Ohio | Lake Erie Commission

Mike DeWine, *Governor*
Jon Husted, *Lt. Governor*
Joy Mulinex, *Executive Director*
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June 1, 2023

Chris Korleski, Director
U.S. Environmental Protection Agency
Great Lakes National Program Office
77 W. Jackson Boulevard (G-17J)
Chicago, IL 60604-3511

RE: Maumee Area of Concern Degradation of Aesthetics Beneficial Use Impairment Removal Action

Dear Director Korleski,

In a partnership between the Ohio Lake Erie Commission, Ohio EPA and many local entities, the State of Ohio has worked towards the restoration of the beneficial use impairments (BUI) identified for the Maumee Area of Concern (AOC).

As a result of partnerships and progress made over the past three decades and on behalf of Ohio's AOC program, I submit this BUI removal recommendation for Degradation of Aesthetics in the Maumee AOC. The Ohio Lake Erie Commission, in partnership with Ohio EPA and with the support of the Maumee AOC Advisory Committee, requests your concurrence with the enclosed recommendation to remove the Degradation of Aesthetics BUI in the Maumee AOC.

This will be the third BUI removed in the Maumee AOC. These continued improvements in the Maumee AOC are a result of the work by local stakeholders and organizations as well as the state and federal AOC programs. We look forward to working with U.S. EPA and the local AOC Advisory Committee to continue restoration progress in the Maumee Area of Concern. the Ohio Area of Concern program

Sincerely,

Joy Mulinex

Joy Mulinex
Director, Ohio Lake Erie Commission

Enclosure
cc: Archie Lunsey, OEPA-DSW
Lynn Garrity, OLEC
Leah Medley, USEPA-GLNPO
Cherie Blair, OEPA

Removal Recommendation for Degradation of Aesthetics Beneficial Use Impairment in the Maumee AOC

Lower Maumee River
Photo credit: Bryce Blair Jr.

May 2023

Ohio Environmental Protection Agency

Maumee AOC

Ohio Lake Erie Commission

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Purpose

The purpose of this document is to recommend the removal of the *Degradation of Aesthetics* Beneficial Use Impairment (BUI) from the Maumee Area of Concern (AOC). This document provides information and documentation regarding the aesthetic conditions of the Maumee AOC compared to applicable State of Ohio BUI Restoration Targets.

Background of Maumee AOC

In 1987, the US-Canada Great Lakes Water Quality Agreement amendments formed the Area of Concern (AOC) program. This program, specific to the Great Lakes Region, identified 43 "Areas of Concern" surrounding the Great Lakes that exhibited such degrees of environmental degradation that they posed risks to the overall health of the Lakes, the wildlife that depend on them, and the people that use the resources.

The Maumee AOC is one of those areas of concern. It covers 787 square miles, encompassing the greater-Toledo region and areas around Toledo in Ottawa, Wood, and Fulton counties. In total, 57 communities of all sizes are spread across this area, and roughly 558,000 people call it home. The Maumee AOC, shown in Figure 1, includes approximately 45 miles of Lake Erie shoreline and over 1,900 miles of stream in 11 independent watersheds including all of Swan Creek, Ottawa River (Ten Mile Creek), Duck Creek, Otter Creek, Cedar Creek, Grassy Creek, Crane Creek, Turtle Creek, Packer Creek, Toussaint River, the lower 23 miles of the Maumee River and a portion of Maumee Bay. Land use in the AOC is diverse, representing urban and rural developments, agriculture, and pockets of native forests, prairies, and wetlands.

The work of the Maumee AOC and its partners strives to improve water quality of the rivers and streams in the AOC by correcting and removing biological or chemical issues, also known as Beneficial Use Impairments

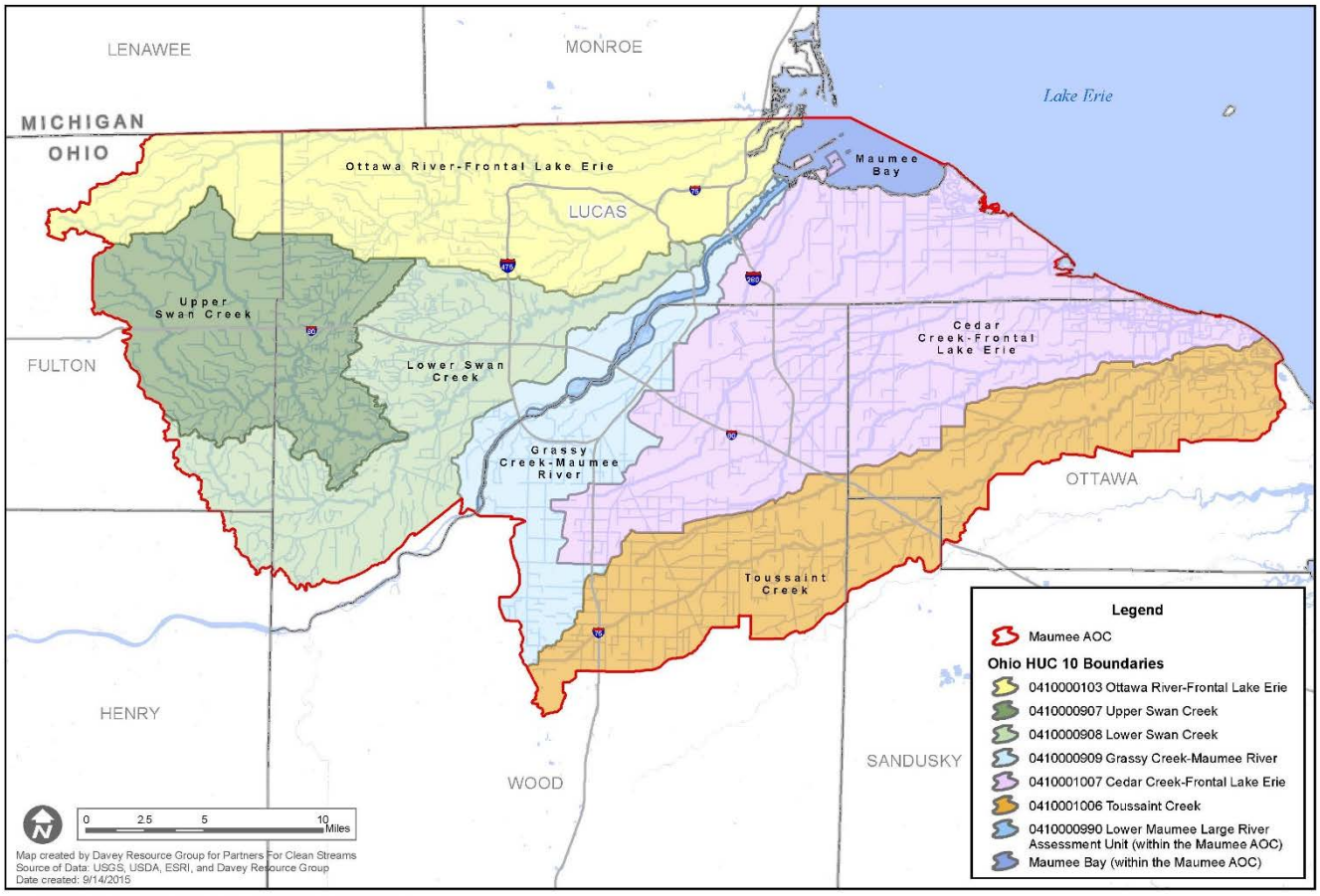


Figure 1. Maumee Area of Concern

(BUIs). The Maumee AOC had 10 of the 14 BUIs identified as impaired. One BUI was removed in 2015 and one in 2022.

Beneficial Use Impairments listed in Maumee AOC

1. Restrictions on fish and wildlife consumption – Removed 2022
3. Degradation of fish and wildlife populations
4. Fish tumors or other deformities
6. Degradation of benthos
7. Restrictions on dredging activities
8. Eutrophication or undesirable algae
10. Beach closings
11. Degradation of aesthetics
12. Added cost to agriculture or industry – Removed 2015
14. Loss of fish and wildlife habitat

Degradation of Aesthetics BUI Listing and Removal Criteria

The Ohio Areas of Concern Program developed an AOC Delisting Guidance Document, *Delisting Guidance and Restoration Targets for Ohio Areas of Concern* (Ohio EPA and OLEC, 2020). This document outlines for the *Degradation of Aesthetics BUI*, the International Joint Commission (IJC) listing guideline as:

IJC Listing Guideline

When any substance in water produces a persistent objectionable deposit, unnatural color or turbidity, or unnatural odor (e.g., oil slick, surface scum).

Also included in the *Delisting Guidance and Restoration Targets for Ohio Areas of Concern* are Ohio's BUI listing guideline and restoration targets for BUI removal. The State of Ohio BUI listing guideline is:

State of Ohio Listing Guideline

Ohio has not established numeric criteria that directly relate to this BUI. Based on Ohio water quality criteria applicable to all waters (OAC 3745-1-04, sections A-C), this beneficial use shall be listed as impaired when human activity routinely causes any of the following persistent conditions:

- Sludge deposits
- Oil sheens, scum and other objectionable materials
- Materials that produce color, odor, or other nuisances.

The current state of Ohio restoration target for BUI 11 is:

State of Ohio Restoration Target

This beneficial use will be considered restored when the following conditions are met:

If there are no observed ongoing occurrences of sludge deposits, oil sheens, scum and other objectionable materials; specifically, materials that produce color, odor, or other nuisances, then this BUI may be considering restored. **OR**

If there are observed ongoing occurrences and Combined Sewer Overflows (CSOs) are a significant cause of aesthetic impairments but the CSOs are being addressed under an approved long-term control plan or other legally binding document, then this BUI may be considered restored. Where long-term remedies may take several years to be fully implemented, it may be necessary to develop short-term control strategies.

AND/OR

If there are observed ongoing occurrences and Municipal Separate Storm Sewer Systems (MS4s) are a significant cause of aesthetic impairments but the MS4 is regulated under an NPDES Permit or other legally binding document, this BUI may be considered restored.

Notes

- Aesthetic impairments due to algae or excessive nutrient loading will be addressed under BUI 8.
- Natural physical features (e.g., woody debris, logjams, rootwads) and excessive turbidity following storm events or due to agricultural activities are not considered an impairment under this BUI.

Potential Data Sources

- Ohio EPA water quality surveys
- Local water quality surveys or reports
- Ohio EPA or local CSO discharge reports
- U.S. Coast Guard spill reports

The full text of this BUI Restoration Target is included in Appendix A of this document.

Background of Degradation of Aesthetics BUI

In the 1800s and 1900s, streams in the Maumee AOC were heavily polluted with industrial contaminants and trash. Residents chronicled their reactions to the poor aesthetic conditions of streams such as Swan Creek and the Ottawa River, where recreational use was limited by poor water quality, noxious odors, piles of trash, and scum (Peters, 2019).

Where decades ago, prior to the Clean Water Act and Ohio Revised Code 3767.32, anyone could release or dump almost anything into streams and rivers with little to no consequence; today such illicit discharges are prohibited and permitted releases are closely regulated. Ohio EPA Division of Environmental Response and Revitalization (DERR) and the Office of Environmental Response investigates spills, while the Division of Surface Water (DSW) investigates illicit discharges from permitted facilities. In addition, many litter laws have been created at the state and local level which has assisted in reducing litter within the AOC.

BUI 11: Degradation of Aesthetics, was listed as an impaired BUI in the 1990 Maumee AOC Stage 1 Report due to “debris and highly turbid water after rainstorms.” The report also listed causes and sources of impairment as agricultural land use, combined sewer overflows (CSOs), and urban runoff. Litter was mentioned in relation to the Ottawa River. The report also discussed oily sheens on Otter Creek and other streams receiving industrial discharges from permitted facilities (Ohio EPA, 1990).

