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Massive Die-Off of Whitefish and Cisco in Lac Courte Oreilles

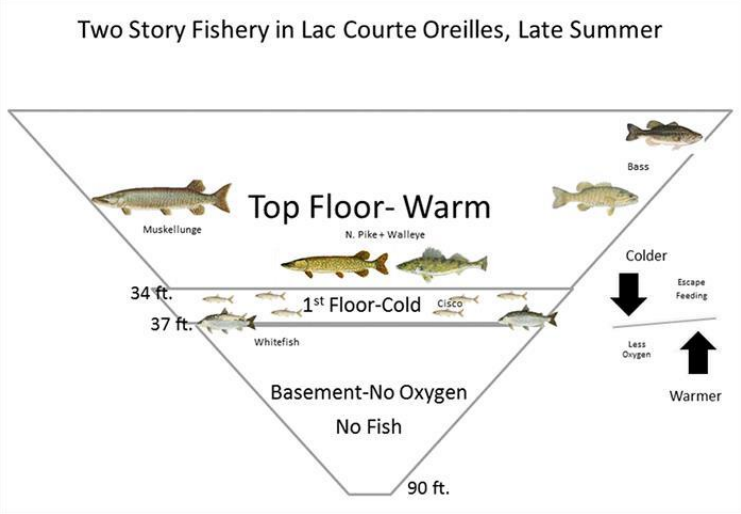
Conditions choking off critical habitat in rare northern Wisconsin lake

*** Includes eye-witness reports and causes as part of major study**

HAYWARD, WI (October 16, 2016) – Like the canary in the mine, lake whitefish and cisco tell the story of whether the lake they live in can support them and others. According to eyewitness reports starting on
August 12, the answer began floating to the surface on Lac Courte Oreilles. This rare lake in Sawyer County, WI, is one of only five like it in the entire state that supports both whitefish and cisco, the feeder fish for the lake's famed musky and walleye and indicator of the lake's overall health. An investigation was conducted to determine the scope and the cause of this massive whitefish/cisco die-off. The data and results are now published in a comprehensive report available to the public.

On August 26, LCO Conservation Department (LCOCD) staff identified three dead, floating whitefish while conducting a routine water sampling on a section of Lac Courte Oreilles, a 5,039-acre lake. They contacted Courte Oreilles Lakes Association (COLA) board members who immediately contacted the Wisconsin Department of Natural Resources (WDNR) Hayward office to learn what WDNR knew about the situation. The WDNR informed COLA that it had already received five reports of dead or dying whitefish and/or cisco on Lac Courte Oreille.

COLA then emailed all property owners on Lac Courte Oreilles requesting that anyone who had witnessed dead or dying fish on the lake to please contact COLA. Seventeen property owners on the lake responded immediately with photos, locations, and related details (starting on page 8 of link).



Highest death count of whitefish/cisco ever recorded on Lac Courte Oreilles

This 2016 fish kill is the largest in terms of numbers of fish mortality—hundreds of fish—and duration—more than 26 days—ever recorded for Lac Courte Oreilles. COLA provided the data and eyewitness reports for Part 1: Duration, Extent, Magnitude. LCOCD provided the monitoring data, and LimnoTech provided the monitoring data analysis for Part 2: Causation. LimnoTech, an independent water environment research and engineering firm that regularly assists federal

and state agencies, including the Wisconsin DNR, to study and then develop plans to restore and protect lakes and streams across the country.

The cause—destruction of livable habitat

The monitoring data indicates that the ultimate cause of the fish kill was the elimination of suitable habitat for whitefish and cisco survival. Whitefish and cisco require both cool temperatures and sufficient levels of oxygen. These cool temperatures and sufficient oxygen conditions exist throughout much of the lake in the spring. But as warming temperatures and increased algae growth occur as summer advances, these conditions are squeezed into narrow bands of suitable habitat in the lower layers of water in lakes like LCO.

According to the report, "The rate of oxygen consumption was generally higher in 2016 than previous years. Algae growth, as indicated by chlorophylla measurements, was somewhat higher than normal and likely caused by higher than normal phosphorus concentrations and increased temperatures."

Phosphorus on Lac Courte Oreilles comes from various sources, including run-off into the lake and from the phosphorus fertilizers used on more than 140 acres of cranberry bogs that operate on the shores of the lake.

More phosphorus means more algae and less fish

Lake whitefish and cisco are extremely sensitive to the effects of phosphorus. Acting as a fertilizer right in the lake, phosphorus increases the amount of algae growth, which depletes oxygen when the algae dies and decomposes in the layers of water where whitefish and cisco live. The amount of phosphorus entering the lake has been on a steady increase over the last 15 years, as has this algae growth.

Compounding these effects are climate-related impacts, including warmer temperatures which further promote algae growth and for a longer duration in both the spring and fall.

"With continued trends of warmer temperatures, and increased severity of storm events, more frequent and more severe fish kills can be expected unless additional measures are taken to protect the lake," states the report.

Protective measures being pursued at the state level

Because whitefish and cisco are so sensitive to deficiencies in their environment, they draw further attention to the ongoing issue of degrading water quality on Lac Courte Oreilles, something COLA has been working hard to address for more than a decade. To finally secure a permanent solution, COLA and the Lac Courte Oreilles Band of Lake Superior Chippewa Indians files a joint petition with the state of Wisconsin on June 11, 2016 to set a phosphorous and two-story fishery standard for the lake.

"This is shaping up to be one of the most thoroughly documented fish kills in the history of the state, given the magnitude of evidence and the monitoring data being collected in real time as the die-off was evolving. That's why we can pinpoint the cause," said Gary Pulford, vice-president of Courte Oreilles Lakes Association. "We are hopeful the data in this report can help us, the state, and the cranberry growers on the lake provide the measures necessary to protect Lac Courte Oreilles, an amazing lake and a true Wisconsin treasure for so many."

Learn more about COLA's efforts to protect the water quality of Lac Courte Oreilles—the fifth-largest natural lake in Wisconsin at 5,030 acres, an Outstanding Resource Water, and a rare, two-story cold-water fishery. As part of this goal, COLA is committed to helping provide the science and lead the way in reducing pollution, to serve not only Lac Courte Oreilles and its watershed, but also other Wisconsin lakes and the organizations that support them. Visit www.cola-wi.org. For questions and interviews, contact Jim Coors at colacommunications@gmail.com or
call 608-628-0694.