

FOMB Speaker Bios & Program Details, 2019-2020

Thanks for series support and door prizes to Patagonia, Inc.–Freeport

All talks 7:00pm at Curtis Memorial Library, Brunswick, unless noted

October 09, 2019

E. A. Robinson, 1869-1935-America's Pulitzer Poet & His Tilbury Town Gay Grant



Photo Courtesy: Gay Grant

Gay M. Grant is the author of *Along the Kennebec: The Herman Bryant Collection* and *Destination Unknown: An Evacuee's Story*. She owns The Write Way writing consulting service and served in the Maine House of Representatives from 2012-2018. Gay lives with her husband, Ron, in South Gardiner. She has more than twenty-five years writing, editing, and grant writing experience. Her grant writing skills have secured millions of dollars in funding for Maine non-profits. She has also provided professional copy writing for business publications and editing for writers and publishers. Grant is also a consultant "coach" for the MELMAC Education Foundation in Augusta, Maine, providing technical assistance to six Maine technical high schools implementing grant projects funded by the foundation.

http://grantwriteway.com/?page_id=6

Born in Head Tide, Alna, EA Robinson's childhood and youth were spent in Gardiner, Maine. Gardiner author Gay Grant will discuss how this thriving industrial age town along the Kennebec River – the Tilbury Town Robinson made famous – shaped the development of this three-time Pulitzer Prize winning and four-time Nobel nominee poet.

<http://www.earobinson.com/> https://en.wikipedia.org/wiki/Edwin_Arlington_Robinson

Arlington described his childhood in [Maine](#) as "stark and unhappy".^[3] His parents had wanted a girl, and did not name him until he was six months old, when they visited a holiday resort—at which point other vacationers decided that he should have a name, and selected the name "Edwin" from a hat containing a random set of boy's names. The man who drew the name was from [Arlington, Massachusetts](#), so "Arlington" was used for his middle name.^[4] Throughout his life, he hated not only his given name but also his family's habit of calling him "Win". As an adult, he always used the signature "E. A."^[5] [Wikipedia]

After many rough years, Robinson's path did become easier. He was invited to the MacDowell Colony in 1911, liked it, and continued to spend summers there until his death. In 1922 he received his first Pulitzer Prize, followed by two more in 1925 and 1928. Thus it is remarkable that counting the Pulitzer Prize that Laura Richards received for her two-volume biography of her mother, *Julia Ward Howe*, that Gardiner, Maine, writers acquired four Pulitzer Prizes within one decade. Robinson published twenty-eight books of poetry in his lifetime. He remains best known for his "Tilbury Town" poems. The first mention of Tilbury Town (a mythical place that Robinson reluctantly conceded might have represented Gardiner "in a shadowy way") appears in "John Everldown" published in *The Torrent and the Night Before*. [earobinson.com]



Middle Photo Credit: Robinson in 1888, George F. McIntosh, Hallowell. ME Historical Society

November 13, 2019
"Bugs" of the Bay
Hamish Greig



Hamish Greig photo

Hamish Greig is an Associate Professor of Stream Ecology in the School of Biology and Ecology at the University of Maine. He studies how aquatic food webs respond to natural and

human-induced disturbances. Hamish grew up in Christchurch, New Zealand, where he spent his childhood fossicking around in streams for aquatic insects and trying to catch large brown trout. Greig completed his undergraduate and PhD degrees at the University of Canterbury in Christchurch, studying the insects and food webs of alpine ponds in New Zealand's Southern Alps and the Colorado Rockies. He then did postdoctoral research at the University of British Columbia, Canada, on the impacts of climate change and eutrophication on pond ecosystems before moving to Maine in 2013 to take up a position as an Assistant Professor of Stream Ecology. Greig's research group studies stream food webs supporting Atlantic salmon and brook trout; climate change in high elevation ponds; the links between Maine streams and their forested watersheds; and the insect diversity of some of Maine's weird and wonderful freshwaters.

