Jaret S. Reblin

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Teaching Interests

In the classroom, I specialize in teaching research-based, investigative laboratories with emphases on ecology, natural history, ecophysiology, general biology, and quantitative skills development. In recent years, I have taught laboratories as a part of the Bowdoin College Marine Science Semester which includes the courses Benthic Ecology, Ocean Change Ecology, Current Topics and Research in Marine Science, and taught laboratories as a part of the Plant Ecophysiology, Forest Ecology and Conservation, Community and Ecosystems Ecology, Behavioral and Population Ecology, and Introductory Biology courses taught at Bowdoin College.

Research Interests

I am a broadly trained ecologist with experience conducting and managing research in a wide range of different disciplines within the natural sciences. My current projects include: 1) studying productivity and ecosystem function in urban/suburban wildlands with an emphasis on the use of proximal sensing to estimate plant primary productivity, 2) understanding the influences of biotic and abiotic stressors on the physiology and health of coastal forested ecosystems, and 3) describing the seasonality of primary productivity in evergreen forests across the northern hemisphere. In the recent past I have also conducted research in animal and plant ecology, terrestrial and aquatic biogeochemistry, ecotoxicology, and conservation management planning. My work has involved collaborations with scientists from both international and domestic colleges and universities, scientists from federal and state organizations, non-governmental organizations, local governments, and community members.

Education

John Carroll University, University Heights, Ohio
MS in Biology, 2001
Baldwin-Wallace University, Berea, Ohio
BS in Biology with a Minor in Chemistry, 1997
Franz Theodore Stone Laboratory, Ohio State University, Put-in-Bay, Ohio, Summer 1994
The Ohio State University, Columbus, Ohio, Fall 1992

Current Appointment

Bowdoin College, Brunswick Maine, 2001 to Present
Associate Director for Science – Schiller Coastal Studies Center

Publications

Peer-Reviewed Articles

Underline denotes a Bowdoin undergraduate collaborator

In Review

Pierrat Z, Magney T, Cheng R, Maguire A, Wong C, Nehemy M, Rao M, Nelson S, Williams A, Hoyne Grosvenor J, Smith K, **Reblin J**, Stutz J, Richardson A, Logan B, Bowling D. The biological basis for using optical signals to track evergreen photosynthesis. *Bioscience*.

Jones T, Logan B, **Reblin J**, Bombard D, Ross B, Allen D, Marrs J, Hutyra L. Stress-induced Changes in Photosynthesis and Proximal Fluorescence Emission of Turfgrass. *Environment Research Communications*.

In Preparation

Marrs J, Jones T, Logan B, **Reblin J**, Maguire A, Winbourne J, Bromley F, Nelson S, Allen D, Hutyra L. Drivers of variability in solar-induced fluorescence and leaf-level energy partitioning across temporal scales. *Remote Sensing of the Environment*.

Published

Walter-McNeill A, Garcia M, Logan B, Bombard D, **Reblin J**, Lopez S, Southwick C, Sparrow E, Bowling D. (2021) Wide variation of winter-induced sustained thermal energy dissipation in conifers: a common-garden study. *Oecologia* 197(3):589-598.

*Winbourne J, Smith I, Stoynova H, Kohler C, Gately C, Logan B, **Reblin J**, Reinmann A, Allen D, Hutyra L. (2021) Quantification of urban forest and grassland carbon fluxes using field measurements and a satellite-based model in Washington DC/Baltimore Area. *JGR Biogeosciences*.
*A *JGR:Biogeosciences* Top Downloaded Article – 2021

Marrs J, **Reblin J**, Logan B, Allen D, Reinmann A, Bombard D, Tabachnik D, Hutyra L. (2020) Solar-induced fluorescence does not track photosynthetic carbon assimilation following stomatal closure. *Geophysical Research Letters* 47(15).

Mitchell A, Logan B, **Reblin J**, Burns K, Gould K. (2020) Photosynthetic properties of juvenile *Prumnopitys taxifolia* (Podocarpaceae), a divaricate and heteroblastic conifer. *New Zealand Journal of Botany* 58(1):19-29.

Cooney L, Logan B, Walsh M, Nnatubeugo N, **Reblin J**, Gould K. (2018) Photoprotection from anthocyanins and thermal energy

dissipation in senescing red and green *Sambucus canadensis* peduncles. *Environmental and Experimental Botany* 148:27-34.