In 2005, the Ohio EPA created *Delisting Targets for Ohio Areas of Concern* for each BUI (Ohio EPA, 2005). The state based this guidance upon the U.S. Policy Committee Delisting Principles and Guidelines (USPC, 2001), the International Joint Commission’s Delisting Guidelines (1991), and various Ohio water quality standards, guidance, and policies. The 2005 Delisting Target for this BUI focused on the six "free froms" designated in the Ohio Administrative Code section 3745-1-04 (e.g., Free from materials entering the waters as a result of human activity producing color, odor or other conditions, Free from public health nuisances associated with raw or poorly treated sewage, etc.) (Ohio EPA, 2005).

From 2012 to 2014 Ohio conducted a comprehensive evaluation of its BUI Delisting Targets to ensure they were measurable and achievable for the AOC Program. The outcome of that review was Ohio’s 2014 version of the *Delisting Guidance and Restoration Targets for Ohio Areas of Concern.* These updates to the BUI 11 target

narrowed the restoration target from all six "free froms" to focus on just "sludge deposits, oil sheens, scum and other objectionable materials; specifically, materials that produce color, odor, or other nuisances" (Ohio EPA, 2014a). Upon the release of those updates in May 2014, a re-evaluation of the Maumee AOCs BUIs was conducted. Based upon conditions observed in the AOC during an Ohio EPA desktop evaluation of this BUI, the Maumee AOC was still considered to be Impaired.

A comprehensive re-evaluation conducted in 2018 for this BUI determined that the human activities were no longer resulting in persistent sludge deposits, scum, other objectionable material, or materials that produce color, odor, or other nuisances that were atypical of the region. However, it also determined that the resuspension of historically contaminated sediments did continue to result in persistent oil sheens in Otter Creek. Therefore, except for Otter Creek, the Maumee AOC waterways were found to meet Ohio's BUI Restoration Targets for *BUI 11: Degradation of Aesthetics* (Peters, 2019).

Figure 2. Floatables in Swan Creek during cleanup, 2013
Photo by: Andy Drumm

Figure 3. Sheen on Otter Creek, 2002
Photo by: Kristina Patterson

BUI Assessment and Supporting Data

The last comprehensive evaluation of this BUI in the Maumee AOC was conducted in 2018 when Ohio EPA contracted a consultant (Mannik & Smith Group, Inc.) to compile relevant data and determine the current status of *BUI 11: Degradation of Aesthetic*s. During this re-evaluation, it was determined that many of the causes and sources of the *Degradation of Aesthetics BUI* (BUI 11) previously identified were no longer applicable to the Maumee AOC based on Ohio's BUI Restoration Target since 2014. Those include but were not limited to:

- Nonpoint source sediment-loading from agricultural and developing lands are no longer considered sources of impairment. According to Ohio's AOC guidance (Ohio EPA, 2017, p. 56), excessive turbidly due to storm events or from agricultural activity cannot be considered causes of impairment to BUI 11. The "high turbidity after rainstorms" mentioned in the Stage 1 report is no longer considered an impairment for this reason.
- Agricultural land use, listed as a source of impairment in the Stage 1 report, is no longer applicable under the current BUI restoration targets. Nutrient-loading and eutrophication that affect aesthetics are addressed under BUI 8 (eutrophication and undesirable algae) (Ohio EPA, 2017, p. 56).

- CSOs are no longer considered a cause of impairment to BUI 11 if they are being addressed under an approved long-term control plan or other legally binding document (Ohio EPA, 2017, p. 56). Figure 4 shows an example of an older CSO outfall in the Maumee AOC.
- If urban runoff associated with Municipal Separate Storm Sewer Systems (MS4s) is a cause of aesthetic impairment, but the MS4 is regulated under a National Pollutant Discharge Elimination System (NPDES) permit or other legally binding document, then BUI 11 may be considered restored (Ohio EPA, 2017, p. 56).

Figure 4. CSO outfall along Swan Creek, 2008
Photo by: Cherie Blair

The possible causes that remained were oil sheens and litter/trash. Data and information were compiled on these issues to determine the current status of BUI 11 in 2018 (Mannik & Smith Group, 2019). The data and information included spills records, regulated discharges, volunteer streambank clean-ups, photographs, periodical references, and a public perception survey.

The majority of the data presented in this BUI Removal Recommendation is from that 2018 status evaluation and compilation (Mannik & Smith Group, 2019) as well as information from their BUI Status Memo to Ohio EPA (Peters, 2019). **The data showed that as of 2018 this BUI should be considered impaired for only one condition in one area** (oil sheens in Otter Creek). The data from 2018 that was used to arrive at that conclusion **has been provided in this section to show the justification for the status determination** at that time. A comprehensive update to the 2018 data has not been completed since there has been no observed ongoing occurrence since that determination was made, however based on a limited review the conditions have continued their improving trend. The one condition/location that was determined to still be impaired in 2018 (Otter Creek), was addressed in 2021 and is explained in more detail later in this section. The following information demonstrates that the aesthetic conditions have significantly improved in the Maumee AOC to a point that the impairment should be considered removable based on current BUI Restoration Targets.

Spill Records

Federal, state, regional, and local agencies respond to oil sheens, spills, and other illicit discharges in waters of the United States. In Ohio, on-scene coordinators are often deployed from Ohio EPA's Division of Environmental Response and Revitalization (DERR), Ohio EPA's Office of Emergency Response (ER), and/or U.S. EPA Region 5. Spills reports were obtained from two agencies:

- **U.S. Coast Guard's National Response Center** (NRC) compiles incident reports regarding pollution and train incidents from across the United States (U.S. Coast Guard, 2018). The NRC does not deploy to such incidents, nor does it investigate the incidents. NRC provides initial incident reporting information to response agencies that investigate and perform further reporting. NRC data are limited. Reports typically do not state if a spill reached a local waterway or if it did, what waterway was impacted. Generally, a review of the narrative descriptions of the incidents involving waterways in the Maumee AOC indicated that the incidents reaching waterways were isolated.

  Although specific spill location information is inconsistently reported among agencies, county information is available for all incidents. Because the Maumee AOC spans six counties (Fulton, Henry,

Lucas, Ottawa, Sandusky, and Wood), Lucas County was selected to serve as an indicator of incidents in the larger AOC. (See Figure 1 for counties of the AOC) Ninety-nine percent of the county lies within the AOC boundary and Lucas County has the largest population of the six counties that make up the AOC. Between 1990 and 2017, 1,597 incidents in Lucas County were reported to the NRC. Of those, 40 were railroad incidents (such as collisions with vehicles or pedestrians) that did not result in a spill or release of hazardous material.

Generally, the review of the narrative description of the remaining 1,557 incidents in the Maumee AOC indicated that the incidents are typically isolated events, not chronic. It is not known how many of these incidents resulted in a spill or sheen in a surface water; a portion of the events were *likely* contained on land or were released to the air. It should be noted that the highest incident rates were in the Otter Creek watershed, which is the only location that was identified in 2018 to have ongoing occurrences of sheens. Figure 5 illustrates the apparent decreasing trend in the number of incidents in Lucas County over 30 years. (Peters, 2019)

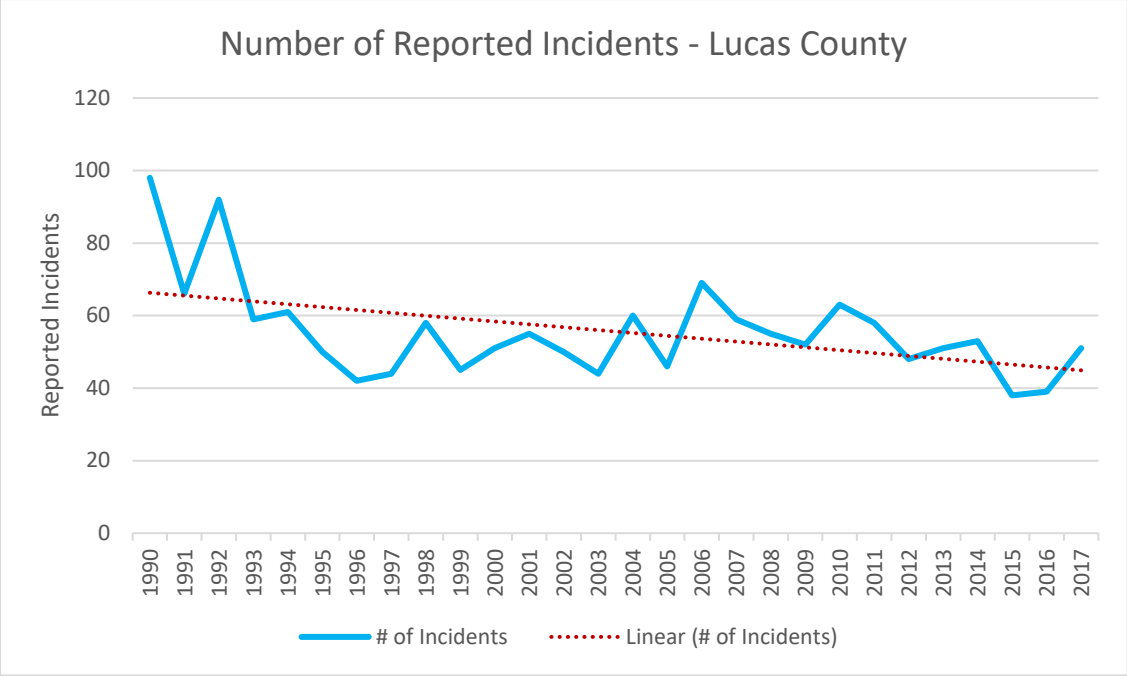


Figure 5. Reported incidents in Lucas County from U.S. Coast Guard NRC (1990-2017)
Based upon U.S. Coast Guard 2018.
Note: Does not include railroad non-release incidents (traffic accidents, fatalities, etc.)

Incidents in Lucas County were compared to incidents in Montgomery County (Dayton, Ohio) and Hamilton County (Cincinnati, Ohio) (see Figure 6). These two counties were chosen because they contained cities with similar population sizes to Toledo and were located outside of areas of concern. The purpose of this comparison was to determine if the number of incidents reported in the Maumee AOC significantly differed from similar communities outside of the AOC. Lucas County had similar numbers of NRC reported incidents and a similar overall downward trend in reported events since 1990 compared to Hamilton and Montgomery counties.

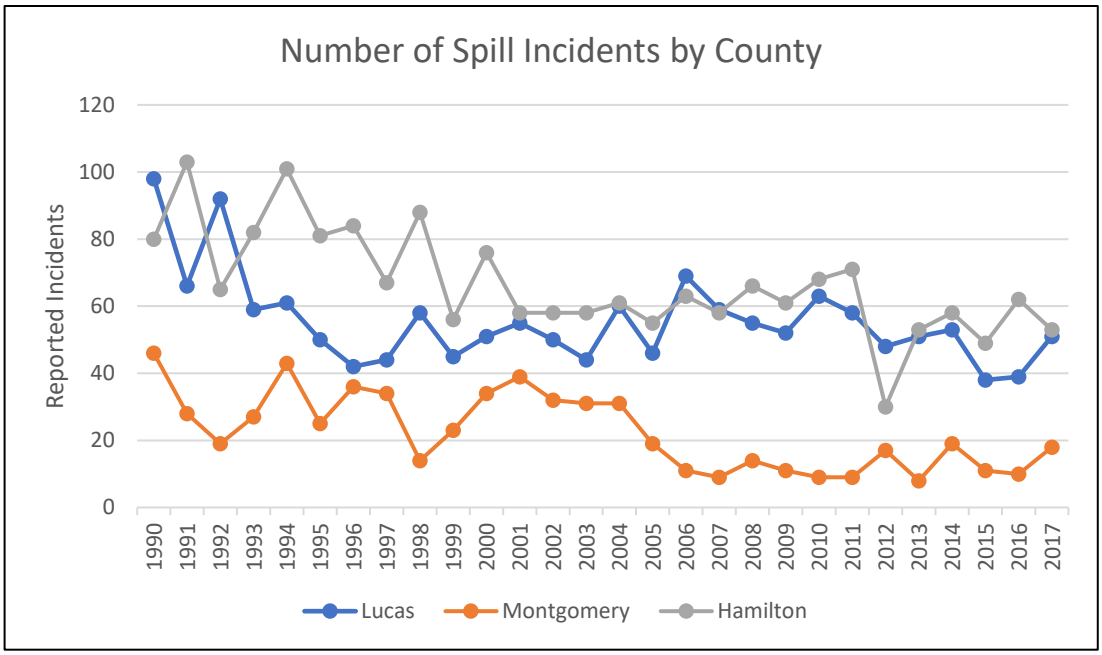


Figure 6: Spill Incidents in Lucas, Montgomery, and Hamilton counties – National Response Center (1990-2017)
Based on: U.S. Coast Guard (2018)
Notes: Does not include railroad non-release incidents (traffic accidents, fatalities, etc.)

