



Sea Lampreys, Lampricides, and HMC

By John R. Bermingham, Jr.

Lampreys are fascinating fish. They lack jaws, having diverged approximately 500 million years ago from the jawed fish lineage that gave rise to sharks, bony fish (eg trout), and tetrapods (reptiles, amphibians, birds, mammals). Just as tadpoles undergo metamorphosis into adult frogs, many lampreys metamorphose from larval filter feeders to juveniles which feed on blood and flesh; they in turn mature into adults that spawn in rivers and streams, then die (Figure 1). Approximately 38 species of lamprey exist worldwide, some of which are paired parasitic-nonparasitic species, with the latter metamorphosing directly into a sexually mature adult, skipping the parasitic juvenile phase. Additionally, most cells in lamprey embryos delete ~20% of their genome, and lamprey can recover completely if their spinal cord is severed. Four lampreys are native to the Great Lakes; these are shown in Figure 2, along with the larger, invasive and parasitic Sea lamprey. Of the native lamprey, the Silver lamprey, the Northern Brook lamprey, and the American Brook lamprey have been recorded at the HMC. Non-parasitic brook lamprey metamorphose directly to non-feeding adults, spawn and die.

After the Great Lakes formed with the retreat of ice sheets 15-20,000 years ago, dozens of fish species colonized them, providing an abundance of food for Native Americans and for Europeans who moved into the region. As this resource declined due to pollution and overfishing, invasive Sea lampreys appeared. Sea lampreys are native to the Atlantic coast and Northern Europe, where they are born in

freshwater streams, migrate to the ocean, then return to freshwater to spawn and die, much like salmon. The timing of their appearance in Lake Ontario, Lake Champlain, and the Finger Lakes of New York, made possible by their adaptation to fresh water, is unclear. They likely accessed the upper Great Lakes through the Welland and Erie canals, bypassing Niagara Falls. They were found in Lake Erie in 1921, Lake Huron in 1932, Lake Michigan in 1934, and Lake Superior in 1938.

Sea lamprey have no natural enemies in the Great Lakes, and a single female can produce 45,000 to 100,000 eggs. They proliferated. Juvenile sea lamprey feed on blood; they attach to their prey fish using their sucker-like mouth with concentric circles of keratinous teeth; a knifelike tongue slices the flesh. Anticoagulants from the lamprey keep the nutritious blood flowing. Sea lamprey can consume 3-30% of their body weight in blood per day. Great Lakes fish had adapted to the smaller, native lamprey, but a single sea lamprey can kill a prey fish every three days, due to the loss of blood and infections from the wounds that they inflict.

The Great Lakes fishing industry collapsed. Commercial and recreational fishing in the Great Lakes provided thousands of jobs, and pumped millions of dollars into local economies. The Great Lakes fish that we love to catch and eat are predators; in their absence, the ecology of the Great Lakes shifted. Several native fish went extinct, while other fish, both native and invasive, flourished, then died off en masse, fouling beaches. Tourism suffered. The massive losses for both Americans and Canadians triggered the creation of the Great Lakes Fishery Commission in 1955 to promote transnational fishery science, and in particular, to address the lamprey problem.

In the US, the Fish and Wildlife Service (FWS) is tasked with conservation of native species and their habitats, as well as controlling invasive species that threaten them, and the US Geological Survey (USGS)'s biological research includes invasive species control. They devised weirs to trap migrating lamprey, but those caught other fish as well, and washed away with spring runoff. Although dams work, they are costly, both in dollars and for the environment. Given lampreys' unique life cycle, researchers tested over 6000 chemicals that would

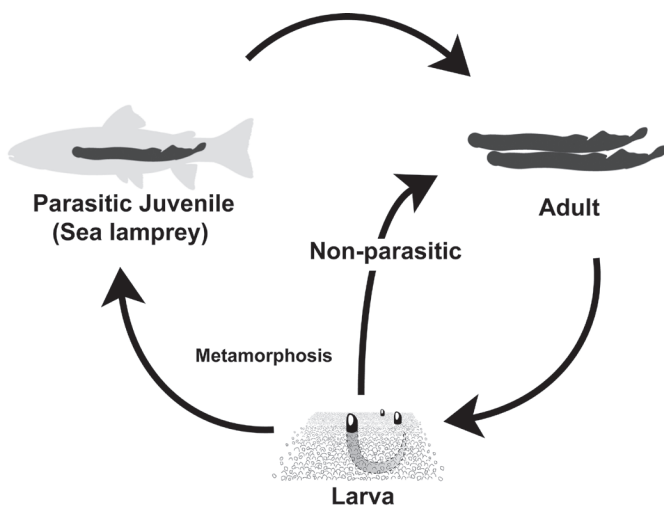


Figure 1: Lamprey life cycle: Sea lamprey larvae (ammocetes) filter feed in streams for 3-7 years, then metamorphose into parasitic juveniles that prey on lake fish; sexually mature adults migrate back to streams to spawn and die. Non-parasitic lamprey species skip the parasitic juvenile stage.