De Villier J, **Reblin J**, Logan B. (2017) Needle Properties of Host White Spruce (*Picea glauca* [Moench] Voss) Experiencing Eastern Dwarf Mistletoe (*Arceuthobium pusillum* Peck) Infections of Differing Severity. *Botany* 95(3):295-305.

Magney T, Logan B, **Reblin J**, Boelman N, Eitel J, Greaves H, Griffen K, Prager C, Vierling L. (2017) Xanthophyll cycle activity in two prominent Arctic shrub specie. *Artic, Antarctic, and Alpine Research* 49:(2):277-289.

Reblin J, Logan B. (2015) Impacts of eastern dwarf mistletoe on the stem hydraulics of red spruce and white spruce, two host species with different drought tolerances and responses to infection. *Trees* 29:475-486.

Logan B, Stafstrom W, Walsh M, **Reblin J**, Gould K. (2015) Examining the photoprotection hypothesis for adaxial foliar anthocyanin accumulation by revisiting comparisons of green and red-leafed varieties of coleus (*Solenostemon scutellarioides*). *Photosynth Res* 124:267-274.

Logan B, **Reblin J**, Zonana D, Dunlavey R, Hricko C, Hall A, Schmiege S, Butschek R, Duran K, Emery N, Kurepin L, Lewis J, Pharis R, Phillips N, Tissue D. (2013) Impact of eastern dwarf mistletoe (*Arceuthobium pusillum*) on host white spruce (*Picea glauca*) development, growth and performance across multiple scales. *Physiologia Plantarum* 147:503-513.

Lichter J, Burton M, Close S, Grinvalsky J, **Reblin J.** (2011) Waterfowl Habitat Change Over Five Decades in a Freshwater Tidal Ecosystem in Mid-Coast Maine. *Northeastern Naturalist* 18(2): 161–176.

Reblin J, Logan B, Tissue D. (2006) Impact of eastern dwarf mistletoe (*Arceuthobium pusillum*) infection on the needles of red (*Picea rubens*) and white spruce (*P. glauca*): oxygen exchange, morphology, and composition. *Tree Physiology* 26:1325-1332.

Wicknick J, Anthony C, **Reblin J.** (2005) An amphibian survey of Killbuck Marsh Wildlife Area, Ohio. *Ohio Journal of Science* 105(2):2-7.

Reblin J, Anthony C. (2001) Caudata: *Eurycea longicauda longicauda* (Long-tailed salamander). Predation. *Herpetological Review* 32(4):245-246.

Other Publications

Logan B, Tarr E, Murphy P, **Reblin J.** (2011) Studies Probe Secrets of Spruce Parasite. *Maine Island Trail Winter Newsletter*, Maine Island Trail Association, Portland, ME USA

Moore S, **Reblin J.** (2009) The Kennebec Estuary: Restoration Challenges and Opportunities. Kennebec Estuary Collaboration Technical Report.

Presentations

Conferences

Underline denotes a Bowdoin undergraduate collaborator

Evaluating the roles of foliar anthocyanins in photosynthesis and photoprotection in an herbaceous plant with different leaf pigmentation patterns. Annual Meeting of the Ecological Society of America, August 2017, Portland OR (Poster with B. West, B. Logan, **J. Reblin** presenter)

The impacts of the parasitic plant eastern dwarf mistletoe *(Arceuthobium pusillum*) on host photosynthesis and branch biomass partitioning in white spruce *(Picea glauca*). Annual Meeting of the Ecological Society of America, August 2015, Baltimore MD (Poster with B. Logan, P. Murphy, E. Tarr, **J. Reblin** presenter)

Do asymmetric physiological responses to stress influence the effects of a parasitic plant on two host conifers with different ecophysiologies? Meeting of the American Society of Plant Biologists, July 2014, Portland, OR (Oral Presentation by **J. Reblin**)

Impacts of a parasitic dwarf mistletoe on the water relations of two host conifers with different drought tolerances. Annual Meeting of the Ecological Society of America, July 2013, Minneapolis MN (Poster with B. Logan, **J. Reblin** presenter)

Impact of eastern dwarf mistletoe infection (*Arceuthobium pusillum*) on the needles of red (*Picea rubens*) and white spruce (*P. glauca*): Photosynthesis, biochemistry and morphology. Annual meeting of the Ecological Society of America, August 2005, Montreal Canada (Poster with B. Logan and D. Tissue, **J. Reblin** presenter)