- **Ohio EPA DERR and ER** has two databases of spills records: 1970s through May 16, 2017 (old database) and May 17, 2017 to present (current database). Between January 1, 1990 and May 16, 2017, DERR had 2,353 spills records for oil-related or known materials in seven municipalities[1] within the Maumee AOC. Between May 17, 2017 and December 31, 2022, ER had 254 spill records for oil-related or known materials for seven municipalities within the Maumee AOC .

  A review of Ohio EPA spill records indicates that isolated spills occurred historically and recently throughout the Maumee AOC. The most common types of spills in all seven of the cities reviewed were gasoline and oil spills, which most frequently taking place on roadways or at service stations These types of spills are incidental and not chronic. Neither of the Ohio EPA databases indicate any persistent *spills* of oil, oil-related compounds, or sludge in the Maumee AOC. The persistent oil sheens on Otter Creek were seen when the contaminated sediments were disturbed. These sheens were not specific to a spill, but due to the legacy of petroleum-based manufacturing for over 100 years in that watershed. The clean-up of this legacy sediment contamination was addressed in 2021 and is explained in a later section of this document. Figure 7 shows booms containing a sheen on the Ottawa River in 1992.

[1] Maumee, Oregon, Perrysburg, Rossford, Swanton, Sylvania, and Toledo

Figure 7. Oil sheen cleanup on the Ottawa River, 1992
Photo from: Ohio EPA

- **SPILL RECORDS IN SUMMARY:**
  - Decreasing trend in the number of incidents over 27+ years per NRC reporting.
  - When compared to similar non-AOC counties, there were a similar number of reported incidents and a similar overall downward trend in reported events since 1990 per NRC.
  - Ohio EPA spill records did not indicate any persistent *spills* of oil, oil-related compounds, or sludge.
  - The types of spills reported by NRC and Ohio EPA illustrate incidental and not chronic releases.

Regulated Discharges

Discharges from publicly owned treatment works (POTWs), MS4s, industrial facilities, and off-site discharging HSTS are regulated through the NPDES. Ohio EPA issues NPDES permits that prohibit discharges of sludge, objectional material, litter, and oil/grease to waters of the state. Because permit compliance is investigated and enforced by several other Ohio EPA programs, they are addressed outside of the AOC program criteria.

- **CSOs and Long-Term Control Plans:**
  - According to Ohio's BUI Restoration Targets, CSOs are not considered a cause of impairment to BUI 11 unless they are a significant cause of aesthetic impairments and are not being addressed under an approved long-term control plan (LTCP) or other legally binding document (Ohio EPA and OLEC, 2020, p. 59).
  - Since LTCPs are in place for the seven combined sewer communities in the Maumee AOC, this is not a significant cause of impairment (see Table 1).

Table 1. Long term control plan dates for the Maumee AOC

Community	Original LTCP Completion Date	Current Status
Metamora	2007	Completed
Luckey	2008	Completed
Bowling Green	2009	Completed
Delta	2016	Complete/Monitoring
Perrysburg	2017	Ongoing/Extension
Toledo	2020	Complete/Monitoring
Swanton	2026	Ongoing

Source: Ohio EPA, 2017a, updated Gierhart, 2023

- As a part of Toledo's LTCP, eight CSO outfalls have been eliminated, and storage structures have been installed (See Figure 8) to significantly reduce the amount of sewage entering waterways through the 24 remaining outfalls. All untreated overflows were also eliminated from the Toledo Bay View Park WWTP in 2006. Overflow occurrences and volume of untreated water entering streams has decreased over the 23 years from 1995 to 2018 (Appendix B, Figure B-1 through Figure B-4).

Figure 8. Joe E. Brown Park Ottawa River south CSO storage basin under construction. Construction completed in June 2018.
Photo by: Cherie Blair

Municipal Separate Storm Sewer Systems:

- According to Ohio's BUI Restoration Targets, MS4s are not considered a cause of impairment to BUI 11 unless they are a significant cause of aesthetic impairments and are not being addressed under an NPDES permit or other legally binding document (Ohio EPA and OLEC, 2020, p. 59).
- Sixteen entities with regulated MS4s (Figure 9) are authorized to discharge storm water through Ohio's general NPDES permit for small MS4s (Phase 2) in the Maumee AOC (OHQ000003) (Table 2).

Table 2. Regulated MS4s in the Maumee AOC

NPDES	Permittee
2GQ00012	City of Maumee
2GQ00001	City of Oregon
2GQ00020	City of Sylvania
2GQ00006	Lucas County
2GQ00004	Village of Ottawa Hills
2GQ00046	University of Toledo
2GQ00047	Village of Swanton
2GQ00002	City of Northwood
2GQ00018	City of Perrysburg
2GQ00017	City of Rossford
2GQ00007	Village of Millbury
2GQ00003	Village of Walbridge
2GQ00028	Wood County
2GQ00042	City of Bowling Green
3GQ00022	Ohio Turnpike
4GQ00000	Ohio Department of Transportation

Source: Ohio EPA, 2019e

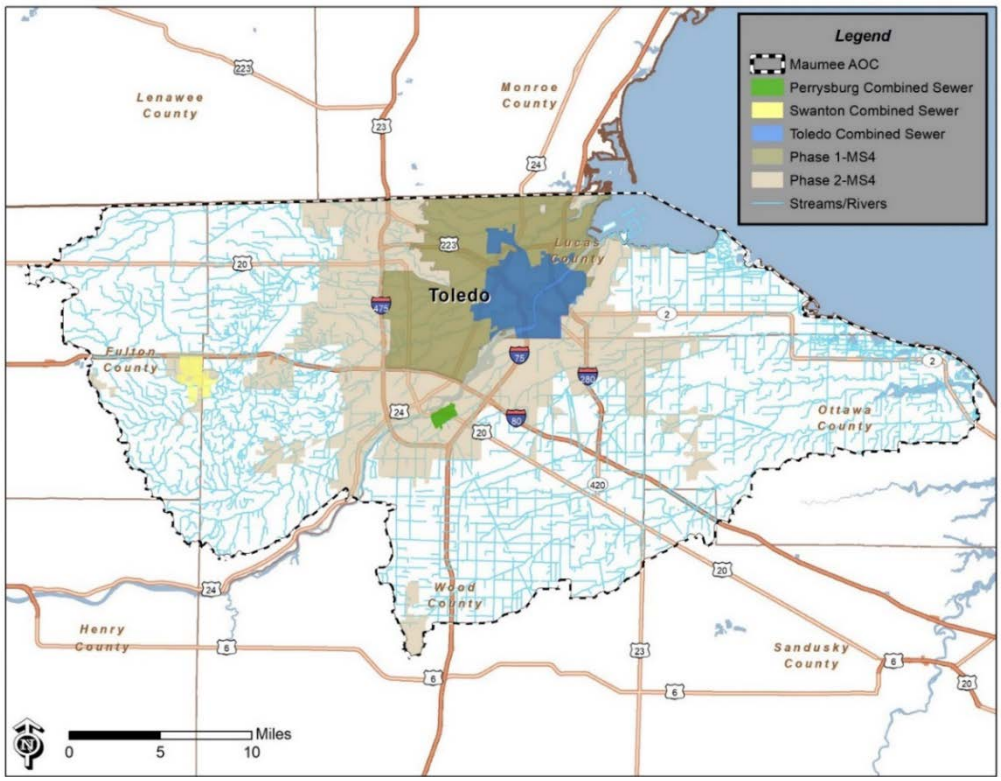


Figure 9. Maumee AOC and CSO and MS4 areas

- **REGULATED DISCHARGES IN SUMMARY:**
  - LTCPs are in place for all combined sewer communities in the Maumee AOC.
  - MS4 are in place for all 16 regulated entities within the urbanized area of the Maumee AOC.

Streambank Cleanup

According to a national study by Keep America Beautiful in 2020, slightly more litter is found along waterways (25.9B pieces) than roadways (23.7B pieces). However, it is noted that the proximity of waterways to roads and their associated human activity provides evidence in support of a hypothesis that litter along waterways is related to litter along roadways, at least when considering the origin of the litter. In most areas, there is no shoreline equivalent of street sweeping that cleans the shores of waterways on a large scale or on a consistent basis there is a decreased likelihood of it being cleaned up. Therefore, litter along waterways is more likely to accumulate and degrade in the natural environment over time than litter along roadways. (Keep America Beautiful, 2020)

In Ohio, the Ohio Department of Transportation (ODOT) is involved in litter clean-up along roadsides. From 2007-2018, ODOT collected 3.7 million bags of trash across the state along state, US, and interstate highways (Keep Ohio Beautiful, 2019). According to the *Ohio Statewide Litter Study*, an average of 475 pounds of litter are deposited annually per mile along roads in Ohio (ODNR, 2004).

Within the Maumee AOC, Partners for Clean Streams coordinates an annual Clean Your Streams streambank clean-up event in the Maumee AOC. The event has focused on cleaning trash from in and along local streams and rivers since 1996 and features clean-ups at multiple sites across the Maumee AOC. The number of annual participants in the Clean Your Streams event has steadily increased from 60 people when the event started to over 1000 people (pre-COVID in 2020), and the annual pounds of trash collected per person has decreased

(Figure 10 and Figure 11). It is assumed the volunteers have not lost interest in finding trash to remove, but the amount of trash present has decreased; therefore, the annual pounds per person has decreased.