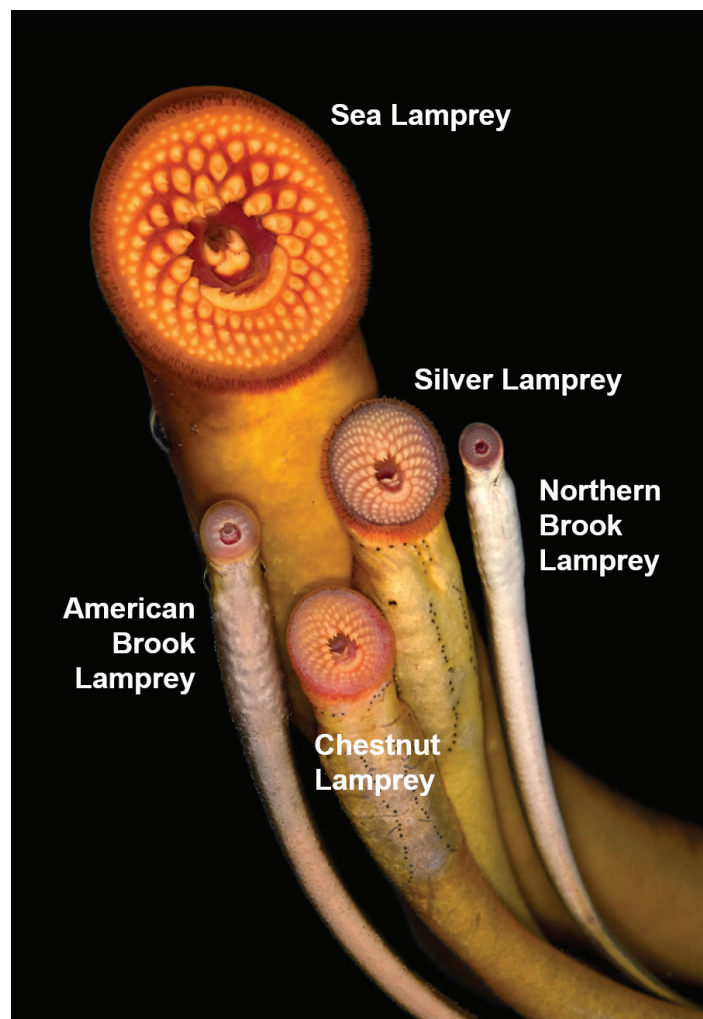


Figure 2: Great Lakes native and invasive lamprey. The native Silver lamprey (*Ichthyomyzon unicuspis*), Chestnut lamprey (*Ichthyomyzon castaneus*) and the larger, invasive sea lamprey (*Petromyzon marinus*) are parasitic, but the brook lamprey are not. Silver lamprey, Northern Brook lamprey (*Ichthyomyzon fossor*), American Brook lamprey (*Lampetra appendix*), and Sea lamprey and are listed in the HMC All Taxa Biodiversity Inventory. The Northern Brook and Silver lampreys are an example of a parasitic-nonparasitic species pair.

Photo courtesy of Andrea Miehl, Great Lakes Fishery Commission

kill larval lamprey, but spare other fish. In the mid-1950's, two were found that were lethal to lamprey at doses that did not appear to harm most other fish species: 3-trifluoromethyl 4-nitrophenol (TFM), and Niclosamide, a drug used to treat worm infections.

The cells in our bodies, and those of lampreys, use a cacophony of chemical reactions to grow, divide, and perform the myriad of functions needed for life; these reactions require energy. Typically, the energy is provided by a molecule called adenosine triphosphate, or ATP. Most of the ATP is generated by structures inside our cells called mitochondria. This process is still incompletely understood, and is an active area of biomedical research. TFM and Niclosamide inhibit ATP production by mitochondria; starved of energy, treated cells cease to function. These chemicals are highly toxic to lamprey because unlike many other organisms, lamprey are slow to break them down or to get rid of them. In streams, TFM and Niclosamide are

