

# Musky Bay declared federal 'impaired water'

Terrell Boettcher, news editor | Posted: Wednesday, August 6, 2014 11:30 am

On June 25, the U.S. Environmental Protection Agency (EPA) included Musky Bay, a part of the 3,500-acre Lac Courte Oreilles, on a list of “impaired waters” designated by the Wisconsin Department of Natural Resources two years ago under the Federal Clean Water Act.

Lac Courte Oreilles is the third-largest natural lake in the state and one of 97 state-designated Outstanding Resource Waters (ORW), famed for its musky and walleye fishing and water-based recreation.

One other Sawyer County lake is on the federal Impaired Water' list: Big Sissabagama Lake.

In a news conference on Friday, Aug. 1, representatives of the Lac Courte Oreilles Band of Lake Superior Chippewa (LCO Tribe) and the Courte Oreilles Lakes Association (COLA) stated that they “welcome the important announcement” by the EPA.

“We will work with all parties to restore Musky Bay and to protect the rest of Lac Courte Oreilles,” said COLA President Kris Sivertson. “Lac Courte Oreilles is one of Wisconsin’s largest natural and rarest Outstanding Resource Water lakes, and we have to find solutions to the on-going degradation of Musky Bay, not only for the Bay’s sake, but because we are seeing water quality degradation in the whole of Lac Courte Oreilles.”

The LCO Tribe and COLA state that Musky Bay has been listed as impaired because too much phosphorus has and is being discharged into the Bay, causing algal blooms, excess aquatic plant growth and depleted oxygen levels. These combined effects render the Bay “impaired” for fish habitat, boating and swimming.

The tribe and COLA state that water quality problems have been noted in Musky Bay for a number of decades, that relate to excess phosphorus entering the Bay. The result has been massive growths of algae (cloudy green water and algal mats) and aquatic plants and the discovery of the invasive species, curly leaf pond weed, which forms dense canopies that can monopolize the habitat.

When the excess algae and plants die and decompose, they consume the oxygen in the water, resulting in



## Musky Bay

The summertime algae mat spreads across the surface and underwater on of Musky Bay on Lac Courte Oreilles.

degraded habitat for fish such as the Bay's namesake, the muskellunge. Muskies can spawn there, but their eggs suffocate in the dense mucky bottom.

The algae blooms take place several times each summer, according to COLA. "We expect that to increase due to climate change—increasing temperatures and longer growing seasons," said Gary Pulford, COLA vice-president and a shore owner on Musky Bay.

Two years ago, there were "massive fish kills" in the bay due to lack of oxygen and ice cover during the winter, he added.

With a maximum depth of 90 feet, Big Lac Courte Oreilles is a "two-story fishery" because the water stratifies, with cold water on the bottom. Whitefish and cisco are plentiful and provide food for muskies and walleyes to reach record sizes.

But water monitoring over the past several summers shows that the layer of oxygen in the coldest water is being "squeezed" down to 3-4 feet, Pulford said.

Extensive water quality monitoring over the last decade by the LCO Tribal Conservation Department "shows that the excess phosphorus that is discharged into Stuckey Bay has degraded that bay and the mixing of water from both bays is degrading the whole west basin of LCO," the tribe and COLA stated. "It's not just Musky Bay anymore. And there's only two more basins to go."

"Another sobering by-product of poor water quality is that when recreational use of area lake water is restricted, it also adversely affects a local economy that is highly dependent upon recreation-related businesses," they stated. Four years ago, COLA commissioned a study which indicated that residents on the lake contribute \$9.8 million per year to the area economy in purchase of goods and services. The fair market value of their properties was \$331 million and they paid \$3.1 million per year in taxes.

Five generations of many families have continuously owned homes on the Lac Courte Oreilles. Sivertson, whose family has owned property there since 1948, said the "water quality has noticeably deteriorated."

Shoreowner Tom Burgess recalled, "When I was a boy, we used to motor into Musky Bay, go all the way into the east end and get ice cream at the Musky Bay Store. At that time, the water was pretty clear all the way in to almost the shoreline."

"The LCO Tribe and COLA are proud of their long history of providing funds, staff and volunteers for several initiatives to improve Musky Bay and to protect of the rest of Lac Courte Oreilles Lake," the representatives said.

"Without the partnership between the Tribe and COLA, we would not have been able to advance the

Impaired Waters designation for Musky Bay and Lac Courte Oreilles,” Sivertson said.

A shoreowner on Big Sissabagama expressed concern to Sivertson about the effect on property values of that lake’s Impaired Water status. Sivertson told him that “It’s the first step toward saving the lake.”

