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# Acknowledgement

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Layout by Michigan Sea Grant.

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# Introduction

The Detroit River is a 32-mile international channel linking the upper Great Lakes and Lake St. Clair

to Lake Erie. Because of its long history as a transportation corridor, fishery and recreation venue, this water body is known to be the most important economic driver in southeast Michigan. Due to environmental degradation during the twentieth century, though, the Detroit River suffered significant damage and is now an "Area of Concern" (AOC).

The Detroit River AOC (Image 2) was designated under the Great Lakes Water Quality Agreement , which required the development of specific activities that would allow for the ultimate delisting of the area as an AOC.

Eleven environmental problems, known as "beneficial use impairments" (BUIs) were originally associated with the Detroit River. BUIs are not unique to Detroit: there are 43 Areas of Concern throughout the Great Lakes (Image3). The impairments to beneficial use include beach closures, degraded fish and wildlife habitats and other changes in the chemical, physical or biological integrity of the Great Lakes.

The Detroit River Public Advisory Council (PAC) was established in 1991 in conjunction with the Great Lakes Areas of Concern Program to facilitate public involvement in cleanup efforts due to legacy

contaminants and environmental issues. The PAC provides advice to state and federal agencies

on issues of concern to local communities and reviews and helps write the Remedial Action Plan. Members of the PAC are broadly representative of stakeholders in the Detroit River AOC. Although the Detroit River AOC is technically considered binational, separate Canadian and

U.S. remedial action plan implementation processes currently exist. Both processes include consultation and collaboration with all parties, and the Detroit River PAC has regularly engaged environmental experts on both sides of the river when determining strategies to remove the impairments.

While progress has been made on several BUIs — in fact, two have been removed — additional work is still needed to complete the remaining BUI removals. The remaining BUIs require sediment cleanup, habitat restoration, and controlling Combined Sewer Overflows (CSOs) (Image 1). The purpose of this report is to provide an update on the status of each BUI and why it was initially listed, and to identify the remaining actions necessary to remove the BUIs.

Once all the BUIs have been removed a report will be compiled and the U.S. side of the Detroit River AOC can be taken off the list of AOCs.

**Image 1: Detroit River AOC Remaining BUIs** 

	CONTAMINATED SEDIMENTS	HABITAT LOSS	COMBINED SEWER OVERFLOWS
BENEFICIAL USE IMPAIRMENTS (BUI)	Degradation of benthos  Fish tumors or other deformities  Bird or animal deformities or reproductive problems  Restrictions on fish and wildlife consumption  Restrictions on dredging activities	Loss of fish and wildlife habitat Degradation of fish and wildlife populations	Beach closings Degradation of aesthetics