short-lived: they decompose in a day or two. Niclosamide has not been used at HMC; it greatly enhances the effect of TFM in large streams, allowing smaller doses to be used. Sea lamprey will spawn in any stream with the right habitat, a pebbly bottom for spawning nests, and a sandy bottom for larvae; they prefer streams in which larvae are already living. FWS checks the streams and rivers that flow into the Great Lakes on the American side; Oceans and Fisheries Canada does the same for Canadian streams. This is a herculean task: after locating potential spawning sites, an electric current is applied to the stream to force any lamprey larvae out of their burrows. When they are found, FWS devises a lampricide treatment that is tailored to the stream's pH, hardness (calcium concentration), water temperature, and flow. About 10% of Great Lakes tributaries have been treated. Unfortunately, sea lamprey have found HMC's rivers, triggering their lampricide treatment (Table 1). Through the efforts of FWS and its Canadian counterpart, sea lamprey populations in the Great Lakes have been reduced by approximately 90%. Great Lakes fish populations are recovering.

There are environmental costs of applying lampricides to hundreds of streams. To qualify for EPA certification in the 1970s, many species of aquatic plants, invertebrates, and vertebrates were tested for lampricide sensitivity. Most tolerated lampricide concentrations that were lethal to lamprey, but only a fraction of the thousands of species that cohabit streams with lamprey larvae have been evaluated. HMC members who are older remember Pine River full of crayfish and mussels; they are less common now. Could this change in Pine River fauna be the result of lampricide applications? Lampricides were first applied to Pine River in 1959, and eight times thereafter (Table 1). Several mussel and crayfish species tolerate lampricides at the concentrations that are used currently in streams, but early lampricide applications could have impacted long-lived mussels. These observations suggest a complex relationship between lampricides and crayfish and mussel populations in Pine River, if a relationship exists at all. Lampricide treatments are far from ideal, but without them we would suffer the economic and ecological costs of sea lampreys' eradication of Great Lakes fish.

Research for new lamprey control measures is ongoing at USGS and at universities. The current generation of lampricides have off-target effects on species of conservation interest, such as sturgeon and native lamprey species. Furthermore, the effects of climate change on stream conditions may reduce the efficacy of current lampricide treatments, and although it has not been observed yet, TFM resistance in lampreys is possible. Release of sterilized adult male sea lamprey has been tried, but appears impractical for the entire Great Lakes. Lamprey pheromones (odorants emitted by one lamprey that affect behavior of others) are potential control targets. Larval lamprey inhabit streams for several years, and they release migratory pheromone(s) to attract spawning adults. Fertile males release a sex pheromone to attract females. Some of these odorants have been identified, as have alarm pheromones, and repulsive odorants from dead lampreys. They have been tested to push lamprey toward traps,

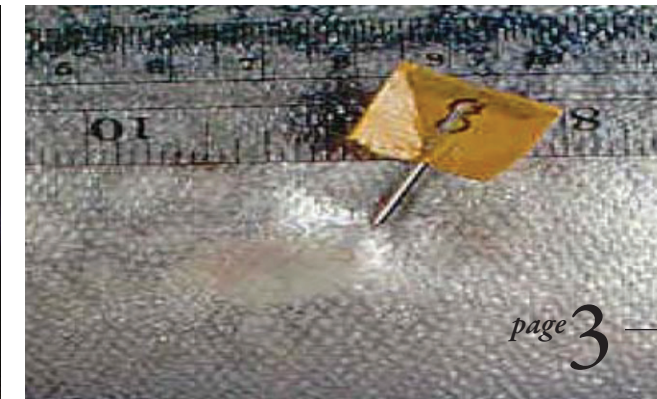


Figure 3: Lamprey scars. Left: Fresh. Photo by USFWS. Right: Healed. Photo by Great Lakes Fishery Commission.

or to pull them away from tough-to-reach spawning areas, with some success. Advances in environmental DNA analysis will enhance detection of invasive and native lamprey. Assembly of the sea lamprey genome is a first step toward new sea lamprey control measures. However, genetic approaches require the difficult task of captive lamprey breeding, and must be designed not to endanger native Sea lamprey. Future lamprey control measures that take advantage of their unique life cycle and biology will take time to be devised and tested.

To assist with the sea lamprey problem, members of HMC can do the following:

- 1) Photograph and record the locations of any lampreys, or any lamprey scars seen on fish caught at the HMC. A notebook has been established in the Museum for this purpose, and lamprey scars are shown in Figure 3.
- 2) Inspect the screens on the cold water siphon into Pine River regularly. If the integrity of those screens cannot be guaranteed, the entire siphon system should be removed. Sea lampreys have been observed occasionally in Mountain Stream, below Mountain Stream Falls (Table 2), demonstrating the importance of an intact Pine River dam. If sea lamprey establish themselves in the Pine Lakes, they could wipe out the fishing there that we've all enjoyed since childhood.
- 3) Remember that HMC cannot be separated from the Great Lakes ecosystem. Sea lampreys are one of over 200 aquatic invasive species in the Great Lakes; support efforts to prevent the introduction and spread of invasive species, both aquatic and terrestrial. The more that we understand the ecology of the Huron Mountain region, the better we can assess impacts of stressors such as lampricides; the Huron Mountain Wildlife Foundation funds the types of research programs that are needed.

