Courte Oreilles Lakes Association

Our el Niño Winter

by Allison Slavick

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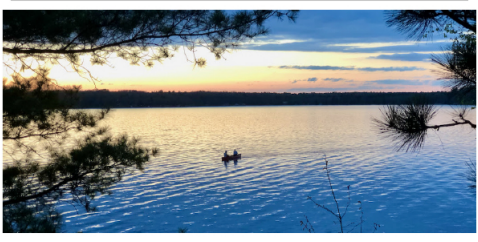
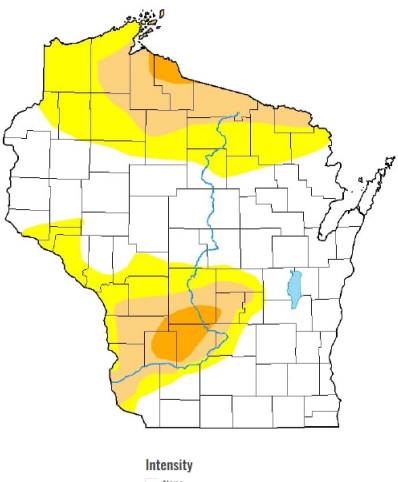


Canoe on LCO Photo: Jim Coors

For many of us, water simply flows from a faucet, and we think little about it beyond this point of contact. We have lost a sense of respect for the wild river, for the complex workings of a wetland, for the intricate web of life that water supports. – Sandra Postel, Global Water Policy Project

Astute observers of nature recognize that forest and aquatic ecosystems function like well-oiled machines. But what happens when a monkey wrench like el Niño is thrown into the system? On a personal level, you might think of the winter of 2023-24 as your first snowless New Year's Eve, or the first time you didn't plow your driveway until March. If you like to tramp around on snowshoes, boots were all that were needed.

El Niño refers to the warming of the surface of the Pacific Ocean, followed by the weakening of easterly winds; in the strongest El Niño years the warm surface winds become westerly, blowing across the United States and disrupting our normal weather patterns. The winter of 2023-2024 was a winter of many firsts, but not the first el Niño. There have been nine winters affected by the weather pattern since the mid-1950s, with two of the strongest in 1982-83 and 1997-98. While scientists say that the el Niño's impact is weakening, the U.S. Drought Monitor indicated that all of Sawyer County was under moderate drought conditions or abnormally dry as of April 23.

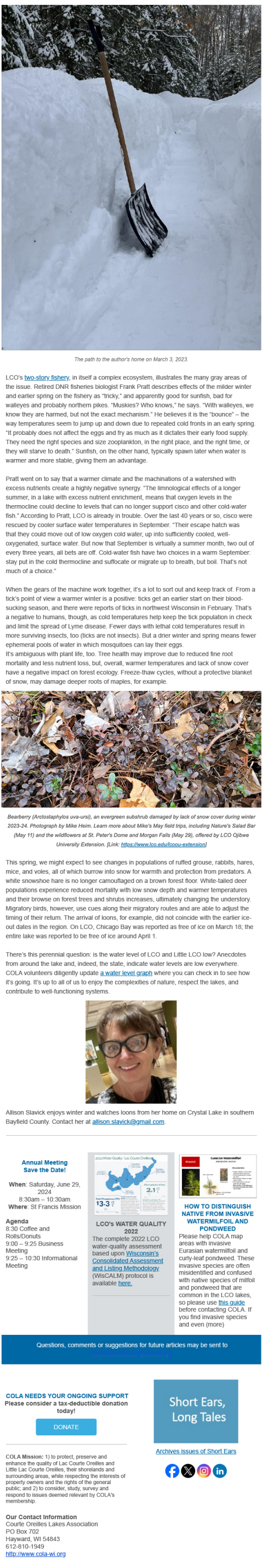


Drought map released: Thurs. April 25th, 2024

If you live in snow country you saw the disruptions: in December, 2022 (admittedly, a remarkably snowy winter) the Hayward area experienced 26.6 inches of snow. Compare that to December 2023, when a paltry 1.9 inches fell. December 2023 to February 2024 was the warmest winter in Wisconsin since record-keeping began in 1895. Those three months were nearly ten degrees warmer than the normal winter average of 18.5 degrees (F). The winter severity index as measured in the LCO watershed was 8; last year it was 109.

Hard data about the milder winter's economic impact on the region's businesses are easy to find, too. The impact is less straightforward when it comes to nature. A 2019 survey drilled into the effects of warm winter trends on both human communities and forest and ecosystems. Using 100 years of data from the northern forest region of the U.S. and Canada, the researchers looked at how winter temperatures and snow cover are changing, and examined how those changes affect nature by drawing on the available scientific literature. Those findings point the way to what might be happening this spring in northern Wisconsin.

Contosta AR, Casson NJ, Garlick S, Nelson SJ, Ayres MP, Burakowski EA, Campbell J, Creed I, Eimers C, Evans C, Fernandez I, Fuss C, Huntington T, Patel K, Sanders-DeMott R, Son K, Templer P, Thornbrugh C. ***Northern forest winters have lost cold, snowy conditions that are important for ecosystems and human communities.*** Ecol Appl. 2019 Oct; 29(7).