The Toxicity of the Mosquito Control Agent Abate® 4-E to Tadpoles of the Blanchard's Cricket Frog, *Acris crepitans blanchardi*. 49th Annual Meeting of the Society of the Study of Amphibians and Reptiles July 2001, Indianapolis, IN (Poster with C. Anthony, **J. Reblin** presenter)

Invited Talks & Seminars

Physiological impacts of the parasitic plant eastern dwarf mistletoe on host white spruce. 72nd Annual meeting of the Northeastern Forest Pest Council. March 2010, York ME (Oral presentation)

Ecology of the Kennebec River Estuary. December 2008, Bath ME. Sponsored by the Kennebec Estuary Collaboration (Oral presentation with S. Moore)

Effects of dwarf mistletoe, a native parasitic plant, on host spruce growth and survival. Faculty Seminar Series, December 2002, Bowdoin College, Brunswick ME (Oral presentation with B. Logan)

The Toxicity of the Mosquito Control Agent Abate® 4-E to Tadpoles of the Blanchard's Cricket Frog, *Acris crepitans blanchardi.* October 2001. John Carroll University, University Heights OH. (Oral presentation)

The Toxicity of Abate® to Tadpoles of the African Clawed Frog, *Xenopus laevis.* 2000 John Carroll University, University Heights OH (Oral presentation)

Other Presentations

Disconnect between SIF and tree-level physiology: Limitations of SIF as a proxy for GPP? Meeting of the American Geophysical Union. December 2019, San Francisco, CA (Poster Presentation with D. Allen, L. Hutyra, A. Reinmann, J. Marrs, B. Logan, J. Winbourne, L. Hutyra presenter)

Assessing physiological, environmental, and hardware-based sources of uncertainty in the measurement of solar-induced fluorescence at leaf to canopy scales Meeting of the American Geophysical Union. December 2018, Washington DC (Poster Presentation with D. Allen, L. Hutyra, A. Reinmann, J. Marrs, B. Logan, J. Marrs presenter)

Establishment of a sensor testbed at NIST for plant productivity monitoring. Meeting of the American Geophysical Union. December 2017, New Orleans, LA (Poster Presentation with D. Allen, L. Hutyra, A. Reinmann, A. Trilca, J. Marrs, T. Jones, J. Whetstone, B. Logan, D. Allen presenter)

Progressive impacts of parasitism by eastern dwarf mistletoe (*Arceuthobium pusillum*) on the physiology of white spruce (*Picea glauca*). Meeting of the American Society of Plant Biologists, July 2014, Portland, OR (Poster Presentation with J. De Villier and B. Logan, J. De Villier presenter)

Situating foliar anthocyanin accumulation among photoprotective mechanisms employed by plants in response to abiotic stress. Meeting of the American Society of Plant Biologists, July 2014, Portland, OR (Poster Presentation with B. Logan, W. Stafstrom, M. Walsh, B. Logan presenter)

Testing the photoprotection hypothesis for foliar anthocyanin accumulation. Annual Meeting of the Ecological Society of America, July 2013, Minneapolis MN (Poster with B. Logan, W. Stafstrom, M. Walsh, and S. Merrill, B. Logan presenter)

Soil carbon and nitrogen dynamics in a pine forest under elevated atmospheric CO_2. Meeting of the American Geophysical Union, December 2011, San Francisco CA (Poster with J. Lichter and F. Hopkins, J. Lichter presenter)

Parasitic manipulation of host white spruce (*Picea glauca*) by eastern dwarf mistletoe (*Arceuthobium pusillum*): effects on host

development, growth and performance across multiple scales. Meeting of the American Society of Plant Biologists, August 2011, Minneapolis MN (Poster with B. Logan, D. Zonana, R. Dunlavey, C. Hricko, J. Lewis, D. Tissue, N. Phillips, N. Emery, R. Pharis, L. Kurepin, and K. Duran, B. Logan presenter)

Environmental history of the Kennebec Estuary, Maine: a paleoecological study. Meeting of the Atlantic Estuarine Research Society, April 2011, Solomons MD (Poster with S. Cooper, J. Lichter, P. Lea, and A. Nurse, S. Cooper presenter)

Soil carbon and nitrogen turnover in a pine forest under elevated CO_2. Meeting of the American Geophysical Union, December 2010, San Francisco CA (Poster with J. Lichter, A. Kaubris, R. Austin, J. Anderson, N. Wong, and S. Wu, J. Lichter presenter)

Environmental history of the Kennebec Estuary, Maine. Coastal and Estuarine Research Federation 20th Biennial Conference, November 2009, Portland OR (Poster with S. Cooper, J. Lichter, P. Lea, and A. Nurse, S. Cooper presenter)

