

FOMB Speaker Bios & Zoom Programs, 2022-2023

All talks 7:00pm on 2nd Wednesday of each month*, October-May

Check www.fomb.org home page prior to each presentation for log in link detail.

October 12, 2022

Forever Chemicals are Everywhere!

Pat Elder, Director, Military Poisons



Pat Elder

Pat Elder is the Director of Military Poisons, an organization that works to draw public attention to the role played by the military in contaminating our environment and threatening our health. Pat's focus has been on per-and poly fluoroalkyl substances, (PFAS). He has been working with groups in various states to test surface waters flowing out of military bases for PFAS. Pat will address the strong correlation between the levels of the carcinogens in the water and those found in seafood.

PFAS chemicals break down very slowly over time (hence the name “Forever Chemicals”) and many of them have been linked to harmful health effects in humans and animals. There are thousands of PFAS chemicals, and they are found in many different consumer, commercial, and industrial products. Because of their widespread use and their persistence in the environment, many PFAS compounds are found in the blood of people and animals all over the world and are present at low levels in a variety of food products and in the environment. Due to their prevalence, PFAS chemicals might also be termed “everywhere” chemicals.

<https://www.militarypoisons.org/about>



November 09, 2022

Shimmying Shad & Splashing Sturgeon

John Lichter, Prof. Emeritus Biology & Environmental Studies, Bowdoin
Renske Kerkhofs, International Student, Bowdoin College



John Lichter



Renske Kerkhofs

John Lichter is Professor Emeritus of Biology and Environmental Studies at Bowdoin College. He's a former director of Bowdoin's Environmental Studies Program and spent 18 years studying the ecology and environmental history of Merrymeeting Bay with students and collaborators. Now retired, John focusses on native plant gardening and outdoor photography. His work can be seen at: <https://www.johnlichterphotos.net/>

Renske Kerkhofs is an international student from Belgium at Bowdoin College. Currently a junior studying Biology and Asian Studies, she is participating in Bowdoin's Marine Science Semester, and in the spring, planning to go abroad to China! Renske is interested in marine ecology and animal rehabilitation, and after her spring stint with shad, on weekends she interns at the Maine Wildlife Park.

Over the past 50 years Maine rivers have recovered substantially from overfishing and industrialization. The Androscoggin River and Merrymeeting Bay are fast recovering the aquatic vegetation which supports the animal food web, including juvenile anadromous fish and other species. However, fish passage over dams remains a challenge. At the Brunswick-Topsham hydroelectric dam, relatively few shad make it up through the fish ladder to reach their spawning grounds. With the help of the FOMB, we have monitored shad runs moving toward the fish ladder over the past several years to quantify how many shad are trying to migrate upstream to their spawning grounds but cannot navigate the ladder. We hope these data will inform the FERC relicensing process coming up in 2029.



December 14, 2022

Episode 1: Arrivals

Mauricio Handler, Natural History & Underwater Cinematographer



Mauricio Handler

Mauricio Handler is a Natural History & Underwater Cinematographer based in Maine.

As Cinematographer, Director of Photography and Producer at his company [Aquaterrafilms](http://Aquaterrafilms.com), Mauricio has contributed and collaborated on various documentary films and specials around the world including **The Humboldt Current** (Curiosity Stream / HBO Max), **Perpetual Planet: Heroes of the Ocean** (BBC / Rolex) and **Our Universe** (a Netflix Production).

Mauricio produced and filmed his series **Ocean Secrets** and **World of Oceans**, both of which are distributed internationally to TV networks around the world. His latest contribution aired this past summer on CNN in the six episode CNN Original Series, **Patagonia: Life on the Edge of the World**. He lives in Durham, Maine with his wife and business partner Julia and their English Springer Tristan.

“Episode 1: Arrivals” is a wildlife documentary that will be part of a larger series called "American Waters" In tonight’s presentation, Handler, producer and cinematographer for the series, discusses his ongoing efforts to document Maines coastal and fresh water species that arrive here in the spring. The one hour special "Arrivals” tells the intertwining stories of various aquatic species and the characters that benefit from their annual migration to Maine's coastal waters, estuaries, rivers and ponds.

January 11, 2023

Where the Wild Things Are

Will Stolzenburg, Author & Ed Friedman, FOMB Chair



Will Stolzenburg



Ed Friedman & Allie

Will Stolzenburg is a former wildlife biologist who writes and speaks on behalf of all creatures, wild and tame. He does this for three reasons: Because he finds them wondrous, and good for the soul. Because it haunts him to know how badly we treat so many of them. And because they deserve every voice, every compassionate ally we can muster on their behalf.