In his own words... My research uses freshwater ecosystems to understand how environmental gradients influence community structure and function. Specifically, my research focuses on three key questions: 1) How do disturbances influence community structure and dynamics? 2) How do local stresses modify the effects of global change on ecosystems? 3) What are the mechanisms underlying the effects of temperature changes on food webs? I approach these questions by using combination of observational studies, field manipulations, and mesocosm experiments to test hypotheses across spatial scales and levels of ecological complexity. My work is motivated by the view that revealing the mechanisms behind the environmental context of ecological processes is the key to developing the general understanding necessary to manage human impacts on ecosystems.

Talk synopsis:

Freshwater tidal marshes are among the most unique but understudied freshwater habitats globally. This is especially true for the benthic invertebrates that scuttle around within the sediment and aquatic plants of these marshes. I will provide an overview of our research on the fascinating and diverse aquatic insect communities of Merrymeeting Bay's tidal freshwaters and the role that tidal hydrology plays in species distributions. I'll also reveal discoveries of a dragonfly Species of Greatest Conservation Need not previously recorded in Sagadahoc County and discuss ideas for future research in the area.

You can read about specific research projects [here](#). Hamish's CV can be downloaded [here](#).

December 11, 2019

[Meet Your District Forester](#)

Shane Duigan



Shane Duigan is District Forester for Maine Forest Service (MFS) serving Cumberland, Androscoggin, and Sagadahoc counties. He has a BS in Land Use from UMO and a Masters in Forestry from the Yale School Of Forestry. Shane has worked in the woods in some capacity (Forester, Environmental consultant, logger) for 25 years.

Meet Your District Forester” provides a brief introduction to the role of District Foresters at MFS then a Q&A- basically “everything you ever wanted to know about forestry but were afraid to ask.”

January 08, 2020 (Cram Alumni House, Bowdoin Coll., 83 Federal St., 6pm Potluck, 7pm Presentation)

“Let There Be Dark”, Preserving our Night Skies

Rob Burgess



By day, Robert Burgess is part of the senior management team at Bangor Savings Bank. At night, he’s an avid stargazer, an interest spawned in his youth with our first manned space missions. Although trained as an attorney, his passion is astronomy. He shares it as a NASA Solar System Ambassador, and as a member (President) of Southern Maine Astronomers. At public star parties and at his backyard observatory at his home in Brunswick Rob has hosted thousands of school children and community groups in guided tours of the night sky. A long-time member of the International Dark Sky Association, Rob has of late been channeling his interest and concern about light pollution into the public policy arena. As a member of the Brunswick Planning Board Rob has been advocating for better control of outdoor lighting and increasing awareness of the deleterious effects of poor lighting.

Summary: Dark night skies are a rapidly diminishing resource on planet Earth and especially in the United States. Light pollution damages animal habitats, can affect human health and robs us of our cultural heritage and connection to the majestic. Since every wasted photon was generated in a power plant somewhere, light pollution also contributes to global warming. Come hear a discussion about these trends and actions that are being taken by individuals and organizations, including right here in Midcoast Maine, to preserve our night skies.

Lots more information at the International Dark Sky Association here: <https://www.darksky.org/>

Topics on the IDSA site include ▼

- [Light Pollution](#)
- [Wildlife and Ecosystems](#)
- [Energy Waste](#)
- [Lighting, Crime and Safety](#)
- [Night Sky Heritage](#)
- [Human Health](#)
- [Measuring Light Pollution](#)
- [Research](#)
- [Get Involved](#)

Here is copy from their Wildlife & Ecosystems page:

For billions of years, all life has relied on Earth's predictable rhythm of day and night. It's encoded in the DNA of all plants and animals. Humans have radically disrupted this cycle by lighting up the night.

Plants and animals depend on Earth's daily cycle of light and dark rhythm to govern life-sustaining behaviors such as reproduction, nourishment, sleep and protection from predators.

Scientific evidence suggests that artificial light at night has negative and deadly effects on many creatures including amphibians, birds, mammals, insects and plants.