Ecological recovery in a freshwater tidal ecosystem in mid-coast Maine. Annual Meeting of the Ecological Society of America, August 2009, Albuquerque NM (Poster with J. Lichter, M. Burton, and S. MacFarlane, J. Lichter presenter)

Soil carbon sequestration and turnover under elevated atmospheric CO_2. Annual Meeting of the Ecological Society of America, August 2009, Albuquerque NM (Poster with *A. Kaubris*, and J. Lichter, J. Lichter presenter)

The influence of *Arceuthobium pusillum* infection on the hydraulic architecture of white spruce stems. World Congress on Parasitic Plants, June 2007, Charlottesville VA (Poster with R. Dunlavey and B. Logan, B. Logan presenter).

Student-led investigative laboratories designed to examine the acclimation of photosynthesis and energy dissipation. American Society for Plant Biologists, August 2006, Boston MA (Poster with B. Logan as co-author and presenter)

The demography and movement patterns of snapping turtles, (*Chelydra serpentina*) in a freshwater tidal wetland, Merrymeeting Bay, Maine USA. Annual Meeting of the Ecological Society of America, August 2006, Memphis TN (Poster with L. Van Hook co-author and presenter)

Student-led investigative laboratories designed to examine the acclimation of photosynthesis and energy dissipation. International Congress on Photosynthesis. August/September 2004, Montreal Canada (Poster with B. Logan as co-author and presenter)

Student-led investigative laboratories designed to examine the acclimation of photosynthesis and every dissipation. American Society of Plant Biologists – Northeast Section. June 2004, Providence RI (Poster with B. Logan as co-author and presenter)

The legacy of intense deer browsing on plant and microbial community composition and diversity. Annual Meeting of the Ecological Society of America and the 14th Annual International Conference of the Society for Ecological Restoration, August 2002, Tucson AZ (Poster with J. Lichter, J. Hardison, and E. Stemmler, J. Lichter presenter)

Acknowledged Contributions

Papers, Books, and dissertations in which acknowledgements were made for my material or intellectual contributions.

Seyednasrollah B, Bowling D, Cheng R, Logan B, Magney T, Frankenberg C, Yang J, Young A, Hufkens K, Altaf Arain M, Black A, Blanken P, Bracho R, Jassal R, Hollinger D, Law B, Nesic Z, Richardson A. (2020) Season variation in the canopy color of temperate evergreen conifer forests. New Phytologist doi: 10.1111/nph.17046

Magney T, Eitel J, Griffin K, Vierling L. (2016) LIDAR canopy radiation model reveals patterns of photosynthetic partitioning in an artic shrub. Agricultural and Forest Meteorology 221:78-93.

Cooney L. (2015) Redressing the roles of anthocyanin pigments in vegetative and reproductive organs. Dissertation submitted to Victoria University of Wellington, New Zealand 134pgs.

Magney T, Eusden S, Eitel J, Logan B, Jiang J, Vierling L. (2014) Assessing leaf photoprotective mechanisms using terrestrial LiDAR: towards mapping canopy photosynthetic performance in three dimensions. *New Phytologist* 201:344-356.

Pfingsten R, Davis J, Matson T, Lipps G, Wynn D, Armitage B (editors). (2013) Amphibians of Ohio. Ohio Biological Survey, Inc. Columbus OH. 898pgs.

Goldsmith G. (2012) Plant-water relations in seasonally dry tropical montane cloud forests. Dissertation submitted to the University of California, Berkeley 87pgs.

Kraichak E, Pope R, Wheelwright N. (2009) Habitat associations of macrolichens on a boreal island in the Bay of Fundy, New Brunswick, Canada. *The Bryologist* 112(4):762-772.

Logan B, Combs A, Myers K, Kent R, Stanley L, Tissue D. (2009) Seasonal response of photosynthetic electron transport and energy dissipation in the eighth year of exposure to elevated atmospheric CO_2 (FACE) in *Pinus taeda* (loblolly pine). *Tree Physiology* 29:789-797.

Mathewson B. (2009) The relative abundance of eastern red-backed salamanders in eastern hemlock-dominated and mixed deciduous forests at Harvard Forest. *Northeastern Naturalist* 16(1):1-12.

Köster D, Lichter J, Lea P, Nurse A. (2007) Historical eutrophication in a river-estuary complex mid-coast Maine. *Ecological Applications* 17(3):765-778.