For much of Will's career he covered the science of wildlife conservation, gravitating towards a particularly maligned tribe of animal called predators. The fang-and-claw fascination inevitably led Will to a cadre of rabble-rousing scientists who were turning the tenets of ecology on its head, uncovering the critical roles of Earth's topmost predators in enriching the web of life. Hence his first book [Where the Wild Things Were](#), which Barnes & Noble chose as one of its "Discover Great New Writers" selections. Then, followed an Alicia Patterson Journalism Fellowship and 'The Wild Things' twisted sequel, [Rat Island](#), a true tale of alien predators running amok on oceanic islands, and the bloody campaign to defeat them. The third in this unplanned predator trilogy was [Heart of a Lion](#), following in the footsteps of one heroic young mountain lion who walked his way across America, thousands of miles through enemy lines, from the Black Hills of South Dakota to the outskirts of Manhattan. Finally, there is the story of [Towpath's Tail](#), a beautiful book about bullying and healing power of love and forgiveness.

<https://willstolzenburg.com/>

Ed Friedman has a broad based background in the natural sciences including over 30 years as an outdoor educator. He has a B.S. in Environmental Science with course and field work in wildlife ecology, glacial geology, hydrology, remote sensing, plant ecology and snow morphology to name a few. Ed has conducted field research from the arctic to the Antarctic for the U.S. Fish and Wildlife Service and others and counts the privilege of conducting caribou and other wildlife research on the Arctic National Wildlife Refuge as high point. Among the other species he has worked with are sea otters, snowshoe hare, bald eagles and carp.

Ed has chaired FOMB since 1996. Way too long! In this work he has written major grants and initiated projects in the areas of land conservation, research, advocacy, and education. Two projects, [Aquatic & Upland Habitat Assessment of Merrymeeting Bay](#) utilizing historical and current aerial photography combined with GIS; and a [Caged Bivalve Studies](#) on the Kennebec

and Androscoggin to monitor PCBs and dioxins, have been the first projects of their type in the state of Maine and quite successful. A multi-year [Current Study](#) of the Bay was also a major accomplishment. For his work on Merrymeeting Bay and toxics issues in Maine, Ed received an Environmental Merit Award from the EPA in 2001.

More and more, scientists have begun understanding the ways in which many ecosystems are driven top-down by the presence of predators, whether starfish, sea otters, wolves or cougar. Unfortunately, beginning with the relatively rapid elimination of mega-fauna, two-legged predators have taken an ever-increasing role as poor substitutes for apex wild predators. We are not doing a very good job. For example here in Maine, deer and rodent populations are out of control which in turn fosters unnatural excesses of ticks, diseases, weeds and invasive plants. With cougars and wolves eliminated we now set our rifle sights on coyotes, a poor substitute for the virtually extirpated former top predators but still better than nothing.

Join Will and Ed in a conversation ranging from shifting baselines-how quickly we forget the abundant predators, fish and game there once were - to how the ecosystems have since become so unbalanced and what it would mean to *rewild* with charismatic predators both for ecosystem health and possibly our own. Are we willing to adapt? Could we adapt? Is it possible for fish and game agencies whose salaries are paid by hunting and fishing license fees and who have the killing of predators in their DNA, to change?

February 09*, 2023 (This presentation is Thursday)

[Running Silver: Restoring the Great Atlantic Fish Migrations](#)

John Waldman, Aquatic Conservation Biologist, Queens College, CUNY



John Waldman joined the faculty of Queens College as a tenured professor of Biology in 2004. For the previous twenty years he was employed by the Hudson River Foundation for Science and Environmental Research, most recently as Senior Scientist. Waldman received his Ph.D. in 1986 from the Joint Program in Evolutionary Biology between the American Museum of Natural History and the City University of New York, and prior to that an M.S. in Marine and Environmental Sciences from Long Island University.

As an aquatic conservation biologist Waldman has authored more than 90 scientific articles and several popular books, in addition to a number of scientific volumes. He has also been an occasional contributor to the New York Times and other periodicals.

Waldman's concern for the watery world sprang from my growing up playing on Long Island Sound in the Bronx. Today, he lives with his family--again not too far from the shore--in Sea Cliff, NY.

That one could “walk drishod on the backs” of schools of salmon, shad, and other fishes moving up Atlantic coast rivers was a not uncommon kind of description of their migratory runs during early Colonial times. Accounts tell of awe-inspiring numbers of spawners pushing their way upriver, the waters “running silver,” to complete life cycles that once replenished critical marine fisheries along the Eastern Seaboard. This is a hugely important, fascinating, and unique look at the fish of North America whose history and life-cycles and conservation challenges are poorly understood. Despite these primordial abundances, over the centuries these stocks were so stressed that virtually all are now severely depressed, with many biologically or commercially extinct and some simply forgotten.