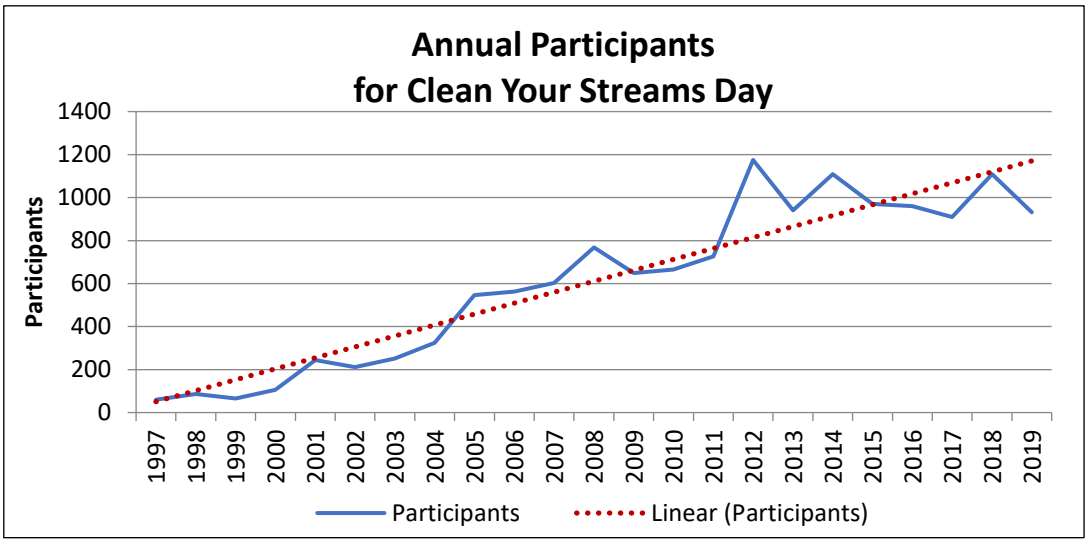


Figure 10. Clean Your Streams Participants 1997-2019
Source: Ohio EPA, 2019f

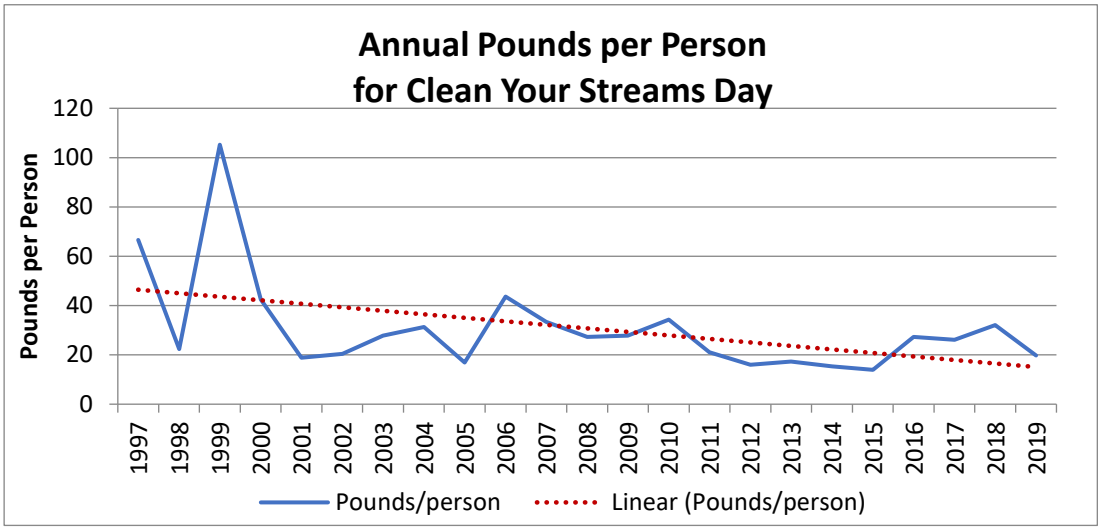


Figure 11. Clean Your Streams Annual Pounds of Trash Collected per Person (1997-2019)
Source: Ohio EPA, 2019f

Data collection during the Clean Your Streams event is standardized. Participants fill out a data form created by the Ocean Conservancy. Partners for Clean Streams coordinates the data collection and uploads the results to the Ocean Conservancy's Trash Information and Data for Education and Solutions (TIDES) database (Ocean Conservancy, 2019). Other communities around the world organize similar clean-up events and collect the same standardized data. These data are also available through TIDES. When compared to other communities collecting litter data through the Ocean Conservancy's International Coastal Cleanup (ICC) events, the total number of items collected annually in Lucas County is similar to the number of items collected annually in other Great Lakes areas. (Figure B-5). Items collected in Lucas County had higher average weights than items collected in Cook County (IL) and Erie County (PA). (Figure B-6) These areas were chosen because of their location along the Great Lakes, they did not contain current AOCs (Erie County contained the Presque Isla Bay AOC but it was delisted in 2013, before the data presented were collected), and they contained a similar number of clean-up sites compared to Lucas County. Photos below illustrate the variety of groups and trash that has been collected over the years. (Figures 12-15).

Figure 12. Ohio EPA cleanup crew posing with trash they retrieved from Swan Creek in 2013
Photo by: Kris Patterson

Figure 13. Cleanup crew collecting trash at Sidecut Metropark in 2014
Photo from: Partners for Clean Streams

Figure 14. Toledo Zoo Teens working together to remove a tire from an AOC stream in 2016. Photo from: Partners for Clean Streams

Figure 15. First Solar cleanup crew with trash they collected from the Maumee River in 2017.
Photo from: Partners for Clean Streams

In addition to the efforts by Partners for Clean Streams, litter awareness and public interest in litter prevention is also demonstrated in the Maumee AOC by the non-profit organization Keep Toledo-Lucas County Beautiful (KTLCB). KTLCB is an affiliate of the Keep America Beautiful organization and is focused on litter prevention and environmental education. KTLCB was founded in 1985.

Figure 16. Installing trash capture device in Shantee Creek on June 22, 2021. Courtesy of The Blade.

In addition to the volunteer stream cleanups, the City of Toledo has installed multiple trash capture devices in several waterways of the AOC that are within 5 river miles of Lake Erie to reduce the amount of trash that gets to the lake via waterways. (Figure 16) These Trash Trappers are a mechanical system consisting of a floating boom and net that funnels and gathers floating debris before it can reach primary waterways like streams, rivers, lakes, and oceans. (City of Toledo, 2023)

Although the presence of litter within the Maumee AOC appears to be decreasing, it is not going away. Even with the improvements and the removal of this BUI, the continued implementation of voluntary programs such as Clean Your Streams and other local and state programs mentioned in this section are strongly recommended.

- **STREAMBANK CLEANUPS IN SUMMARY:**
  - Litter is waterways is a national problem; however there has been a decreasing trend in the amount of trash collected over 20+ years in the Maumee AOC.
  - When compared to similar non-AOC counties, there were a similar amount of trash collected, so the Maumee AOC is no worse than other Great Lakes areas.
  - In-person volunteer and mechanical devices will continue to address ongoing issues.

Photographs, Videos, and Periodicals

Improvements to the aesthetic conditions may be best understood when compared to previous conditions through images and articles. This section illustrates the change in conditions of the Maumee AOC through photos, videos and articles.

- **Photographs**:
  Historical photographs of streams within the Maumee AOC from throughout the 1900's illustrate how streams were modified and used for industry over time (Figures 17-18). When compared to current conditions, it is apparent that aesthetics have improved in the past 100+ years and that industrial factories have been replaced with parks and other development.

Figure 20. Ship docked on the Maumee River, ca. 1920.
Untitled, ca. 1920, courtesy of the Toledo-Lucas County Public Library, obtained from http:///images2.toledolibrary.org/

Figure 17. The Ottawa River through Willys Park, 1954.
Courtesy of the Toledo-Lucas County Public Library, obtained from http:///images2.toledolibrary.org/.

Glass City Metropark is being constructed on the site of the former Acme Power Plant. This power plant was constructed in 1918 at the site of a former steel mill operation by the Acme Power Company. (Long, 2018) The Glass City Metropark and associated Riverwalk will be over 300 acres of new and revitalization Maumee Riverfront that will include a glass pavilion with rooftop plants and plazas, a sledding hill, walking paths, an event lawn for 5,000 people and incredible views of the city. (Figures 19-21).

Figure 19. Toledo Edison Acme coal power plant along the Maumee River, ca. 1954. This property has been revitalized into the Glass City Metropark.
Untitled, ca. 1954, courtesy of the Toledo-Lucas County Public Library, obtained from http:///images2.toledolibrary.org/

Figure 18. Glass City Metropark. Phase 1 was completed in 2019. This image shows Phase 2 under construction in 2021.
Courtesy of Google Earth Pro image (2/2/2023)

Figure 21. Artistic rendering of Glass City Metropark upon completion.
Courtesy of Metroparks Toledo, obtained from https://www.glasscityriverwalk.com/riverwalk/.

The massive brick building with two stacks guarding Promenade Park is known today as the ProMedica Headquarters. Originally called Water Street Station, this facility was built as a coal plant in the late 1800s. The plant was converted to steam in 1929. When the steam plant underwent extensive repair and remodeling in 1975, the area just upstream of the plant was chosen for development as the new Promenade Park. This Park was expanded to include ProMedica Plaza in 2017 and now is a total of 11 acres along the west bank of the Maumee River in downtown Toledo. (Long, 2018) (Figures 22-24).

Figure 22.Water St Station steam plant was one of the largest power plants in the Midwest in the early 1900s.
Courtesy of https://voicemap.me/tour/toledo-ohio/the-port-of-toledo-from-middlegrounds-metropark-to-cherry-street-and-back/sites/water-street-station

Figure 23.Promenade Park along with Maumee River in downtown Toledo. Former steam plant no longer in use.
Courtesy of https://marinas.com/view/marina/d9cyj6_Promenade_Park_Portside_Docks_Toledo_OH_United_States

Figure 24. Promenade Park was upgraded when ProMedica renovated the steam plant into a contemporary, four-story office building for 1,000-plus employees in 2017.
Courtesy of https://www.landscapeforms.com/en-us/431/projects/pages/ProMedica-Project.aspx

- **Videos**:

  Four videos featuring river conditions and water quality in the Maumee AOC were analyzed:
  - *Fate of a River: Apathy or Action* (Junior League of Ohio, 1965)
  - *River of Shame* (WTOL-TV, 1996)
  - *Fate of a River: Revisited* (Clearwater, Inc., Maumee RAP, Ottawa River Coalition, 2002)
  - *Benefiting our Community, Restoring our Waters* (Ohio EPA, 2020)

  Fate of a River: Apathy or Action shows dozens of images of Swan Creek, Ottawa Creek, and the Maumee River from the mid-twentieth century. In every scene oil, sludge, and scum is visible on the water. Contaminants were being pumped into the river by different factories (Junior League of Ohio 1965). Raw human waste and sewer discharge was another contributor to the contamination of the streams and rivers. Human waste was discharged into the water by communities with little or no

treatment. As early as 1911, Swan Creek was referred to as an open sewer, leading to an unpleasant odor and color. In addition, an unidentified dump was also encroaching on Swan Creek which led to rain sending more debris down the creek. A tangle of stream side debris and no flow in the summer months created decaying matter and a stench coming from the creek. "Looks like it would take a plow to create a channel in the surface" was said in reference to Swan Creek (Junior League of Ohio, 1965). According to the video, the Ottawa River was in similar condition. The city had long since created danger signs meant to keep people away from the contaminated river. The stench of sewer was also present, and it was stated that the color of the stream turned from a dull green/brown to a yellow/black.

River of Shame focused on the Ottawa River and provided a list of factories and dumps, most of which are closed, but were still leaking residual chemicals into the water (WTOL-TV, 1996).

Fate of a River: Revisited provided an updated look in 2002 at the river and streams mentioned in the previous *Fate of a River* film. All communities in the watershed have or are in the process of creating wastewater treatment, which greatly eliminated the sewage contamination in the water. The images showed a vast improvement in color of the different streams and rivers when compared to conditions in 1965. The release of industrial contaminants had also declined drastically due to the implementation of the Clean Water Act. (Clearwater, Inc., Maumee RAP, and Ottawa River Coalition, 2002).

Benefiting our Community, Restoring our Waters was the most recent production that highlighted even more remedial cleanup efforts to address in-stream sediment contamination, the improvements to the wildlife and aquatic communities and habitats, and the partnerships that were making it happen (Ohio EPA, 2020).

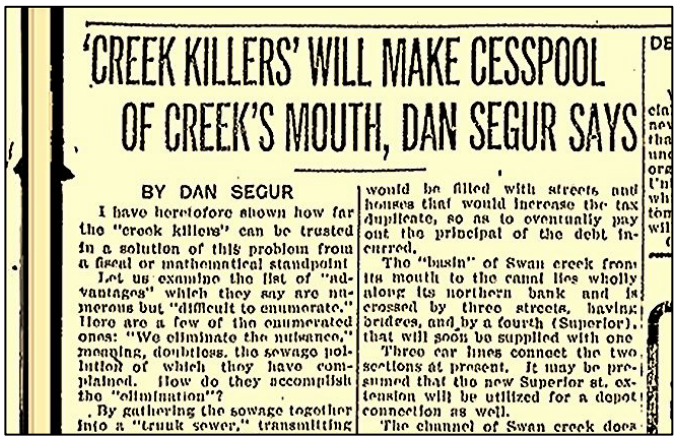
These videos show how polluted the Maumee River, Swan Creek, and the Ottawa River were in the 20th Century and how much improvement occurred in the late 1990s and 2000s. The videos discuss many water quality issues, including unnatural stream color, oil and scum, and nuisance odors and how the restoration efforts over time has greatly improved the aesthetic conditions in the Maumee AOC.