Peterson T, Uesugi A, Lichter J. (2005) Tree recruitment limitation by introduced snowshoe hares, *Lepus americanus*, on Kent Island, New Brunswick. *Canadian Field-Naturalist* 119:569-572.

Professional Meetings Attended

American Geophysical Union, 2018
American Society of Plant Biologists, 2014
Ecological Society of America, 2005, 2013, 2015, 2017
Northeastern Forest Pest Council, 2010
Society for the Study of Amphibians and Reptiles, 2001

Editorial Work

Guest Editor, *Northeastern Naturalist*, 2008-2009.

Grants

2020- Co-PI on a three-year grant from the Department of Commerce - National Institutes of Science and Technology (70NANB20H027/ Subaward No. 45000003500) titled "Quantifying spatial and temporal variations in urban fluxes; measurements, models and remote sensing from the leaf to the forest scale."

2019- Co-PI on a three-year grant from the National Science Foundation (NSF award number 192592) titled "Seasonality of Photosynthesis of Temperate and Boreal Conifer Forests Across North America".

In 2002 and again in 2007 with Dr. Barry Logan, I was awarded research funding through the Rusack Coastal Studies Project Initiative Fund to pursue research on the ecophysiology of parasitic plant infections on host species. In 2011 with Dr. Barry Logan, I was awarded research funding allocated from a larger institutional HHMI award to measure the impacts of eastern dwarf mistletoe infection on photosynthesis in white spruce in an attempt to help determine how the infection contributes to host decline and death.

Teaching

Bowdoin College

Laboratory Instructor, 2001 to Present

In recent years I have tough laboratories as a part of the Bowdoin College Marine Science Semester which includes the courses Benthic Ecology, Ocean Change Ecology, Current Topics and Research in Marine Science, Plant Ecophysiology, and Biological Principles II courses. In addition to these courses, I have taught laboratories in Community and

Ecosystems Ecology, Behavioral and Populations Ecology, Forest Ecology and Conservation, Investigations in Biology, Ancient and Modern Agriculture, Biofuels, the Ecology of Merrymeeting Bay, and the Science of Food and Wine. I am primarily responsible for the design, implementation, and execution of the laboratory activities in these courses. I work collaboratively with students to develop and test biological hypotheses and to present their results in journal style scientific manuscripts, in research presentations as talks or scientific posters, or as conservation management plans. In addition to teaching as a part of courses, I also mentor students conducting independent research during the summers and academic year primarily in the field of plant physiological ecology. I also have organized co-lead trips with students both as a part of courses and for research including travel to the deserts of the Southwestern United States, Alaska, the Hawaiian Islands, and islands throughout the Gulf of Maine and the Bay of Fundy.

Bowdoin College

Summer Research Instructor, 2003 to 2015

In this position, I worked during the summer months both conducting my own research and managing students doing independent research on a wide variety of different topics. Topic areas of these projects included: the demography and habitat use by turtles in freshwater tidal ecosystems, habitat use by fishes in tidal ecosystems, both intertidal and subtidal plant population census and monitoring, intertidal and subtidal plant ecology and physiological ecology, aquatic biogeochemistry, terrestrial soil carbon sequestration, the physiology and ecology of plant and plant parasite interactions, and the photosynthetic stress physiology of higher plants. This work was funded by grants from the National Science Foundation, Howard Hughes Medical Institute, Luce Foundation, and the Rusack Coastal Studies Project Initiative Fund.

John Carroll University

Graduate Teaching Assistant, 1999 to 2001

I worked with the Advanced Ecology course (under Dr. Carl Anthony), Evolution (under Dr. Venessa Artman), and Principles of Biology (under Sandy Buckles) courses. In these courses, my responsibilities included preparing lectures, developing laboratory exercises, writing and grading assignments and exams, and supervising students in the design and execution of independent research projects including statistical data analysis and the preparation of journal style scientific manuscripts. While working as a teaching assistant at John Carroll, I was the only graduate student selected to teach sections of Principles of Biology I & II laboratories independently without additional faculty or graduate student support.

Baldwin-Wallace University

Course Assistant, 1995 to 1996

I worked with the Field Biology (under Dr. Michael Melampy and Dr. Glenn Peterjohn) and Biochemistry (under Dr. Michael Bumbulis)

courses as an undergraduate student. My work with these courses in part helped me to earn the Biological Sciences Merit Award, one of two awards given to graduating students in the department. In these courses, my primary responsibilities included testing new laboratory procedures and protocols, aiding students in the proper use of laboratory and field equipment, holding topic review sessions, and writing and administering practical examinations.

