



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

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

Dear Ms. Mulinex:

Thank you for your January 4, 2021 request to remove the “*Degradation of Aesthetics*” Beneficial Use Impairment (BUI) at the Black River Area of Concern (AOC). As you know, we share your desire to restore all the Great Lakes AOCs and to formally delist them. Based upon a review of your submittal and supporting data, the U.S. Environmental Protection Agency (EPA) hereby approves your request to remove this BUI from the Black River AOC. 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 been instrumental in achieving this environmental improvement. Removal of this BUI will benefit not only the people who live and work in the AOC, but all the residents of Ohio and the Great Lakes basin as well.

We look forward to the continuation of this productive relationship with your agency, the Ohio Environmental Protection Agency, and the Black River AOC 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) 353-8320 or your staff can contact Leah Medley at (312) 886-1307.

Sincerely,

**CHRISTOPHER
KORLESKI**

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CHRISTOPHER KORLESKI
Date: 2021.01.07 10:35:46 -06'00'

Chris Korleski, Director
Great Lakes National Program Office

cc: Tiffani Kavalec, OEPA
Lynn Garrity, OLEC
Raj Bejankiwar, IJC

December 30, 2020

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

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

Dear Director Korleski,

The State of Ohio, through the Ohio Lake Erie Commission, Ohio EPA and many partners, have worked towards the restoration of the beneficial use impairments identified for the Black River Area of Concern (AOC).

As a result of the partnerships and progress made over the past two decades, the Ohio Area of Concern program is submitting its BUI removal recommendation for Degradation of Aesthetics in the Black River AOC. The Ohio Lake Erie Commission in partnership with Ohio EPA and with the support of the Black River AOC Advisory Committee are requesting your concurrence with the enclosed recommendation to remove the Degradation of Aesthetics BUI in the Black River AOC.

The Black River continues to improve and has been a part of the ongoing community revitalization. The improvements in the Black River AOC are a result of many efforts by local stakeholders and organizations and 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 Black River Area of Concern.

Sincerely,



Joy Mulinex
Director, Ohio Lake Erie Commission

Enclosure

cc: Tiffani Kavalec, OEPA-DSW
Lynn Garrity, OLEC
Leah Medley, USEPA-GLNPO

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



December 2020



Purpose

The purpose of this document is to recommend the removal of the Degradation of Aesthetics Beneficial Use Impairment (BUI) from the Black River Area of Concern. This document provides information and documentation of aesthetic evaluation and measures the results of the assessments against applicable State of Ohio BUI removal targets.

Background

The Black River is in northeast Ohio, flowing into Lake Erie's central basin at the city of Lorain (Figure 1). During industrial development in the early 20th Century, "the Black River, once majestic and teeming with life, became an inhospitable conduit of sewage, sediments, and toxic contaminants to the lake" (Black River Remedial Action Plan Coordination Committee [BRCC] 1994). In 1987, the Black River was designated as one of 43 AOCs in the Great Lakes basin (and one of four AOCs in Ohio). Nine of the 14 BUIs were identified as impaired for the Black River AOC. Today, the Black River AOC is composed of two subwatersheds and two beaches (See Figure 1). Seven of the BUIs remain:

- Degradation of Fish Populations (BUI #3a)
- Fish Tumors or Other Deformities (BUI #4)
- Degradation of Benthos (BUI #6)
- Restrictions on Dredging Activities (BUI #7)
- Beach Closings (Recreational Use) (BUI #10)
- Degradation of Aesthetics (BUI #11)
- Loss of Fish Habitat (BUI #14a)

The Restrictions on Fish Consumption (BUI #1a) and Eutrophication or Undesirable Algae (BUI #8) were removed in 2016.

History of the Black River

In 1987, the International Joint Commission (IJC) designated the Black River as one of 43 AOCs in the Great Lakes basin. The original Black River AOC was limited to the lower 6.2 miles of the Black River mainstem due, in part, to the prevalence of fish tumors that were likely a consequence of “a legacy of contaminated sediments, mainly polynuclear aromatic hydrocarbons” (BRCC 2011). Much of the environmental degradation that impaired the lower Black River was derived from steel production in the city of Lorain and this was a major factor that led the IJC to list the Black River as an AOC (Lorain County Community Development Department 2011). The Black River RAP Coordinating Committee (BRCC) formed in September 1991 to investigate the BUIs, develop strategies to remediate the causes and sources of BUIs, and to eventually remove the BUIs and delist the AOC. The Black River AOC was expanded to include the entire Black River watershed in 1994 during the development of the Black River Stage 1 Report because the sources resulting in some BUIs were in the upper portions of the Black River watershed (BRCC 1994). The Stage 1 report was approved in 1994 and the Stage 2 report was approved in 2011.