- **Periodicals:**

  Newspaper articles concerning conditions of streams in the Maumee AOC were reviewed to understand personal reactions to river aesthetics and anecdotal accounts regarding changes in conditions over time.

  - A personal anecdotal account of a citizen's childhood growing up along the Ottawa River in the early to mid-1900's revealed the persistent presence of sewage and untreated human waste, oily sludge as a result of industrial pollution, and foul-smelling water and sediment (Morgenstern, 1993).
  - An article from 1913 outlines several health and aesthetic issues related to Swan Creek and describes a plan to create a "cesspool" at the mouth of the stream by dumping raw sewage into the water (Segur, 1913).
  - In a 1993 newspaper article about environmental activist and Ottawa Hills resident June Brown, Brown is quoted "you wouldn't dare let your kid out on [the Ottawa River]" (Henry, 1993).
  - The Ottawa River was described as a "lifeless, toxic stew" and a "malodorous, dangerous mess" in a 1994 article (The Blade, 1994).

The review of newspapers articles revealed degraded aesthetics caused by human activity in Maumee AOC streams in the 20th Century. Persistent sludge deposits, oil sheens, scum, other objectionable material, or materials that produce color, odor, or other nuisances were characteristic of the three streams evaluated (Maumee River, Swan Creek, and the Ottawa River) in the mid to late 1900's. Causes of degraded aesthetics in the articles were primarily trash and floating debris, sewage from CSOs, and industrial discharges. Examples of articles are shown in Figures 25, 26 and 27.



'CREEK KILLERS' WILL MAKE CESSPOOL OF CREEK'S MOUTH, DAN SEGUR SAYS

BY DAN SEGUR

I have heretofore shown how far the "creek killers" can be trusted in a solution of this problem from a fiscal or mathematical standpoint.

Let us examine the list of "advantages" which they say are numerous but "difficult to enumerate." Here are a few of the enumerated ones: "We eliminate the nuisance," meaning, doubtless, the sewage pollution of which they have complained. How do they accomplish the "elimination"?

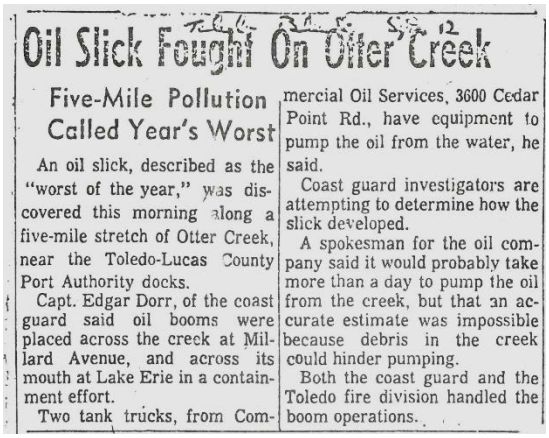
By gathering the sewage together into a "trunk sewer," transmitting would be filled with streets and houses that would increase the tax duplicate, so as to eventually pay out the principal of the debt incurred.

The "basin" of Swan creek from its mouth to the canal lies wholly along its northern bank and is crossed by three streets, having bridges, and by a fourth (Superior), that will soon be supplied with one.

Three car lines connect the two sections at present. It may be presumed that the new Superior st. extension will be utilized for a depot connection as well.

The channel of Swan creek does

Figure 25.Toledo News Bee article (March 3, 1913)



Oil Slick Fought On Otter Creek

Five-Mile Pollution Called Year's Worst

An oil slick, described as the "worst of the year," was discovered this morning along a five-mile stretch of Otter Creek, near the Toledo-Lucas County Port Authority docks.

Capt. Edgar Dorr, of the coast guard said oil booms were placed across the creek at Millard Avenue, and across its mouth at Lake Erie in a containment effort.

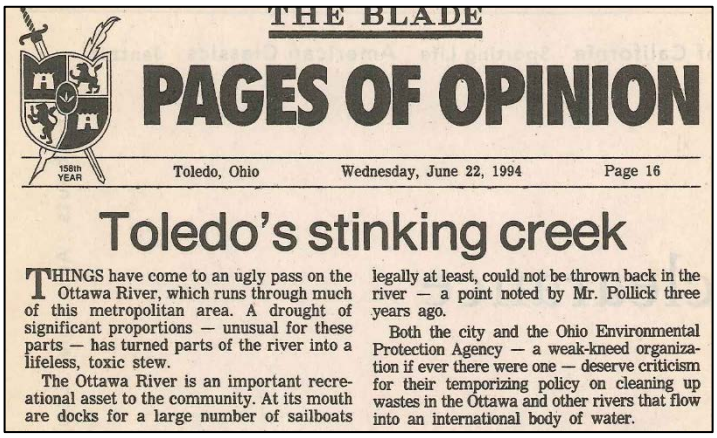
Two tank trucks, from Commercial Oil Services, 3600 Cedar Point Rd., have equipment to pump the oil from the water, he said.

Coast guard investigators are attempting to determine how the slick developed.

A spokesman for the oil company said it would probably take more than a day to pump the oil from the creek, but that an accurate estimate was impossible because debris in the creek could hinder pumping.

Both the coast guard and the Toledo fire division handled the boom operations.

Figure 26. The Blade article (Sept 12, circa 1970)



THE BLADE

PAGES OF OPINION

158th YEAR

Toledo, Ohio Wednesday, June 22, 1994 Page 16

Toledo's stinking creek

THINGS have come to an ugly pass on the Ottawa River, which runs through much of this metropolitan area. A drought of significant proportions — unusual for these parts — has turned parts of the river into a lifeless, toxic stew.

The Ottawa River is an important recreational asset to the community. At its mouth are docks for a large number of sailboats legally at least, could not be thrown back in the river — a point noted by Mr. Pollick three years ago.

Both the city and the Ohio Environmental Protection Agency — a weak-kneed organization if ever there were one — deserve criticism for their temporizing policy on cleaning up wastes in the Ottawa and other rivers that flow into an international body of water.

Figure 27. The Blade article (June 22, 1994)

More recent articles tell a different story about the conditions Maumee AOC riverfront.

- A 1966 article relaying the outcomes of a canoe trip down Swan Creek by Jim Bennett describe large amounts of trash, unnatural colors, sewage odors, oily sludge, and bubbles resulting from methane gas (Harvey, 1966). A follow-up canoe trip by Mr. Bennett in 2008 described smaller amounts of trash but conditions that overall remained degraded, including the presence of sewage and poor water quality (Figure 28) (Pollick, 2008).
- Steve Pollick made two canoe trips down the Maumee River, one in 1984 and the other in 2011. Pollick described seeing a noticeable decrease in trash in the water, and a significant increase in river quality from multiple perspectives (Pollick, 2011).
- Bill Thomas, president of Downtown Toledo Development Corp stated that the improvements to Promenade Park "…really brings the river into the downtown area and makes it much more a part of the downtown…" and "…to be able to look out and just see

that river, you really realize what we haven't been able to see for a long time." (Boyd-Barrett, 2012).

- A 2018 article discusses the water quality and aesthetic improvements to the Ottawa River, including the lifting of a no-contact advisory for the lower 8.8 miles (Henry, 2018).

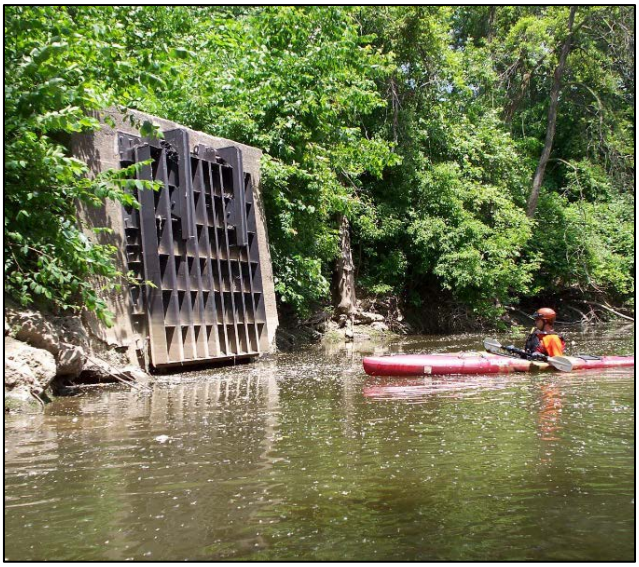


Figure 28. Canoe trip on Swan Creek with Jim Bennett in 2008
Photo by: Cherie Blair

With the improved aesthetics, recreational opportunities have increased in and along Maumee AOC streams, particularly along the Maumee River in downtown Toledo. In the 2017 downtown Toledo master plan, the largest priority for stakeholders and the public was increasing access to the Maumee River and creating a continuous river walk along the banks. (22nd Century Committee, 2017) The Glass City Metropark and Riverwalk are an example of the investment being made toward that goal. (Henry, 2022)

- **PHOTOS, VIDEOS, and PERIODICALS IN SUMMARY:**
  - Images of downtown Toledo show the change from billowing stacks to healthy greenspace.
  - Videos illustrate the decrease in pollution enter the waterways of the Maumee AOC.
  - Periodicals explain how personal reactions to river aesthetics have improved.

Public Perception

Public perception of Maumee AOC streams, as evidenced by the newspaper articles in the Periodicals Section, appears to have improved since the adoption of the Great Lakes Water Quality Agreement and Ohio's AOC Program. Articles have documented aesthetic improvements such as the decrease in litter and nuisance odors. Although historical survey data is not available for comparison, limited targeted interviews and a stakeholder survey were carried out in early 2019 in order to assess current opinions on stream aesthetics.

- **Targeted Interviews:**
  Targeted phone interviews with six individuals from stakeholder groups (including three county Emergency Planning agencies, Keep Toledo-Lucas County Beautiful, Maumee River Yacht Club, and Toledo Sailing Club) occurred in February 2019 to assess local opinions on stream aesthetics. Both the interviews and surveys were focused on individuals with local knowledge about spill reports and responses, biological conditions of aquatic resources, and past restoration efforts. (Appendix C, Figure C-1).

  Key results of the interviews:
  - Generally, aesthetics (as measured by sludge deposits, oil sheen, scum, floating trash, etc.) have remained the same over the past 20 years.
  - Respondents reported trash along the Maumee River, Swan Creek, and other streams.
  - Maumee AOC stream aesthetics were comparable to conditions of streams outside of the AOC.

While the interviewees felt the trash accumulation had not decreased within the AOC, they also agreed that the streams and rivers within the Maumee AOC were comparable in terms of aesthetics to areas outside of the AOC as was also shown in the previous Streambank Cleanup section of this report.

- **Stakeholder Surveys:**
  A short three question stakeholder survey concerning degradation of aesthetics was handed out to attendees of a BUI #3a: *degradation of fish populations*, BUI #6: *degradation of benthos*, and BUI #14a: *loss of fish habitat* workshop on March 14, 2019. Attendees were targeted based on their knowledge about local aquatic resources, stream conditions, and restoration opportunities (Appendix C, Figure C-2).

  Responses were limited to eleven participants, but key results include:
  - In the past three to five years (at the time of the survey in 2019), stakeholders witnessed oil sheens (45% of respondents), sludge deposits (18%), and floating trash (67%) on waterways of the Maumee AOC.
  - When asked if stream aesthetics have changed in the past twenty years about half of the respondents that answered this question believed improvements have been made. Less than 10% believed aesthetic conditions have degraded.

➢ **PUBLIC PERCEPTION IN SUMMARY:**
- Interviews and surveys were obtained from a very limited audience (less than 20 people).
- Although some isolated areas were identified, it was agreed that the Maumee AOC was comparable in terms of aesthetics to areas outside of the AOC.

