SUMMER NEWSLETTER

HUDSON RIVER ENVIRONMENTAL SOCIETY

September 2020

NOTE FROM THE PRESIDENT

Dear HRES Members: We have been working to develop ideas on how best to plan a virtual celebration for HRES's 50th Anniversary. We will keep the membership informed of our progress in future newsletters.

In this issue, I hope you enjoy my personal reminiscing about the early days of the environmental movement in the Hudson River Valley. We are forever in gratitude to the following founding HRES Board Members:

- Mrs. Ethel M. Parsons
- Dr. Merril Eisenbud
- Mr. Bruce Howlett
- Dr. Gerald J. Lauer
- Dr. Alan I. Mytelka
- Dr. Edward H. Buckley
- Mr. Frank L. Panuzio
- Mr. Donald B. Stevens
- Dr. Leonard Dworsky

HRES Membership: Remember that you can still become a 2020 HRES member.

- Print out the application online at www.hres.org and mail with your check to: HRES, PO Box 279, Marlboro, New York 12542.

HRES TURNS 50!

Forty-six years ago, a young biologist from Upstate New York took the opportunity to move his family from Oswego where he had been monitoring the impact of two electrical generating facilities on Lake Ontario fish populations to the Hudson Valley to participate in the environmental movement that had originated on the Hudson River in the 1960's. As that "young biologist", I was excited to interact with the scientists and community leaders involved in the movement. I soon discovered that there was an organization in the Hudson Valley that was focused on bringing the science behind the ongoing environmental studies to the citizens of the Hudson Valley. That organization was the Hudson River Environmental Society (HRES).

On April 7, 1979, HRES was incorporated and became a contributing member to the Hudson River environmental research community. The founding members * had identified the need to establish an organization that could play a unique role in providing environmental research information to the scientific community, policy makers and concerned citizens of the Hudson Valley. Established as a non-advocacy, not-for-profit organization, this group of visionary people saw HRES as an effective way to "promote, encourage, facilitate and publicize research about the environment of the Hudson River watershed and associated lands and to disseminate information about such research to its members and to the general public".

Fifty years later, HRES continues to serve as a conduit for communication between the research community (academic and private consultants), resource agency scientists, decision-makers, and the citizens of the Hudson Valley. We thank the original HRES Board Members for their commitment to establishing an organization that continues to play an important and active role in presenting important topics that impact the Hudson River and Hudson Valley.

Now as a "seasoned biologist", I am proud and privileged to be a member of HRES and to serve with an amazing and dedicated family of people who are continuing to honor the original visions of the Founding Board Members. I look forward to what we can accomplish together over the next 50 years.

Jim Morrison (HRES President)

AND THE MCKEON RESEARCH GRANT AWARDS GO TO….

The HRES was pleased to receive ten proposals for the 2020 McKeon Research Grants: five from High School students and five from University/College Students. The topics of these proposals were varied and covered many research topics including fisheries (American Eel and Striped Bass projects), impacts of invasive species (aquatic invertebrate and terrestrial insects) and impacts to water quality from external sources.

After a detailed review of each proposal, the HRES McKeon Grant Committee, chaired by Lucy Johnson, recommended that HRES award two grants this year totaling $1,171. The two proposals that were awarded 2020 McKeon Grants were:

1. Lindsay Yoder: *Assessing the Settlement and Distribution of Aquatic Invasive Invertebrates in the Lower Hudson River*; Lower Hudson PRISM/Oregon State University. Facility Advisor: Bret Boscarino, Ph.D. Grant Requested: $671. Grant Awarded: $671

   Overview: An invasive species is any species that is non-native and whose introduction causes or has the potential to cause harm to the environment, the economy, or human health. The Hudson River is critical habitat for several important native species which are greatly threatened by the introduction of aquatic invasive species (AIS). The threat is heightened by the vulnerability that estuarine environments have to aquatic invaders. Estuaries, by nature, offer an array of different microhabitats that may be suitable for an individual species. Alternatively, successful invaders are tolerant of environmental changes, giving them a competitive advantage over native species who may occupy a singular niche.

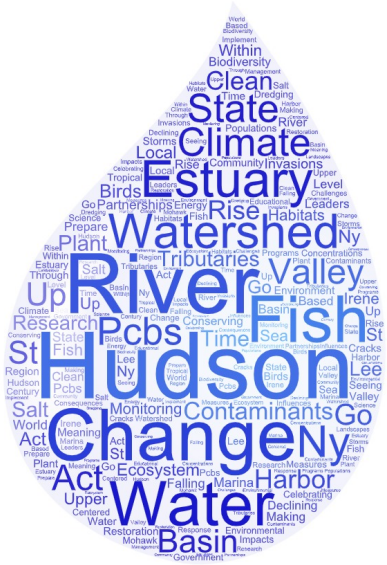
2. Avi Bagchi and Ayaan Bargeer: *Effect of Temperature on the Spread of Hemlock Wooly Adelgid (Adelges tsugue) in New York State;* Shaker High School, Latham, New York. Faculty Advisor: Mr. Nathaniel M Covert. Grant Requested: $500. Grant Awarded: $500.

   Overview: The hemlock woolly adelgid (Adelges tsugae), known as HWA, is an invasive forest pest that arrived in the United States in 1951 near Virginia. It came to New York State in the early 1980s. HWA is native to Asia and is known to be a threat to Carolina and eastern hemlocks. In Japan, the pests' populations were limited by natural predators but in the US, like other invasives, there are no predators to control the HWA population nor have hemlock trees developed any kind of resistance to the pest. These small aphid-like insects can be identified by their overwintering "woolly" egg masses on the hemlock needles. Adults feed on the starches present in hemlocks and damage the canopy by blocking the flow of nutrients. The HWA also injects a toxin when it takes in the sap. This causes the needles to die, major limbs of the tree to fall off, and eventual death of the tree in four to ten years.