The Black River AOC Advisory Committee (BRAC) was formed after Ohio EPA required Ohio’s four AOCs to restructure. At this time, Lorain County Kayak and Paddle Sports Group (LoCo‘Yaks) became the Facilitating Organization. In 2015, the Black River AOC was re-delineated into two 12-digit hydrologic units (HU) and two beaches: French Creek HU (HUC 04110001 06 01), Black River HU (HUC 04110001 06 02), Century Park Beach, and Lakeview Park Beach. Based on improvements documented in the upstream subwatershed areas and adjustments made to Ohio’s BUI restoration targets, Ohio EPA and the BRAC determined that the upper subwatershed areas no longer impact conditions in the mainstem as these areas are more representative of the regional land use and not characteristics of the degree of environmental degradation that originally initiated the broader AOC boundary by the bi-national AOC program in the Great Lakes. Also, in 2015, the BRAC developed a list of remaining management actions necessary to remove BUIs and restore the AOC. These activities include habitat improvements in the lower mainstem, a study of fish toxicity problems in the French Creek subwatershed, and although not now included in the re-delineated AOC, habitat improvements in the Willow Creek subwatershed. In 2015, U.S. EPA awarded a \$15 million grant through the Great Lakes Restoration Initiative to address several management actions. The grant funds the restoration of approximately 35 acres of slag adjacent to the Black River and the creation of in-stream habitat for native fish and other aquatic species (U.S. EPA 2015).

In 2017, the Black River AOC revised the existing list of management actions and was approved by U.S. EPA. The list of management actions identified projects and practices needed to restore the impaired beneficial uses. The Black River AOC achieved substantial completion of all management actions in September 2020.

BUI Listing Criteria and Impairment Listing

The BRCC developed the Black River RAP Stage 1 (1994) and Stage 2 (2011) reports when the AOC was the entire Black River watershed and predated Ohio’s AOC guidance (Ohio EPA 2017).

- The **Stage 1 RAP** report found the aesthetics of the Black River watershed to be degraded by “upland erosion, loss of riparian vegetation, mill dams, stream channelization and modifications, and general littering” (BRCC 1994). This report also identified oil and grease as impairing aesthetics; the sources were reported as runoff from municipal, suburban, and highway areas and hazardous waste sites and from industrial discharges (BRCC 1994)
- The **Stage 2 RAP** report identified three sources of impairment for the *Degradation of Aesthetics* BUI: (1) nonpoint source sediment and nutrient loading from agricultural and developing lands, (2) discharges from failing household sewage treatment systems (HSTS), and (3) litter and trash

accumulating in waterways (BRCC 2011). This report included information about sediment, nutrients, and failing HSTS impacting aquatic life.

Most of the causes and sources of the *Degradation of Aesthetics* impairment identified in the Stage 1 and 2 reports are no longer applicable to the Black River AOC:

- The Black River AOC was re-delineated in 2015 and sources of impairment from outside an AOC are addressed by other programs. Degradations of Aesthetics caused by row crop agriculture and failing HSTS throughout the Black River watershed will not be addressed by Ohio's AOC Program.
- "Upland erosion" and "loss of riparian vegetation" from the Stage 1 RAP report are not consistent with the IJC guidelines of "in water".
- Nonpoint source sediment-loading from agricultural and developing lands identified in the Stage 2 report are no longer considered sources of impairment. According to Ohio's AOC guidance (Ohio EPA 2017), excessive turbidity due to storm events or from agricultural activity cannot be considered causes of impairment to BUI #11.
- Nonpoint source nutrient-loading from agricultural and developing lands identified in the Stage 2 report are no longer considered sources of impairment to BUI #11. Nutrient-loading and eutrophication that affect aesthetics are addressed under BUI #8 (eutrophication and undesirable algae).
- Causes and sources of impairment to aquatic life are addressed under BUI #3a (degradation to fish populations), BUI #6 (degradation to benthos), and BUI #14a (loss of fish habitat).

Oil/grease and litter/trash are the only previously identified causes of impairment that are still applicable to the Black River AOC today. While the Black River was historically aesthetically degraded by persistent oil/grease and litter/trash in the Black River, the following sections of this document demonstrate that no such impairments persist today.

State of Ohio Restoration Target and Removal Criteria

The Ohio EPA Division of Surface Water Lake Erie Program Staff developed an AOC delisting guidance document, *Delisting Guidance and Restoration Targets for Ohio Areas of Concern*. The guidance states that BUIs can be removed under any of the following circumstances:

- Removal targets have been met and follow up monitoring or other evaluations confirm that the beneficial use has been restored;
- It can be demonstrated that the BUI is due to natural rather than human causes;
- It can be demonstrated that the impairment is not limited to the local geographic extent of the AOC, but rather is typical of lake-wide, region-wide, or area-wide conditions (under this situation, the beneficial use may be incorrectly recognized as impaired); or
- The impairment is caused by sources outside the AOC. The impairment is not restored, but the impairment classification can be removed or changed to "impaired-not due to local sources." (Responsibility for addressing "out of AOC" sources is assigned to another party or program (e.g., Lakewide Management Plan (LaMP), TMDLs, health department).