Contaminated Sediment Remediation

According to early AOC documents, oily sheens that formed as a result of disturbing historically contaminated stream sediments were observed in Otter Creek, Sibley Creek, and the Ottawa River (Maumee RAP Committee, 1990; Ohio EPA, 2007; Ohio EPA 2015). To address the contaminated sediment in Sibley Creek and the Ottawa River, remediation was conducted through a Great Lakes Legacy Act (GLLA) project in 2009-2010. During the 2018 BUI status evaluation, this area was found to be no longer impaired for BUI 11. Information regarding this cleanup is available on the Maumee AOC website Ottawa River Sediment Projects page.

Figure 29. Dredging operations at the confluence of Otter Creek and Maumee Bay in Summer 2021.
Photo from: US Army Corps of Engineers

Oily sheens have also been observed in Shantee Creek on multiple occasions and were attributed to runoff from a metal recycling yard on Detroit Avenue (Ohio EPA, 2015). The facility has since joined a voluntary program run by the City of Toledo to help auto salvage and recycling yards protect water quality.

A 1976 study documented conditions in Otter Creek that included oil sheens killing wildlife, oily fires, sludge, etc. based on reports and letters from local and state organizations and individuals that dated back to the 1940s. (Balduf, 1976) During the BUI status evaluation in 2018, it was determined that the only remaining cause of impairment for BUI 11 was the contaminated sediments in lower Otter Creek, which were causing oily sheens within this AOC waterway from the historic sources.

The contaminated sediments in Otter Creek were addressed in 2021 when the lower 1.7 miles of Otter Creek were subject to a GLLA sediment remediation project. This project area was a historically industrial area populated by oil refineries, railroad yards, and other industrial use businesses. The GLLA project was to remove high levels of bioavailable petroleum hydrocarbons that were toxic to benthic organisms. The project successfully removed approximately 50,400 cubic yards of contaminated sediment via hydraulic dredging from the creek and its confluence within Maumee Bay. A one-foot sand cover mixed with organic material was placed in the creek after dredging to provide a barrier to any remaining residuals. Habitat improvements were installed on the lower reach of the creek to create opportunities for fish and other aquatic species to rest and forage for food. With the completion of this remediation project the persistent oil sheens in lower Otter Creek have been addressed. (Figure 29)

- **CONTAMINATED SEDIMENTS IN SUMMARY:**
  - The persistent oil sheens on lower Otter Creek that were seen when the contaminated sediments were disturbed were removed in 2021.

Conclusions

Available data indicates that there are no observed ongoing occurrences of oil/grease and litter/trash that contributed to regular degradation of aesthetics in the Maumee AOC. Oil sheens caused by historically contaminated sediments have been remediated.

Oil Sheens Issues Addressed

A review of NRC incident reports (U.S. Coast Guard, 2018) and Ohio EPA spills reports (Ohio EPA, 2019a, 2019d) indicate a decrease in spill events comparable in magnitude and trend to other communities outside of the Maumee AOC (Figures 5 and 6). Persistent spills of oil, oil-related compounds, or sludge in the Maumee AOC were historically restricted to oil refineries along Otter Creek. NRC and DERR spills reports indicate a decline in spills associated with these refineries, especially over the last decade.

Where decades ago, anyone could release or dump almost anything into streams and river with little to no consequence; today such illicit discharges are prohibited and permitted releases are closely regulated. Ohio EPA's DERR and ER investigates spills, and the Division of Surface water investigates illicit discharges from permitted facilities.

Under U.S. EPA and Ohio EPA's Phase 1 and 2 storm water rules, several communities within the Maumee AOC are regulated as MS4s. MS4s were not identified as sources of oil sheens. Regulated MS4s are required to investigate illicit discharges (including oil) to their system (Ohio EPA, 2014).

Recent Perceptions

The Ottawa River has regained her beauty and strength. She is alive again.

Bob Pulhuj
(Skipper, Northwest Ohio River Runners)

from *Toledo's Ottawa River takes another big step in its long healing process* (Henry 2018)

Newspaper articles and anecdotal accounts from the mid-20th Century indicate that oily sheens and scum were largely caused by industrial discharges and historical contamination. Through implementation of the Clean Water Act and state water resources programs, industrial pollution has significantly decreased.

Contaminated sediment remediation occurred in Sibley Creek and the Ottawa River through a GLLA project in 2009-10. Another GLLA project that addressed contaminated sediments in lower Otter Creek and its confluence with Maumee Bay was completed in 2021.

Figure 30. Swan Creek Landing
Photo from: Northwest Ohio River Runners

Persistent oil sheens in Otter Creek have been addressed through a GLLA remediation project. Elsewhere in the Maumee AOC, human activities do not result in persistent sludge deposits, oil sheens, scum, other objectionable material, or materials that produce color, odor, or other nuisances that are atypical of the region.

Litter and Trash Issues Addressed

Litter and trash are discussed in relation to several streams within the Maumee AOC in the Stage 1 Report. While not directly listed as a cause or source of impairment, large amounts of litter were documented in the Ottawa River and several other streams, including Swan Creek.

A significant portion of the Maumee AOC is within regulated MS4s that work toward reducing litter that enters their systems (Figure 9). Ohio's Small MS4 permit prohibits the discharge of construction waste, including litter, into a regulated MS4 (Ohio EPA 2014b). In addition, as a Phase I MS4, the City of Toledo is required to implement programs to reduce litter and floatables (Ohio EPA 2010). While MS4s were never identified as sources of litter and trash in a Maumee AOC reports, urban runoff was listed as a source of impairment in the Stage 1 Report. Programs conducted by the regulated MS4s are reducing littering and eliminating illegal discharges that could enter AOC waterways.

A review of Clean Your Stream data from 1997 to 2019 indicated a steady increase in public participation in the events, as well as a decrease in the average annual pounds of trash collected per person. A review of data collected at the Ocean Conservancy's International Coastal Cleanup events indicated that the total number of items collected annually in Lucas County, Ohio is comparable to the number of items collected in other coastal counties outside of the Maumee AOC.

Today, littering and dumping are illegal. Municipalities and state agencies investigate and enforce littering and dumping prohibitions. PCS and other non-profit organization in the Maumee AOC continue to focus on litter prevention and environmental education.

Although litter within the Maumee AOC is comparable to regional conditions, it will continue to be a problem in streams within and outside of the AOC. Even with the expectation that federal, state, and local regulatory programs will address any future sources of oil/grease and

Recent Perceptions

The Maumee River is better now, much better, from any number of perspectives, because some people care and know and love.
Steve Pollick
(former Outdoors editor, The Blade)
from *River a Treasure to Cherish* (Pollick 2011)

litter/trash, continued implementation of voluntary programs such as Clean Your Streams to address trash in Maumee AOC streams is strongly recommended.

In summary, over the past three decades of the AOC Program significant investment and effort has been dedicated to cleaning up streams in the Maumee AOC and improving water quality. Historical sources of oil/grease and litter/trash that contributed to regular degradation of aesthetics in the Maumee AOC have decreased via regulatory enforcement and volunteer programs. Fish and wildlife have returned to colonize previously polluted areas. (Ohio EPA, 2020) Recreational opportunities have increased in and along Maumee AOC streams, including additional waterfront parkland and boat launches. Boaters and paddlers observe wildlife rather than miles of garbage and toxic discharges. These are all indications that chronic conditions have improved (Peters, 2019) and the Maumee AOC has now met Ohio's BUI Restoration Targets for *BUI 11: Degradation of Aesthetics*.

A public comment period was issued by Ohio Lake Erie Commission and Ohio EPA from May 8 through May 22, 2023. A summary of public comments can be found in Appendix D. The Maumee AOC Advisory Committee issued a letter of support for this BUI removal (Appendix E).

Figure 31. Maumee River through downtown Toledo
Photo from: Metroparks Toledo

Removal Statement

Ohio EPA, Ohio Lake Erie Commission, and the Maumee AOC Advisory Committee recommend the removal of the *Degradation of Aesthetics BUI* from the Maumee AOC. This recommendation to remove the *Degradation of Aesthetics BUI* is made in accordance with the process and criteria set forth in the Delisting Targets for Ohio Areas of Concern (Ohio EPA and OLEC, 2020).

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Appendix A: Restoration Target for Degradation of Aesthetics (Ohio EPA and OLEC, 2020)

IJC Listing Guideline

When any substance in water produces a persistent objectionable deposit, unnatural color or turbidity, or unnatural odor (e.g., oil slick, surface scum).

State of Ohio Listing Guideline

Ohio has not established numeric criteria that directly relate to this BUI. Based on Ohio water quality criteria applicable to all waters (OAC 3745-1-04, sections A-C), this beneficial use shall be listed as impaired when human activity routinely causes any of the following persistent conditions:

- Sludge deposits
- Oil sheens, scum and other objectionable materials
- Materials that produce color, odor, or other nuisances.

State of Ohio Restoration Target

This beneficial use will be considered restored when the following conditions are met:

If there are no observed ongoing occurrences of sludge deposits, oil sheens, scum and other objectionable materials; specifically, materials that produce color, odor, or other nuisances, then this BUI may be considering restored. **OR**

If there are observed ongoing occurrences and Combined Sewer Overflows (CSOs) are a significant cause of aesthetic impairments but the CSOs are being addressed under an approved long-term control plan or other legally-binding document, then this BUI may be considered restored. Where long-term remedies may take several years to be fully implemented, it may be necessary to develop short-term control strategies. **AND/OR**

If there are observed ongoing occurrences and Municipal Separate Storm Sewer Systems (MS4s) are a significant cause of aesthetic impairments but the MS4 is regulated under an NPDES Permit or other legally-binding document, this BUI may be considered restored.

Notes

- Aesthetic impairments due to algae or excessive nutrient loading will be addressed under BUI 8.
- Natural physical features (e.g., woody debris, logjams, rootwads) and excessive turbidity following storm events or due to agricultural activities are not considered an impairment under this BUI.

Potential Data Sources

- Ohio EPA water quality surveys
- Local water quality surveys or reports
- Ohio EPA or local CSO discharge reports
- U.S. Coast Guard spill reports

Rationale

The *Degradation of Aesthetics Beneficial Use Impairment (BUI)* is more subjective than the other beneficial use impairments. The targets listed above were developed to address aesthetic conditions that interfere with public access or use of the water. OAC 3745-1-04 is provided in Appendix A of the state target document.

Many of the persistent conditions identified in the listing guideline can be attributed to the presence of active Combined Sewer Overflows (CSOs). Combined sewers were built to collect sanitary and industrial wastewater, as well as storm water runoff, and transport this combined wastewater to treatment facilities. During dry

weather, they are designed to transport all flow to the treatment plant. When it rains, the volume of storm water and wastewater may exceed the capacity of the combined sewers or of the treatment plant. When this happens, the combined sewers are designed to allow a portion of the combined wastewater to overflow into the nearest ditch, stream, river, or lake. This is a combined sewer overflow (CSO). Ohio's CSO universe consists of 88 communities, ranging from small, rural villages to large metropolitan areas. Of those, 16 have separated their sewers and eliminated their CSOs. The remaining 72 CSO communities in Ohio have about 1,055 known CSOs. (August 2020). In 1994, U.S. EPA published the national CSO Control Policy. Working from the national policy, Ohio EPA issued its CSO Control Strategy in 1995. The primary goals of Ohio's Strategy are to control CSOs so that they do not significantly contribute to violations of water quality standards or impairment of designated uses and to minimize the total loading of pollutants discharged during wet weather.

Ohio EPA continues to implement CSO controls through provisions included in NPDES permits and using orders and consent agreements when appropriate. The NPDES permits for our CSO communities require them to implement nine minimum technology-based controls to address CSO problems before long-term measures are taken. USEPA provides a number of CSO-related guidance documents, including one for the Nine Minimum Controls (https://www.epa.gov/npdes/npdes-cso-guidance-documents).

