

## Curriculum vitae of Robinson W. (“Wally”) Fulweiler

### CONTACT

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### PROFESSIONAL PREPARATION

<u>Institution</u>	<u>Major</u>	<u>Degree and Year</u>
University of Vermont, Burlington, VT	International Studies	BA, 2000
University of Rhode Island, Narragansett, RI	Oceanography	MS, 2003
University of Rhode Island, Narragansett, RI	Oceanography	Ph.D., 2007

### APPOINTMENTS

2018-present	Faculty Research Fellow, Frederick S. Pardee Center for the Study of the Longer-Range at Boston University
2017-present	Coastal Institute Senior Fellow, Graduate School of Oceanography, University of Rhode Island
2017-present	Associate of Harvard Forest, Harvard University
2014-present	Associate Professor, Joint Appointment in Earth and Environment and Biology, Boston University
2012-present	Visiting Scientist, EPA, Narragansett, RI
2016-2019	Director of the Boston University Marine Program
2013-2015	Visiting Scientist, University of Western Australia
2010-2015	Associate Director, Marine Sciences Program, Boston University
2011-2014	Assistant Professor, Joint Appointment Earth and Environment and Biology, Boston University
2010-2013	Adjunct Faculty, Department of Oceanography and Coastal Sciences, Louisiana State University, Baton Rouge, LA
2010-2013	Adjunct Faculty, Graduate School of Oceanography, University of Rhode Island
2010-2014	Assistant Professor, Affiliated Appointment (non-tenure), Biology Department, Boston University
2008-2014	Assistant Professor, Earth Sciences, Boston University
2007-08	Postdoctoral Research Associate, Louisiana State University, Baton Rouge, LA
2007-08	Research Assistant/Teaching Fellow, Graduate School of Oceanography, University of Rhode Island

### SELECT POST GRADUATE AWARDS AND HONORS

2019	Metcalf Cup and Prize, <i>Boston University's highest teaching and mentoring prize.</i>
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- 2019 Ocean Frontiers Institute Visiting International Fellow – *“awarded to highly-qualified researchers who intend to conduct innovative... interdisciplinary and collaborative research.” This fellowship provided travel support to collaborate with new colleagues at Dalhousie University in Canada for two weeks in summer 2019.*
- 2016 Association for the Society of Limnology and Oceanography (ASLO) Fellow – This program *“recognizes aquatic scientists who have made exceptional contributions to the benefit of the society and its publications, meetings, and other activities.”*
- 2016 Selected to take part in the UNOLS Research Training Cruise with Deep-Submergence Assets. *This was a competitive application process, and I proposed to measure denitrification in deep sea sediments. I dove on Alvin to collect samples and learned how to use telepresence to conduct research.*
- 2015-2016 Bullard Fellow, Harvard University. *This fellowship allowed to me to establish a research program at the Harvard Forest LTER examining the terrestrial Si cycle and the potential role trees play in altering Si availability in coastal ecosystems.*
- 2015 Rising Star Award, University of Rhode Island Distinguished Achievement Award. *“The Rising Star Distinguished Achievement Award is given to alumni of URI graduate programs who have received their graduate degree within the last 10 years, and who are making significant contributions to their profession and community-at-large by demonstrating innovation, responsible professional leadership, potential for future distinction and a commitment to serving others.”*
- 2012-2014 Sloan Research Fellow in Ocean Sciences. This fellowship is given to individuals *“who show the most outstanding promise of making fundamental contributions to new knowledge.”* The Ocean Sciences award category was introduced in 2012.
- 2013 Cronin Award from the Coastal and Estuarine Research Federation (CERF). This award recognizes the *“significant accomplishments of an estuarine scientist who is in the early stages of his/her career development and who has shown great promise with work carried out during the first six years past the Ph.D.”*
- 2013 The Neu Family Award for Excellence in Teaching in the College of Arts and Sciences. This award honors *“extraordinary dedication and effectiveness in the classroom and beyond.”*

**Professional Societies:** American Geophysical Union (AGU); American Society of Limnology and Oceanography (ASLO); American Society of Microbiology (ASM); Coastal and Estuarine Research Federation (CERF); Ecological Society of America (ESA); New England Estuarine Research Society (NEERS)

## RESEARCH

### Publications:

ISI Web of Science (ResearcherID: A-3806-2010; ORCID: 0000-0003-0871-4246) reports 1,796 citations for journal articles, and *h*-index of 23.) Google Scholar reports 2688 citations, an overall *h*-index of 29, an *h*-index since 2015 of 24.