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.

Aesthetic impairments due to algae or excessive nutrient loading are addressed under BUI #8 (eutrophication and undesirable algae). 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 BUI. #8 (Ohio EPA 2020).

Aesthetic Conditions in the AOC

Superfund

The Republic Steel Corp. Quarry site is located near the Black River in Elyria, Ohio. It consists of a 5-acre quarry containing water and 7 acres of fenced land surrounding the quarry. From 1950 to 1975, the Republic Steel Corporation discharged about 200,000 gallons per day of waste pickle liquor and rinse water into the quarry. Sampling later found groundwater beneath the site was contaminated with heavy metals. In 1977, Republic Steel sold the quarry and surrounding land to the City of Elyria. EPA placed the site on its Superfund program National Priorities List (NPL) of hazardous waste sites in June 1986. U.S. EPA's cleanup at the site consisted of removing contaminated soil and sediment (mud), monitoring groundwater and performing a fish study to determine health risks. As a result of a five-year review completed at the site in 1998 to verify the protectiveness of the remedy, the cleanup was expanded to include groundwater monitoring, fixing and inspecting the site fence, posting signs, and limiting the use of and access to the site.

U.S. EPA removed this site from the NPL on November 2002 but continues to perform five-year reviews of the site's remedy. These reviews ensure that the remedies put in place protect public health and the environment, and function as intended by site decision documents.

The last review completed in March 2018 found that the remedy is currently protective of human health and the environment. However, in order for the remedy to be protective in the long-term, it is necessary to sample quarry water on site and determine its sheen source; develop and implement a monitoring program; develop and implement an Operations & Maintenance (O&M) Plan; develop long-term stewardship activities as part of the O&M Plan; and address Site access controls and security. The next scheduled five-year review will be in 2023 (US EPA 2020). This site continues to be regulated by other programs at Ohio EPA and is not an AOC issue.

Spills and Oil Sheens

Federal, state, 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 Emergency Response (ER) and U.S. EPA Region 5. In the Black River AOC, local response agencies include municipal fire departments and the Lorain County Office of Emergency Management and Homeland Security.

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. The response agencies then investigate and perform further reporting. Between 1990 and 2017, 168 incidents in or to waterways were reported in the Black River AOC. Generally, the

review of the narrative description of the incidents involving waterways in the Black River AOC indicated that the incidents were isolated. No set of records indicated any type of regular or persistent occurrence of incidents. From 2013 to 2017, an average of only 4 incidences per year in the Black AOC were reported to the NRC. Therefore, these were isolated incidents and not ongoing.

- Ohio EPA Office of Emergency Response (ER) maintains two databases of spills records: 1970s through May 17, 2017 and May 17, 2017 to present. Between January 1, 1990 and May 17, 2017, ER has 260 spill records for the five municipalities that the Black River AOC is within (Avon, Elyria, Lorain, North Ridgeville and Sheffield Village); however, only 60 records are for spills to or adjacent to the Black River. Between May 17, 2017 and December 5, 2018, ER has 171 spill records for Lorain County, and only three spills were to the Black River (Ohio EPA ER Database 2018).

Table 1. Summary of spills in the Black River AOC (January 1, 1990 – May 17, 2017)

Jurisdiction	Oil-related pollutant ^a	Unknown material ^b	At or near the Black River ^c
Avon	28	--	--
Elyria ^d	75	7	4
Lorain	82	10	55
North Ridgeville	44	3	--
Sheffield Village	10	1	1

Based on: Ohio EPA 2018

Table 2. Recent spills in the Black River AOC (May 18, 2017 – October 20, 2020)

Date	Pollutant	Volume
March 6, 2018	Mixed petroleum products	20 gallons
March 15, 2018	Oil hydraulic fluid	5 gallons
August 5-6, 2018	Sheen rainbow / hydrocarbon Material undetermined / other	unknown
November 21, 2018	Sheen rainbow / hydrocarbon	5 gallons
February 5, 2019	Oil sheen	unknown
April 29, 2019	Oil sheen	unknown
May 1, 2019	Oil sheen	unknown
June 26, 2019	Oil	100 gallons

