HURON MOUNTAIN WILDLIFE
FOUNDATION

Summer 2023
Newsletter

HMWF Facilities: Building for the Future – Looking Back and Ahead

By Barbara Manierre

For Huron Mountain "old timers," let's say those born before 1950, the history of the Huron Mountain Wildlife Foundation may be somewhat familiar. However, for most people at the Club these days, the Foundation's evolution from a vague idea in the minds of some HMC members to a significant national research organization is a hazy story at best.

That story officially began in 1955, when a group of five members held the first meeting of the HMWF. They and others had long recognized that the pristine Huron Mountain Club property presented an extraordinary opportunity for scientific study, and this new organization was a way to give life to that vision. In the early years, member William P. Harris, Jr., and Aldo Leopold, a father of modern ecology and a frequent visitor, worked closely together to establish a scientific research station on Club property under the auspices of the HMWF.

By the 1960s, largely through Mr. Harris's connections in the Michigan scientific community, the Foundation was hosting four or five teams of scientists each year, but there still was no actual research station. Scientists were housed with amenable Club members, but relying on these informal arrangements was problematic. In fact, Foundation president Harris feared that these haphazard arrangements were jeopardizing the very future of the organization.

In a stroke of fortunate timing, the Club had recently acquired the Ives Lake property, which included the Red House (now Thorpe House) and the Chicken Coop. Ted McGraw, then HMWF treasurer, made an inspired move and arranged to rent these facilities from the Club to house the scientists. The first scientists to stay there arrived in the summer of 1967.

While providing reliable lodging for visiting scientists was a big step forward, there still was no suitable workspace for them, so the Foundation began rehabilitating the nearby Stone House. Built in the early 1900's by John Longyear, the Stone House was designed by English architect Demetrius Charlton, who was influenced by Frank Lloyd Wright and the Prairie School. Using local granite and lumber, he created a simple yet lovely structure that still graces the shores of Ives Lake today. By 1970 the Stone House renovations were complete and the Foundation finally had a research station that would meet its needs and ambitions.

Just a decade later, however, the Stone House was once again sorely in need of repair. There were bats in the attic, and the porch floor was rotted. Screens and railings needed replacing. The Club doubled the rent. The Foundation's overall fortunes were again at risk. The facilities were deteriorating and the passing of Mr. Harris

Left: The newly painted Thorpe House
Above left: New stairs at the Stone House
Above right: Stone House research facilities



Spruced up facilities at the Ives Lake Research Station

had meant losing close ties to the scientific community.

When Jean Armour became Foundation president in 1982, however, all that started to change. Mrs. Armour recognized that, like most landlord/tenant relationships, the relationship between HMWF and HMC also had its sticking points. Most notably, when major repairs were needed, it was unclear who was to pay for them. Finally a solution emerged. While the Club would retain ownership of the land, it was agreed that the Foundation would purchase the Stone House for $10,000. At last, after thirty years of uncertainty, the Foundation had a permanent home of its own.

On the administrative side, big changes were also afoot. Mrs. Armour recognized that someone with advanced scientific knowledge was needed to ensure the quality of the Foundation's work. The solution was to hire a Director of Research. Dr. David Gosling, a scientist who was already doing extensive research on the property, was chosen as the new Director. Now the Foundation had a permanent home and a professional scientific staff member.

"It was one of the best days I've had in the field," Houghton says, "as all of us felt like old-school naturalists exploring the primeval wilderness."

Given all the needed repairs, the Stone House purchase gave Mrs. Armour the perfect opportunity to put her extensive fund-raising skills to work. Over the next fifteen years, she and her successor Ed Arens worked continually to raise funds and whip the Foundation's new home into top shape, including wiring to accommodate computers and solar panels in 2000. By the Stone House centennial in 2001, the building had largely been restored to its original grandeur.

In 2003 Dr. Gosling retired, and Dr. Kerry Woods, another scientist who had been doing research on the property, was recruited by Board president Karie Thomson to take the reins as Director of Research. Woods, who marks 20 years with HMWF this year, brought with him an impressive array of skills. He has greatly expanded the scope of HMWF's research grants, and he has guided extensive efforts to maintain the Foundation's facilities at a high level. Toward that end he applied for a National Science Foundation grant through their Biological Field Stations and Marine Laboratories program and was awarded almost $100,000. That money, combined with a number of matching grants from supporters, was used to fund a variety of projects including expansion of the solar panels, a new septic/sewer system, and extensive renovations of Thorpe House. Under the guidance of Board president Tim Brown, Thorpe house had recently been purchased from the Club in 2006, along with the Facilities Manager's house (for the bargain price of $10!). At that time the Thorpe House was in such disrepair that a hazmat team from Marquette was needed to clean out all the guano!