# Status of Detroit River Beneficial Use Impairments (BUIs)

# **IMPAIRMENT**

# **IMPAIRMENT REMOVED**



Restrictions on Fish and **Wildlife Consumption** 



**Degradation of Fish** and Wildlife Populations



Tainting of Fish and Wildlife Flavor



Degradation of Aesthetics



**Bird or Animal Deformities** or Reproduction Problems



**Restrictions on Drinking Water Consumption or Taste and Odor** 



Degradation of **Benthos** 



Restrictions on **Dredging Activities** 



**Fish Tumors or** Other Deformities



Loss of Fish and Wildlife Habitat



**Beach** Closings

**Image 2: Detroit River AOC Boundary Map** 

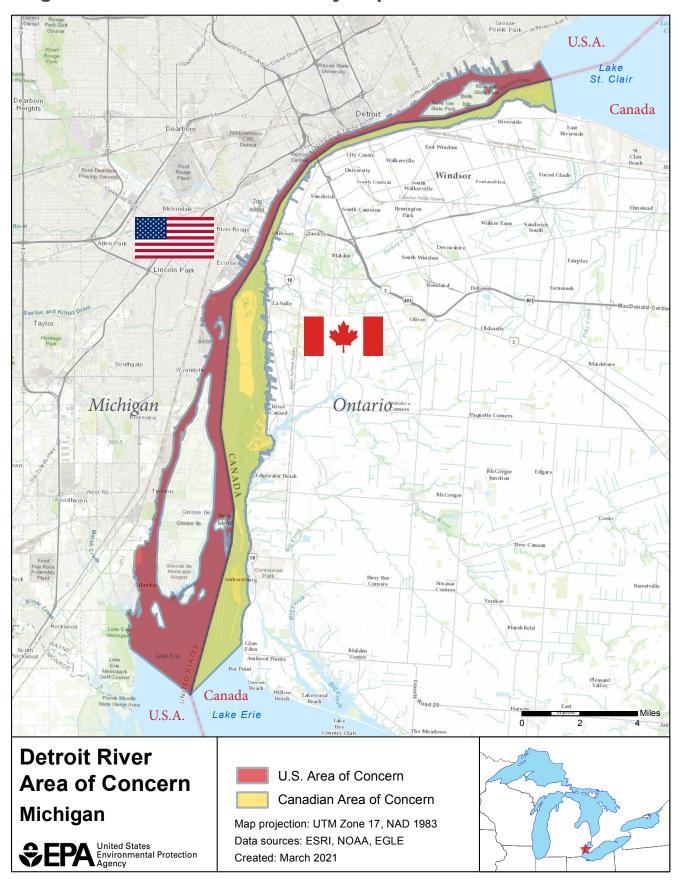


Image 3: Canadian and U.S. Great Lakes Areas of Concern Map





# **Degradation of Benthos**

#### **SUMMARY**

The development of the Detroit River shoreline and the varied industries that have existed along the river left a legacy of contamination in the sediment. The benthic organisms that live in the sediment or near the bottom of a river or lake as the base of the food chain are affected by contamination in the sediment. This in turn affects the fish and wildlife that feed upon these bugs and invertebrates. The contaminated sediments are responsible not only for the Benthos BUI, but for many of the other BUIs on the Michigan side of the river, including the BUIs for Bird or Animal Deformities, Fish Tumors, and Fish Consumption. This beneficial use can be restored when the contaminants in the sediment are no longer biologically available to the bugs, fish, and other wildlife of the river. It will be achieved either by removing the contaminated sediment or isolating it under clean sand or rock.

# WHAT IS THE PROBLEM?

The contaminated sediments of the Detroit River are as varied as the industries that have existed here and include metals such as mercury and lead, as well as Polychlorinated biphenyls (PCBs), Polycyclic aromatic hydrocarbons (PAH), oil and grease. The contaminants in the sediment can travel through the food chain into the bugs, fish, and wildlife, including the fish that people eat. These chemicals can cause health issues for people and wildlife.

#### WHAT IS BEING DONE?

In 2012, the PAC conducted a search and summarization of all known sediment research in the AOC. Both before and after the 2012 PAC data search project, remediation of sediment has occurred. Following this project, between 2014 and 2018 the entire river was again sampled to determine where and what type of contaminants exist. A map of targeted areas (Image 4) was created to show portions of the river requiring additional investigation for sediment remediation. The Detroit River was the location of the very first Great Lakes Legacy Act project, which removed contaminated sediment from the Black Lagoon in Trenton in 2005, including PCBs, mercury, zinc, lead, and oil and grease. In 2020, just downstream of the MacArthur Bridge in Detroit, an area of contaminated sediment was covered to isolate the contamination from people, fish, and wildlife, allowing for an expansion of the Detroit Riverwalk. Projects are also in process now in the areas of the Upper Trenton Channel and the Ambassador Bridge (Ralph C. Wilson Jr. Centennial Park).

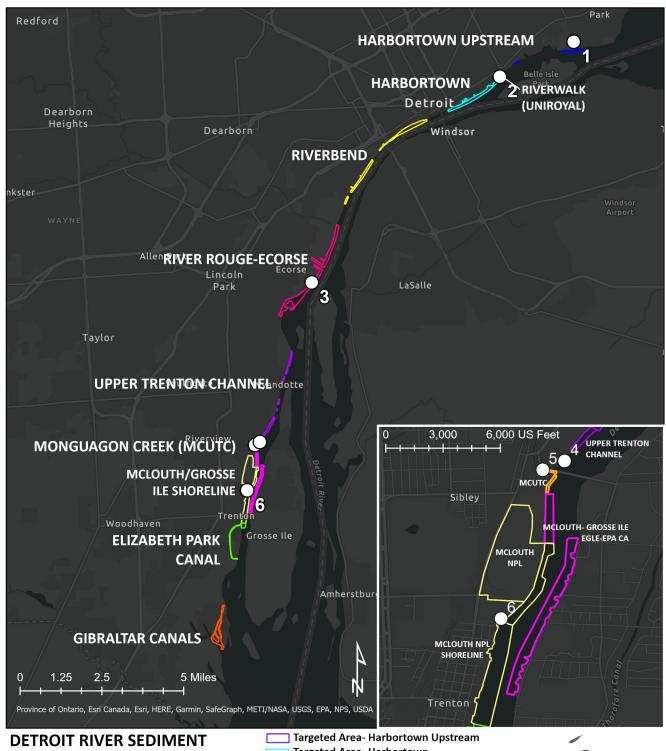
# WHEN WILL THIS BE CONSIDERED RESTORED?