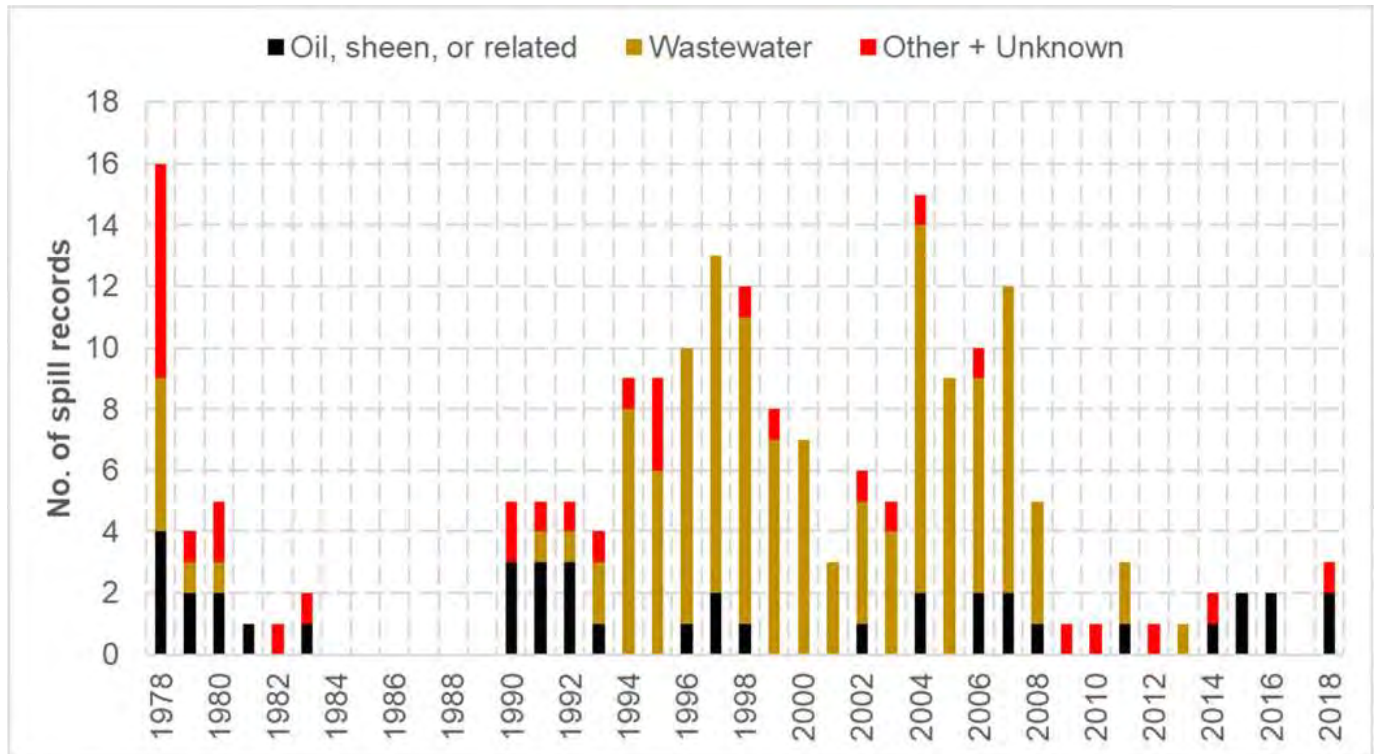
Source: Ohio EPA 2018

The review of ER spill records indicates that isolated spills occurred historically and recently throughout the entire Black River AOC. The majority of oil and related spills were associated with isolated incidents along major roadways. Many spill records at properties adjacent to the Black River do not indicate if the spill material migrated to the Black River. Except for spills reported at the large steel production complex in Lorain (see Figure 2 below), the review of DERR spill records did not indicate any persistent spills of oil, oil-related compounds, or sludge in the Black River AOC. Historically, spills often occurred at the large steel production complex along the Black River (Figure 2). This complex produced steel for several decades. Since 2016, U.S. Steel

and Republic Steel have periodically operated, but not at the levels of historic production. The frequency of spills has significantly decreased over the past decade.

- Lorain County Office of Emergency Management and Homeland Security responded to only two oil sheens on the Black River from 2013 through 2018.

Ohio EPA ER Database Spill Records at Large Steel Production Complex along the Black River



Based on: Ohio EPA 2018.

Figure 2. Spills reported at 1807 and 2199 East 28th Street (January 1, 1978 – December 4, 2018) in Ohio EPA ER databases

Notes

Records identifying the following locations: Colby Steel, Industrial Railway & Switching Services, Kolbe Steel, Lorain Pipe Mills, Lorain Pipe Mills/Republic Tech, Lorain Tubular Operations, Republic Energy Dock Area, Republic Engineer, Republic Engineered Products, Republic Eng Product, Republic Steel, Republic Technologic International, Republic Technologies, Republic Technology, Republic Tech Int, Republic Tech International, United States Steel, US Kolby Steel, US Steel Lorain Tubular Operations, USS Coby Steel, USS Kobe Steel, USS Cobe, USS/Kobe, U.S. Steel, and U.S. Steel Kobe. The official name of the steel mill from 1989 to 1999 was USS/KOBE Steel Company Operations ceased in 2016.