Further reading:

- Brant, C. (2019). Great Lakes Sea Lamprey: The 70 year war on a biological invader Univ. Michigan Press Ann Arbor, MI.
- Wilkie MP, Johnson, NS, and Docker MF. (2022). Fish Physiology, Vol39B, 489-579. Chapter 10, Invasive species control and management: The sea lamprey story.

Year	Lampricide treatment Site		
	Pine River	Mountain Stream	Salmon Trout
1959	yes		yes
1963	yes		
1971			yes
1972	yes		
1975			yes
1978			yes
1983			yes
1985			yes
1987	yes	yes	
1988			yes
1991			yes
1995			yes
2000			yes
2004	yes	yes	
2005			yes
2009			yes
2011	yes	yes	
2012			yes
2015	yes		
2016			yes
2018	yes		
2019			yes
2023	yes		yes

Table 1: Lampricide applications at HMC. Years of lamprey surveys by FWS are not included for simplicity. Data from Shawn Nowicki at FWS

ALL ARE WELCOME!

HMWF Annual Meeting
Huron Mountain Wildlife Foundation Annual Meeting
Tuesday, August 6th, 2024 at 4 p.m.
The HMC Playhouse

Keynote Speaker
Our very own Dr. Kerry Woods
 Dr. Woods will discuss how HMWF projects have contributed to the bigger-picture understanding of climate change effects.

The 2024 Manierre Award winner will also be announced. The envelope please!

Spring 2024 Facilities Report

By Christopher and Wendy Sutter



Like all the birds that have just hatched, we have been very busy buzzing around the buildings and grounds this spring. A deep cleaning has begun in all the buildings, along with maintenance and repairs as needed on the core utilities. We would like to prioritize safety issues this year: smoke/CO detectors throughout, basic first aid kits, and an emergency eye wash station for the research areas. Additionally, we would like to seek funding or a grant for one AED (automated external defibrillator). Local EMS response is a good 25+minutes away, if they are available. Having our own AED could have critical value for any researcher, guest or member needs while on site.

Over the past winter, as road access and time permitted, we started on updates to the caretakers' cabin, which we are wrapping up now. The bathroom was gutted and updated, both bedrooms that used to be painted subfloor now have finished flooring, a tankless on-demand water heater was installed, all drain and water supply lines were replaced, and bathroom wiring was replaced as insulation on wires was

disintegrating. Sections of sub-flooring had to be repaired from carpenter ant and water damage. A larger fridge, suitable for a family, was installed. The shingles need to be replaced as the roof leaks and is moss covered in the shaded section. We replaced water-damaged ceiling and insulation.

