HURON MOUNTAIN WILDLIFE
FOUNDATION

Summer 2020
Newsletter

News from the HMWF 2020 Season

Hello Supporters of the Huron Mountain Wildlife Foundation:

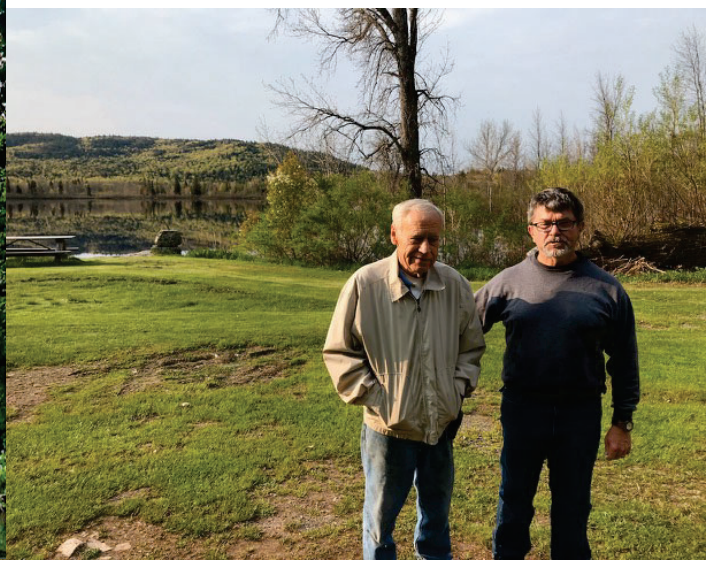
The 2020 research season of the HMWF has continued despite the arrival of the Coronavirus. Our operations have been abbreviated, however, as many research institutions have their own protocols and we have been applying our own social distancing requirements at Ives Lake which limits the number of researcher we will host there at one time. Our facilities manager Brock Francis has been keeping both the Stone and Thorpe houses clean and disinfected. We have initiated a number of needed infrastucture projects to improve the systems and features of the HMWF facility at Ives Lake. While this odd year will be slower on the research and event front, we are hoping to make improvements to our electrical, plumbing, and building systems. This year's summer newsletter is also abbreviated but hopefully will serve to keep you informed of our activities and plans. We look forward to a more "normal" season next year with our ongoing important research program, the Artists in Residence program, and the celebratory events and gatherings. Thank you for your continued support.

Henry Dykema

Cheers to 65 Years!...Well how about 66

This is a summer when plans have been upended, and that certainly applies to the Huron Mountain Wildlife Foundation. As we looked ahead to August and the foundation's 65th birthday, we envisioned a spirited group of supporters gathering on the shores of Ives Lake for a lively evening of great food and company, an auction of artistic and experiential items, and the dedication of the Thorpe House. Sadly the pandemic is still with us, so it's not possible to have our celebration this year, but we are already making plans for next year. In 2021 there will still be much to celebrate, including 66 years of groundbreaking research sponsored by the Huron Mountain Wildlife Foundation. And just to whet your appetite for our big event, we are including here photos of some of the fantastic auction items we will be offering, all made by members of our Huron Mountain family of supporters. Please put Wednesday, August 4th on your calendars, grab your checkbooks and get ready for a great time!

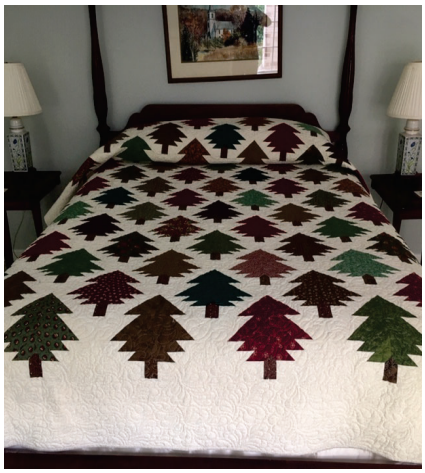
The Stone House, *Photo by Brock Francis*

