



# Short Ears, Long Tales

Courte Oreilles Lakes Association

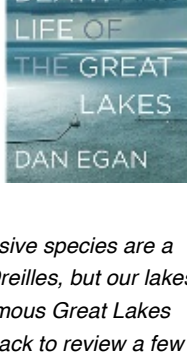
## Tales of the Great Lakes

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Contributing Writer

**The biggest threat to the lakes right now is our own ignorance.**

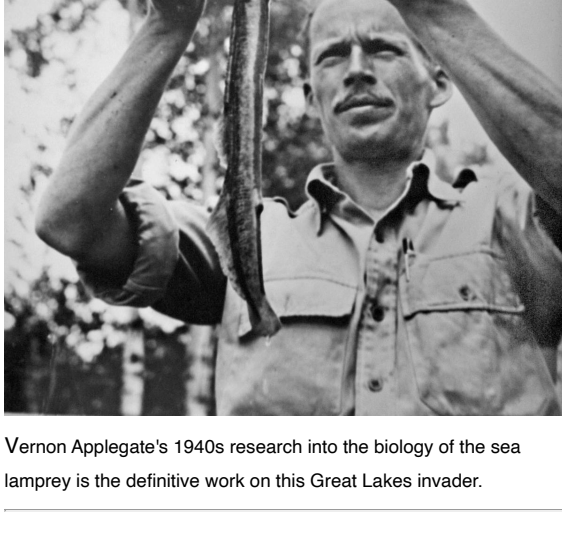
– Dan Egan, *"The Death and Life of the Great Lakes"*

W.W. Norton, 2017



[Note to the reader - Aquatic Invasive species are a serious problem for Lac Courte Oreilles, but our lakes are just small players in the enormous Great Lakes ecosystem. We're taking a step back to review a few chapters of Dan Egan's highly-regarded book on this topic to provide a broader perspective.]

At the end of World War II, Vernon Applegate developed an obsession. Described as "intense," and "living on cigarettes and aspirin," Applegate was a doctoral student at the University of Michigan where he produced a 334-page dissertation described as both "unusually exhaustive and detailed" and "clear and pleasing." He carried out field work for three years and worked around the clock, complementing his investigation of lakes and streams with laboratory studies and experiments in which he kept his obsession in aquaria. The object of his fascination? The sea lamprey.



Vernon Applegate's 1940s research into the biology of the sea lamprey is the definitive work on this Great Lakes invader.

Applegate's definitive study, now 70 years old, came at a time when the infestation of the Great Lakes by the predatory sea lamprey was reaching its peak. In about ten years, the lamprey destroyed the natural, balanced fishery of primarily white fish and lake trout. Following graduation, Applegate worked in a secret program of the US Fish and Wildlife Service in which he tested hundreds of industrial chemicals in order to find the "perfect poison" for lampreys, one that would kill their larval stage and leave unharmed the Lakes' native species. Today, lampricides (think "pesticides for lampreys") are regularly applied to hundreds of feeder streams and rivers in which the larval stage of the lamprey's life cycle spends a few years before swimming downstream into any of the five Great Lakes.

Chapters two and three of Dan Egan's *The Death and Life of the Great Lakes* delve into the complex fishery of the Great Lakes. The influences, factors, and key players in the death and life of the lakes are enumerated. With stories of people like Vernon Applegate, the politics of the states (and Canada) surrounding the lakes, and hope for the future, he has connected all the dots that make the largest body of fresh water in the world what it is today.

At the root of profound change for the lakes are invasive species. The Great Lakes, in their current size and shape, are only 10,000 years old. For most of those years, the door was closed to invasive species of any magnitude and that door was a natural barrier: Niagara Falls. When the Erie Canal opened, south of Lakes Erie and Ontario, it expanded commerce and with its feeder canals to Lake Ontario opened the door for the lamprey. Water flowing downstream from Lake Ontario simulated the conditions lampreys need for upstream migration. If the Erie Canal left the door ajar, the Welland Canal blew the doors wide open in 1929 when it allowed freighters to circumnavigate Niagara Falls. In Egan's words, the lakes were vulnerable ecological babies until that natural barrier was eliminated.