This BUI will be considered restored when all remedial actions for known contaminated sediment sites with degraded benthos are completed and monitored according to the approved plan for the site. Remedial actions and monitoring are conducted under authority of state and federal programs.



Photo: Michigan Sea Grant

**Image 4: Detroit River Sediment Remediation Target Areas Requiring Further Investigation** 



# REMEDIATION TARGETED AREAS

- Sediment Clean Ups (Date Completed)
- 1: Conner Creek (2003)
- 2: Riverwalk (Uniroyal) (2020)
- 3: USS river basin dredging (2007)
- 4: BASF Riverview/ Federal Marine Terminal (2006)
- 5: Monagugon Creek (1997)
- 6: Black Lagoon (2005)

- Targeted Area- Harbortown
- Targeted Area- Riverbend
- Targeted Area- River Rouge-Ecorse (RREC)
- **Targeted Area- Upper Trenton Channel**
- Targeted Area- Monguagon Creek (MCUTC)
- Targeted Area- Mclouth NPL
  - Targeted Area- Mclouth-Grosse Ile Shoreline
- **Targeted Area- Elizabeth Park Canal** 
  - **Targeted Area- Gibraltar Canals**



Last updated: 2/16/2022



# Fish Tumors or Other Deformities

#### **SUMMARY**

Contaminated sediments can cause tumors in fish. The rate of tumors or other deformities within the AOC, at minimum, should be no greater than a reference population of fish at a non-AOC control site in the Great Lakes basin.

### WHAT IS THE PROBLEM?

Tumors in fish found in the Detroit River have been linked to the contaminated sediments that the fish swim around in and feed from.

## WHAT IS BEING DONE?

A study was conducted by the United States Geological Survey (USGS). A total of 40 brown bullheads were collected in the Trenton Channel area in spring 2011 and 2012, all three years of age or older. Grossly observable lesions included raised lesions on lip/body surface and barbels, as well as melanistic areas. Twenty-three had raised lesions on lip, body surface, or barbels. More sampling is needed after clean-up work is conducted on the river. Plans for a clean-up in the Upper Trenton Channel are in the making.

### WHEN WILL THIS BE CONSIDERED RESTORED?

This BUI will be considered restored when a comparison study indicates that there is no statistically significant difference (with a 95% confidence interval) in the incidence of liver tumors or deformities. The fish will be compared with samples of resident benthic fish (e.g., brown bullhead) of comparable age and at maturity (three years), or of fish species which have historically been associated with this BUI, in the AOC and a non-impacted control site.



Photo: DNR Photo: USFC



Pollutants can accumulate in higher concentrations for animals further up in the food chain, such as predatory birds that eat fish or animals contaminated with these chemicals. The pollutants investigated for this impairment include Dichlorodiphenyltrichloroethane (DDT), PCBs and dioxins. Some examples of bird and animal deformities or reproductive problems include crossed bills, lower reproductive rates, or other birth deformities. Experts examining the Detroit AOC often study bald eagles, forage fish, and tree swallows to determine the status of this BUI. The studies currently being conducted will allow scientists to evaluate this impaired beneficial use using both approaches: the observational data on bald eagles as well as the analysis of fish tissue concentrations.

### WHAT IS THE PROBLEM?

This beneficial use continues to be impaired due to the effects of contaminants in bald eagles from the contaminant levels in the fish they eat (otherwise known as forage fish). These fish-eating wildlife are exposed to higher levels of PCBs than comparison populations; the PCBs in bald eagles are higher than those expected from a healthy population. Concentration levels of PCBs in forage fish are above average and may adversely impact wildlife. High levels of PCBs cause decreasing successful reproduction.

#### WHAT IS BEING DONE?

Monitoring of bald eagles, tree swallows and forage fish continues. A genetics study of bald eagle populations is underway in four Areas of Concern in Michigan: Detroit, Kalamazoo, Saginaw, and the Raisin rivers. This genetic study can help determine if bald eagles are successfully reproducing and returning to these AOCs to create new territories. Additionally, remediation of contaminated sediments will benefit the wildlife of the area by removing the contaminants from the environment and from their sources of food, whether it be insects, fish, or other wildlife.