Media (e.g., land, surface water) that the pollutant spilt to is not identified.

Oil, sheen, or related represents bunker c oil, coal tar, diesel fuel, fuel oil, kerosene, light oil, lube oil, oil sheen, OR tar, O&G, transformer oil, and waste oil.

Wastewater represents barometric condenser water, blast furnace water, contact cooling water, cooling water tower, cooling water WQC, industrial wastewater, non-contact conditioning water, process water, recycled water, scale water, treated wastewater, wastewater, water blast furnace, WQC recycled water, WQC slurry, and WW.

Other + Unknown represents altrion, boiler treatment chemical, chlorine, cyanide, drum, hazardous material, hydraulic fluid, leachate KO87, liquid metal steel, material black, material yellow, mercury PCB, phenol, rust inhibitor, sewage, sewer sludge, sodium hypochlorite, sulfuric acid, SO2, total suspended solids, and unknown material.

While the number of spills has significantly decreased over the past 30 years, the steel complex averages two spills per year over the last 10 years. According to Ohio EPA Environmental Response, this is considered common for facilities of this nature and size. Other similar facilities across the state in

non-AOC areas are averaging the same numbers or higher. The facility is also an isolated area to the full AOC and is not affecting the overall aesthetic conditions within the whole AOC.

Regulated Discharges

Regulated discharges (i.e., industrial discharges and stormwater runoff) were identified as sources of impairment to the degradation of aesthetics in the Black River AOC (BRCC 1994). Discharges from publicly owned treatment works (POTWs), MS4s, industrial facilities, and off-site discharging HSTS are regulated through the National Pollutant Discharge Elimination System (NPDES) by Ohio EPA. 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 strictly investigated and enforced by several other Ohio EPA programs, they are addressed outside of the AOC program criteria.

- **Municipal Separate Storm Sewer Systems:** Thirteen entities with regulated MS4s are authorized to discharge stormwater through Ohio's general NPDES permit for small MS4s in the Black River AOC. Almost the entire Black River AOC (~97%) is within the urbanized areas of the 2000 and 2010 censuses (Figure 3); as such, municipal, industrial, and construction stormwater discharges must be authorized by permits issued by Ohio EPA.
- **Industrial Facilities:** Over 30 industrial facilities are authorized to discharge in the Black River AOC. The NPDES permits for stormwater discharges prohibit the discharge of waste, garbage, and floatable debris to receiving waterbodies.
 - Individual NPDES permits: Six industrial facilities are authorized to discharge process water or stormwater.
 - General NPDES permits: Over two dozen industrial facilities are authorized to discharge industrial stormwater, non-contact cooling water, and stormwater associated with marinas.

Ohio EPA issues NPDES permits that prohibit discharges of sludge, objectional material, and litter. Some permits regulate the discharge of oil/grease. Because permit compliance is investigated and enforced by several other Ohio EPA programs, they are not AOC issues.