**"If the Great Lakes had been a forest, the lamprey invasion was a fire that burned them down. And the first river herring were the seeds of the weed infestation that blew in afterward."** – Dan Egan

"It would be hard to design a better invasive species delivery system than the Great Lakes overseas freighter," Egan writes. The Clean Water Act of 1972 exempted the shipping industry's ballast water, which they freely discharged in the Lakes when they needed to balance their cargo loads. By 1938, the lamprey was found in all five Great Lakes. Today, there are 186 known invasive species in the Great Lakes.

"If the Great Lakes had been a forest, the lamprey invasion was a fire that burned them down. And the first river herring were the seeds of the weed infestation that blew in afterward," Egan continues. The river herring, commonly known as the alewife, accounted for 90% of the fish biomass by 1965, with dead, rotting fish stacked up on beaches and shorelines. Sport fishing and commercial fishing was over. The revival of the Great Lakes fishery as a manufactured – "reconstituted," is Egan's word – angler's playground lay at the hands of one man, Howard Tanner.



Michigan DNR's R/V Tanner carries out fisheries research on Lake Huron.

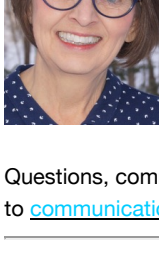
A fisheries biologist with an obsession that rivaled Vernon Applegate's, Tanner had a singular influence on and vision for the Lakes' restoration. His solution was the introduction of Pacific salmon: the Coho and the chinook. Salmon eat alewives, and they are sport fish that fight on the fishing line. With lampreys under control, smaller factions fought without success to restore the Lakes' native fishery. As if often the case, economics ruled the day and the "manufactured paradise" for sport fishermen on the Great Lakes is the work of Howard Tanner. Sixty years later Tanner said, "All my life I have marveled that one person, that happened to be me, was given the opportunity and the authority to make a decision of this magnitude." Tanner's influence on the multi-million-dollar rebound of sport fishing in Wisconsin and Michigan beginning in the 1980s continues to be tremendous. The Michigan Department of Natural Resources launched in 2016 a new research vessel named for Tanner.

There is so much more to the interesting story of the Great Lakes. Dan Egan shows us that those changes are complex, tangled with each other in chains of food and competition and chains of command. The work of Vernon Applegate and Howard Tanner with lampreys and salmon are just two pieces. There are zebra mussels to contend with, climate change, toxic algae, water rights, and Asian carp. There are hundreds of governmental bodies along the lakes. Millions of people live on the Lakes and enjoy the recreation found there. Dan Egan connects all these dots and shows us how doors have opened to suck the life out of the Great Lakes, and how we might close the doors to future invasions.

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Allison Slavick works as a consultant to nonprofits all over the country, especially museums. For fifteen years she directed the Cable Natural History Museum, and previously worked as a scientist at the New York Botanical Garden and the Smithsonian Institution. She mountain bikes, skis, and picks berries near her home on Crystal Lake in southern Bayfield County. Questions, comments, or suggestions for future articles may be sent to her at [allison.slavick@gmail.com](mailto:allison.slavick@gmail.com).

Questions, comments, or suggestions for future articles maybe sent to [communications@cola-wi.org](mailto:communications@cola-wi.org).

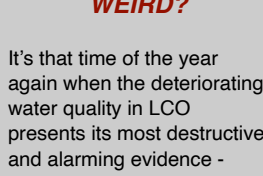
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### SEE ANYTHING WEIRD?

It's that time of the year when the deteriorating water quality in LCO presents its most destructive and alarming evidence - algal blooms and fish kills. Lake water temperatures and phosphorus fed algae production are currently at their peak. The out-of-control algal production may or may not manifest itself in the form of an "algal bloom" depending on precise conditions, but, as this over-abundance of algae begins to die off, the decomposition process consumes available lake water oxygen that can and has resulted in fish kills, particularly for the LCO cold-water species cisco and lake whitefish.



If you observe green water or algal mats on the surface or floating or dying fish...it is imperative that you take pictures and report this to using COLA's [observation forms](#) immediately! COLA will follow up to alert the WDNR, the LCO Tribe, and collect water samples, temperature profiles, and recover expired fish in an effort to further pinpoint the cause of such degradation of the LCO lakes.

**Please do your part to help enhance and preserve the LCO Lakes!**



### LCO NEEDS YOUR HELP

COLA is a **volunteer organization**. That means essential jobs don't get done unless someone steps up to help out. The biggest needs right now are people who can help with **AIS Coordination and Grants/Financial Support**.