## WHEN WILL THIS BE CONSIDERED RESTORED?

This BUI will be considered restored when 1) bald eagle reproduction is no worse than a comparable non-AOC population and fish tissue concentrations of PCBs, dioxins, DDT, and mercury are at; or 2) lower than those known to cause reproductive or developmental problems in fish-eating birds and mammals; or 3) if fish tissue concentrations of PCBs, dioxins, DDT, or mercury in the Detroit River AOC are not statistically different than those in the non-AOC reference site.



Photos: Robert Burns



Restrictions on the consumption of fish and wildlife are related to the presence of chemicals, such as PCBs and mercury, at concentrations above a threshold deemed safe for consumers. Fish consumption advisories for the Detroit River continue to be more restrictive than non-AOC reference sites. Fish continue to be gathered for analysis of the chemicals in the fish tissue.

# WHAT IS THE PROBLEM?

Fish collected in 2016 from the Trenton Channel, including largemouth bass, northern pike, white bass, and yellow perch contained traces of mercury and PCB contaminants. PCBs are a class of man-made contaminants used in industrial processes that does not easily break down in the environment. PCBs are a primary cause of fish consumption advisories in the Detroit River.

### WHAT IS BEING DONE?

PCBs were banned in 1978. Agencies continue to monitor fish and conduct sediment samplingto further determine the extent of the problem. Once established, sediment cleanup plans will be established and implemented. Eating fish from the Detroit River can provide a good source of protein but caution should be taken based on state guidelines: <a href="https://bit.ly/3sj9oly">https://bit.ly/3sj9oly</a>

# WHEN WILL THIS BE CONSIDERED RESTORED?

This BUI will be considered restored when consumption advisories for indicator fish species given for the sensitive population in the AOC are comparable to non-AOC Great Lakes reference site.



Photo: Michigan Sea Grant



# Restrictions on Dredging Activities

### **SUMMARY**

The US Army Corps of Engineers (COE) periodically dredges accumulated sediment from navigable waterways throughout the Great Lakes, including the Detroit River and into Lake Erie. Once this sediment is removed it must be appropriately disposed of. If it contains contamination such as PCBs, PAHs and metals like lead or mercury it must go to an approved confined disposal facility (CDF) or Toxic Substances Control Act (TSCA) level landfill.

## WHAT IS THE PROBLEM?

This BUI is impaired for the Detroit River AOC because sediment dredged from the Detroit River contains many contaminants, such as PCBs, PAHs, zinc, cadmium, copper, iron, nickel, mercury, lead and chromium requiring it to be disposed of in a TSCA landfill or CDF.

#### WHAT IS BEING DONE?

The Detroit River PAC will continue to work with the COE on sampling future areas that are dredged for navigation for the presence of contaminants. In addition, ongoing sediment remediation projects are being completed for the Benthos BUI removal process. It is expected that this process will lead to the reduction of levels of contaminated sediments currently found in the navigation channels.

# WHEN WILL THIS BE CONSIDERED RESTORED?

This BUI will be considered restored when the most recent routine dredging of the designated navigational channel, by the COE does not require disposal of dredge materials in a CDF or TSCA-level landfill due to chemical contamination.



Photo: Robert Burns





# Loss of Fish and Wildlife Habitat and Degradation of Fish and Wildlife Populations

## **SUMMARY**

The PAC developed one list of projects that, when completed, will allow both Fish & Wildlife BUIs to be removed. Local AOC leaders set standards for the amount and quality of habitat required to remove these two BUIs. The projects to restore these two BUIs involve creating and reestablishing habitat

with the characteristics necessary to support native fish and wildlife populations. Restoration actions can include enhancing shoreline complexity, removing invasive species, or restoring wetlands. These two BUIs work to restore environmental conditions to support healthy, self- sustaining communities of desired fish and wildlife at levels of abundance predetermined locally.

#### WHAT'S THE PROBLEM?

As a result of human population growth and industrial development, coastal wetlands (including submerged marsh, emergent marsh, wet meadow and shrub swamp, swamp forest, and lakeplain prairie) have significantly diminished over the last 200 years, resulting in nearly all the wetlands on both sides of the river being substantially reduced.