Requirements to develop and implement Long Term Control Plans (LTCPs) are also included where appropriate. In 2007, U.S. EPA adopted a new definition for the Water Safe for Swimming Measure (SS-1), which sets goals to address the water quality and human health impacts of CSOs. The new definition sets a goal of incorporating an implementation schedule of approved projects into an appropriate enforceable mechanism, including a permit or enforcement order. Ohio currently meets the SS-1 definition for 96% of its active CSO communities (August 2020).

Another existing mechanism to address storm water debris and other contaminants is regulation through the MS4 program. Polluted storm water runoff is commonly transported through Municipal Separate Storm Sewer Systems (MS4s), which often discharge untreated waters into local water bodies. Regulated MS4s need to prevent harmful pollutants, litter and other debris from being washed or dumped into local waterbodies. Jurisdictions must obtain a NPDES permit and develop a storm water management program. One of the requirements is to develop and implement a storm water management program (SWMP) to reduce the contamination of storm water runoff and prohibit illicit discharges.

If the RAP identifies debris or other objectionable materials as the primary cause of aesthetic impairment under this BUI, a debris harvester, a regularly scheduled clean-up effort, or other short-term collection or prevention program may be utilized to address the BUI until a LTCP has been approved and substantial implementation is underway.

Degradation of aesthetics due to excessive nutrient and eutrophication are addressed under BUI 8 (Eutrophication or Undesirable Algae). It is important to acknowledge that aesthetics is very subjective, and the public will perceive conditions and impaired use differently, based on expectations and experience. It will be important for the RAP to consider multiple lines of evidence for restoration of this beneficial use, including U.S. Coast Guard Spill Reports, Ohio EPA TSD reports and other data sets to document that any degraded conditions are not chronic, are not caused by local sources, or are no worse than the average Lake Erie watershed.

References for Appendix A

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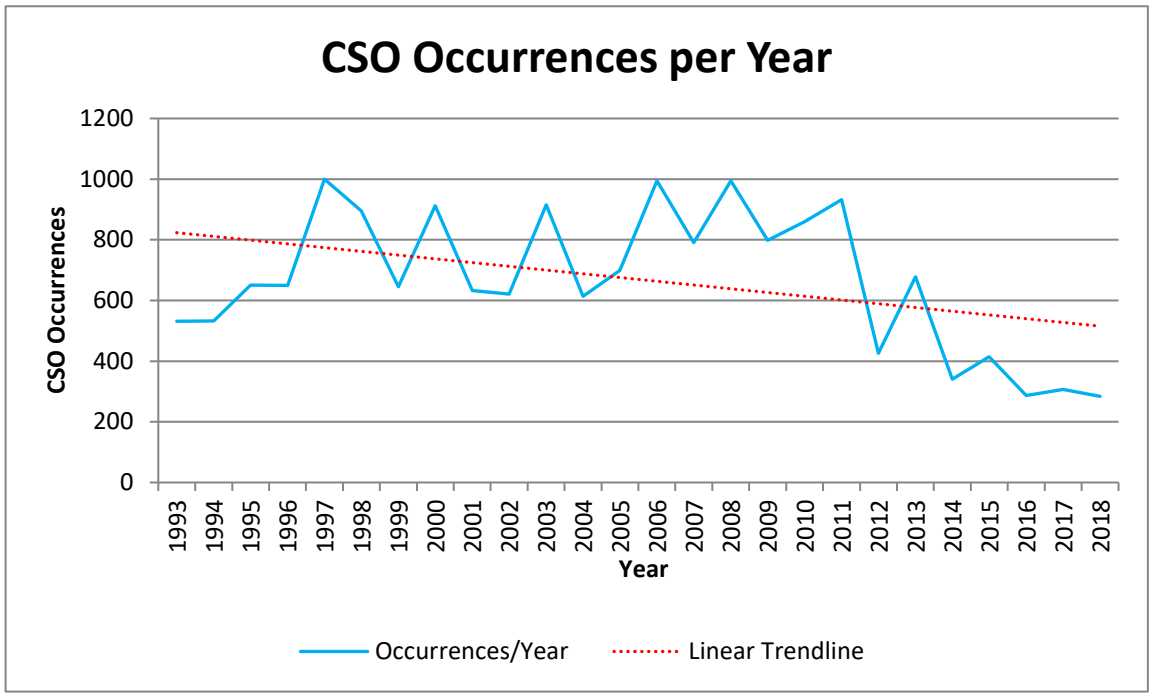
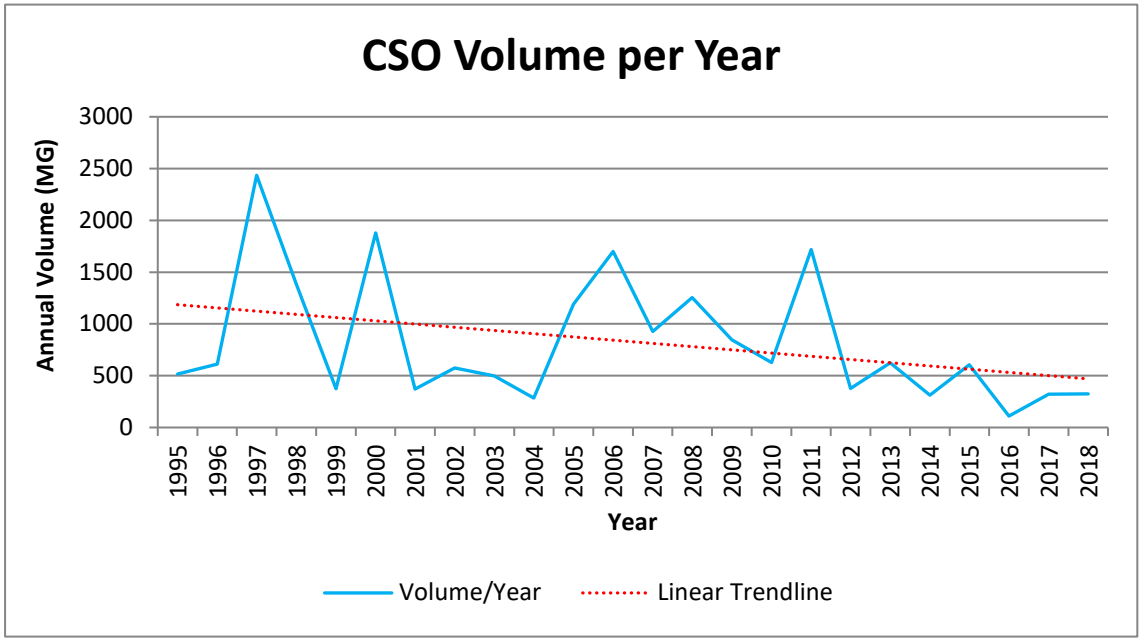
Appendix B: Data and Information (Peters, 2019)

Figure B - 1. Toledo combined sewer overflow occurrences per year (1993-2018)



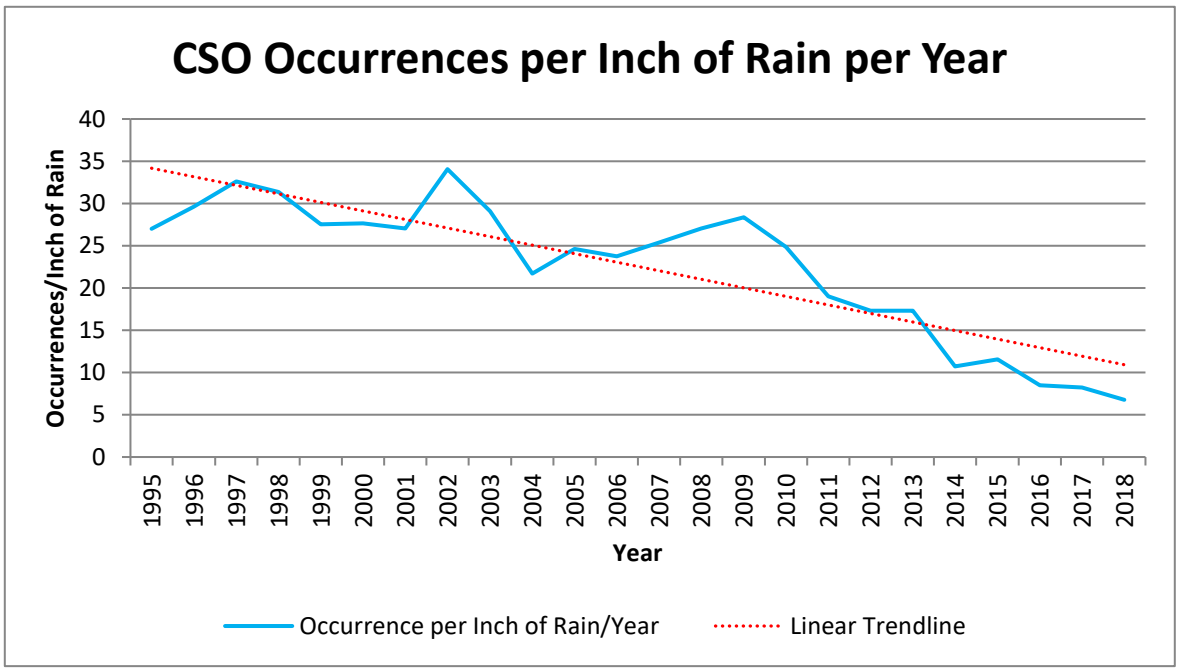
Source: Toledo Waterways Initiative (2019)
Notes: One occurrence denotes a discharge event from one CSO on one day of the year. In general, under the LTCP, the City of Toledo is required to limit overflow occurrences to three per CSO per year or fewer. Different limits are placed on each CSO outfall depending on the waterbody it discharges to. After factoring in these limits, the City of Toledo must meet approximately 67 occurrences across the CSO service area per year or fewer.

Figure B - 2. Toledo combined sewer overflow discharge volume per year (1995-2018)



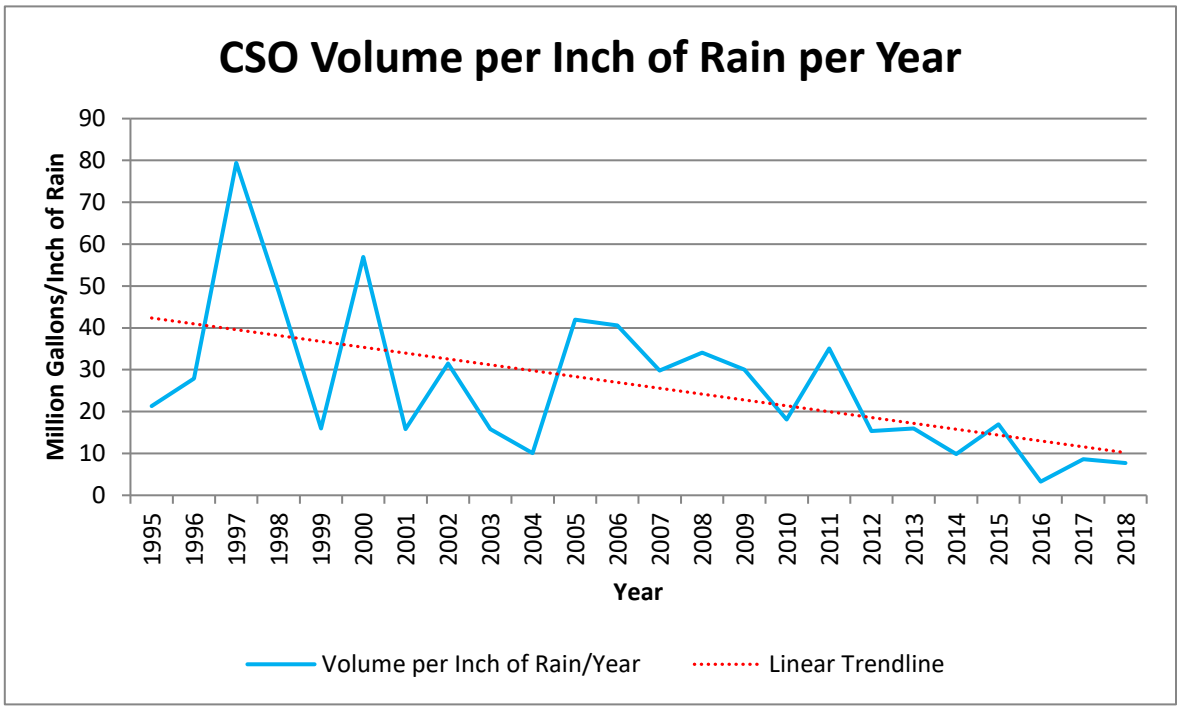
Source: Toledo Waterways Initiative (2019)