While some of this doesn't sound very "sexy," it's all essential for the ongoing operations of the Foundation. To manage all this work, and other projects funded by generous donors, Wayne Thorpe, a former Club manager and familiar friend to many, was brought in as Facilities Manager. During the next decade or so Wayne oversaw further renovations of Thorpe House, including new shingles and painting, further improvements to the septic system, and many improvements that enhance the research facilities, such as library shelves, microscopes, and a "wet-lab" work space. For the last five years, Facilities Manager Brock Francis has continued Wayne's work, including overseeing extensive repairs to the Stone House porch, a new electrical panel, a new roof for the Stone House and new sewer lines.

And that brings us to the current day. While the Stone House is surely a gem, it hardly need be said that it is also a 120 year old structure. They say that painting the Golden Gate Bridge is a never-ending project; once the job is done, it's time to start over. Much the same could be said of the Stone House and the other Ives Lake facilities. In order to keep them in top shape, constant upkeep and vigilance is required. The work is never done. While there are lots of routine responsibilities, there are also big dreams for the Ives Lake complex. Going forward, under the direction of Kerry Woods and HMWF president Henry Dykema, the Foundation hopes to increase the usable workspace and storage for researchers in both the Stone House and Thorpe House. Perhaps a new tractor is on the horizon, as well as increased housing for researchers. With our top-notch facilities we will continue to attract top-notch researchers from around the country. Thanks to the work and generosity of many in the Huron Mountain community, the view ahead for the Huron Mountain Wildlife Foundation is very exciting indeed.

Author's Note: Source material for this article is largely from *Well Grounded: Science and History at the Huron Mountain Wildlife Foundation,* Katherine Schouten, Editor.

Caddisflies in the Pine River Watershed?

By Declan Spring

David Houghton is professor and chair of Biology at Hillsdale College in lower Michigan. For the last few years, he traveled all over the Upper Midwest sampling streams and studying aquatic insect populations. Much of his attention has been on caddisflies (order *Trichoptera*); these are moth-like insects that have two pairs of wings and are closely related to butterflies and moths. Their larvae are found in streams, rivers, and lakes, and the different species are often identifiable by their feeding strategies (such as consuming leaves and twigs; consuming algae; or feeding on microscopic animals). There are over 14,000 species of caddisflies, and in fly fishing dry flies are commonly made to imitate the adult caddisflies. Houghton is drawn to caddisflies because of the richness of their species and their varying sensitivity to human disturbance, providing great opportunities for biological monitoring. He told me he has always enjoyed poking around in streams and seeing what is there. Additionally, "studying caddisflies," he said, "teaches you a lot about the biological integrity of streams. You can just look at what lives there as opposed to, say, studying the chemistry of the water."

David has visited the Huron Mountains in the months of summer and early fall to examine these aquatic insects, using ultraviolet lights over pans filled with alcohol to trap not just caddisflies but other aquatic insect orders such as *Ephemeroptera* (known commonly as mayflies) and *Plecoptera* (stoneflies). As early as 2015, Houghton excitingly discovered a new caddisfly species in both the Pine and the Salmon Trout Rivers that was named *Setodes truncatus,* a plain, cream-colored fly separable from other species for the short, truncated appendages of its genitalia. This was the first time in 70 years that a new caddisfly has been discovered in Michigan.

In 2019-2020, David looked to compare the organic biomass and variety of insect species in the pristine Pine River watershed with the more agricultural Charlotte River watershed in the eastern U.P. This study aimed to explore how taxonomic richness and biomass were higher in a less disturbed habitat. "There were far more species in the Pine River watershed," Houghton says, "I was also looking at the organic carbon in these specimens. There is just far more life in Pine River, a more robust food chain and ecosystem."

Another study conducted primarily in 2019 focused on the Pine and Salmon Trout River watersheds (six lakes and twelve streams on the HMC property). One hundred sixty-nine species of caddisfly were collected, including five species not found anywhere else in the state of Michigan. This study was meant to give a thorough inventory of the caddisflies on the property and to establish a reference point for the caddisfly assemblage and functioning in an "undisturbed" habitat.

Continuing to focus on the Huron Mountain area, in the summer of 2022 Houghton sampled aquatic insects from Mink Run off Mountain Lake, setting up a trap over the stream. "It was one of the best days I've had in the field," Houghton says, "as all of us felt like old-school naturalists exploring the primeval wilderness." That study, unfortunately, was cut short due to a bear going after insects in the collecting jars.