But if you have special talents in other areas such as communications, web design, fisheries biology, recreation, water quality, environmental mitigation, social services, NGO operations, ... or even something we haven't thought of yet but you think we should be doing, please step up.

COLA can provide all training and support to do these essential jobs. Contact [communications@cola-wi.org](mailto:communications@cola-wi.org) if interested or you need more information.

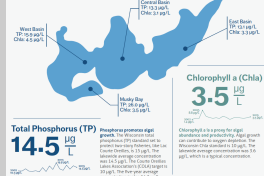


### 2020 AQUATIC INVASIVE SPECIES TREATMENT

Late last summer a COLA Aquatic Invasive Species (AIS) [contractor identified and documented](#) the location of all known AIS in the LCO lakes. The two AIS are curly-leaf pondweed (CLP) and Eurasian watermilfoil (EWM) ([more](#)). Five locations are too large or the plants so dense that herbicide treatment is the only feasible option to manage the spread of these infestations this year.

COLA applied for a [WDNR permit](#) to apply herbicide at the [five locations](#) this mid-spring for CLP and mid-summer for EWM.

Next year we hope to deploy the Eco-Harvester to control AIS without herbicides.

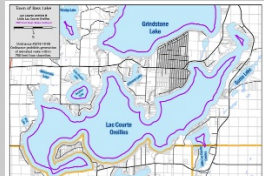


### LCO WATER QUALITY SUMMARY FOR 2019

Here's a quick glance at the state of [LCO's water quality in 2019](#).

### 700 FT SETBACK REQUIREMENTS FOR ENHANCED BOAT WAKES

A enhanced boat wake ordinance became effective on November 12, 2018. To view the ordinance [click here](#).

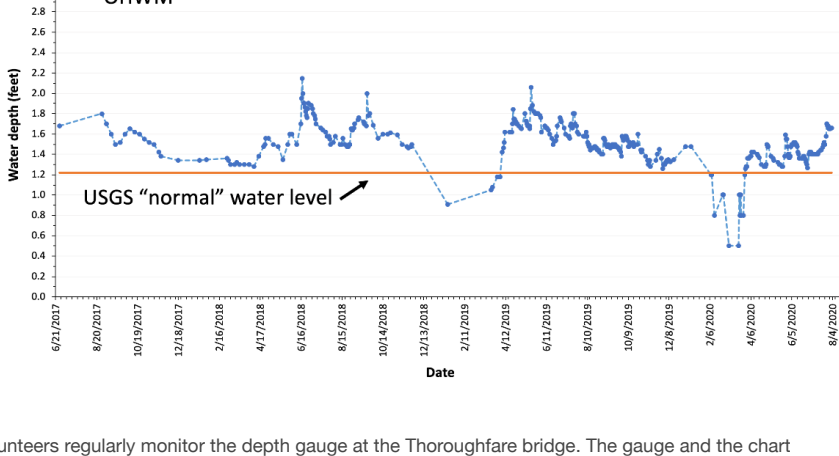


A higher resolution map of the 700 ft setback requirements for enhanced boat wakes is provided [here](#).

### Short Ears, Long Tales

[ARCHIVED ISSUES OF SHORT EARS, LONG TALES](#)

### LCO Water Depth Recorded at Thoroughfare Bridge Gauge



Volunteers regularly monitor the depth gauge at the Thoroughfare bridge. The gauge and the chart readings are in tenths of a foot (1/10 foot = 1.2 inches). The first point on the chart, June 27, 2017, was when the gauge was first installed. The USGS "normal" water surface elevation for big LCO is 1287 feet and is represented by the lower orange line.

The Ordinary High Water Mark (OHWM) is represented by the upper orange line. The OHWM establishes the boundary between public lakebed and private land, was established for big LCO in 1955 and is 1289.27 feet above mean sea level. The OHWM is "the point on the bank or shore up to which the presence and action of the water is so continuous as to leave a distinct mark either by erosion, destruction of terrestrial vegetation or other easily recognized characteristic."

Periodic readings are recorded as accurately as reasonable. The water itself is in perpetual motion, not only flowing downstream but rising and falling due to waves, the current in the channel, the wind which can actually push water and "stack" it toward one end of the lake or the other and the seiche effect caused by the gravitational pull of the moon and sun.

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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.

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