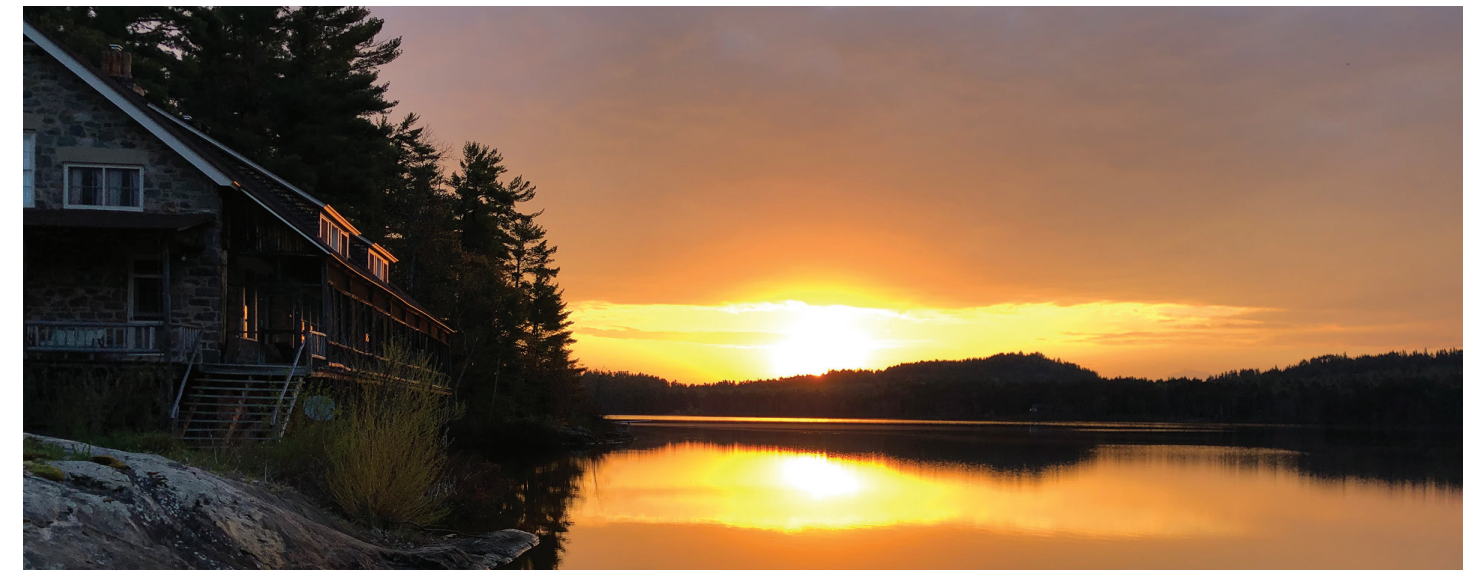
Guardian Pest Solutions visited and advised there is a significant carpenter ant infestation in the Thorpe House and caretakers' house, with mouse infestations in the Thorpe House and Stone House. They advised that the carpenter ants should be addressed soon to prevent further damage. We replaced two toilets in the Stone House, and there is additional plumbing work that needs to be done.

We found two gas leaks at the tanks, and a bad shut off valve on the Thorpe House. Ferrall Gas visited and did repairs where possible. Finding the leak on the propane tank for the generator unrepairable, they replaced the tank at no charge. The old tank was from 1972, so it was time.

Highspeed, fiberoptic internet is live in all buildings, funded by dedicated donations last year. There is still a lot to do this year, and we are looking forward to the challenges ahead.

Above: Roof work on the Caretaker's Cabin.

Below: A couple of barn mice exterminators captured on a July morning.



Summer sunrise over Ives Lake.

2023-2024 Donors (10-1-2023 to 4-30-2024)

The Huron Mountain Wildlife Foundation wishes to thank the following donors for making our research possible.

LAKE SUPERIOR CLUB

\$10,000 and up

Anonymous
Jamie McClelland
PK McClelland
Gioconda & Thayer McMillan

MOUNTAIN LAKE CLUB

\$7,500 to \$9,999

Edward Haffner
Christy & Ted McGraw
Karie & David Thomson

IVES LAKE CLUB

\$5,000 to \$7,499

Sallie & Ed Arens
Pat & John Case
Bliss Clark
Barbara & Henry Dykema
Pamela Waterman Gale
Christopher Hewatt
Mary O'Boyle

PINE LAKE CLUB

\$2,500 to \$4,999

Beth & Robert Alltop
Marnie & John Birmingham
Jill Ridell & Tim Brown
Lynn & Patrick deFreitas
Jocelyn & Josiah Hornblower
Barbara & Bill Manierre
Liza & Dan Oneglia
Anne & Pete Sheret
Kathy Scutchfield & Sarah Quiroga
Watling Foundation
Jennifer Watling

RUSH LAKE CLUB

\$1,000 to \$2,499

Susanna & Ben Alter
Anne & David Bingham
Deborah Brady
Betsy & Scrub Calcutt
Susan & Ed Chandler
Natalie Culley
Tiffany & James Cunningham
Maddy Dugan
Buffie & Mark Finkel
Serin Houston & Will Decherd
Susie & Ned Houston
Marjorie & Chuck Johnson
Carole & Chris Jordan
Claire Jordan
Jamee & Michael Kane
David Karnes
Sheila & Perry Lawrence
Carolynn Loaker
Mallory & Stewart McMillan
Sarah McMillan & Adam Hartke
William O'Boyle
Jessica Reimelt & David Greengrass
Sam Rinaker
Burchell & Raul Validejuli
Tracy & Chip Walket
Jenny & Tuck Washburne
Jonathan Watling

HOWE LAKE CLUB

\$500 to \$999

Susan Bell
Sam Berry
Kitty & Charlie Berry
Ann & Nathaniel Brown
Melissa & Andy Brown