Wetlands in and around the Detroit River provide valuable habitat for fish and wildlife. Just as wetlands have decreased in area and abundance, most of the forests within the watershed has been converted to agricultural and urban land uses. The development of the Detroit River have caused impacts that include significant loss of aquatic and wetland habitat and alterations in fish population and community structure Due to this degradation of habitat, it has resulted in loss of fish and wildlife populations throughout the AOC.

# WHAT IS BEING DONE?

In 2014, the Detroit River PAC identified a list of 14 sites (Table 1) for habitat restoration that would enhance the habitat of the Detroit River, while restoring parts of the river back to their natural ecosystems. Implementation of the projects listed and described in Table 1 will provide significant restoration of aquatic habitat, coastal wetlands, and forested areas that have been lost due to decades of development and industrialization.

Completion of these projects will provide valuable spawning, breeding, nesting, and feeding habitat to sustain healthy populations of aquatic macroinvertebrates, insects, fish, amphibians, reptiles, migratory and nesting birds, and mammals sufficient to remove both the Loss of Fish and Wildlife Habitat and Degradation of Fish and Wildlife Populations BUIs.

# WHEN WILL THIS BE CONSIDERED RESTORED?

Once all 14 restoration projects identified in the <u>Targets for Removal of the Loss of Fish & Wildlife Habitat and Degradation of Fish & Wildlife Populations</u> report are complete both of these BUIs will be considered restored.

**Table 1: Detroit River Habitat Restoration Project List** 

Project	Status	Description	Completion Date
Detroit River Reefs (Northeast Belle Isle, Fort Wayne, Northeast Grassy Island)	Complete	Constructed over 4 acres of artificial spawning reef habitat for native fish in the Detroit River	2018
Detroit Upper Riverfront Parks Restoration ( Lakewood East Park, A.B. Ford Park)	Under construction	Increase wetland habitat and reduce the amount of hardened shoreline along the Detroit River in order to restore the aquatic and shoreline habitat that was once there along with enhancing fishing opportunities	Expected 2024
Belle Island Hydrological Analysis, Feasibility, and Pre- Design	Complete	Conducted a study to understand the waterways of Belle Isle to effectively design the habitat restoration projects in the Belle Isle forested wetland and Lake Okonoka	2016
Belle Isle Forested Wetland Restoration	Under construction	Enhance the existing forest by restoring the hydrology to allow wildlife species of the wet mesic flatwoods to thrive	Expected 2022
Lake Okonoka Restoration	Complete	Improved the hydrologic function of Lake Okonoka and its connectivity with the Blue Heron Lagoon and the Detroit River to increase available fish nursery habitat	2020
Milliken State Park Prairie Creation	Complete	Created a naturalized prairie and wet prairie area of native wildflower habitat for birds and pollinators	2018
Hennepin Marsh Restoration	Under construction	Protect and enhance the existing submergent wetlands and create additional emergent shorelines	Expected 2023
Stony Island Shoal Restoration	Complete	RReconstructed the shoals to protect the island from further degradation of existing valuable wetland habitat and provided an environment for natural regeneration of additional wetland habitat to occur	2018
Sugar Island Restoration	Under construction	Stop further erosion issues on the southern end of the island and enhance fish and wildlife habitat by creating an erosion control structure	Expected 2023
Celeron Island Restoration and Shoal Construction	Complete	Constructed a shoal system to prevent further degradation to the southern end of the island's habitat	2020
Blue Heron Lagoon	Complete	Connected the lagoon to the river and created new habitat, allowing for a habitat rich in fish, amphibian, and reptiles, two vernal pools, and a prairie mound for turtle nesting	2013
South Fishing Pier Restoration	Complete	Created aquatic nursery habitat and 2.5 acres of coastal wetland to support additional wildlife	2013
US Steel Shoreline Restoration	Complete	Implemented bank stabilization, sand ramps, native plants, and snake habitat structures to help stabilize the shoreline and reduce the industrialization of the area	2013
Wayne County Refuge Gateway Restoration	Complete	Shoreline restoration was implemented including bank stabilization and habitat improvements in the water and on the land.	2012

**Image 5: Habitat Restoration Project Site Map** 





Individuals should be able to perform recreational activities, such as swimming and kayaking, without exposure to human pathogens. Human pathogen levels sometimes exceed acceptable concentrations for body contact. It should also be noted that while there is only one designated public beach on the U.S. side of the Detroit River, swimming is common throughout the river, particularly around the islands in the southern end.

