



Quarterly
Spring 2019

Lake Erie

Monthly Waterkeeper Meetings

2nd Thursday or other

Toledo Yacht Club
Den Bar lower level

Open to Public

March 14
April 11
May 16
June 13
June 22 Cuyahoga
Anniversary Blazing
Paddles

Lake Erie
Waterkeeper
Conference March 29
Registration
Lakeeriewaterkeeper.org

Monthly Lake Erie
Conference Calls
Sunday eve 8 pm

605-475-3220
Code 767451#

Paddle the Cuyahoga
for the 50th
Anniversary June 22
Share the River
Blazing Paddles
Registration
Sharetheriver.org

Lake Erie Speaker
419-691-3788

Coming Soon – New
Website with Pat
Dailey Song “Lake
Keepers”



LAKE ERIE FIFTY YEARS AFTER THE BURNING OF THE CUYAHOGA

Fires erupted on the *river* several more times before June 22, 1969; on that date a *river* fire captured the attention of Time magazine, which said that the Cuyahoga “oozes rather than flows” and in which a person “does not drown but decays.”

The Cuyahoga fire is credited with the creation of the Clean Water Act in 1972 which amended the previous Federal Water Pollution Control Act passed in 1948.

The Cuyahoga fire was followed by reports on a dying Lake Erie. By 1970, the environmental impact on Lake Erie reached its dramatic climax and the lake was declared dead. The problems of Lake Erie were addressed in 1972 when Canada and the United States, under Richard Nixon, signed the Great Lakes Water Quality Agreement.

Once the Clean Water Act regulated industrial and wastewater discharges, the lake began to rebound in the 1980’s and by the 1990’s was once again thriving. The industrial and wastewater discharges are regulated through a discharge permitting program under the Clean Water Act known as National Pollution Discharge Elimination System (NPDES). In addition, the Great Lakes Water Quality Agreement established Great Lakes Areas of Concern (AOC’s), 26 in the US and 17 in Canada. Two of these are the Cuyahoga and the Maumee Rivers.

this issue

Lake Erie after 50 Years **P.1**

Lake Erie 2019 **P.2**

Lake Erie Roundup **P.3**

TALE OF TWO LAKE ERIE RIVERS – CUYAHOGA and MAUMEE

The Cuyahoga and the Maumee Rivers are Areas of Concern (AOC’s). Fifty years later the lesson of these two rivers explain why Lake Erie has gone from come back to green algae

	Cuyahoga River	Maumee River
Length in miles	80	136
Area in square miles	812 s	6500
Stream miles	1100	3942
Land Use Preserved	37%	16%
Land Use Agriculture	16%	78%

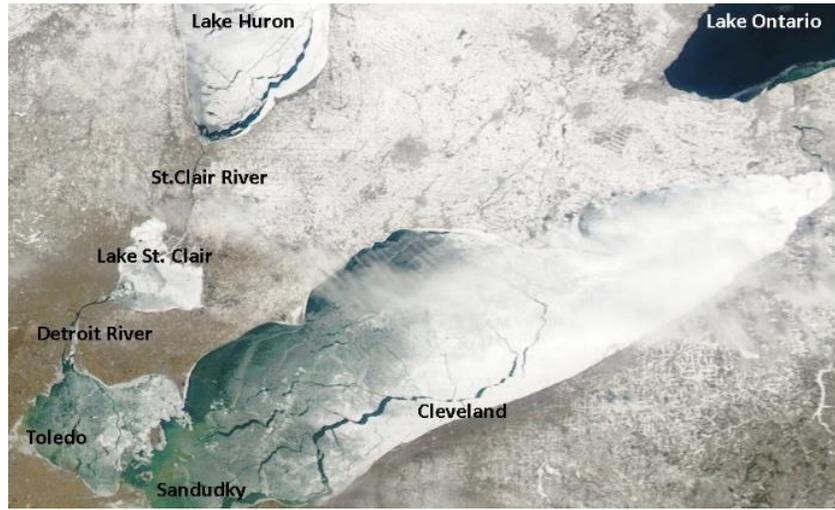
The Cuyahoga industrial and sewage discharges were reduced through regulations, and also by addressing contaminated sediments along with dam removals. The Cuyahoga River is great again with paddling and fishing.

The Maumee’s contaminated sediments were largely cleaned up via dredging the shipping channel and placed in confined disposal areas.

The Maumee still struggles because the watershed land use is 78% agriculture. The Cuyahoga recovered because it has 16% agricultural use. AOC’s do no address nutrient/fertilizer run off.