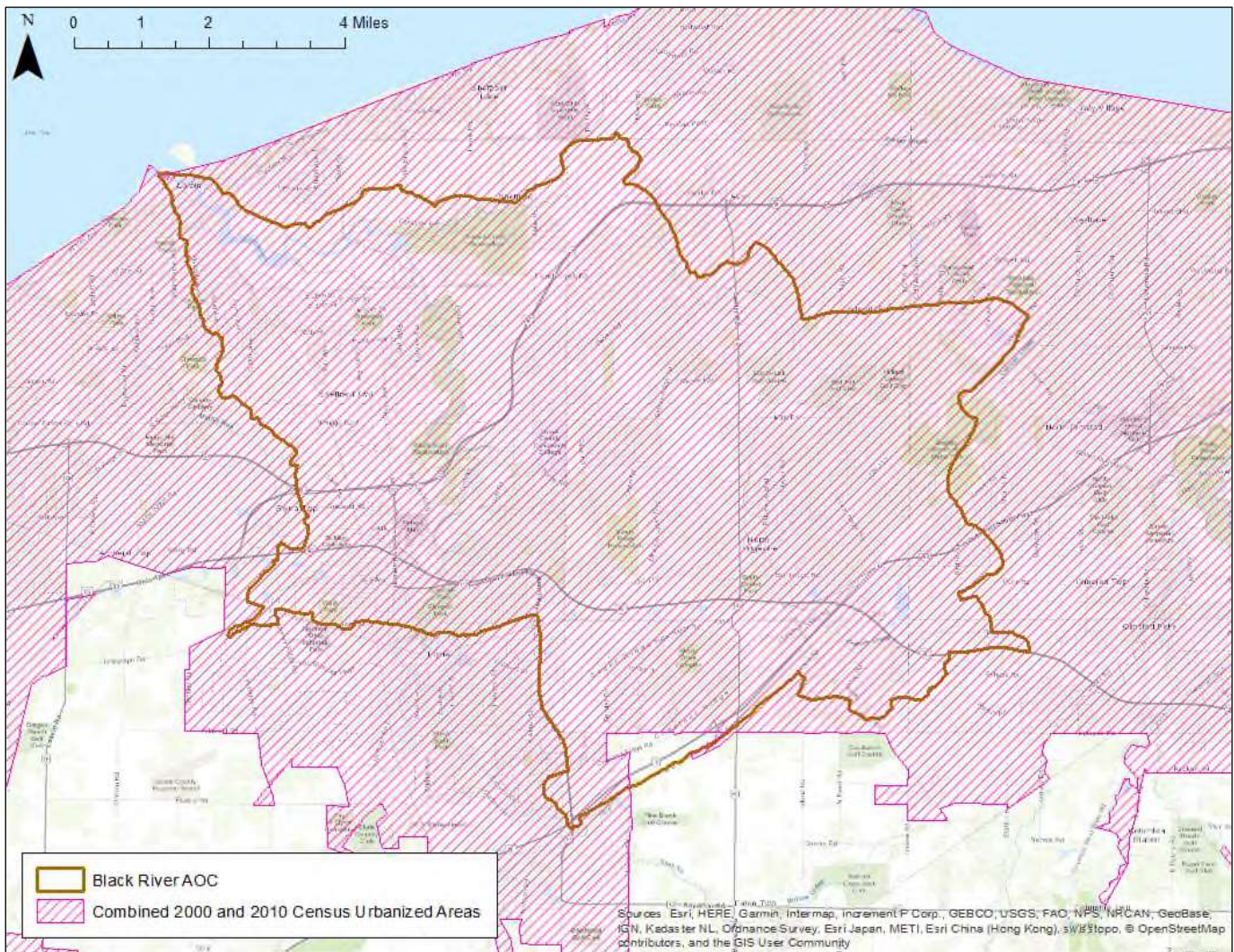


Figure 3. Black River AOC and the combined 2000 and 2010 censuses urbanized areas; all storm water discharges must be authorized by permits issued by Ohio EPA MS4 Program

Public Perception of Black River Aesthetics

Past conditions of the Black River AOC have been described over the years through local community newspapers. The available archives of the Cleveland Plain Dealer have highlighted conditions in the Black River over the years. Some examples of these articles include such topics as the following:

- The steel production complex was the major cause of pollution to the Black River that resulted in elevated levels of fish tumors and lesions identified in the 1970s and 1980s
- Regulated point sources violated their NPDES discharge permits in the 1980s and 1990s
- Isolated spills occurred throughout the Black River AOC in the 1980s through 2000s

River Cleanup

The Lorain County Kayak and Paddlesports Group (LoCo 'Yaks) conducts annual clean-ups on the Black River (Table 3). The extensive amount of trash, tires and scrap metal removed each year continuously improves the aesthetics of the Black River. LoCo 'Yaks plan to organize one more large-scale cleanup to make up for the one canceled by COVID in 2020. Then, moving forward they will be encouraging their

followers to do their own cleanups regularly. LoCo 'Yaks will offer cleanup supplies to individuals and small groups and will partner with area businesses to offer rewards for those who cleanup along the shoreline or while on the water. They plan to pursue existing grant programs that on a regular basis to assist in the future clean-up of the river. LoCo 'Yaks also runs the Marine Debris Prevention Educational Program, which includes classroom style presentations (LoCo 'Yaks 2018). The Marine Debris Prevention Educational Program raises awareness to the community regarding everyday actions they can take to help keep the aesthetics of the Black River in good condition.

The Stage 1 and Stage 2 reports identified oil/grease and litter/trash as degrading the aesthetics of the Black River AOC (BRCC 1994, 2011). Available data indicate that historic sources of oil/grease and litter/trash no longer regularly degrade the aesthetics of the Black River AOC.

Table 3. Data from the cleanups that occurred from 2013 through 2019

Year	No. of volunteers	Trash (pounds)	No. of tires	Scrap metal (pounds)	Total (tons)
2013	255	7,740	105	1,800	6.5
2014	280	38,580	125	660	22
2015	422	27,500	546	1,090	25.42
2016	385	20,330	115	3,485	18.38
2017	320	20,500	254	13,260	14.39
2018	296	8,800	438	2,610	12.69
2019	285	14,420	292	485	11.25

Source: LoCo 'Yaks.

As shown in Table 3, the amount of trash cleaned up has been significantly declining since 2014. In 2019, a boat and a camper were found on the bank of the river, therefore, the pounds increased but the amount of trash found in the river did not. The debris and other objectionable items focus of the restoration target are on the primary waters of the river. The following photos are provided from the trash clean-up activities that have been conducted.





