Ore Lake Preservation Association

- Keeping advocacy alive during times of apathy and anxiety
- History of Ore Lake
- Present status of Ore Lake
- Pollution from phosphorus and nitrogen
- Pollution from PFOS

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Nancy and Ed Roberts, OLPA founders, post-humous, 1929-2005

How we (OLPA) keep advocacy alive in times of apathy and anxiety

- Be part of a group to stay on track – We participate in Cooperative Lakes Management Program (CLMP)
- Be focused on a goal – monitor phosphorus levels at 5 locations monthly as an independent record for comparison with NPDES compliance reports from the Brighton Waste Water Treatment Plant.
- Have a small core team: a boss and a worker.
- Be creative when communicating/educating/fundraising: T shirt sales, participated in a parade, have a Facebook site and website, use Nextdoor application, make flyers, educational Floating Unicorn, Ore Lake Lore book for sale, banner on pontoon boat.

How we (OLPA) keep advocacy alive in times of apathy and anxiety

- Say NO to distractions:
  - concerns about flooding and weed growth
  - efforts to do fish stocking
  - what to do about zebra mussels
  - waterskiing verses fishing rules
  - buoy placement and policing the waters
  - fireworks, dock rules, wake rules
  - rules for rules.

How we (OLPA) keep advocacy alive in times of apathy and anxiety

- Have a DREAM – What would you do if you suddenly received $500,000 to use for your organization?
  - Buy a cute cottage on the lake to be used as the office/science lab/museum. Host an in-residence scientist from a University. Offer hands-on educational opportunities for kids, adults, riparians, wildlife observers, politicians, and local leaders.
  - Purchase surrounding wetland property to be kept in a conservancy.
  - Restoration of lake bottom to eliminate phosphorus-laden sediment.

History

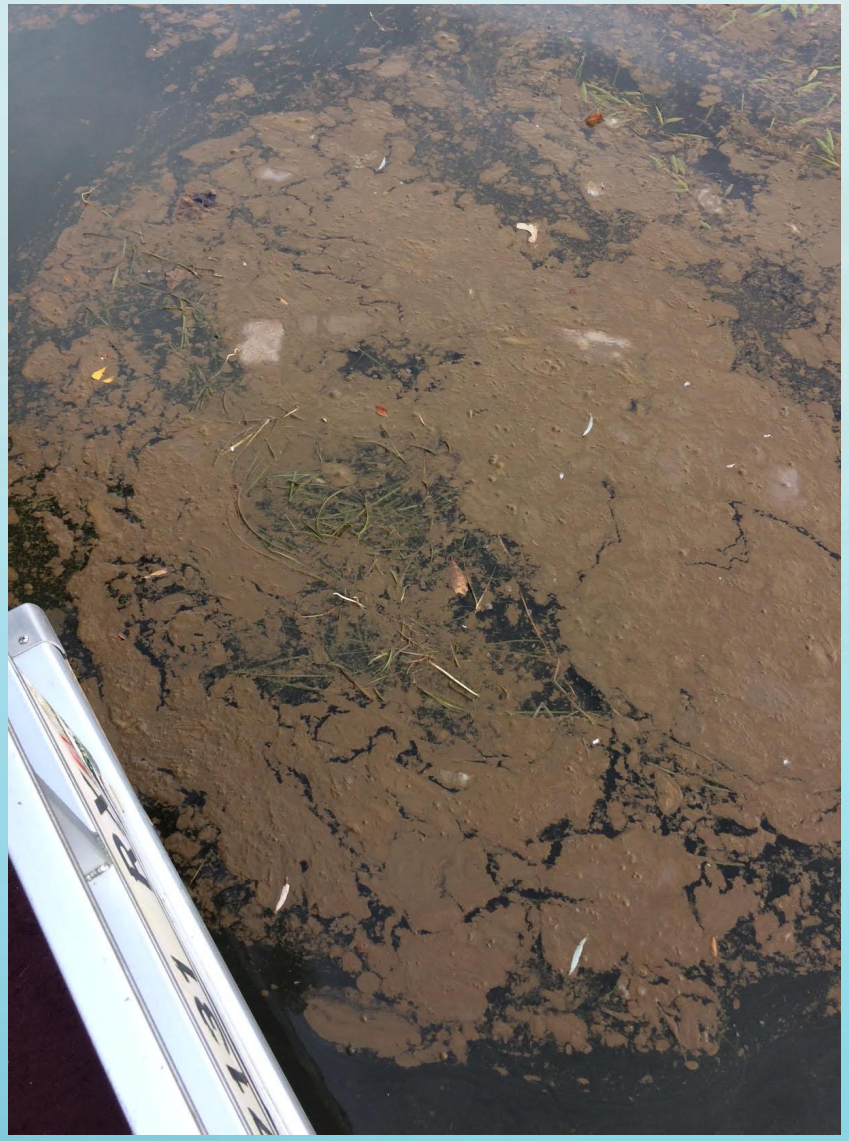
- 1800 - South Ore Creek is a pristine, navigable waterway flowing from Long Lake through Brighton, into Brighton Lake then to Ore Lake, eventually emptying into the Huron River.
- 1833-1900 - South Ore Creek is dammed at many locations for civilian use.
- 1939 - Brighton WWTP built on Ore Creek and begins discharges of phosphorus and nitrogen pollutants into South Ore Creek.
- 1944,1954,1960,1968 - reported fish kills in Ore Lake.
- 1967,1969,1978,1979,1984 - reported Cyanobacteria blooms in Ore Lake.
- 1977-78 - DNR Report concludes that Brighton and Ore Lakes have been “grossly polluted by the Brighton WWTP.”
- 1979 – Led by Nancy and Ed Roberts, citizens of Ore and Brighton Lake form STOPP (Society To Oppose Phosphorus Pollution) and obtain a moratorium on tap-ins to BWWTP, thus stopping growth of the community.