Next year Houghton will be taking a sabbatical to spend time in northern Quebec, Canada, "the last frontier" where he will hopefully find more undescribed caddisfly species.

ALL ARE WELCOME!

Annual Meeting
Tuesday, August 8, 2023
4:00 p.m.
The Playhouse

Keynote Speaker
Dr. Dave Costello
"Stream Ecosystems in a Changing World"

Dr. Costello has studied stream ecosystems in the Huron Mountains over the last decade.

New and Old: 2023 Research Program at HMWF

By Kerry Woods

A new data initiative

I'll begin this year's update with a new initiative that's about old data. Every scientist has stories about "lost research" – never-published studies and data-sets abandoned in deep-storage or discarded when researchers retire or die. It's far easier to collect large masses of data than to fully analyze them and write up and publish the results. The situation is aggravated by the pressures of the research work-world to be constantly focused on the next project, the next grant-proposal. Despite best intentions, a lot of good material gets "left behind." Most researchers complete their careers with vast files (formerly, file-cabinets full, now hard-drives full) of unused (or only partially used) data. We do have to prioritize time and effort, and not all data are equally valuable or productive in the moment, but, as one of my mentors put it, research that nobody else ever knows about is scientifically worthless by definition.

I've been acutely aware of this issue for a long time. My own research questions focus on very long-term ecological processes that can be adequately addressed only through long-term data-sets ("long-term" here meaning longer than most research careers). Through serendipity, I've been able to "piggy-back" on and extend multi-decade data-sets – one at the Huron Mountains – that have supported critical insights into old-growth forest dynamics. I've also learned about other data-sets of comparable value that have been lost – and of the fact that my own data-sets are at risk as I move into the late stages of my career.

But all of this may be changing. Over the last decade or so, research funders and journals have placed increasing emphasis on the open archiving of primary data-sets. At the same time, several initiatives have created accessible, secure, and free on-line archives for research data. More and more researchers are dipping into these archives for synthetic analyses and meta-analyses which have generated some of the most exciting recent research publications. But we are still a long way from archiving becoming an assumed part of all research efforts, let alone salvaging and archiving a vast "backlog" of data-sets.

For several years, we have been emphasizing data-archiving as a priority for HMWF-supported projects, but have been able to offer little more than moral encouragement of our (busy) investigators. In 2013, HMWF is funding a summer data-intern to assist with archiving of data-sets from past and present HMWF projects. There is a possibility of a second intern supported by an internship program at Mt. Holyoke College (a result of efforts of HMWF Board member Dr. Serin Houston, a faculty member at Mt. Holyoke). Interns will work under the direction of Dr. Amy Marcarelli at Michigan Tech. Marcarelli is a former HMWF researcher and Manierre Award winner, and Director of Tech's "Ecosystem Science Center."

Interns will work with statistical tools for preparing and documenting data-sets for archival deposit, primarily with the NSF-supported "Environmental Data Initiative" (edirepository.org). We already hold a number of potentially valuable data-sets from projects as far back as the 1980s. Following an open invitation to recent HMWF researchers to take advantage of this effort, the queue of data-sets for interns to work with has grown rapidly. There will be updates on the progress of this project.

Current research for 2023:

About twenty continuing and new research projects will be active in 2023. As usual, these span a broad range of themes and approaches, illustrating the broad research value of the unique Huron Mountains landscape.

The old-growth forests of the region have long been a major attraction for researchers and this continues to be apparent in our 2023 program. Two long-term studies of the effects of high deer populations on forest processes. Studies of a large deer exclosure near Fisher Creek, under the direction of **Dr. Don Waller (University of Wisconsin-Madison)** have completed the initially planned 10-year span (extended to 12 years by covid), and Waller and colleagues are processing first-phase results and considering potential extensions of the study. In its 8th year, another long-term study, led by **Dr. Walter Carson (University of Pittsburgh)** and **Dr. Rose-Marie Muzika (Carnegie Museum),** focuses on loss of understory/wildflower diversity due to deer browsing, and examines the potential that large boulders and outcrops can provide "microrefugia" for vulnerable species, from which the forest floor might be recolonized.

The effects of non-native, invasive earthworms on forests provide another very active arena for ecological research. **Dr. Tara Bal (Michigan Technological University)** is in the third and final year of a study of the effects of earthworm presence on production and sugar content in sap of maple trees. **Drs. Xiaoyon Chen** and **Mary Carrington (Governors State University)** are also in the third year of a broader study of the effects of earthworm invasion on the structure and properties of forest soil ecosystems.