Artificial Lights Disrupt the World's Ecosystems

Nocturnal animals sleep during the day and are active at night. Light pollution radically alters their nighttime environment by turning night into day.

According to research scientist Christopher Kyba, for nocturnal animals, "the introduction of artificial light probably represents the most drastic change human beings have made to their environment."

"Predators use light to hunt, and prey species use darkness as cover," Kyba explains "Near cities, cloudy skies are now hundreds, or even thousands of times brighter than they were 200 years ago. We are only beginning to learn what a drastic effect this has had on nocturnal ecology."

Glare from artificial lights can also impact wetland habitats that are home to amphibians such as frogs and toads, whose nighttime croaking is part of the breeding ritual. Artificial lights disrupt this nocturnal activity, interfering with reproduction and reducing populations.

Artificial Lights Can Lead Baby Sea turtles to their Demise

Sea turtles live in the ocean but hatch at night on the beach. Hatchlings find the sea by detecting the bright horizon over the ocean. Artificial lights draw them away from the ocean. In Florida alone, millions of hatchlings die this way every year.

Artificial Lights have Devastating Effects on Many Bird Species

Birds that migrate or hunt at night navigate by moonlight and starlight. Artificial light can cause them to wander off course and toward the dangerous nighttime landscapes of cities. Every year millions of birds die colliding with needlessly illuminated buildings and towers. Migratory birds depend on cues from properly timed seasonal schedules. Artificial lights can cause them to migrate too early or too late and miss ideal climate conditions for nesting, foraging and other behaviors.

Ecosystems: Everything is Connected

Many insects are drawn to light, but artificial lights can create a fatal attraction. Declining insect populations negatively impact all species that rely on insects for food or pollination. Some predators exploit this attraction to their advantage, affecting food webs in unanticipated ways.

February 12, 2020

George Sproule's Mapping of the Mid-Coast, 1770

Matthew Edney



Photo: Che Kesu

Matthew H. Edney PhD is Osher Professor in the History of Cartography at the University of Southern Maine. He also directs the preparation of the award-winning, six-volume *The History of Cartography* (Chicago, 1987–2024) at the University of Wisconsin–Madison. In particular, Edney has edited, with Mary Pedley, Volume Four of the series, *Cartography in the European Enlightenment* (Dec 2019). The press now provides free public access to the published volumes: www.press.uchicago.edu/books/HOC/. Edney is broadly interested in the history and nature of maps and mapping practices, originally in British India (*Mapping an Empire* [1997]), and then in British North America (e.g., essays on John Smith's 1616 map of New England, and John Mitchell's great map of 1755). His most recent book is *Cartography: The Ideal and Its History* (Chicago, 2019). He blogs at mappingasprocess.net.

Presentation summary

“George Sproule's Mapping of Mid-Coast Colonial Maine: Local Colonists vs. Imperial Agents”

George Sproule (1743–1817) mapped Merrymeeting Bay in about 1770 as part of an imperial project to map the coasts of British North America. This heavily illustrated presentation explores the nature of Sproule's work in the context of colonial mapping practices and the distinct nature of the imperial project. It is impossible to interpret Sproule's maps correctly without understanding these contexts.



March 11, 2020

Redfin Pickerel -- Endangered, Elusive & Here!

Merry Gallagher



Merry Gallagher, Photo: MDIF&W

Merry Gallagher is a Native Fish Conservation Biologist with MDIFW–Division of Fisheries & Hatcheries. Merry is a stream ecologist with over 20 years' experience in stream survey methodology, native fish ecology, and landscape/GIS data analysis. She has worked for the MDIFW as a Fishery Biologist since 2001. Merry oversees a current statewide effort to survey and assess stream habitats, document wild brook trout populations, enhance aquatic habitat condition, and improve the general knowledge regarding the distribution and status of Maine's native fishes. Gallagher has diverse scientific interests centering on natural history, animal behavior, science education, citizen science, and improving aquatic ecosystem health and condition. Additional duties for Merry include management of MDIFW's stream survey database, freshwater commercial fisheries database, monitoring State-listed threatened and

endangered fishes overseeing the effort to convert historically collected fisheries data into GIS compatible formats. She is Maine's representative for the Eastern Brook Trout Joint Venture and one of the Department's representatives to the Northeast Fish & Wildlife Diversity Technical Committee. Merry has a B.A. in Biology from the State University of New York-Albany and a M.S. in Zoology from the University of Maine.