#### WHAT IS THE PROBLEM?

Most sewers in the Metro Detroit area are used for both stormwater and sanitary wastewater conveyance. These are called combined sewers. Dozens of Combined Sewer Overflows (CSOs) continue to exist and discharge into the Detroit River from many locations. The human pathogens that may be released from these points can cause beaches to close. CSOs contain untreated or partially treated human waste, and stormwater. Under normal conditions wastewater is transported to a treatment plant before being treated and released into the Detroit River. During heavy rainfall or snowmelt events when the wastewater exceeds treatment plant capacity it overflows and discharges directly into nearby water bodies without being treated, or only partially treated. Belle Isle Beach sometimes has closures due to high bacteria levels.

### WHAT IS BEING DONE?

Separation of CSOs is necessary to eliminate sewage from being discharged into the Detroit River during heavy rain events. The separation is part of an ongoing regulatory process being implemented by EGLE. Belle Isle beach is currently being monitored by the Detroit Health Department and reported on the BeachGuard website <a href="https://bit.ly/3otqRqn">https://bit.ly/3otqRqn</a>. The beach had two closures in 2021 due to high bacteria levels. In addition, monitoring needs to occur in the lower Detroit River where the public routinely swims and recreates in the water.

# WHEN WILL THIS BE CONSIDERED RESTORED?

This BUI will be considered restored when human sources of pathogens are reduced because CSOs are separated or are on schedule to be controlled through implementation of permit requirements.



Photo: Michigan Sea Grant



# **Degradation of Aesthetics**

### **SUMMARY**

This BUI is related to the unnatural appearance of a water's natural properties (in persistent and high levels) and can include the color of the water, turbidity, suspended solids, existence of foam, and floatable solids such as garbage or sewage.

#### WHAT IS THE PROBLEM?

According to the 1991 Detroit River Remedial Action Plan (RAP), several CSOs discharged large volumes to the Detroit River during wet weather events. These discharges contributed discolored water, oil and grease, and other types of objectionable deposits and debris. In 2011, a study to assess the Aesthetics BUI found continued sanitary trash discharged from CSOs. The same study found an area of the shoreline in the midpart of the Detroit River to be bleached and with an unnatural grey/light brown color, to have a high pH, and to have calcified deposits coating the vegetation. Therefore, in 2011, the BUI continued to be impaired. Subsequent work by EGLE determined the shoreline problem to be caused by a pathway to the Detroit River from unlined cooling ponds at an industrial site.

## WHAT IS BEING DONE?

The separation of CSOs is part of an ongoing regulatory process being implemented by EGLE. The industry adjacent to the area of high pH and calcified deposits worked with EGLE regulatory staff to reduce the pH and eliminate the chemical seepage by lining the cooling ponds. In 2019, pH samples showed a decrease in pH and the bleaching of the shoreline also improved. Another round of monitoring is necessary and is planned for the summer of 2022.

#### WHEN WILL THIS BE CONSIDERED RESTORED?

The aesthetics BUI can be removed when the waters are devoid of any substance that produces a persistent objectionable deposit, unnatural color, or turbidity (cloudiness), or unnatural odor.



Photo: Michigan Sea Grant

Photo: Robert Burns



# Tainting of Fish and Wildlife Flavor

### **SUMMARY**

Fish and wildlife flavor is sensitive to water quality, and the presence of certain chemical compounds, such as phenolic compounds, may impact flavor. Chemical contaminants, such as PCBs and mercury, that warrant fish consumption advisories cannot be detected through taste and are therefore not related to this BUI. Assessments of flavor or the compounds that affect flavor were conducted to confirm there is no tainting of fish and wildlife taste.

# WHAT WAS THE PROBLEM?

According to the 1991 RAP document, there had been no reports of fish, wildlife or waterfowl tainting in the Detroit River. Therefore, this use was not considered to be impaired. In 1992 and 1993, the Michigan Department of Natural Resources (MDNR) and the Michigan Department of Public Health (MDPH) each conducted a fish flavor impairment study, respectively. In the 1992 preliminary study conducted by MDNR, four of the six walleye caught from the Trenton Channel were found to taste impaired at the 95% confidence level of significance, and three walleye tasted impaired at the 99% confidence level as compared to control walleye purchased from a seafood market. A follow up study was conducted in 1993 that concluded the results of the study were consistent with findings from the 1992 study and a small percentage of the walleye in the Trenton Channel may exhibit flavor impairment. Therefore, in 1996 the Technical Working Groups recommended changing the status of "tainting of fish flavor" to "impaired" to reflect the results of the MDNR/MDPH studies.