Drawing on Waldman's thirty-year career as a scientist and educator with a passion for the native river fish of the North East, [Running Silver](#) tells the story of the past, present and future of these sea-river fish with a mix of research, historical accounts, anecdotes, personal experience, interviews, and images. This important book will elevate public consciousness of the contrasts between the historical and the present to show the enormous legacy that has already been lost and to help inspire efforts to save what remains.

Some examples: until 1975, Atlantic salmon—dubbed the “King of Fish” by Izaak Walton and among the world's most valuable food fishes—supported major fisheries in ocean and river waters. Before 1905, Atlantic sturgeon, a source of caviar, were so abundant in the Delaware that they were harvested like lumber—with females averaging 250 lbs. And until recently, American shad, whose Latin name *Alosa sapidissima* means “most delicious of herrings,” were caught in vast numbers at sea, in estuaries, and far up Piedmont drainages.

Today, runs of salmon in some Maine rivers number in the single digits. A 40-year, \$200 million restoration in the Connecticut River—once a great spawning ground—has not generated a hint of recovery. Atlantic sturgeon in the Hudson and across their range failed so rapidly in the 1990s that an unprecedented 40-year moratorium was enacted on all U.S. Atlantic sturgeon fishing, followed by endangered species status listing. And shad continue their more than century-old decline. These charismatic species are three of the dozen fishes that live their lives in both freshwater and marine habitats along North America's east coast. This group also includes shortnose sturgeon, striped bass, hickory shad, alewife, blueback herring, rainbow smelt, sea lamprey, and American eel, almost all of which have shown huge decreases across their ranges. Research Waldman helped conduct has shown [reductions in abundance of 99% from historical peaks](#) in many of their populations.

Diadromous fishes are defined by their complicated life cycles of switching between fresh and salt waters--for which the benefits outweigh the costs--resulting in historically great abundances of their unadulterated populations. And, although diadromous fishes are most visible, most easily

harvested, and of greatest economic importance when concentrated during their mainly springtime inland migrations, these fishes also supported major marine fisheries through the remainder of the year. Today, however, efforts to restore diadromous fish stocks in Atlantic rivers are uninspired, with no sense of urgency and little recognition of the potential of these systems. The central premise of the Running Silver Project is that declines of fisheries for Atlantic coast diadromous fishes have resulted from a myriad of anthropogenic factors and that the crucial linkage between the loss of sea fisheries for diadromous fishes and the mismanagement of rivers and inshore coastal waters has not been drawn clearly enough. Daniel Pauly's concept of "shifting baselines" has contributed to acceptance of this depleted state, one that can be corrected by firmly shifting the baseline back to its origin.

March 08, 2023

My Life for the Birds & Bats

Al Manville, Senior Wildlife Biologist, USFWS, Ret.



Al Manville

Al Manville has served as a senior lecturer/adjunct professor for the Advanced Academic Programs' Environmental Sciences and Policy Division, Johns Hopkins Univ. for 22 years — teaching classroom and field classes in ecology, terrestrial and marine conservation biology, and wildlife management. Additionally, he served as a branch chief and as the senior wildlife biologist with the Division of Migratory Bird Management, U.S. Fish & Wildlife Service, for 17 years as their national lead on anthropocentric causes of bird mortality from structures, including impacts from radiation, collision, and electrocution. He chaired the Communication Tower Working Group, a wind turbine working group, and a waterbird bycatch working group, and co-chaired the Interagency Seabird Working Group, represented the Service on the Wildlife Workgroup of the National Wind Coordinating Collaborative, on the Avian Power Line Interaction Committee (APLIC), was a technical scientific advisor to the Wind Energy Federal Advisory Committee, and was the Service's technical advisor to the Bird-Safe Glass Working Group. Additionally, he headed the Seabird Delegation to the FAO, and served as Head of Delegation to the Japan-U.S. Migratory Bird Treaty Discussions. In 1999, he received the Conservation Service Award from Interior Secretary Bruce Babbitt for bird conservation efforts with the electric utility industry, and was awarded the Morley Nelson Conservation Service Award by APLIC in 2016.