Photographs courtesy of LoCo 'Yaks

Public Perception

When Ohio's AOC Program began in the late 1980s, the public's perception of the Black River was very negative. It was perceived as a heavily polluted river that was dangerous to humans and wildlife. Public perception of the Black River has changed since the adoption of the Great Lakes Water Quality Agreement and the implementation of Ohio's AOC Program. Today, residents and tourists think the Black River is an asset and a place to recreate. Increased recreation on and near the river is generally due to improved water quality and improved aesthetics.

Stage 1 Report Public Survey

The Lorain County Health District conducted a public survey composed of a random telephone survey of watershed residents and a mail survey of 500 local businesses in 1994.

Key results (percent of respondents) of the residents' survey (BRCC Stage 1 1994):

- Generally, the environmental quality has remained the same for the past 20 years (46%).
- Perceptions of the Black River included more negative things than positive (62%).
- The Black River poses a health risk (29%).
- Relatively few people use the Black River for recreational purposes.
- The largest group of respondents defined a clean river based on visual appearance or aesthetic properties, such as "it looks clean," "there is no debris," "the river is odorless."

As for the business survey "While comments were generally negative in relation to overall impressions of the Black River, compared to the quality of the river 20 years ago, conditions are considered improved" (BRCC 1994).

Videos

Three videos about the Black River have been produced:

- *The Black River: A Future as Dark as its Name?* (1992; <https://youtu.be/P8ZYVEsOMm4>)
- *A Hidden Treasure: Rediscovering the Black River* (2005; <https://youtu.be/4BwiUt-Pg2c>)
- *Bringing Back the Black River* (2014; <https://youtu.be/1Fx8Lk2iw60>)

These videos show how polluted the Black River was in the 20th Century and how much improvement has occurred in the late 1990s and 2000s.

Photos

The following photos show improvement of aesthetic conditions throughout the mainstem from the late 1970's to 2008.



River Mile 1.3 of the mainstem. Ohio EPA. Late 1970's.



River Mile 1.0 of the mainstem. TetraTech. 2018.



River Mile 6.4 of the mainstem. Ohio EPA. Late 1970's.



River Mile 6.5 of the mainstem. TetraTech. 2018.



River Mile 10.3 of the mainstem. Ohio EPA. Late 1970's.



River Mile 9.7 of the mainstem. TetraTech. 2018.

Recreation

LoCo 'Yaks has observed significant improvement in water quality in the Black River over the last 10 years. LoCo 'Yaks staff lead kayaking trips along the Black River and pass by historic and current industrial riverfront properties.

The Lorain Port Authority manages several riverfront recreational facilities that were redeveloped from past industrial use, including Black River Landing, Riverside Park (with a fishing pier), and Black River Wharf Boat Launch. In 2018, the Lorain Port Authority reported 497 canoe and kayak put-ins from its two launches⁸. Finally, the Lorain Port Authority manages several boat tours, including the *River Nature Tour* that tours the Lorain Harbor and lower Black River (Brown 2018).

Increased recreation on the Black River and along riverfront recreational properties would not be possible without the significant improvement of the water quality of the Black River. Tourists now regularly come to the city of Lorain to recreate on the lower Black River, something that did not occur two decades ago.

Black River Landing

The Lorain Port Authority opened the 25-acre riverfront property for public recreation in 2003. The site was formerly owned by Ling-Temco-Vaught Steel. Today, this redeveloped site hosts festivals and concerts, including the popular Rockin' on the River summer concert series.



(Lorain Port Authority 2018a) Black River Wharf Boat Launch

The Lorain Port Authority operates a boat launch on the Black River, downstream of the large steel production complex. The launch also includes a riverside pavilion and picnic tables. Grumpy's Bait Bucket, an adjacent business, offers kayak rentals and sells fishing and camping gear.



(Lorain Port Authority 2018a)

Assessment

The Stage 1 and Stage 2 reports identified oil/grease and litter/trash as degrading the aesthetics of the Black River AOC (BRCC 1994, 2011). These conditions, outlined further in the next sections, have continued to be addressed through improvements in the AOC, measures implemented under the NPDES and other programs, and active river clean-up activities by local partners. Available data indicate that historic sources of oil/grease and litter/trash no longer regularly degrade the aesthetics of the Black River AOC. Additionally, other federal and state programs will address any future sources of oil/grease and litter/trash.