One of the prerequisites to receiving a McKeon Award is that the student(s) will prepare a poster for the Annual Hudson River Environmental Society Symposium, presenting the results of their research. The 2021 HRES Symposium will be a virtual event. We will determine a way for Lindsay, Avi and Ayaan to debut their projects.

The notification for the 2021 McKeon Research Grant deadline will be announced in early 2021.

We need your help. Interested in volunteering your time to support the HRES mission? Do you have a raffle item or know a donor willing to support the McKeon Student Travel Fund? Contact an HRES Board Member today!



MEET OUR NEWEST HRES BOARD MEMBER

Bernadette Connors, Ph.D. is an undergraduate educator in biological sciences at Dominican College in Blauvelt, NY. Her research focuses primarily on understanding the microbial and viral ecosystems in waterways in the Hudson Valley, focusing on identifying how human-related activities impact the dynamics of the aquatic microbiome. She has secured funding through the National Science Foundation to support STEM scholarships for students entering biology professions and established numerous collaborations with colleagues at university centers to provide additional research opportunities for students at Dominican College. She welcomes both undergraduates and high school students into her research lab during both the academic year and summertime. She was just awarded another NSF research grant this year to study surface waters in my part of the Hudson Valley.

https://www.dc.edu/biology-professor-awarded-national-science-foundation-research-grant/

Q: As someone dedicated to science education, what is one goal you hope to accomplish at HRES?

A: Promoting environmental justice is something about which I am passionate and drives the research I do in my own lab. I would like to see HRES focus on communities that might not have the same degree of protection from environmental pollution and the concomitant health hazards. We can empower these communities by providing educational and hands-on research opportunities. I firmly believe that all people are lifelong learners and yearn to have a deeper understanding of the world around them. By teaching individuals how to understand research and take part in the scientific process, an avenue will be opened by which they can affect change and have a voice in decisions made for their community.

Q: What do you see as the most critical area needed for Hudson River research?

A: There are some amazing technologies available to researchers that can be used to generate data regarding environmental health. For instance, metabolomic techniques can reveal metabolites (small molecules) released into or contained in a sample and is considered a direct indicator of the health of an environment. It, combined with microbiome data, is a powerful means of understanding the unseen world while at the same time directly speaks to impacts from anthropomorphic activities. I would like to see these kinds of advanced research being done in the Hudson River and associated watersheds.

2021 HRES SYMPOSIUM UPDATE

Holding on-campus activities in 2021 at Hudson Valley Colleges is still a work in progress. Therefore Chuck, has assembled a working group that includes **Clay Hiles** and **Jim Lodge** of the Hudson River Foundation to develop an agenda for our 2021 Symposium that will include topics from our 2020 *Hudson River Fish in an Ever-changing Ecosystem Symposium*. They are considering presenting the 2021 symposium online in 2-hour segments over five weeks.

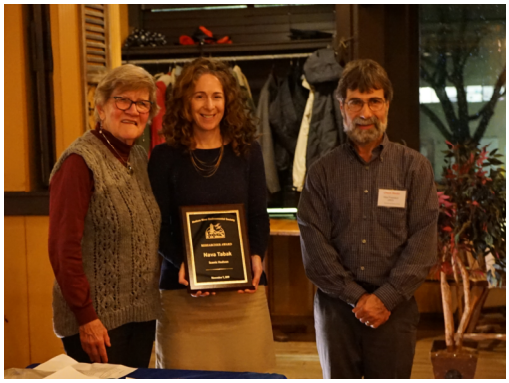
2020 HRES Leadership Awardees

Outstanding Environmental Researcher: Isaac (Ike) Wirgin, Ph.D. is an associate professor in the Department of Environmental Medicine at the New York University School of Medicine. He focuses on molecular approaches to understanding fish population structure and contaminant effects in fish. His Ph.D. thesis focused on the use of mitochondrial DNA analysis to investigate the genetic population structure of striped bass.

Outstanding Environmental Communicator: Laura Heady is the conservation and land use program coordinator at the Hudson River Estuary Program. Laura provides science-based guidance to local community leaders and land trust partners to advance biodiversity knowledge and conservation planning. She has developed technical assistance strategies, tools, outreach programs, and partnerships that have engaged hundreds of decision-makers and produced successful conservation outcomes.

2019 HRES AWARDS DINNER RECAP

Our annual HRES Awards Dinner was held on **Thursday October 17, 2019** when we once again enjoyed the ambiance and good food at River Station in Poughkeepsie and celebrated the careers of our selected 2019 award honorees.



Clockwise from left to right: Nava Tabak (Scenic Hudson) – 2019 Outstanding Environmental Researcher Award, Gretchen Stevens (Hudsonia, Ltd.) – 2019 Outstanding Educator Award and Gary Wall (USGS) – 2019 Outstanding Practitioner Award

---

Hudson River Environmental Society
PO Box 279
Marlboro, New York 12542
hudsonriverenvironmental@gmail.com

hres.org/

HUDSON RIVER ENVIRONMENTAL SOCIETY

Founded in 1970, the Hudson River Environmental Society is a nonprofit, non-advocacy organization that delivers the science behind Hudson Valley issues to citizens, scientists, and decision makers. We enable objective discussions, provide forums for rigorous science, connect disparate views, and showcase the region's natural heritage. We are academic researchers, government officials, nonprofit scientists, private consultants, teachers, students, and interested residents who find real solutions.