# WHAT WAS DONE?

In 2012, following similar surveys in the St. Clair AOC and Detroit River Canadian Cleanup, the Detroit River PAC conducted a public survey to assess the status of this BUI. Of the 327 surveys that were collected, over half (57.2%) were from anglers that fished the Detroit River more than ten times a year. Over eighty-eight percent (88.6%) of them ate the fish that they caught, with perch at almost thirty percent (29.9%) and Walleye at thirty-five percent (35.1%) being by far the two species most caught and consumed by area anglers. Over ninety-one percent (91.2%) rated the taste of the fish consumed as "excellent/good", while less than one percent (.7%) rated the taste as "poor". Over ninety percent (90.4%) of the anglers surveyed rated the smell of the fish as "excellent/good" with only four percent (4%) rating the fish as smelling "poor".

Of the 27 anglers who answered "yes" to the question," In the last three (3) years have you noticed any objectionable tastes or odors in the fish caught in the Detroit River?", only five directly referenced observing an oily or chemical taste or odor. The others made references to having a fishy or strong taste or smell, and references to the fish's texture that might be a factor of how the fish was stored, cleaned or attributable to what the fish might have been eating.

# **HOW WAS IT RESTORED?**

This BUI was removed in 2013 as a result of the PAC angler survey and no reports of fish and wildlife taste problems to EGLE for a period of three consecutive years.



Since the Restrictions on Drinking Water Consumption or Taste and Odor Problems BUI was initially determined to be impaired for the Detroit River AOC, key point source and nonpoint source control measures have been implemented within the AOC. These have most certainly played a beneficial role with respect to the status of the Restrictions on Drinking Water Consumption or Taste and Odor Problems BUI, whether or not these measures were specifically intended to benefit the status of that BUI or bring about its restoration. These measures include CSO control improvements and NPDES improvements. Water is normally treated before it can be used as drinking water. Treatment of drinking water coming from AOCs should not exceed conventional treatment used to treat drinking water in the Great Lakes basin.

### WHAT WAS THE PROBLEM?

Taste and odor problems were reported in July/August 1990 and in December 1990.

#### WHAT WAS DONE?

In September 2010, EGLE, Environmental Resource Management Division (ERMD), Drinking Water staff reviewed Monthly Operation Reports and the required chemical monitoring data received during 2008, 2009, and what was then available from 2010 from all water treatment plants that use the Detroit River as their source (i.e., Water Works Park, Springwells, Northeast, Southwest and Wyandotte). This review showed that all plants have met all federal and state drinking water standards for finished water quality. This review also showed that all plants have employed conventional treatment (i.e., coagulation, sedimentation, filtration, and disinfection) to treat source water; treatment has not exceeded standard methods, nor have there been any incidences of intakes closing, whether voluntarily or involuntarily.

Based on this evaluation, AOC Program staff determined that drinking water from the Detroit River AOC met Michigan's criteria for removal of the Restrictions on Drinking Water Consumption or Taste and Odor Problems BUI in U.S. waters of the AOC. In January 2010, the Friends of the Detroit River conducted an independent review of data obtained to assess this BUI. As a result of this independent review, both the Friends of the Detroit River and the Detroit River PAC supported removal of this BUI. A letter of support for removal of this BUI was received from the Detroit River PAC on January 13, 2011.

#### **HOW WAS THIS RESTORED?**

This BUI was removed in 2011 when monitoring data for two years indicated that public water supplies met the current and most stringent human health standards, objectives, or guidelines (at the point of distribution into the water system) for levels of disease-causing organisms, hazardous or toxic chemicals, or radioactive substances; and treatment needed to make raw water potable and palatable does not exceed standard methods in those supplies.



Photo: Robert Burns



# Call to Action

- Join the PAC. To join the PAC, head to: detroitriver.org/pac-1
- Participate in public meetings. These will be announced on the Friends of the Detroit River website, email blasts, social media pages and local newspapers.
- Assist with annual clean-up events, stewardship activities and volunteer events, head to: detroitriver.org/take-action
- Subscribe to email blasts to stay up to date on current events and news, head to: detroitriver.org/take-action