The path to the author's home on March 3, 2023.

LCO's two-story fishery, in itself a complex ecosystem, illustrates the many gray areas of the issue. Retired DNR fisheries biologist Frank Pratt describes effects of the milder winter and earlier spring on the fishery as "tricky," and apparently good for sunfish, bad for walleyes and probably northern pikes. "Muskies? Who knows," he says. "With walleyes, we know they are harmed, but not the exact mechanism." He believes it is the "bounce" – the way temperatures seem to jump up and down due to repeated cold fronts in an early spring. "It probably does not affect the eggs and fry as much as it dictates their early food supply. They need the right species and size zooplankton, in the right place, and the right time, or they will starve to death." Sunfish, on the other hand, typically spawn later when water is warmer and more stable, giving them an advantage.

Pratt went on to say that a warmer climate and the machinations of a watershed with excess nutrients create a highly negative synergy. "The limnological effects of a longer summer, in a lake with excess nutrient enrichment, means that oxygen levels in the thermocline could decline to levels that can no longer support cisco and other cold-water fish." According to Pratt, LCO is already in trouble. Over the last 40 years or so, cisco were rescued by cooler surface water temperatures in September. "Their escape hatch was that they could move out of low oxygen cold water, up into sufficiently cooled, well-oxygenated, surface water. But now that September is virtually a summer month, two out of every three years, all bets are off. Cold-water fish have two choices in a warm September: stay put in the cold thermocline and suffocate or migrate up to breath, but boil. That's not much of a choice."

When the gears of the machine work together, it's a lot to sort out and keep track of. From a tick's point of view a warmer winter is a positive: ticks get an earlier start on their blood-sucking season, and there were reports of ticks in northwest Wisconsin in February. That's a negative to humans, though, as cold temperatures help keep the tick population in check and limit the spread of Lyme disease. Fewer days with lethal cold temperatures result in more surviving insects, too (ticks are not insects). But a drier winter and spring means fewer ephemeral pools of water in which mosquitoes can lay their eggs.
It's ambiguous with plant life, too. Tree health may improve due to reduced fine root mortality and less nutrient loss, but, overall, warmer temperatures and lack of snow cover have a negative impact on forest ecology. Freeze-thaw cycles, without a protective blanket of snow, may damage deeper roots of maples, for example.

Bearberry (Arctostaphylos uva-ursi), an evergreen subshrub damaged by lack of snow cover during winter 2023-24. Photograph by Mike Heim. Learn more about Mike's May field trips, including Nature's Salad Bar (May 11) and the wildflowers at St. Peter's Dome and Morgan Falls (May 29), offered by LCO Ojibwe University Extension. [Link: https://www.lco.edu/lcoou-extension]

This spring, we might expect to see changes in populations of ruffed grouse, rabbits, hares, mice, and voles, all of which burrow into snow for warmth and protection from predators. A white snowshoe hare is no longer camouflaged on a brown forest floor. White-tailed deer populations experience reduced mortality with low snow depth and warmer temperatures and their browse on forest trees and shrubs increases, ultimately changing the understory. Migratory birds, however, use cues along their migratory routes and are able to adjust the timing of their return. The arrival of loons, for example, did not coincide with the earlier ice-out dates in the region. On LCO, Chicago Bay was reported as free of ice on March 18; the entire lake was reported to be free of ice around April 1.

There's this perennial question: is the water level of LCO and Little LCO low? Anecdotes from around the lake and, indeed, the state, indicate water levels are low everywhere. COLA volunteers diligently update a water level graph where you can check in to see how it's going. It's up to all of us to enjoy the complexities of nature, respect the lakes, and contribute to well-functioning systems.

Allison Slavick enjoys winter and watches loons from her home on Crystal Lake in southern Bayfield County. Contact her at allison.slavick@gmail.com.

Annual Meeting
Save the Date!

When: Saturday, June 29, 2024
8:30am – 10:30am
Where: St Francis Mission

Agenda
8:30 Coffee and Rolls/Donuts
9:00 – 9:25 Business Meeting
9:25 – 10:30 Informational Meeting

LCO's WATER QUALITY 2022
The complete 2022 LCO water-quality assessment based upon Wisconsin's Consolidated Assessment and Listing Methodology (WisCALM) protocol is available here.

HOW TO DISTINGUISH NATIVE FROM INVASIVE WATERMILFOIL AND PONDWEED
Please help COLA map areas with invasive Eurasian watermilfoil and curly-leaf pondweed. These invasive species are often misidentified and confused with native species of milfoil and pondweed that are common in the LCO lakes, so please use this guide before contacting COLA. If you find invasive species and even (more)

Questions, comments or suggestions for future articles may be sent to [redacted]

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COLA Mission: 1) to protect, preserve and enhance the quality of Lac Courte Oreilles and Little Lac Courte Oreilles, their shorelands and surrounding areas, while respecting the interests of property owners and the rights of the general public; and 2) to consider, study, survey and respond to issues deemed relevant by COLA's membership.

Short Ears, Long Tales

Archives issues of Short Ears

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