Manville earned a B.S. in zoology (Allegheny College, PA), an M.S. in natural resources and wildlife management (Univ. WI, Stevens Point), and a Ph.D. in wildlife ecology and management (MI State Univ.). He has studied and handled over 100 black bears; assessed brown bear-human interactions in Alaska; conducted 6 summers of field research in the Aleutian Islands on the impacts of marine debris on seabirds, sea lions, and seals; and studied impacts of the *Exxon Valdez* oil spill on seabirds for 5 years. He worked as a Mandarin Chinese linguist at the National Security Agency (while performing his U.S. Navy military service) and was designated a “Certified Wildlife Biologist” (CWB) by The Wildlife Society. He has served as Big Game Records Coordinator for the Boone and Crockett Club, VP/Director of Science Policy for Defenders of Wildlife, was a member of the U.S. Scientific Delegation on High Seas Drift-netting, Executive Director of the Adirondack Mountain Club, and a member of the Steering Committee for the Endangered Species Coalition. He also served on the Board of Managers of the Washington Biologists’ Field Club, was nominated for membership in the Cosmos Club, and is a member of numerous professional societies.

Manville has testified over 40 times before Congress and related bodies; conducted numerous research efforts globally; published more than 175 professional and popular papers, chapters, and book reviews; and given more than 160 invited presentations. His most recent peer-reviewed publication includes, “[Effects of Non-ionizing Electromagnetic Fields on Flora and Fauna](#),” a 3-part paper published in *Reviews on Environmental Health*, 2021 (Levitt, Lai and Manville). He also served on the Editorial Advisory Board of the *Nature Conservancy Magazine*; was the wildlife consultant for the Walt Disney/Touchstone Pictures movie *White Fang* (Jack London); and has conducted hundreds of radio, television, electronic, and print media interviews. He also is a private pilot, wildlife photographer, kayaker, and dog aficionado. Manville, his wife and dogs reside summers and fall at Moosehead Lake and winters in Brunswick, Maine.

Structures such as communication towers, commercial wind turbines, utility-scale solar facilities, power transmission and distribution lines, building glass and windows, lighting and commercial fishing gear, among others, can result in serious consequences to migratory birds and other wildlife. These include collisions, disorientation, barotrauma, electrocution, entanglement, attraction, habitat disturbance and fragmentation. Manville will briefly discuss these structures and their impacts-including at the population level-ongoing efforts to work with the related industries and best practices available to avoid or minimize negative consequences. He will also discuss the recent interest and growing public awareness involving impacts from non-thermal, non-ionizing electromagnetic radiation to wildlife.

April 12, 2023

Agro-acoustics: Listening to the Sounds of Soils

Louise Roberts, Lecturer & Asst. Prof. Marine Biology, U. of Liverpool, UK



Louise Roberts

Louise Roberts is a lecturer/assistant professor in Marine biology at University of Liverpool, UK. Prior to moving to the UK, Dr. Roberts was a postdoctoral associate in the College of Agriculture and Life Sciences at Cornell University (NY) in the laboratory of associate professor Kyle Wickings. While in the US, Roberts also was an Adjunct Scientist-In-Residence Fellow at the Shoals Marine Laboratory on Appledore Island off the southern Maine coast and operated jointly by Cornell and UNH. Her research interests include passive acoustic monitoring of below-ground invertebrates, behavioural and sensory ecology, and human impacts both in aquatic and terrestrial systems. Roberts has a Ph.D. in Biological Sciences from the Institute of Estuarine and Coastal Studies, University of Hull, UK and a Masters in Marine Biology from Bangor University, UK. She has published extensively in the field of anthropogenic sound effects on marine organisms.

https://cpb-us-e1.wpmucdn.com/blogs.cornell.edu/dist/6/3800/files/2020/05/L_Roberts_CV.pdf

Animals that inhabit soil control numerous ecological services directly tied to soil health including plant primary productivity, water quality, climate regulation and pest suppression, but information concerning soil biodiversity is lagging behind other environments. While the majority of soil animals enhance soil health, soils also have pests that erode both soil and plant health, such as white grubs which cause turf damage. Current methods for monitoring soil-dwelling animals involve sampling the soil and hand sorting to find animals. These destructive methods are effective, but they are time consuming and require significant training in insect identification. Due to this, agricultural and horticultural industries increasingly rely on pesticide applications to manage soil pests. These practices involve site-wide pesticide applications and without any assessment of pest presence, identity, or population size. While effective, there is evidence that these applications may not be necessary in all cases. Additionally, such practices are unsustainable, having negative non-target impacts on organisms involved in pollination, decomposition and biological pest suppression. Thus, there is both economic and environmental incentive for developing a non-invasive technique for soil insect detection and soil health monitoring. Here we discuss our research into the novel area of soil acoustics, where we have been recording the sounds in soils across New York State, from golf courses to cemeteries, to ascertain whether we can use sound to detect pests and beneficial species.