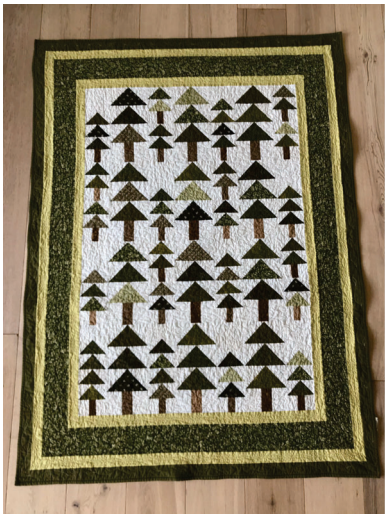


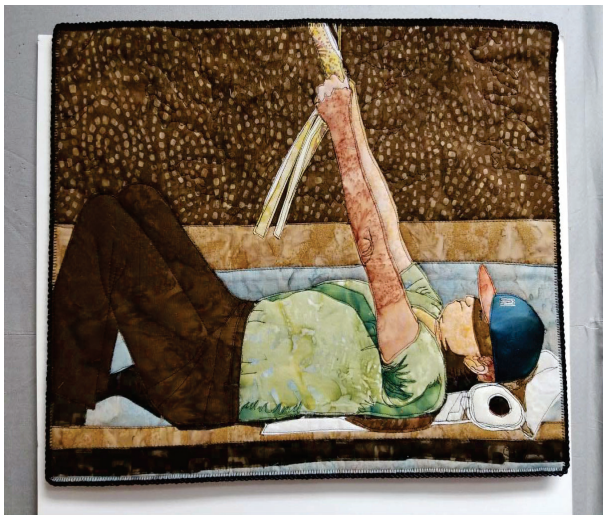
Wayne with Dr. Dennis Riege at Ives Lake in 2019

Photo by Don Waller

Auction Item Preview







Quilts, Jewelry
And Much More!

Research Program, Summer 2020

By Kerry Woods

Despite the advent of the Covid pandemic, we are maintaining a lively research program for the 2020 field season, even while maintaining 'distancing' and other protective measures at the Ives Lake Field Station. I'll provide the usual summary of the two dozen projects that were approved for this year, even though some will be deferred, in whole or part, to 2021. (We offered the deferral option knowing that some investigators' home institutions have instituted restrictions on travel or on hiring of students and others might prefer to 'play it safe' anyhow, with an assurance that the Foundation will sustain the commitment of support promised this year.) So next year promises to be a particularly lively field season!

New projects are always particularly exciting, and, as usual, we have several this year, covering a very wide range of taxa and topics. It's particularly nice to see a new project focusing on bird communities – our first bird project in several years. Some of you may recall the last extensive survey of breeding birds at the Huron Mts., conducted by Micehael Kielb and colleagues in the late 1998-99. Scott Robinson and Harrison Jones (University of Florida) are beginning a study of bird communities designed to take advantage of the Kielb project, allowing a quantitative assessment of changes in bird abundances and distributions over the intervening two decades. This project is a good example of the special research value of the Hurons, as a 'reference ecosystem' where long-term change can be assessed and analyzed without confounding factors of changing management.

Emily Fleissner (University of Minnesota-Duluth), is conducting a study of fish foraging behavior in response to environmental noise, again taking advantage of the special circumstances of Huron Mt. habitats (in this case, absence of motor noise). In another new study, Stephen Kolomyjec (Lake Superior State Univ.) will be surveying diversity and distributions of fresh-water sponges. While many taxonomic groups have been intensively documented for the Huron Mt. Club lands, sponges have never been specifically inventoried (and, yes, to the surprise of many, there are a number of species of sponges found in fresh water). Susan Knight (Univ. of Wisconsin – Trout Lake Field Station) has wound up a study of peculiar distributions of 'water-shield' plants in Howe Lake, but is beginning, as a new project, an inventory of aquatic plant species and communities; while a rich aquatic plant flora has been documented at the Hurons in a more casual way, this is the first systematic, quantitative study focused on the group.