Dr. Julia Burton (Michigan Tech) leads a multi-investigator project focused on detailed analysis of how canopy structure and species' physiological differences affect productivity and carbon storage in old-growth forests. This project builds on long-term data-sets already in place for permanent plots going back to the 1960s. **Dr. Jalene LaMontagne (DePaul University)** continues studies, initiated in 2012, of cone and seed production and regeneration dynamics in boreal conifer species in their southern range in the region. **Dr. Dennis Riege** is continuing analyses of influences on forest dynamics of periodic beaver flooding and feeding in connection with his long-term permanent plots.

Several other studies focus on diverse aspects of terrestrial ecosystems. A new project by **Dr. Josh Ness (Skidmore College),** examines interactions between "cow wheat" *(Melampyrum),* disturbance dynamics, and the ants that disperse its seeds and (potentially) protect the plant from herbivores. As a bonus, Dr. Ness will also recensus the isolated prickly-pear cactus population on Huron Mt., following up on studies conducted 15 years ago. **Ryne Rutherford (Michigan Tech)** is in the third year of an intensive ecological study of the granite bedrock glades – the partially barren hilltops – of the region, focusing on the isolated occurrence of species typically of more southerly distribution. **Drs. Patrick Gorring (Michigan State Univ.)** and **Robert Mitchell (Univ. Wisconsin – Oshkosh)** are initiating a study, following up on past work by Gorring, analyzing feeding ecology of longhorned beetles using new chemical and genetic tools along with behavioral experiments.

Two current studies focus on aquatic systems. C**asey Huckins (Michigan Technological Univ.)** continues his long-term studies of fish and invertebrate populations in the Salmon Trout River in connection with changes in physical properties of the streambed. **Donna Kashian (Wayne State Univ.)** maintains her long-term monitoring of invertebrate communities in regional streams, with a new focus on mussels. **Karen Murchie (Shedd Aquarium)** is in the seventh year of an extensive study of

factors affecting the timing of migratory spawning runs of suckers, with streams of the Huron Mountains as one of many study sites ranging from southern Lake Michigan.

Fritz Nelson (Northern Michigan Univ.) and **Ken Hinkel (Michigan Technological Univ.)** are continuing their long-term monitoring of microclimate through a network of sensor stations across the Huron Mountains. They plan to supplement this long-term study this year with more intensive studies of the dynamics of the winter snow-pack. In a more retrospective study of climate change, **Steve Voelker (Michigan Technical Univ.)** hopes to use properties of tree growth-rings sampled from long-submerged sunken tree-trunks to extend models of past climates to a period of at least 1,000 years.

Finally, as in most seasons, several studies focus on documenting and understanding the unusual biotic diversity of the Huron Mountains. **Thomas Werner (Michigan Tech)** continues to document additional species of moths, butterflies, and fruit flies for the region; his five year study has added several hundred species to the biodiversity inventory of the region and at least one "new to science" fruit fly species. **Doug Ladd (Missouri Botanical Garden/Washington Univ.)** follows an initial visit in 2022 with intensive surveys of lichen diversity, updating and expanding the work of Dr. William Manierre in the 1990s. **Susan Knight (Univ. of Wisconsin-Trout Lake Limnological Station)** will be completing intensive surveys, begun in 2021, of previously little-studied aquatic plant communities in the lakes of the Huron Mountains.

Some of these investigators will be working solo, others with teams of collaborators and assistants. You may well encounter some of them across a wide range of locations and habitats on HMC lands; feel free to say hello and express your interest in their work. Most scientists will be enthusiastic about explaining what they're doing (they know, after all, how exciting it is), and how the Huron Mountains landscape offers them both a unique and invaluable "laboratory."

As usual, I will close by conveying my gratitude, and that of current and past researchers, for your ongoing and generous support of the Foundation and its work.

Our Esteemed Director of Research

By Henry Dykema

Like most of its' research subjects, the Huron Mountain Wildlife Foundation has undergone significant evolution since its inception in 1955. The hypothesis of Punctuated Equilibrium holds that evolutionary change happens in episodes of rapid development rather than constant, slow variation. In 2003 when Dr. Kerry Woods took over as Director of Research, the HMWF began one of these episodes.