Technical Skills & Proficiencies

The list that follows provides examples of some of the types of equipment and methodologies I use in my research and teaching.

Physiological Ecology

- Field and laboratory measurements of photosynthesis, transpiration, stomatal conductance, and chlorophyll fluorescence parameters using portable gas exchange systems (e.g., LI-COR 6400 & 6800).
- Laboratory measurements of leaf photosynthetic oxygen evolution and cellular respiration of terrestrial, intertidal, and submerged aquatic plants and animals using Clarke-type oxygen electrodes (e.g., Hansatech Oxygen Electrodes & Strathkelvin Oxygen Electrodes).
- Extraction, separation, and quantification of leaf chlorophylls, carotenoids, and anthocyanins using thin layer chromatography, high performance liquid chromatography, and/or spectrophotometry.
- Measurement of a wide variety chlorophyll fluorescence parameters using PAM fluorometry equipment (e.g., Waltz PAM 101, Waltz PhytoPAM, Hansatech FMSII, and Li-Cor 6400 & 6800).
- Measurement of plant non-structural carbohydrate pools using the phenol-sulfuric acid technique.
- Leaf carbon and nitrogen analysis including measurements of stable isotopes of carbon.
- Leaf spectral reflectance using spectrometers.
- Plant total protein quantification using Bradford's assay.
- Stem hydraulic conductivity measurements on woody plants using the applied tension and pressure head methodologies.
- Assessment of stem cavitation vulnerabilities by direct air injection.
- Measurements of plant moisture stress and stem and leaf water potentials using Scholander pressure chambers.

Forest Ecology

- Assessment of terrestrial, wetland, and submerged aquatic plants communities.
- Establishment of forest monitoring and research plots.
- Tree core collection for dendrochronological analysis.
- Estimating forest carbon stocks using allometric relationships with tree DBH.
- Monitoring tree growth using dendrometer bands.

- Experienced using and maintaining various types of data logging equipment (e.g., Onset, Hobo, LI-COR, & YSI) in laboratory and field settings.
- Proficient using a wide array of handheld GPS devices for navigation and data collection in the field.
- Proficient in the safe use, transportation, and maintenance of a wide array of different mechanical field equipment.

Wildlife Ecology
- Monitoring animal movements and habitat use by radio telemetry.
- Surveys of amphibians using advertisement call monitoring protocols.
- Surveys of amphibians and reptiles using artificial cover object arrays, cover object searches, surface searches, and a variety of different trapping techniques.
- Sampling of fishes using seining and trap-based techniques.
- Surveys of aquatic macro-invertebrates in lentic and lotic systems using traps, artificial substrates, dip nets, and kick seines.
- Collection, preservation, and documentation of voucher specimens for fishes, amphibians, reptiles, aquatic invertebrates, and plants.
- Sampling terrestrial vertebrate activity using autonomous trail cameras.
- PADI and NAUI certified open water SCUBA diver.
- Proficient in the use, care, and transport of boats.

Soil Biogeochemistry
- Terrestrial, intertidal, and benthic soil sample collection and preservation using a wide range of different coring equipment.
- Soil size, particle type, and chemical fractionations.
- Soil carbon and nitrogen elemental analysis.

Aquatic Biogeochemistry
- Field measurement of dissolved oxygen, conductivity, turbidity, pH, and chlorophyll using multi-parameter sondes (e.g., YSI) in spot and remote deployment applications.
- Field collection of water samples using Van Dorn, Kemmerer, and depth integrating water samplers.
- Laboratory based measurement of total and volatile suspended solids, chlorophyll, total carbon, organic carbon, inorganic carbon, and total nitrogen in surface waters.

Recent Committee Service

- Institutional Biosafety Committee (IBC), Bowdoin College, 2018 to present.
- Schiller Coastal Studies Center Director Hiring Committee, Bowdoin College, Spring 2022

- Bowdoin Pines Advisory Group, Bowdoin College, 2022 to present

Other Interests

- I have a strong interest in using sustainable outdoor recreation as a tool to build healthy communities. I have served as a member of the Stewardship Committee of the Phippsburg Land Trust (PLT) and serve as preserve steward for the Ridgewell Preserve. In addition to science, I enjoy gravel biking, mountain biking, road cycling, hiking, cross-country skiing, downhill skiing, snowshoeing, sea kayaking, paddleboarding and woodworking.