Presentation Summary:

This presentation steps through the methods, tools, and practices used for conserving rare fish species in Maine through the story of perhaps our rarest freshwater fish, the redfin pickerel. Redfin pickerel (*Esox americanus americanus*) are the smallest-sized members of the pike and pickerel family, Esocidae. They are commonly distributed along the Atlantic coastal plain from Florida to New Hampshire with a single, isolated northern-most population centered around Merrymeeting Bay in central Maine. Although they have a moderate saline tolerance, redfins primarily inhabit heavily vegetated, smaller-sized, slow flowing, shallow freshwater streams. Throughout their range, they are common in acidic, blackwater, swampy lowlands. However, overall available habitat for redfins in Maine is quite limited with little opportunity for range expansion from the Merrymeeting Bay system. The Maine redfin population does not support any known sport or commercial fishery and hence the phrase “who cares?” about these little, enigmatic fish often comes up when management and conservation actions are considered. Although redfins in other states support some degree of sport fisheries, the small individual sizes of Maine's redfins and difficulty catching them, precludes any degree of human ‘use’. However, the ecological importance of this little fish is paramount and their history and continued presence illustrates a very interesting story for native fish conservation in Maine and may also be a portent of our aquatic system future in an era of climate change.

April 08, 2020

Seabrook Nuclear Plant – Still Operating, More Perilous

Doug Bogen



Doug Bogen Photo: Seacoast Anti-pollution League

Doug Bogen, Executive Director of New Hampshire's [Seacoast Anti-pollution League](#), has been an environmental organizer and advocate for over 30 years. Doug is a uniquely qualified leader for grassroots movements and citizen advocacy efforts. With his expertise in the field of environmental science and education, his extensive knowledge of the history of the energy industry, and a comprehensive understanding of the regulatory process, Bogen is able to develop real-world community-based solutions to our most challenging environmental issues.

In addition to his work at SAPL, Doug Bogen is a founding member of Seacoast Peace Response and the Portsmouth-Severodvinsk Connection. He was Program Director of the [Seacoast Area Renewable Energy Initiative](#) from 2011 to May, 2016. From 1991 to 2009, Doug worked with [Clean Water Action](#)'s New Hampshire program, where he served as state program director for most of that time. His work included cleaning up the state's old fossil-fueled power plants, combatting climate disruption, drinking water protection, coastal water quality efforts, and addressing toxic contamination—particularly mercury and military waste. He has also served since 1995 as the Co-Chair of the Restoration Advisory Board for the superfund mitigation of toxic waste sites at the Portsmouth Naval Shipyard.

Doug lives in Barrington, NH and is a 34-year resident of New Hampshire's Seacoast Region. He holds a master's in science in environmental education from Cornell University and a bachelor's in biology from Colorado College.

Bogen's presentation will update us on the continuing and future potentially life-threatening problems with Seabrook Nuclear Power Station on the NH coast and introduce us to one possible alternative, offshore wind.

In a May, 2019 op-ed published in the [Washington Post](#), former Nuclear Regulatory Commission (NRC) chairman Greg Jaczko discusses the reality of nuclear power in 2019. He tells it like it is – stating that nuclear power is, “no longer a viable strategy for dealing with climate change, nor is it a competitive source of power. It is hazardous, expensive and unreliable, and abandoning it wouldn't bring on climate doom.”