Kerry's first contact with the HMWF was by letter of proposal he wrote to then President Ted McGraw Sr. asking to do some forest community sampling. His research at the HMWF began in 1978 when he established his first study plots which are still used today to gather important long-term data. His question driven research was aimed at how spatial distribution of tree seedlings/saplings might influence future canopy composition-an important step in understanding forest succession. This research led to Kerry's PhD dissertation and ultimately his doctorate. This early work as well as subsequent research contributed to at least eight important peer reviewed publications (all listed on the Foundation website) contributing to our knowledge and understanding of forest dynamics. The value of the Huron Mountain Club's reference ecosystem to Kerry's ground breaking work was, and is, immeasurable. Kerry became a natural science faculty member at Bennington College in Vermont in 1986 and is still a faculty emeritus there.

Kerry became Director of Research for the HMWF in 2003 and has overseen a dramatic and exciting expansion and diversification of HMWF hosted investigations. He is tasked with promoting the Foundation in the research community, evaluating all the research proposals received, and communicating their merits, or lack thereof, to the HMWF Board for approval. He also fields inquiries for our new Artists in Residence Program and last year was responsible for establishing our first ever natural science conference. In addition to Kerry's work as Director of Research, he was responsible for securing a National Science Foundation grant which provided the funding to initiate the renovation of the Thorpe House previously known as the Red House. The HMWF has become a world-renowned natural science facility largely due to Kerry's broad and focused intelligence and his drive for excellence in the research produced at the Foundation. The Huron Mountain Wildlife Foundation is indeed lucky to have Kerry Woods advance the integrity of the invaluable science it generates for the natural science community and beyond.

HMWF Bids Newsletter Editor Jill Riddell Farewell

By Barbara Manierre

After twelve years at the helm of the HMWF newsletter, Jill Riddell is retiring. During that time Jill generously volunteered her time and talents to serve as the newsletter's editor, designer and writer. She brought the newsletter to a new level of effectiveness by putting out two issues each year that publicize HMWF's scientific work in relatable articles supplemented with gorgeous graphics.

When asked how she first got involved, Jill says it was quite simple, really. Her husband Tim Brown was Foundation president back in 2010. One day he asked her if she would be interested in putting out the newsletter, and she said "sure." That was one lucky day for the HMWF!

Jill's lack of hesitation in taking on this task is all the more impressive given what a busy woman she is. She's a full-time writer and also teaches creative writing at the School of the Art Institute of Chicago. She hosts a podcast, *The Shape of the World,* which is about nature and cities. She serves on the Chicago Mayor's Nature and Wildlife Committee and also served on the Illinois Nature Preserve Commission. Given all Jill's accomplishments in the educational, media, and environmental sectors and her knowledge of the natural world, working on the Foundation's newsletter was a natural fit. The Foundation has been very fortunate to have such an accomplished person producing the newsletter during the last twelve years.

Jill says that putting together the newsletter has really given her a deeper connection to the land and the water of the Huron Mountain Club property. Through her HMWF newsletter articles she has communicated this strong sense of connection to the broader HMC community. We have all benefitted from her work. With deep appreciation we say farewell to Jill as the HMWF newsletter editor. We will sorely miss her contributions.

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**

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

Facilities Manager Brock Francis Departs

By Barbara Manierre

When Brock Francis first learned about the open position as Huron Mountain Wildlife Foundation Facilities Manager, he jumped at the opportunity. That was back in 2019, at a time when he had been working as a keeper. Through that work he had gotten to know many members and had become familiar with the HMC property. In addition, his dad was a contractor, so he was no stranger to a toolbox. He also has a degree focused on sustainable resort development, so the Facilities Manager position seemed like a perfect fit. Within a week he was on the job at Ives Lake.

Filling the very large shoes of his predecessor, Wayne Thorpe, was challenging. As Brock says, "Wayne knew the ropes and the folks." He quickly learned that there are many quirks to maintaining a hundred year old property, both inside and out. The mower used for cutting the field is so slow that it can take a couple weeks to do the job. Brock loves this duty, however, because the mowing stirs up a feeding frenzy by hawks and eagles. He never knows what he'll encounter in the way of wildlife, but there are certain regulars, including Penelope the Porcupine in the barn and moose on the Loop Road. He keeps a log of everything he sees.

In addition to managing the facilities, Brock is also in charge of scheduling the researchers. This coming summer that involves 100-150 people, so this is no small task. And with those people come hundreds of loads of laundry and dozens of rooms to clean. It's basically like running a small hotel. At the end of this season, Brock will have spent five years as Facilities Manager at Ives Lake, and we greatly appreciate all his hard work on behalf of HMWF. In turn he appreciates the trust the Foundation placed in him. He now hopes to put his degree in resort management to use and will be looking for a position where he can do that. He's traveled all over but notes that "at the Club you get a unique feeling you don't get anywhere else." We wish Brock all the best in his new ventures.