | Colilert-18 Hour | 33.5 |
| | Individual | Mid Chrysler Beach | Colilert-18 Hour | 25.3 |
| | Individual | South Chrysler Beach | Colilert-18 Hour | 185 |
| | Daily Mean | | Colilert-18 Hour | 53.9236 |
| July 15, 2014 | Individual | North Chrysler Beach | Colilert-18 Hour | 11.9 |
| | Individual | Mid Chrysler Beach | Colilert-18 Hour | 9.8 |
| | Individual | South Chrysler Beach | Colilert-18 Hour | 77.1 |
| | Daily Mean | | Colilert-18 Hour | 20.7942 |
| July 28, 2014 | Individual | North Chrysler Beach | Colilert-18 Hour | 28.1 |
| | Individual | Mid Chrysler Beach | Colilert-18 Hour | 39.9 |
| | Individual | South Chrysler Beach | Colilert-18 Hour | 60.9 |
| | Daily Mean | | Colilert-18 Hour | 40.8726 |
| August 4, 2014 | Individual | North Chrysler Beach | Colilert-18 Hour | 6.3 |
| | Individual | Mid Chrysler Beach | Colilert-18 Hour | 8.6 |
| | Individual | South Chrysler Beach | Colilert-18 Hour | 517.2 |
| | Daily Mean | | Colilert-18 Hour | 30.3738 |
| August 14, 2014 | Individual | North Chrysler Beach | Colilert-18 Hour | 6.3 |
| | Individual | Mid Chrysler Beach | Colilert-18 Hour | 11 |
| | Individual | South Chrysler Beach | Colilert-18 Hour | 34.5 |
| | Daily Mean | | Colilert-18 Hour | 21.2635 |
| August 19, 2014 | Individual | North Chrysler Beach | Colilert-18 Hour | 5.2 |
| | Individual | Mid Chrysler Beach | Colilert-18 Hour | 4.1 |
| | Individual | South Chrysler Beach | Colilert-18 Hour | 198.9 |
| | Daily Mean | | Colilert-18 Hour | 16.186 |

*The Michigan Department of Community Health and the Michigan Department of Environmental Quality used guidance provided by the EPA to develop ambient standards for E. coli. E. coli standards for water used for total body contact recreation are provided in the Michigan Public Health Code and Rule 323.1062(1) of the Part 4. Water Quality Standards (Promulgated pursuant to Part 31 of the Natural Resources and Environmental Protection Act, 1997 PA 451, as amended). R 323.1062(1) states, "All waters of the state protected for total body contact recreation shall not contain more than 130 Escherichia coli (E. coli per 100 milliliters (ml), as a 30-day geometric mean. Compliance shall be based on the geometric mean of all individual samples taken during five or more sampling events representatively spread over a 30-day period. Each sampling event shall consist of three or more samples taken at representative locations within a defined sampling area. At no time shall the water of the state protected for total body contact recreation contain more than a maximum of 300 E. coli per 100 ml. Compliance shall be based on the geometric mean of three or more samples taken during the same sampling event at representative locations within a defined sampling area" (Beach Guard website August 19, 2015).