Jamie & Peggy Campbell
Mary Campbell
Kristine & Jerry Case
Carol & Greg Davis
Karen Dickson
Eddie Farwell & Jay Mead
Linda & John Farwell
Jane & Alex Hodges
Joe & Janet Hornblower
Dorothy Kahler
Marian & Paul Laughlin
Jessica Lunt
Laura & Bill O'Boyle
Alexandra Reimelt
Elizabeth Rumeley
Sarah & Dave Stoker
Polly Tackett
Olga Turner
Sandy Turner

ANNE LAKE CLUB

\$250 to \$499

Luke Backus
Molly & Nick Berry
Margaret Braestrup
Catherine & Chris Caroline
Susan & Allan Chandler
Sarah Clark
Kent Clow
Brie & Evan Cowles
Tiffany & James Cunningham
Paula & Fred Dick
Brenda & John Dick
Julie & Rocky Dixon
Bibi & John Dykema
Hannah English
Nick & Jaime English
Gail Gaston

Amy & Jim Harwood
Sam & Eric Kofler
Douglas McMillan
Taddy Opat
Jim Phelps
Sheila Pyott
Laura & Stephen Stackhouse
Virginia & Richard Stevenson
Molly & Scott Sutton
Mary & Butch Turne
Priscilla & Tom Turner
Ted Turner
Amanda & Steve Washburne
Cynthia Washburne

TROUT LAKE CLUB

Under \$250

Elizabeth Calcutt
Faith & Stuart Chandler
Logan Chandler
Ginevera Chandler
Charles Ducharme
Deborah & Skip Ducharme
Cedar Farwell
Pura & Henry Isham
Palmer McGraw
Jen & Russel McMillan
Frederick Nelson
Bill Purves
Keith Reed
Deborah & Arthur Scully
Ashley & Matt Snyder
Catherine & Paul Townsend
Ashley Turner
Jim Turner
Ashley & David Wagstaff
Katherine Wynne

By Kerry Woods

I'm writing this at Ives Lake in mid-May, enjoying one of the first warm days of the year and listening, from the Stone House porch, to toads and spring peepers chorusing. A new research season is getting under way, and it brings a robust set of projects. Researchers working on about 25 projects will keep the Ives Lake Research Station busy and lively. Many of these projects are ongoing from past years, but there are several new initiatives covering a wide spectrum of topics and approaches, and I'll focus mainly on these.

We have not seen recent work in geology, so it's particularly exciting to have Profs. **Basil Tikoff** and **Annie Bauer** (Univ. of Wisconsin – Madison) initiating a multi-year project studying structural geology of the ancient igneous rocks of the Huron Mts. These formations date to major tectonic events approximately 2.5 billion years ago, and Tikoff and Bauer will use analyses of the age and chemical properties to gain insight into early earth history. This project builds on work done at the Hurons in the 1980s, bringing to bear new research techniques and theoretical advances of recent decades.

Two familiar researchers from Michigan Technological University – Profs. **Amy Marcarelli** and **Casey Huckins** – begin a new project, developing a comprehensive ecosystem baseline for Huron Mountain lakes. Previous lake studies have been more narrowly focused, and a comprehensive overview, from an ecosystem perspective, of the distinctive lakes of the area will be of critical value for assessing effects of climate change. Marcarelli and Huckins will collect comprehensive physical and chemical data for the main HMC lakes, along with sampling of zooplankton communities. The timing of this two-year study takes advantage of the contrast between the extreme El Nino conditions of 2023-24 and the anticipated 2025 La Nina.

Drs. **Melissa McCormick** (Smithsonian Institution) and **Ida Hartvig** (Univ. of Copenhagen) will begin a study of the "hologenomes" of native orchids. The hologenome concept refers to the sum of genetic information of species involved in closely integrated mutualisms – in

this case, the fungi and bacteria that are obligate associates of orchid species. Most plants have such associations, but they are particularly critical and complex in orchids, and understanding the whole is important for conservation of endangered orchids. This study brings 'cutting-edge' genetics research to the Hurons.

Another project involving new genetic approaches is Prof. **Anne Pringle's** (Univ. of Wisconsin – Madison) study of the 'destroying angel' fungi (*Amanita virens*). These mushrooms have long been seen as a single species distributed across North America and Eurasia, but Pringle suspects that there may be multiple similar-looking but genetically distinct species ('cryptospecies') in the group – or, in a more novel possibility, that the traditional species concept doesn't even apply in this group.

Prof. **Ben Winger** (Univ. of Michigan) also uses new tools to address some old questions, in this case about migratory songbirds. He seeks to better understand the adaptive trade-offs involved in different 'modes' of migration. Some species migrate relatively short distances, and are flexible as to destination, while other, often closely related species, travel great distances to consistent destinations in Central and South America. To understand how these differences relate to other life history aspects, Winger will use recording 'tracking tags' attached to individual birds this year and recovered when they return to breeding grounds in 2025 to establish actual travel distances (perhaps surprisingly, this is not well understood).