LAKE ERIE MODIS MARCH 9, 2019

View Lake Erie Daily at www.lakeeriemodis.com



LAKE ERIE WATER LEVELS

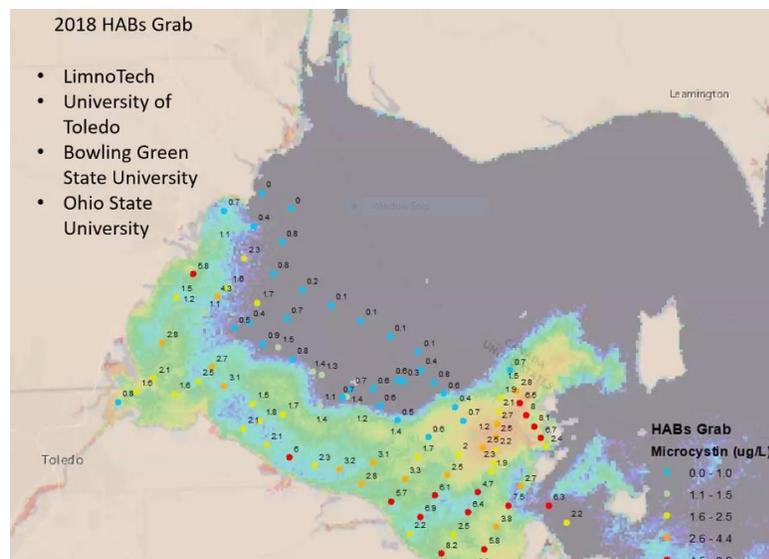
Water levels in Lake Erie could break a record in 2019 according to the Army Corps of Engineers projections.

If there is a wet spring, the lake could be about 2 feet over normal in May, breaking the 1986 record. High levels threaten coastal properties because waves erode the shoreline and bluffs.

Water levels change very quickly on Lake Erie because it's so shallow. A change in water levels and winds across Lake Erie can mean a 10-foot difference between Toledo and Buffalo.

From January to February Lake Erie rose less than one inch to 572.87 feet. The February level was 7 inches above its level from last year and 24 inches above the Long-Term Average (LTA). In February, Lake Erie received 11" or 6% of average participation. Lake Erie is expected to be 1 inch above last year's level in March and April, and then 0-2 inches below last year's levels from May to August over the next six months.

LAKE ERIE ALGAE 2019?



The chart above shows the levels of the toxin microcystin in western Lake Erie in 2018 – the red dots are highest amounts of microcystin and are located mostly around the Lake Erie islands. In most years the highest levels are in the Maumee Bay area. In 2018 there was an early large algae bloom east of West Sister Island and in the Lake Erie Islands area that followed heavy rains in late June. The winds and rain blew the runoff further east than normal. July and beyond were dry with nearly drought conditions. The Maumee Bay area had little algae and low toxins. The data in 2018 show that spring and early summer heavy rains cause phosphorous runoff from fertilizer's and manure that result in harmful algae in Lake Erie. The winds determine where the algae will collect and produce the toxins. Data show that when there are heavy rains in spring and early summer when crops are being planted, there are large harmful algae blooms. In 2011 and 2015 there were very heavy rains and record algae blooms. In 2012 and 2016 there was little rain and small to no blooms. And where the algae collect depends on wind velocity and direction.



LARVAL GRASS CARP IN MAUMEE RIVER

From U.S.G.S. March 6, 2019

A genetic analysis conducted by the U.S. Geological Survey recently confirmed that larval, or newly hatched, fish collected from the Maumee River during the summer of 2018 are grass carp, one species of invasive Asian carps that threaten the Great Lakes. The Maumee River is a tributary to Lake Erie. These young fish are the first grass carp collected in their larval stage from within the Great Lakes watershed. Other life stages, including fertilized eggs, juveniles and adults, have been previously documented in tributaries and shoreline areas of Lake Erie. Identifying locations with larval grass carp in the Maumee River will help inform management decisions and allow natural resource agencies to better focus limited resources on grass carp removal efforts. “If grass carp become abundant in Lake Erie, they could consume large amounts of aquatic vegetation, ultimately reducing habitat for native fish and other aquatic animals and diminishing food resources for water birds,” said USGS scientist Patrick Kočovský. “The Lake Erie ecosystem is a major contributor to the Great Lakes’ multi-billion dollar per year fishery. “On June 13 and 26, 2018, a sampling crew from The University of Toledo collaborating with the USGS sampled the Maumee River in Toledo, Ohio, for early life stages of grass carp. The larval grass carp were collected near the I-280 bridge in the city of Toledo and near the river mouth adjacent to Brenner’s Marina during high water flow events typical of spawning conditions for grass carp. While the samples were being processed in January 2019, six larval fish resembling grass carp were identified. These larval fish were sent to the USGS for genetic confirmation. Scientists analyzed DNA extracted from each larva in early February and confirmed with high confidence that the species of every hatchling was grass carp. Subsequent genetic sequencing of the larval fish DNA in late February confirmed that the larvae were grass carp. “Collecting larval fish in a Great Lake is like finding a needle in a haystack,” said Christine Mayer of The University of Toledo Department of Environmental Sciences and Lake Erie Center. “Our finding helps make the haystack smaller when looking for spawning grass carp. “The capture of these larval grass carp confirms previous evidence that they spawn in the Maumee River, and the capture of larvae during separate high flow events confirms the possibility of more than one successful spawning event within a year. This new discovery does not indicate the population size in the Maumee River, but underscores the continued need for early detection. The USGS and The University of Toledo have previously documented grass carp spawning in the Sandusky River. For more information about the threat of Asian carp in the Great Lakes, please visit the USGS Great Lakes Restoration Initiative website.

