

# FOMB Speaker Bios & Zoom Program Details, 2021

All talks 7:00pm at 2<sup>nd</sup> Wednesday of each month, January-May

Check [www.fomb.org](http://www.fomb.org) home page prior to each presentation for log in link detail.

**January 13, 2021**

**Seabrook Nuclear Plant – Winds of Change**

**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.”

**February 10, 2021**

## **[Searching for Smelt: Citizen Scientists & Maine’s Sea Run Fishes](#)**

**Claire Enterline & Danielle Frechette**



Claire Enterline



Danielle Frechette

**Claire Enterline** is the Research Coordinator at the Maine Coastal Program in the Department of Marine Resources. She provides technical leadership regarding sampling methodology, data analysis, and development of scientific papers, and also works with coastal managers at the local, state, regional, and federal level to translate scientific analysis into best management practices

and management plans. Claire is an active member of the Northeast Regional Ocean Council and the Maine Climate Council's Coastal and Marine Working Group. Current projects include a state-wide salt marsh and sea-level rise monitoring program, the Maine Coastal Mapping Initiative, a project to map and describe marine benthic habitat, and CoastWise, an approach to restoring tidal flow at restrictions using voluntary, standardized (yet adaptive), efficient, and climate-resilient best practices.

From 2007-2015, Claire's research focused on the abundance, population dynamics, habitat, and behavior of rainbow smelt. As part of this work, she was the lead author on the Regional Conservation Plan for Rainbow Smelt, and carried out the first smelt population assessments in Maine since the 1970s. Her research on spawning behavior and timing has led to changes in thinking and practices for how tidal culverts should be designed in order to minimize impacts to the species.

**Danielle Frechette** is a Marine Resource Scientist for the Department of Marine Resources Division of Sea Run Fisheries and Habitat. She serves as the DMR liaison for a new citizen science effort that will track presence and absence of sea run fish in Maine's coastal streams and rivers to inform restoration and management actions. Danielle is also lead biologist for the Salmon for Maine's Rivers program, an exciting new endeavor designed to help jumpstart recovery for federally endangered Atlantic salmon in Maine. She is a salmon biologist by training and worked on endangered Coho salmon and threatened steelhead in California and Atlantic salmon in Quebec before landing at DMR in 2019. Danielle is especially interested in how Maine's Atlantic salmon and other sea run fishes use river habitats during spawning migrations and how well they will adapt to climate change.

Spring is not just mud season in Maine; it's also when rainbow smelt swim up our coastal streams to lay their eggs! These silvery little fish are important ecologically, economically, and culturally but they have been in decline since the mid to late twentieth century. Scientists and resource managers need more complete and up-to-date coast-wide information on these fish to sustainably manage them now and into the future. To help fill information gaps and reconnect citizens to these incredible natural resources, The Nature Conservancy, Gulf of Maine Research Institute (GMRI), Downeast Salmon Federation (DSF), and the Maine Department of Marine Resources (DMR) are collaborating on a project to train interested volunteers across the state to pull on their muck boots and help us cover ground to figure out where rainbow smelt are spawning each year. Following up on surveys performed at streams state-wide in the 1950s, 70s, and 2000s, this current data collection effort is part of GMRI's new Ecosystem Investigation Network, an online platform that connects and supports a community of partner organizations and citizen scientists of all ages who are investigating how climate change is impacting the species, communities, and habitats in the Gulf of Maine watershed. Join Claire Enterline from the Maine Coastal Program and Danielle Frechette from Sea Run Fisheries and Habitat to learn more about these fascinating fish and how to join this exciting citizen science network!

**March 10, 2021**

**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](https://doi.org/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

**April 14, 2021**

## **Native Fish Coalition: Protecting, Preserving & Restoring Native Fish**

**Emily Bastian & Bob Mallard**



Emily Bastian



Bob Mallard

**Emily Bastian** is a founding member of Native Fish Coalition. She served as NFC’s Secretary/Treasurer from its inception to April 2020, when she stepped down to assume the position of National Vice Chair. Emily was also NFC’s Maine State Chair from inception to July

2020, where she set the standard for the position. She works in the Hunting and Fishing department at LLBean, the first woman to hold the position of department lead. Emily is a registered Maine guide and has fly fished since she was eight years old. She is a degreed Ecologist and has worked as a National Park Ranger, Maine Game Warden, municipal law enforcement officer, field biologist, and in fly fishing retail. Emily worked for *Maine Audubon* from 2011 to 2016 where she was responsible for the Maine Brook Trout Survey Project which identified previously unknown populations of wild brook trout in remote ponds and coastal streams. She was also the General Manager at Appalachian Mountain Club's (AMC) Gorman Chairback Lodge, as well as the General Manager at Trident Fly Fishing in Windham, Maine. Emily has taught fly fishing and archery at L.L.Bean Outdoor Discovery Schools and holds a second-degree black belt in karate. She enjoys hiking, backpacking, hunting, and cross-country skiing.