Figure B - 3. Toledo combined sewer overflow occurrences per inch of rain per year (1995-2018)



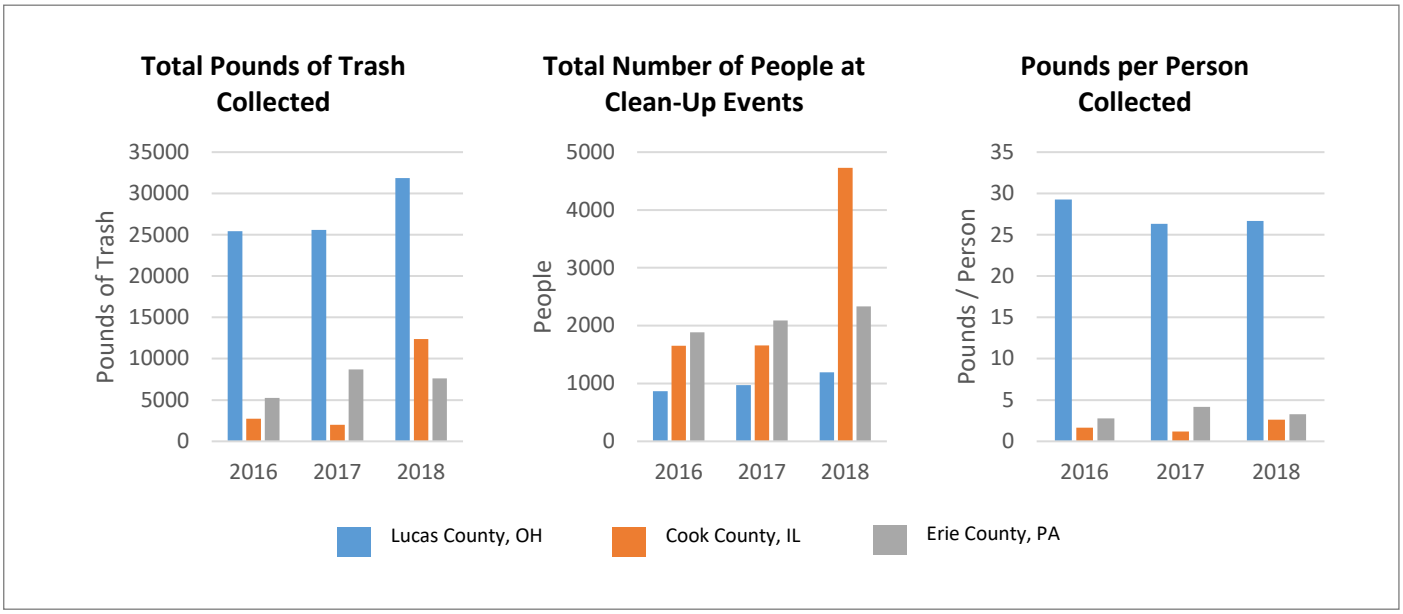
Source: Toledo Waterways Initiative (2019)
Notes: One occurrence denotes a discharge event from one CSO on one day of the year. In general, under the LTCP, the City of Toledo is required to limit overflow occurrences to three per CSO per year or fewer. Different limits are placed on each CSO outfall depending on the waterbody it discharges to. After factoring in these limits, the City of Toledo must meet approximately 67 occurrences across the CSO service area per year or fewer.

Figure B - 4. Toledo combined sewer overflow discharge volume per inch of rain per year (1995-2018)



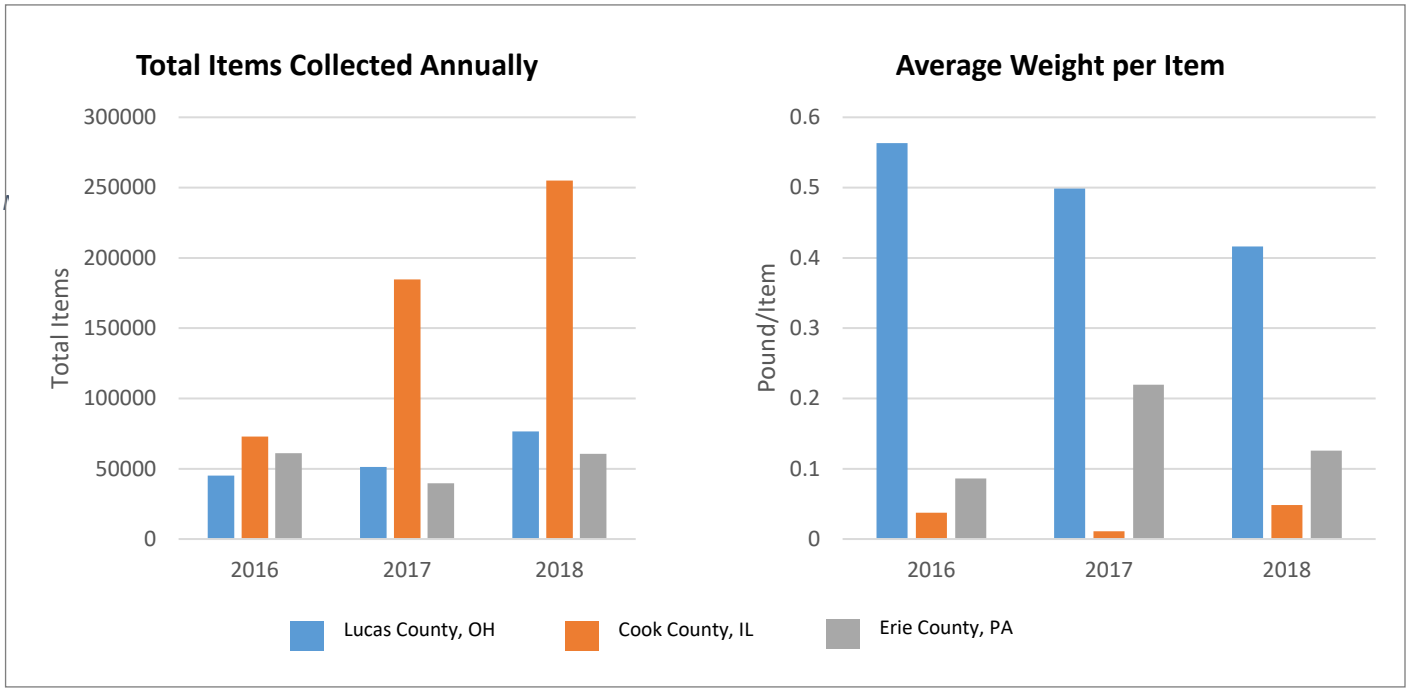
Source Toledo Waterways Initiative (2019)

Figure B - 5. International Coastal Cleanup Pounds, Participants, and Pounds per Person – Lucas, Cook, and Erie Counties (2016-2018)



Source: Ocean Conservancy (2019)

Figure B - 6. International Coastal Cleanup Total Items and Average Weights - Lucas, Cook, and Erie Counties (2016-2018)



Source: Ocean Conservancy (2019)

Appendix C: Perception Surveys

Figure C - 1. Stakeholder interview guide

BUI 8/BUI 11 Targeted Stakeholder Interviews

Organization: Name/Contact Info:
Date of Interview:
Interviewer:

General
How long have you lived/worked in northwestern Ohio?

BUI 11
Have you noticed ongoing occurrences/report of occurrences of sludge deposits, oil sheens, scum, floating trash, etc. that cause aesthetic disturbances in streams and rivers recently? (past few years)

Where have you seen such occurrences and do you know what caused them?

To your best knowledge, how long did these events last?

Have you noticed a change in occurrences/report of occurrences in the past 20 years?

How would you say local river/stream aesthetics (as measured by the number of occurrences described above) is significantly better or worse than other that of other communities outside of the Maumee AOC?

Figure C - 2. BUI workshop survey

BUI 8: Eutrophication or Undesirable Algae
BUI 11: Degradation of Aesthetics

Name:
E-mail:

Stakeholder Questionnaire – BUI Workshop – March 14, 2019

BUI 11: Degradation of Aesthetics

1. Have you noticed ongoing occurrences of the following in streams and rivers in the AOC in the past three to five years?

Sludge deposits	Yes	No
Oil sheens	Yes	No
Floating trash	Yes	No
Other: _____	Yes	No

2. Where have you seen such occurrences? Please be as specific as possible (e.g. near certain intersections or landmarks)

3. Have you noticed a change in occurrences/overall change in stream aesthetics in the past 20 years? Please explain.

Appendix D: Public Comment

The Public Comment period for this BUI Removal Recommendation was 14-days from May 8, 2023 until May 22, 2023. The opportunity for public comment was shared through an Ohio EPA/Ohio Lake Erie Commission press release with information provided on Ohio Lake Erie Commission, Ohio EPA and the Maumee AOC websites. The information was subsequently shared via Ohio Lake Erie Commission and Maumee AOC social media. The State received one public comment. Below is a summary of the comment and the response.

Public Comment:

The Maumee River is nowhere near meeting "its full water quality potential". The river water is not fit for human or animal contact, is unsightly, and an embarrassment to all Ohio residents. Regulate ALL CAFO's. Declare a moratorium on a new CAFO's until wastewater treatment is required for all CAFO's. No more spraying liquified manure in the Maumee River watershed. There is an extremely low bar that has been set for you to consider the Maumee River, in its present state, "rehabilitated".

Response to Public Comment:

The Area of Concern Program has very specific targets outlined in the State of Ohio Delisting Guidance. for a very specific geographic area that need to be achieved before a beneficial use is considered to be no longer impaired. As there are no licensed CAFOs within the boundaries of the Maumee AOC, any issues caused by CAFOs located upstream of the Maumee AOC are not an issue the AOC Program is able to address.

Appendix E: Maumee AOC Advisory Committee Letter of Support

MAAC
Maumee AOC Advisory Committee

May 25, 2023

Anne Vogel, Director
Ohio Environmental Protection Agency
P.O. Box 1049
Columbus, OH 43216-1049

Joy Mulinex, Executive Director
Ohio Lake Erie Commission
P.O. Box 1049
Columbus, OH 43216-1049

Dear Directors Vogel and Mulinex:

The Maumee AOC Advisory Committee (MAAC) has reviewed the recommendation documents prepared by the Ohio EPA for the removal of BUI #11: Degradation of Aesthetics. The MAAC voted to concur with Ohio EPA that the removal of this beneficial use impairment is warranted, and furthermore encourages Ohio EPA to proceed in submitting the BUI 11 Removal Recommendation to US EPA/GLNPO.

With the removal of this BUI, the following impairments currently remain in the Maumee AOC.

- BUI #3: Degradation of Fish & Wildlife Populations
- BUI #4: Fish Tumors or Other Deformities
- BUI #6: Degradation of Benthos
- BUI #7: Restrictions on Navigational Dredging Activities
- BUI #8: Eutrophication or Undesirable Algae
- BUI #10: Beach Closings (Recreational Contact)
- BUI #14: Loss of Fish & Wildlife Habitat

The MAAC will continue its efforts to remove the remaining impairments leading to the delisting and the beneficial use restoration of the Maumee Area of Concern.

Sincerely,

Mike Pniewski, Chair
Maumee AOC Advisory Committee

cc: Lynn Garrity, OLEC, and Cherie Blair, Ohio EPA

Ohio Environmental Protection Agency

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