Restoring Lake Erie’s largest wetland. Erie Marsh

A four-phase, five-year process is underway to restore one of the largest coastal wetlands in Lake Erie. Erie Marsh contains 2,217 acres of wetlands that are home to 65 species of fish and 300 species of migratory birds are in the marsh in southeast Michigan near the Ohio border. Woodtick Peninsula is part of Erie Marsh. Part of Erie Marsh is in the closed Consumer Power Whiting coal plant complex.



LAKE ERIE WATERKEEPER IN DC FOR LAKE ERIE

Waterkeeper President Dave Spangler, Charter President/ Board Member Paul Pacholski and Waterkeeper Sandy Bihn went to Great Lakes Days in Washington DC in March 2019 to support and ask for:

- Great Lakes Restoration Initiative (GLRI) funding
- Asian Carp barrier
- Accountability for projects to reduce phosphorous runoff
- Best Management Practices to reduce nutrient runoff after heavy rains
- Same rules for soil phosphorous for commercial fertilizer and manure – currently 40ppm for commercial fertilizer and 150 ppm for manure
- Funding for Erie Marsh and restoring Woodtick Peninsula with dredge materials

Lake Erie Waterkeeper

The Lake Erie Waterkeeper program seeks to have fishable, swimmable, drinkable water for the Lake Erie Watershed.

This goal for Lake Erie's waters is being accomplished through advocacy, education, litigation and restoration.

Lake Erie Waterkeeper was founded in 2004 and licensed by the Waterkeeper Alliance in 2005. The initial program covered the western basin of Lake Erie. The program was expanded to the entire Lake Erie watershed in 2011. The Waterkeeper Alliance works with watersheds throughout the world to with the common goal of drinkable, fishable, swimmable water. For more information go to waterkeeperalliance.org.



In January 2019, Share the River in Cleveland became a Lake Erie Waterkeeper partner.

Sharetheriver.com

Share the River

How You Can Help Lake Erie

- **Join, volunteer Lake Erie Waterkeeper**
- **Observe water in the lake, rivers, ditches. If the water has a sheen, if there are dead fish take a picture, call waterkeeper**
- **Plant native plants which have deeper roots and slow runoff**
- **Create a rain garden, use rain barrels**
- **Make drinking and recreational waters a priority with elected officials**

Waterkeeper Advocacy

- **Supporting Great Lakes Restoration Funding**
- **Getting the Asian Carp barrier designed and funded**
- **Establishing sturgeon in the Cuyahoga River**
- **Expanding efforts for Erie Marsh protection and public access**
- **Accountability for dollars given to agriculture to reduce nutrients – pay for testing in nearby stream before and after funding**
- **Change the focus for agriculture Best Management Practices (BMP's) from ordinary runoff to BMP's for heavy rain runoff. Heavy rain nutrient runoff is 80% of the source of the agricultural runoff that causes the Lake Erie harmful algae.**
- **Establish cyanobacteria, PFAS and other standards for drinking water**
- **Seeking Clean Water Act Total Maximum Daily Load (TMDL) and implementation plan for Western Lake Erie**
- **Have the same soil phosphorous standards for commercial fertilizer and manure – currently commercial fertilizer is 40 ppm (crop need) and manure is 150 ppm(saturation)**
- **Require that confined animal operations report the number of animals to a registry and the amount of land and location where the manure is applied**

Waterkeeper Accomplishments

- **Establish sturgeon in the Maumee River**
- **Reduce phosphorous output by a reported 50% from the Detroit wastewater plant – the single largest Lake Erie phosphorous source**
- **Policies to eliminate open lake disposal**
- **Policies to ban fertilizer and manure applications on frozen ground**
- **Seeking Clean Water Act impaired status**
- **Accounting for fish kills in power plant intakes at Bayshore/Toledo Edison, Whiting and DTE Monroe**

Lake Erie Waterkeeper

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