A physicist with a doctorate in theoretical particle physics, Greg Jaczko served as Chairman of the Nuclear Regulatory Commission from 2009 to 2012. For years, he was a nuclear optimist, believing that the industry could improve, and that the dangers of nuclear power were less imminent than the threat of climate change. As a scientist, he was concerned that abandoning nuclear power would lead to a spike in carbon emissions that could catapult us towards “climate catastrophe.” Starting in 2005, however, Jaczko's opinion on nuclear power began to evolve based on the scientific evidence around him:

“Eight years after Fukushima, that question has been answered. Fewer than 10 of Japan's 50 reactors have resumed operations, yet the country's carbon emissions have dropped below their levels before the accident. How? Japan has made significant gains in energy efficiency and solar power. It turns out that relying on nuclear energy is actually a bad strategy for combating climate change: One accident wiped out Japan's carbon gains. Only a turn to renewables and conservation brought the country back on target.”

Jaczko himself is now focused on offshore wind as a more viable alternative to nuclear, both economically and ethically. At this point, the only thing keeping the nuclear industry alive is the industry itself – lobbyists and insiders. Jaczko sums it up well, “The real choice now is between saving the planet or saving the dying nuclear industry.”

May 13, 2020

The Sonic Sea – Voices of the Deep

Chris Clark



Chris Clark

[Sonic Sea](#) is a film of underwater noise pollution and the harm it does to ecological communities. The one hour film will be followed by a presentation from senior scientist Chris Clark, Ph.D. who appears in the film.

Oceans are a sonic symphony. Sound is essential to the survival and prosperity of marine life. But man-made ocean noise is threatening this fragile world. *Sonic Sea* is about protecting life in our waters from the destructive effects of oceanic noise pollution. Thanks to the Natural Resources Defense Council ([NRDC](#)) for making this important film available to FOMB. Here is a link to the trailer:

<https://www.youtube.com/watch?v=T-jabL64UZE>



Chris Clark is a scientist as well as a research professor and senior scientist in the Department of Neurobiology and Behavior at Cornell University. In addition, he is a part-time senior research scientist at [Marine Acoustics, Inc.](#) and director of scientific projects at [Planet OS](#). Clark has a long history of successfully working at the interface between science, applied engineering, industry, and regulations—all with the specific objectives of using science to understand the potential impacts of human activities on marine mammals and to inspire and enable the scientific conservation of marine wildlife and habitats. This started in 1976 with his Ph.D. research on southern right whales off Argentina and continued in 1979 with research on endangered bowhead whales off Point Barrow, Alaska, in collaboration with William T. Ellison where they deployed sparse arrays of hydrophones to locate and track migrating bowheads. This augmentation of the traditional visual census with acoustic location and tracking revolutionized the bowhead census and resulted in the calculation of a robust population estimate and trend.

In 1992, Chris was named chief marine mammal scientist for the U. S. Navy's Whales '93 dual-uses program. In 1996-97, he teamed with Kurt Fristrup and Peter Tyack as co-PIs for the Low-Frequency Active Scientific Research Program (LFA-SRP) investigating the potential impacts of the Navy's low-frequency active sonar on large whales. In 2006-08, Clark worked as co-PI with a group of top marine mammal scientists investigating the impacts of the Navy's mid-frequency active sonar on beaked whales. His current research areas include studies on the potential chronic influence of cumulative man-made noise sources (e.g., commercial shipping and seismic airgun surveys) on large whale distributions, behaviors, and movements in different regions (e.g., British Isles, Baffin Bay, Chukchi Sea, Gulf of Mexico). In particular, Clark is deeply concerned about the continued loss of marine animal acoustic habitat as a result of multiple anthropogenic noise sources operating over large scales for extended periods of time.

Chris has engaged in many collaborative research efforts integrating physical oceanographic and biological productivity measures, aerial surveys, genetic and photo-ID data, and acoustic detections (projects funded by NOAA, Northeast Consortium, MA Division of Marine Fisheries, NOPP-ONR). He leads the development and application of the near-real-time, [auto-detection network for North Atlantic right whale](#) acoustic monitoring in the Boston shipping lanes.