Illustrating the breadth of research appeal of the Huron Mts, a fifth new project focuses on large-scale ecosystem processes. It is well known that anthropogenic 'nitrogen-loading' – human-caused additions of nitrogen to ecosystems – is having large effects on nearly all ecosystems, but it is difficult to assess baselines for nitrogen deposition, and to sort out inputs due to local land-use from those due to broad-scale atmospheric deposition. Cory McDonald (Michigan Technological University) plans to use chemical analysis of short cores of lake sediments to reconstruct historical changes in nitrogen inputs and, by including pristine lakes from the Huron Mts. in his comparisons, he can isolate local effects from more global changes. Once again, the 'reference ecosystem' value of the Huron Mt. landscape stands out as unique.

Several projects are 'nearly new', building on exploratory work in 2019. Two of these converge on using tree growth patterns for reconstruction of climate over recent centuries, and for better understanding of how specific aspects of climate are reflected in growth of different species of trees in different seasons. These studies are particularly innovative in the use of long-dead trees that have been preserved by immersion in lakes to extend the tree-ring record deeper in time – perhaps as far as 1000 years into the past. A multi-institutional team including Daniel Cziczo (Purdue University), Evan Larson (Univ. Wisconsin-Platteville), and Rose-Marie Muzika (Caranegie Museum, Pittsburgh) will be focusing their work on cores of submerged logs in Canyon Lake and on species not well-sampled by previous studies. Steve Voelker (SUNY-Environmental Science and Forestry, Syracuse), will build on earlier work focusing on finding aspects of tree growth that are particularly sensitive to winter conditions and 'lake effects' on climate, and will be coring from submerged logs in several lakes nearer Lake Superior.

Xiaoyong Chen and Mary Carrington (Governor's State Univ., Illinois) are studying the effects of invasive earthworms on soil structure and ecosystem function (following up on earlier work by Erik Lilleskov that mapped the extent of earthworm invasion at the Huron Mts). It is becoming increasingly clear that earthworms, which were not present in the region prior to European settlement, are important 'ecosystem engineers'. Rachel Headley and colleagues (Univ. Wisconsin – Riverside) will also follow up on exploratory work last year with a study attempting to use properties of stream environment and sediments to model the abundance and distribution of stream-linked organisms, using dragonflies as a focal group. Another multi-institutional team, led by Jeff Atkins (Virginia Commonwealth University) will continue with their intensive studies, using arrays of microenvironmental and physiological sensors to assess how short but intense heat events can affect tree photosynthetic rates and forest productivity. This study promises important insights, given the strong expectation that such heat events will increase in frequency going forward. Erika Hersch-Green (Michigan Technological Univ.) will continue studies, begun last year, of the distribution and impact of a recently invading fruit-fly affecting wild berry species.

Finally, of course, we have a strong cohort of returning researchers, maintaining multi-year projects. Several of these projects focus on continued documentation of the unusually rich biodiversity of the Huron Mts. Thomas Werner (Michigan Technological Univ.) is in the fourth year of studies of moth and fruitfly diversity that have already added several hundred species to the known biota of the region. David Houghton (Hillsdale College) will be continuing inventories of caddisfly communities; after two prior years that added over a hundred species to the know list of caddisfly species in Huron Mt. waters (including a number of species new to Michigan or the U.P.), will focus on understanding how these communities are related to changing habitat along the length of streams. Patrick Gorring (Michigan State Univ.) will follow up on several years of surveys of forest beetle communities, with particular focus on how abundances and distributions of several species of 'pine sawyer' beetles have changed with changes in their host species (jack and red pine). Cody Thompson (Univ. of Michigan) will continue his genetic studies of flying squirrels, attempting to understand potential hybridization between the northern species, which is becoming rare in the region, and the expanding populations of the southern species.

The Foundation's priority on supporting long-term studies that make particular use of the security and protection of the Huron Mt. Club lands is manifest in a collection of ongoing long-term studies. Two projects target better understanding of the consequences of browsing by very high deer populations by monitoring experimental 'exclosures'. The large exclosure study near Fisher Creek, developed by Donald Waller (Univ. of Wisconsin – Madison) is in its tenth season, although the intensive remeasurements planned for this year will likely be deferred until 2021 because of Covid. In a more focused use of small exclosures, Rose-Marie Muzika (Carnegie Museum) and Walter Carson (Univ. of Pittsburgh) are assessing whether 'refuges' from deer on boulder-tops and ledges can serve as a source of colonists, for particularly deer-vulnerable wildflower species, of the surrounding forest floor.