History

- 1987 - Water Quality Study of Ore Lake conducted.
- 1988 - Brighton builds new WWTP on South Ore Creek below Brighton Lake, and continues to discharge phosphorus and nitrogen pollutants into waterway, although at a significantly decreased volume.
- 1990 - Ore Lake sewers were connected to BWWTP. STOPP becomes Ore Lake Preservation Association (OLPA).
- 1998 - Water Quality Study of Ore Lake repeated and does not show improvement. Zebra mussels introduced.
- 2000-2012 - Water clarity improves as Zebra mussel infestation worsens.
- 2020 - Water clarity tests fluctuate with seasonal changes. Phosphorus levels are acceptable, no Nitrogen testing being performed but cyanobacteria blooms do occur in late summer.

Present status

- Harmful algal blooms occur throughout late August and September making the lake un-swimmable and unfishable.
- BWWTP phosphorus output has steadily increased over the past 10 years, although still significantly less than in 1979.
- PFAS pollution is new concern.
- Invasive aquatic plants are problematic in certain areas on the lake.
- Water level fluctuates greatly and does threaten homes annually.



Date : 9/22/16

Analysis of Sources of Phosphorus Pollution

- #1 source of phosphorus in Ore Lake is from effluent from WWTP.
- #2 source of phosphorus in Ore Lake comes from Brighton Lake.
- #3 source of phosphorus in Ore Lake is from non-point sources: storm water runoff, lawn fertilizers, phosphorus-laden sediment in Ore Lake from historical point source phosphorus loading.

Analysis of PFOS pollution

- 2018 Do Not Eat fish advisory initiated along Huron River chain of lakes due to PFOS contamination.
- 2019 Ore Lake water and fish sampled for PFOS: water sample was very low, fish samples showed 10-14 ppb (8 meals/month).
- 2020 Brighton Waste Water Treatment Plant, as part of the IPP program, monitors for PFOS levels quarterly.

Conclusions

- Since 1939, the Brighton WWTP has discharged phosphorus and nitrogen pollutants to Ore Lake via South Ore Creek. 28 years from the new BWTP.
- Theoretically, over 90 tons of phosphorus have been discharged into Ore Lake since 1939.
- Theoretically, Ore Lake waters should have improved with the installation of sewers for 26 years and zebra mussel infestation of 16 years, but this has not occurred.
- Phosphorus laden sediment and relentless phosphorus and nitrogen pollution of Ore Lake is causing degradation of overall water quality.