Oil Sheens

The Stage 1 report identified oil and grease from runoff and from industrial discharges as impairing aesthetics (BRCC 1994). A review of NRC incident reports (U.S. Coast Guard 2018) and DERR spills reports (Ohio EPA 2018) did not indicate any persistent spills of oil, oil-related compounds, or sludge in the Black River AOC. DERR spills reports indicate a significant decline in spills at the large steel production complex along the Black River, especially over the last decade. Spills of any amount which cause a film or sheen on a waterway are not permitted and must be reported. Most spills result in a Notice of Violation to the Responsible Party (RP) who are responsible for clean-up measures and a 30-day follow-up report with detailed information including environmental impact, mitigation, containment and future prevention.

While MS4s were not identified as a source of impairment, runoff from municipal, suburban and highway areas were identified as sources of oil and grease that degrade aesthetics (BRCC 1994). Today, such runoff may be considered regulated MS4 stormwater. Since U.S. EPA's Phase 2 stormwater rules were adopted, most of the Black River AOC (i.e., 97%) drains areas that contain small MS4s. Regulated MS4s are required to investigate illicit discharges (including oil) to their system (Ohio EPA 2014). As the Black River AOC is almost entirely covered by regulated MS4s, any oil and grease in runoff from municipal, suburban, and highway areas would be addressed through Ohio EPA's NPDES Program. As such, oil and grease from regulated MS4s is no longer considered a source of impairment that degrades aesthetics.

Ohio EPA DERR investigates spills and the Division of Surface Water investigates illicit discharges from permitted facilities. Decades ago, anyone could release or dump almost anything into the Black River. Today, statutes and regulations prohibit such discharges and Ohio EPA investigates unauthorized releases.

Litter and Trash

The Stage 1 report identified "general littering" as degrading the aesthetics of the Black River (BRCC 1994), and the Stage 2 report identified "litter and trash accumulating in waterways" as degrading aesthetics in the Black River AOC (BRCC 2011). Historically, trash and industrial waste were dumped into the river.

Today, littering and dumping are illegal. Municipalities and state agencies investigate and enforce littering and dumping prohibitions. LoCo 'Yaks conducts annual clean-ups on the Black River, where volunteers help remove litter and trash from the banks and flood plain of the Black River. LoCo 'Yaks also runs the Marine Debris Prevention Educational Program to teach AOC-residents how to protect the Black River.

Most of the Black River AOC is within regulated MS4s that work toward reducing litter that enters their systems. Ohio's Small MS4 permit prohibits the discharge of construction waste, including litter, into a regulated MS4 (Ohio EPA 2014). While MS4s were never identified as sources of litter and trash in either

the Stage 1 or Stage 2 RAP reports, programs conducted by the regulated MS4s are reducing littering and eliminating illegal discharges that could enter the Black River.

Similarly, industrial facilities that discharge regulated stormwater are prohibited from discharging garbage and other floatables. Like MS4s, industrial facilities were not identified as a source of litter. However, again like regulated MS4s, regulated industrial facilities should not contribute litter or trash in the future. Ohio EPA's NPDES program will ensure compliance with individual NPDES permits and the general NPDES permit for industrial stormwater.

Conclusion

Redevelopment and recreation along the Black River today are a distinct contrast from the industrial pollution of the past. The cities of Lorain and Elyria are historically rustbelt towns that are revitalizing for the 21st Century. The Black River was once plagued by industrial pollution that was considered hazardous to human life and wildlife. Residents avoided the river and tourists traveled to other locales (e.g., the neighboring Vermillion River). But over the past two decades significant progress has been made in restoring the Black River. Fish and other wildlife have returned. Residents and tourists now canoe and kayak the Black River and take boat tours to see wildlife. The banks of the lower Black River now support parks and concert venues, instead of industrial debris, toxic residues, and garbage. Without the hard work of stakeholders to improve water quality and the aesthetics of the Black River, the redevelopment and revitalization that has begun would not have been possible.

A public review period was issued by Ohio EPA and Ohio Lake Erie Commission on November 25, 2020 and ended on December 21, 2020. No public comments were received.

Removal Statement

Based upon the documented data and information associated with the degradation to aesthetics and application of Ohio's BUI restoration targets, human activities in the Black River AOC do not result in persistent sludge deposits, oil sheens, scum, other objectional material, or materials that produce color, odor, or other nuisances. Waterways in the Black River AOC meet Ohio's BUI restoration targets for the degradation to aesthetics.



Photograph courtesy of LoCo 'Yaks.

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APPENDIX A

2020 Delisting Targets for Ohio Areas of Concern

BUI 11: Degradation of Aesthetics

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.

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 has about 1,280 known CSOs in 89 remaining communities (February 2011), ranging from small, rural villages to large metropolitan areas. 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's Guidance for the Nine Control Measures is available online (<http://cfpub.epa.gov/npdes/cso/guidedocs.cfm>). 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, 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, with specific dates and milestones for 75% of the nation's CSO communities.

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.

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Appendix B

Letter of Support Black River AOC Advisory Committee