Another researcher familiar to HMWF, Prof. **Scott Tiegs** (Oakland Univ.) and grad student **Elizabeth Parkinson** are studying effects of light pollution on emergence and behavior of insects emerging as adults from their aquatic larval life-stages. This is thought to be a significant issue in conservation of aquatic invertebrates, but effects of specific wavelengths of artificial light are not well understood. The lack of artificial lights around Huron Mt. lakes enables highly controlled experiments in which Tiegs and Parkinson use low-intensity, narrow-band-width LED lights placed for brief intervals near the Howe Lake shoreline for a few nights in early summer.

Finally, Prof. **Josh Ness** (Skidmore College) is following up on preliminary surveys in 2023 with studies of the structure and diversity of ant communities (surprisingly poorly documented at the Hurons) as related to fire history (as derived by past HMWF-sponsored work) and the distribution of a number of herbaceous plant species whose seeds are dispersed by ants.

Additional projects include ongoing studies, some with uniquely long-term perspectives, some exploratory studies, and continuing efforts focused on documenting biodiversity. I offer a simple list (arranged more or less by 'area') here, but more information about most can be found in previous summer newsletters, available at our website (<https://www.hmwf.org/news/newsletters/>).

* **Julia Burton** (Michigan Tech. Univ.) studies of the adaptive structure of tree canopies, this year adding remeasurement of long-term study plots established by Eric Bourdo and Kerry Woods

* **Sarah Johnson** (Northland College) and **Don Waller** (Univ. of Wisconsin-Madison) work with the deer 'exclosure' (in its 13th year) near Fisher Creek

* **Rose-Marie Muzika** (Carnegie Museums) and collaborators maintain a long-term experiment exploring deer-browse effects on forest herebaceous communities

* **Dennis Riege** (independent researcher) continuous long-term studies of conifer regeneration and effects of beaver activity on forest dynamics

* **Jalen LaMontagne** (DePaul Univ.) continues her very productive long-term studies of cone and seed production in boreal conifers

* **Susan Knight** (Univ. Wisconsin) will complete a multi-year, intensive survey of aquatic plant communities

* **Scott Warner** (MI Natural Heritage Inventory) will conduct follow-up surveys of previously documented rare plant populations

* **Lori Bystrom** (Bath Spa Univ, UK) plans exploratory work on variation in nutritional properties of blueberries in different habitats

* **Douglas Ladd** (Missouri Botanical Garden) continues surveys of lichen diversity (the initial year of this project added over 50 species new to the area)

* **Ryne Rutherford** (Mich. Tech. Univ.) is in the final year of studies of the biogeographical relationships of the biota of 'granite glade' communities

* **Patrick Goring** (Mich. State Univ) and **Robert Mitchell** (Univ. Wisconsin – Oshkosh) continue behavioral studies of wood-boring

'long-horn' beetles

* **Donna Kashian** (Wayne State Univ.) will resample aquatic invertebrate communities for her long-term studies

* **Thomas Werner** (Mich. Tech. Univ.), following up on a decade-long project, will further explore diversity of fruit-flies in the area

* **Karen Murchie** (Shedd Aquarium) maintains observations of sucker spawning migrations at the Hurons as part of a regional network

* **Fritz Nelson** (Northern Mich. Univ) and **Ken Hinkel** (Michigan Tech Univ.) have maintained a network of microclimate monitoring stations for more than 20 years

* **Steve Voelker** (Mich. Tech. Univ.) will complete sampling of tree-ring series from submerged logs to help reconstruct a multi-century climate history

Every year when I compile these summary write-ups, I'm struck by the breadth, amount, and quality of scholarly research going on. Work based at the Ives Lake Research Station supports graduate dissertations, generates publications in top journals, and contributes to data-bases that will provide an invaluable resource for research and conservation into the future. Several factors contribute critically to this. The well-protected, diverse, world-class natural area we make available to researchers is, of course, most critical. Add to that a deep collection of baseline datasets, an ever-growing network within the research community, and well-appointed and comfortable facilities at Ives Lake. But all of this is ultimately enabled by the extraordinary generosity of the Foundation's supporters; very few research field stations maintain a significant presence without links to major universities or public funding. So, once again, my thanks to all of you.

DONATIONS WELCOME

You can make a donation by mailing a check made out to "Huron Mountain Wildlife Foundation" to:
**Secretary Ted McGraw, Huron Mt. Wildlife Foundation,
71 Links Road, Hobe Sound, FL 33455**

You can also pay by PayPal. Go to hmwf.org and click on the "Donate" tab.