Jalene LaMontagne's (DuPaul Univ.) studies of variability in seed-production by spruce trees enters its ninth year. Dennis Riege (independent investigator) continues his monitoring of the long-term effects of beaver flooding and cutting in hemlock forests near Fisher Creek (fortuitously, in conjunction with long-term permanent plots established earlier). Ken Hinkel (Michigan Technological Univ.) and Fritz Nelson (Northern Michigan Univ.) will maintain their long-term monitoring of microclimatic variation across the complex landscape of the Huron Mts. in one of our longest-running projects (entering its 16th year in 2020).

Several long-term studies focus on aquatic systems. Casey Huckins (Michigan Technological Univ.) continues long-term studies of the Salmon Trout River, focusing this year on surveys of how stream-bed properties affect invertebrate communities. Donna Kashian (Wayne State Univ.) will maintain long-term monitoring of regional streams with a focus on effects of differences in human impact. The multi-institution team led by Elizabeth Swanner (Iowa State Univ.) is in the fifth year of studies of the peculiar biogeochemistry of Canyon lake.

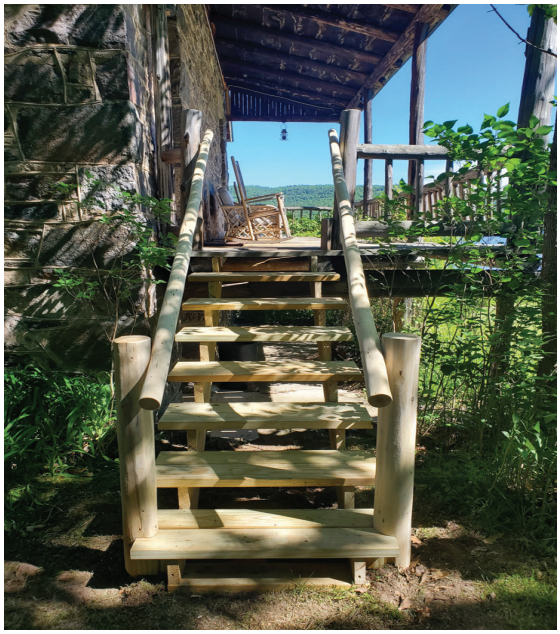
It is worth reflecting on how the list of 2020 projects illustrates the importance of the Huron Mountain region as a research area. The diversity of projects -- ranging from genetics to geochemistry, addressing systems from soils to streams and lakes to forests – is sufficient to illustrate the unusual scientific potential of the Huron Mountain landscape. Further emphasizing this point, 2020 projects involve researchers from over thirty institutions – universities, museums, field stations -- from Minnesota to Virginia. And, perhaps one of the strongest pieces of evidence for the strength of the research program supported through HMWF, several projects initiated through HMWF funding have now attracted large research grants from agencies like NSF, NASA, and others.

As always, I note that this is happening only because of the generosity of HMWF's supporters and donors, and the support of the Huon Mt. Club generally (and, of course, the truly unique values of the Huron Mt. Club lands as a research area). The 'yield' of supporter donations, in terms of good science produced, never ceases to amaze me. We can thank the researchers themselves, for pursuing grants from big funders (and actually doing the work), but this would not be possible without the funds to operate the Ives Lake Field Station and for 'seed money' grants we're able to offer researchers for getting their projects off the ground.

2020 Operations

By: Brock Francis

We opened the Stone House and Thorpe House on May 15th and hosted our first scientist on May 23. We have had consistent residents per month since then although less than usual due to Covid. We plan to stay open until early October with our last scheduled researcher in September. I have been maintaining the grounds, mowing the field, and restoring a bedroom in the Stone House in addition to the usual cleaning and washing. We have had two bathrooms restored and a new staircase to the Stone House porch built.



What do you see in this picture?

This photo was taken this spring by Barb Dykema on a paddle down Canyon Lake. This is the reflection of a seemingly carved natural cave. Try rotating it 90 degrees to the left and see what you see!

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