May 10, 2023

Order in the Pownalborough Court House 1761-2023!

Jay Robbins, Place-Based Historian



Jay Robbins



Jay Robbins is a Place Based Historian and the principle of Robbins Historical Research, Inc. located in Richmond, ME. He has been documenting connections through genealogical and property research since 1975. As an educator, avocational historical archaeologist, and teller of tales, Jay has a particular love for the early history of the Tidewater Kennebec region.

Whether he is piecing together evidence of early discovery and settlement using maps and personal narrative accounts, or uncovering the environmental consequences of the many industries that have thrived along Gardiner's Cobbosseecontee Stream where 8 dams once stood, or seeking physical evidence of Merrymeeting Bay's Lost Scots-Irish Colony of Cork (1719-1722), or reading the original Lincoln County court case files that document the power struggles played out at the Pownalborough Court House, or researching the early tidal mills, quarries and brickyards of Edgecomb, Jay works to peel back the layers of time and to really understand that place. He is Bowdoin College's 1st Environmental Studies major (1973) and has done graduate work in American and New England Studies at USM.

Jay served as the Executive Director of the Lincoln County Historical Association from 2005-2010. He also served as an officer/Director with the Arnold Expedition Historical Society and the Friends of Swan Island.

Designed by Boston architect Gershom Flagg and built in 1761 by the Kennebec Proprietors for the newly created Lincoln County, the Pownalborough Court House received such notable visitors as John Adams, Benedict Arnold, Robert Treat Paine, William Cushing, Reverend Jacob Bailey and two future Massachusetts governors: David Sewall and James Sullivan. Numerous trials were held here, including that of Judge North which was featured in the Pulitzer Prize winning book, *The Midwife's Tale* by Laurel Thatcher Ulrich, based on the diary of local resident Martha Ballard (1735-1812).

The Court House also served as a tavern, a place for church services, a dancing school, and as the Dresden Post Office from 1807-1855. In addition to its vital role in the legal history of Lincoln County and Maine, the Court House was a family home. From 1761 – when Captain Samuel Goodwin, an original Kennebec Proprietor and captain of the guard at Fort Shirley,

moved his family from the guardhouse into the Court House – until 1954, his descendants used the building as their home.

<https://www.lincolncountyhistory.org/visit/museums/pownalborough-court-house/>

To George Washington from Samuel Goodwin, 17 October 1775

From Samuel Goodwin

Pownalborough [District of Maine] Octor 17th 1775

Sir

According to your Excellencys Verbal orders by Collo. Bennedeck Arnold I supplyd him with A Plan of the Sea Coast from Cape Elizabeth to Penobscut and the River Kennebeck to the Several heads thereof, and the Several Carrying Placeses to Ammeguntick Pond, and Shaddair River which Ammeguntick Emptys into Said Shaddair River which Shaddair, Emptys into the River St Lawrance about four miles above Quebeck and the Passes and Carrying Placeses to Quebeck, and also made Several Small Plans for Each Department for their Guid,¹ and also Gave him a Copy of A Journal which Reperesented all the Quick watter & Carrying Placeses to & from Quebeck both ways Viztt East & West,² the West is the way to Goe, & the East to Come Sir if there was a Road Cut, it would be much Easer Carrying an army & provision and would Shorten the way much, and then you might have a Post to Pass once a week or 10 days.

I think it Would be for the General Intrest for you to have a Copy of Said Plan &c. and then you would be a Judge of what would be best to be don. it hath been a Great Cost & Labour to me to obtain those Plans &c. & make them. Sir if you think it worth your Notice & will Give orders therefor, I will Copy one for you & wate on you with it & Give you the best Intelagance I Can, as I think I Know as much of this Countury as anyone as I have been a Traveling, Surveying & Settling this Part Ever Since the year 1750 I would Willingly Goe to lay out a Road & See it Cleared &c. & do Every thing Neccassory, if agreable and orders therefor, & you &c. Should think it Worth while, but submitting all to your better Judgement,³ I am Sir with all Due Respects your most Obedeant Devoted and very humbl. Servtt

Samuel Goodwin

N.B. Mr Ruben Coalborn informed me you wanted a Plan I began it about 3 weeks before Collo. Arnold Arived or I Could not have Gott it Redy for him.

Please to Excuse the Smallness of the paper for there is a famin of it here.

<https://founders.archives.gov/documents/Washington/03-02-02-0172>

National Register of Historic Places-Nomination Application

<https://npgallery.nps.gov/GetAsset/78167bf3-a947-49dd-a852-e43539f13c17/>

The End

Thanks for Coming!