**Bob Mallard** has fly fished for over forty years. He is a former fly shop owner and a Registered Maine Guide. Bob is a blogger, writer, author, fly designer, and native fish advocate. He is the publisher, Northeast Regional Editor, and a regular contributor to [Fly Fish America](#) magazine. Bob is a staff fly designer at [Catch Fly Fishing](#), an Ambassador for [Epic](#) fly rods, and on the [Scientific Anglers](#) pro staff. He is also a founding member, former National Vice Chair, and current Executive Director and Maine Board member for [Native Fish Coalition](#). Bob's writing, photographs, and flies have been featured in *Outdoor Life*, *Fly Fisherman*, *Fly Fish America*, *American Angler*, *Fly Rod & Reel*, *American Fly Fishing*, *The Drake*, *Fly Fishing & Tying Journal*, *Fly Tyer*, *Angling Trade*, *Eastern Fly Fishing*, *MidCurrent*, *OrvisNews*, *The Fiberglass Manifesto*, *Fly Life Magazine*, *Southern Trout*, *Tenkara Angler*, *On The Fly*, *Fly Fishing New England*, *The Maine Sportsman*, *Northwoods Sporting Journal*; *Friends of Baxter*, *Maine Bureau of Parks and Lands*, and *North Maine Woods newsletters*; *Epic* and *Planetary Design* blogs, *R.L. Winston* catalog, and the books *Guide Flies: How to Tie and Fish the Killer Flies from America's Greatest Guides and Fly Shops*, *Caddisflies: A Guide to Eastern Species for Anglers and Other Naturalists*, *America's Favorite Flies*, *50 Best Tailwaters to Fly Fish*, *25 Best National Parks to Fly Fish*, *The Hunt for Giant Trout*, and *Maine Sporting Camps*. Look for his books [50 Best Places Fly Fishing the Northeast](#) and [25 Best Towns Fly Fishing for Trout](#) (Stonefly Press,) and his most recent, [Squaretail: The Definitive Guide to Brook Trout and Where to Find Them](#) (Stackpole Books.) Bob can be reached at [www.BobMallard.com](http://www.BobMallard.com) , [info@bobmallard.com](mailto:info@bobmallard.com) or 207-399-6270.

While most, but not all Native Fish Coalition (NFC) members are avid fly fishers, and some make all or part of their living in the recreational fishing industry, NFC is a conservation organization not a fishing organization. We believe wild native fish have intrinsic value and are an integral component of a healthy environment. As anglers, we also believe that low-impact fishing for wild native fish represents fishing in its purest and finest form. NFC believes that if you take care of wild native fish, fishing will take care of itself.

When NFC uses the term "native" we mean indigenous or historically present: "Indigenous: originating or occurring naturally in a particular place; native." Unless otherwise noted we mean native to a specific water; not the state, region, etc. It is not meant to imply self-sustaining or genetically pure as some state fish and game agencies and conservation organizations are now using the term. When NFC uses the term "nonnative" we mean not indigenous or not

historically present. Unless otherwise noted, we mean not native to the respective water, not the state, region, country, continent, etc.

While much of NFC focus is on charr and salmon, as they are often the species in most need of help, NFC is not a salmonid-specific organization. Charr and salmon are also indicator species and when they are in good shape most other species usually are. Being salmonid-specific would however ignore the big picture, and the fact that all native fish are dependent on each other to at least some degree. Some species provide food for other species, others provide a buffer for juvenile anadromous fish returning to sea, and some help lessen predation on less numerous fish species via their sheer abundance.

**May 12, 2021**

## **River History & the New Environmental Movement**

**Scot McFarlane**



Scot McFarlane

Scot McFarlane is a river historian who collaborates with environmental organizations to tell their river's history. His website [riverhistories.org](http://riverhistories.org) receives thousands of visitors from around the world. Scot's writing has appeared in *Environmental History*, *The Journal of Southern History*, and *The Washington Post* among others. Scot is completing his PhD in environmental history at Columbia University and has been awarded several fellowships including ones from the Mellon/ACLS Foundation and the Jefferson Scholars Foundation. A graduate of Bowdoin College, Scot spent two summers studying the ecology of Merrymeeting Bay and also met his wife while working on the Bay. You can learn more about Scot and his work at [www.wsmcfarlane.com](http://www.wsmcfarlane.com)

In this talk we will explore how river history can contribute to a new environmental movement in the 21st century. River history played a major role in the first successful environmental movement of the 1970s, informing key legal and political battles. Incorporating stories about people and their rivers has the potential to create more effective environmental organizations as they welcome people who have long been excluded from the movement. Finally, we will consider specific approaches and mindsets that make it possible to harness the power of river history without getting a PhD.