Clark has published more than 200 papers and given innumerable presentations. Under his leadership, BRP initiated the passive acoustic monitoring project along the majority of the U.S. Atlantic coast in order to understand the spatial occurrence of the critically endangered North Atlantic right whale and other co-occurring species of cetaceans. As a result of these ongoing major acoustic projects, BRP developed a suite of advanced analytical procedures and metrics to quantify the acoustic spatio-temporal variability in an ocean habitat. In collaboration with a group of experts (William T. Ellison, Brandon Southall, and Dom Tollit), what has evolved through this process is a new, ecologically based paradigm for evaluating and measuring biological risks from anthropogenic activities at individual and population levels. Most recently, Chris has devoted considerable effort to scientific advocacy through documentary films ([racingextinction.com](#) and [sonicsea.org](#)) and outreach.

Listen to Chris giving a TED talk here: <https://www.youtube.com/watch?v=HdHW77blulg>

Recent Publications

2019

Clark, C. W., Gagnon, G. J. and Frankel, A. S. (2019) 'Fin whale singing decreases with increased swimming speed', *Royal Society Open Science*, 6. doi: <https://doi.org/10.1098/rsos.180525>.

2018

Clark, C. W. et al. (2018) 'Acoustic data from the spring 2011 bowhead whale census at Point Barrow, Alaska.', *Journal of Cetacean Management and Research*, 19, pp. 31–42.

Malige, F. et al. (2018) 'Annual decrease in pulse rate and peak frequency of Southeast Pacific blue whale song type using a new mathematical model of pulsed sound', *Journal of the Acoustical Society of America*, In Press.

Gabriele, C. M. *et al.* (2018) 'Underwater Acoustic Ecology Metrics in an Alaska Marine Protected Area Reveal Marine Mammal Communication Masking and Management Alternatives', *Frontiers in Marine Science*, 5, p. 270. doi: 10.3389/fmars.2018.00270.

Cholewiak, D. *et al.* (2018) 'Communicating amidst the noise: modeling the aggregate influence of ambient and vessel noise on baleen whale communication space in a national marine sanctuary', *Endangered Species Research*, 36, pp. 59–75. doi: <https://doi.org/10.3354/esr00875>.

Muirhead, C. A. *et al.* (2018) 'Seasonal acoustic occurrence of blue, fin, and North Atlantic right whales in the New York Bight', *Aquatic Conservation*, 1–10. doi: 10.1002/aqc.2874.

Cholewiak, D. M. *et al.* (2018) 'Songbird dynamics under the sea: acoustic interactions between humpback whales suggest song mediates male interactions', *Royal Society Open Science*, 5:171298.

2017

Davis, G. E. *et al.* (2017) 'Long-term passive acoustic recordings track the changing distribution of North Atlantic right whales (*Eubalaena glacialis*) from 2004 to 2014', *Scientific Reports*, 7(1), p. 13460. doi: 10.1038/s41598-017-13359-3.

Lacy, R. C. *et al.* (2017) 'Evaluating anthropogenic threats to endangered killer whales to inform effective recovery plans', *Scientific Reports*, 7.

Buchan, S. J. *et al.* (2017) 'Occasional acoustic presence of Antarctic blue whales on a feeding ground in southern Chile', *Marine Mammal Science*. doi: 10.1111/mms.12441.

2016

Salisbury, D. P., **Clark**, C. W. and Rice, A. N. (2016) 'Right whale occurrence in the coastal waters of Virginia, U.S.A.: Endangered species presence in a rapidly developing energy market', *Marine Mammal Science*, 32(2), pp. 508–519. doi: 10.1111/mms.12276.

Thomisch, K. *et al.* (2016) 'Spatio-temporal patterns in acoustic presence and distribution of Antarctic blue whales in the Weddell Sea', *Endangered Species Research*, 30, pp. 239–253. doi: 10.3354/esr00739.