HMWF is a 501(C)(3) organization and donations are fully deductible.

Letter from the President

Dear Huron Mountain Wildlife Foundation Supporter:

The HMWF achieved a huge milestone this year with the help of some very generous donors. We had a fiber optic cable and associated datacom devices installed at Ives Lake.

This technological advance will enable greater data transmission by and between our researchers and the greater natural science community. It will indeed cast us in to the 21st century and create exciting opportunities for sharing our unique and valuable scientific data. We thank all who specifically supported this project and look forward to seeing the advances this will provide for our program.

With continued gratitude,
Henry



President Henry Dykema

HMWF Artist-in-Residence Program

In 2019, The Huron Mountain Wildlife Foundation initiated an artist-in-residence program at the Ives Lake Research Station. The goal of the AIR is to attract artists whose work would be informed by both the surroundings of the research station and by the work of researchers working at the station. In launching this program, the HMWF joins a number of other scientific institutions hoping that such residencies will serve as vehicles for collaboration and cross-talk between the arts and the natural sciences. There's no doubt that people in each community can be inspired by the work of the other.

Because of the covid pandemic, the program was dormant in 2021, but it was revived in 2022. Participating artists are expected to provide a report on their residency; contribute, on request, an essay that might be published in the Foundation's newsletter or website; and donate at least one original work to the Foundation. The residencies primarily target the visual arts, but artists may work in any medium, with the expectation that this work will reflect the influence of the local environment and the scientific work of the Foundation. Interested artists submit an application to Director of Research Dr. Kerry Woods, who then reviews the applications with the board to identify suitable candidates.



This past summer the Foundation was most fortunate to have Pennsylvania painter Thomas Paquette participate in our AIR program. His visit was brief and hampered by heavy rains, but it was nonetheless quite productive. He recently submitted his inspiring report. Excerpts follow below:

I am in the early stages of a year's long project producing paintings that will all be inspired by old growth forests of the northern and northeastern US... Huron Mountain Club's excellent forest was suggested to me by former HMWF resident-researcher Lee Frelich and I was very grateful to have my proposal for an artist residency accepted...

I first followed along the Salmon Trout River to discover a configuration of trees that became the first completed painting of this future body of work regarding old growth forests. Of all possible locations [to] choose from, I wanted to paint Huron Mountain Club's land first, as a thanks, and to tacitly acknowledge the special place that it is. The painting itself becomes for me the gateway, a grand entrance into this series. At over six feet in length, it may prove to be the grandest painting of the series quite literally. I am having a 36-inch archival giclee print on canvas produced from this painting, which I would like to present as tribute to the HMC/HMWF for this opportunity...

I also followed trails near Rush Lake which brought me through remarkable forest environments. I intend to spend more time working out how

HURON MOUNTAIN WILDLIFE FOUNDATION



About the Huron Mountain Wildlife Foundation:

Since 1955, the Huron Mountain Wildlife Foundation has supported original research in a wide variety of scientific fields. The research takes place in the Upper Peninsula of Michigan. More information on the Foundation can be found at: www.hmwf.org

Board of Directors

Henry Dykema, *President*

Pamela K. McClelland, *Vice President*

Ted McGraw, *Secretary*

Dan Oneglia, *Treasurer*

John Bermingham

Tiffany Cunningham

Serin Houston

Barbara Manierre

Thayer McMillan

Sarah Quiroga

Honorary Directors

Edward Arens

Timothy H. Brown

Karie Thomson

Director of Research

Kerry Woods

We welcome comments and suggestions on this newsletter. Please send them to:

Henry Dykema

67 Vernetti Road

Red Lodge, MT 59068

hbdykema@gmail.com

Editors: Sarah Quiroga and Barbara Manierre

Designer: Amanda Micek

or whether I can best show those places in my paintings: misty lake views; forest openings made from downed or removed trees, circled by very tall and lanky skyward-stretching hardwoods; centuries-old trees, now snags riddled with deeply pecked woodpecker holes. Thus there may be other paintings emerging from my time there in the near future.

In summary, it definitely was and will continue to be a productive albeit short "residency." If I had the opportunity again, I would like to revisit HMC to see more on days that might include more workable weather, and to have those conversations with the researchers I missed this time. The forests of HMC are a remarkable reminder of what the natural world can be, left to grow with minimal human impact.

Mr. Paquette's words are an inspiring reminder of the richness of our special natural environment at Huron Mountain. Here's hoping we can entice him to return. The sun does shine at HMC!