In Big LCO’s case, the joint effort between the LCO Tribal Conservation Department and COLA has included:

- Adoption and Implementation of the LCO Lake Management Plan;
- LCO Conservation Department (LCOCD) state of the art monitoring of lakes and streams;
- Adoption and implementation of an LCO Aquatic Plant Management Plan;
- COLA sponsorship of the Clean Boats Clean Waters access monitoring that prevents unintentional introduction of invasive species or spreading of curly leaf pondweed from LCO;
- LCOCD and COLA’s partnership over the past four years with Sawyer County and the DNR to obtain thousands of dollars in grants to apply herbicide to spots of curly leaf pondweed (CLP). “As a result, the initially-surveyed 93 acres of CLP has been reduced this year to only three to four acres, Sivertson said. “We’re now in maintenance mode. If it comes up, it’s small enough that we can pull it by hand or treat spots.” That’s important not only for navigation, but also reduces the oxygen depletion and competition with native plants, he indicated.
- Recently completed shoreline buffer surveys of all 800-plus properties on Lac Court Oreilles. Sivertson, and a septic system survey conducted through the Sawyer County Conservation Department. Sivertson said 75 percent of septic systems passed inspection, and a few were inconclusive. Ten owners would not allow an inspector on their property.
- Recently, COLA has reached out to associations which represent other lakes in the Upper Couderay River watershed: Big Sissabagama, Whitefish, Grindstone and Round. “In the long run, this is the only way to address issues affecting LCO’s water quality,” Sivertson said.
- COLA support of the Sawyer County Conservation Star Home Program for pilot shoreline vegetation buffer projects;
- COLA’s support of lake nutrient (water quality) standards, similar to those developed with wide support in Minnesota over the past 20 years.

COLA and the Tribe say that all property owners are responsible for controlling excess phosphorous in the lakes. “Properly maintained septic systems and establishing shoreline buffer zones are two important steps that homeowners must take.

They are also looking to agricultural operations to do their parts. Sivertson cited one recent example of a cranberry farmer installing a closed system on one of their marshes to control the release of phosphorous-laden water back into Musky Bay. “We see what cranberry growers Barry and Amanda DePew have done voluntarily on their east marsh as a positive first step, and sincerely hope they will move to install a closed system on their other marsh, and that other cranberry farmers on the lake will follow their lead,” Sivertson said.

“The LCO Tribe historically harvested wild rice, musky and walleye in Musky Bay,” said Mic Isham, LCO Tribal Governing Board chairman. “The long term and on-going pollution of Musky Bay has had a significant impact, not only on the elimination of the wild rice, but has also caused detrimental effects on natural reproduction of both musky and walleye lake wide.

“The Tribe applauds the DePews for their voluntary tail-water recovery system, LCO riparian land owners for their work to establish shoreline buffers, and other landowners for construction of state-of-the-art manure holding pits. Everyone in the watershed has an impact, and we need to work together to protect and sustain our natural resources,” Isham said.

Next step

COLA and the LCO Tribe state that the next step in the process of addressing and remediating the problem is allocation of “slices of the pie” via the Total Maximum Daily Load (TMDL) process and a new phosphorus standard for LCO.

Conducted by the LCOCD, the process identifies all sources of phosphorus coming into the lake and sets a goal for reducing that level. “To my knowledge, it’s the only privately-funded TDML study in Wisconsin,” Pulford said. “All the rest are using state tax dollars.”

In order to pay for the study and otherwise protect and preserve the lake’s water quality, the nonprofit LCO Foundation was initiated 4 ½ years ago.

The Foundation is up to \$180,000, which paid for the first year of treatment of the curly leave pondweed (subsequent years were funded with DNR grants). Also, it’s allowed COLA to do the shoreline buffer survey and Clean Boats inspection, Sivertson said.

The TDML study has just been completed, and was submitted to the EPA and DNR on July 16. Those agencies are currently reviewing it, and COLA plans to meet with them this month.

Once declared impaired, a water body must be evaluated under federal law to determine lake and watershed restoration goals and to prioritize corrective actions. This means there will be allocation of the amounts of allowable phosphorus from various watershed sources (residential, agricultural, forestry and

cranberry sources) via the TMDL process. The parties state that given the history of degradation of Musky Bay, successful restoration will take a number of years and will require the cooperation of all watershed groups, including the property owners on upstream lakes such as Whitefish and Grindstone.

“It’s not just an individual lakes issue. It’s the cumulative effects of a whole system,” Isham said. “A lake or lake system can die by a thousand cuts. Think globally but act locally.” He added that he’s thankful to COLA for working upfront with the tribe when management plans are being developed. “This is a prime example of how lake associations and the tribe should work together.”

Isham also emphasized that “The Tribe is not opposed to cranberry marshes or business in general, but to detrimental effects.” In fact, the LCO Tribe operates a combination cranberry marsh and wild rice beds on Highway NN near Chief Lake. The Tribe is a certified-organic cranberry grower, using human labor to pull weeds.

Sivertson concurred with Isham, noting, “We are not opposed to cranberry farming. What we’re trying to do is control and stop fertilizer that’s coming back into the lake, by the use of Best Management Practices.”

“The LCO Tribe and COLA have completed the TMDL study because the future of Lac Courte Oreilles is hanging in the balance,” Sivertson said. “COLA and the LCO Tribe are also proposing a phosphorus standard for LCO that is more stringent than the current DNR standard for the lake. They believe the new standard will better protect the unique two-story cold water fishery that LCO enjoys today and will preserve current water quality into the future.”