*Note: Starting in 2012, my approach to co-authorship when postdoctoral associates or students from my lab are first author is to list myself as last author. (§postdoc, \*graduate student, ¥undergraduate student, °high school student)*

### Journal Articles in Review:

\*Emery, H.E., §Angell, J.H., °Tawade, A., **Fulweiler, R.W.** Tidal rewetting in salt marshes triggers pulses of nitrous oxide. (In Review) *Soil Biology and Biochemistry*.

**Fulweiler, R.W.**, Heiss, E.M., Wall, C., Gobler, C.J. (In Review) Suppression of Sediment Denitrification by Saxitoxin-Enriched Organic Matter from *Alexandrium catenella*. *Frontiers in Marine Science – Marine Ecosystem Ecology*.

### Journal Articles Published:

70. \*Ray, N.E., \*Al-Haj, A.N., **Fulweiler, R.W.** (In Press) Sediment biogeochemistry along an oyster aquaculture chronosequence. *Marine Ecology Progress Series*.

69. Duarte, C.M., Agusti, A., Barbier, E., Britten, G.L., Castilla, J.C., Gattuso, JP, **Fulweiler, R.W.**, Hughes, T.P., Knowlton, N., Lovelock, Heike K. Lotze, H.K., Predragovic, M., Poloczanska, E., Roberts, C., & Worm, B. (2020) Rebuilding Marine Ecosystems. *Nature* 580(7801):39-51.

68. White, A.E., Granger, J., Selden, C., Gradoville, M.R., Potts, L., Bourbonnais, A., **Fulweiler, R.W.**, Knapp, A.N., Wiebke, M., Moisaner, P., Tobias, C.R., Wilson, S.T., Mulholland, M., Benavides, M., Bonnet, S., Chang, B.X. (2020) A Review of the <sup>15</sup>N<sub>2</sub> Tracer Method to Measure Diazotrophic Production in Pelagic Ecosystems. *Limnology and Oceanography: Methods* (18): 129-147.

67. \*Al-Haj, A.N. and **Fulweiler, R.W.** (2020) A Synthesis of Methane Emissions from Shallow Vegetated Coastal Ecosystems. *Global Change Biology*.

66. ¥McCarthy, G.J., \*Ray, N.E., **Fulweiler, R.W.** (2019) Greenhouse gas emissions from native and non-native oysters. *Frontiers in Environmental Science – Conservation*.

65. Stevens, J.T.E., **Fulweiler, R.W.**, §Roy-Chowdhury, P. (2019) 16S rRNA Amplicon Sequencing of Sediment Bacterial Communities in an Oyster Farm in Rhode Island. *Microbiology Resource Announcements*: 8(42), pp.e01074-19.
64. Gewirtzman, J., Tang, J., Melillo, J.M., Werner, W.J., Kurtz, A.C., **Fulweiler, R.W.** & Carey, J.C. (2019). Soil warming accelerates biogeochemical silica cycling in a temperate forest. *Frontiers in Plant Science - Functional Plant Ecology*.
63. \* Ray, N.E., \*Maguire, T.J., \*Al-Haj, A.N., ¥Henning, M.C., **Fulweiler, R.W.** Low greenhouse gas emissions from oyster aquaculture. (2019) *Environmental Science and Technology*.
62. \*Ray, N.E. ¥Henning, M. C., **Fulweiler, R.W.** (2019) Nitrogen and phosphorus cycling in the digestive system and shell biofilm of the eastern oyster *Crassostrea virginica*. *Marine Ecological Progress Series* (621): 95-105.
61. \*Maguire, T.J. & **Fulweiler, R.W.** (2019) Urban groundwater dissolved silica concentrations are elevated due to vertical composition of historic land-filling. *Science of the Total Environment* (684): 89-95.
60. \*Emery, H.E., §Angell, J.A., & **Fulweiler, R.W.** Salt marsh greenhouse gas fluxes and microbial communities are not sensitive to precipitation change. *Journal of Geophysical Research: Biogeosciences* (124): 1071–1087.
59. \*Foster, S.Q. & **Fulweiler, R.W.** (2019) Estuarine sediments exhibit dynamic and variable biogeochemical responses to hypoxia. *Journal of Geophysical Research: Biogeosciences* (124): 737–758.
58. Zakem, E.J., \*Al-Haj, A., Church, M.J., van Dijken, G.L., Dutkiewicz, S., \*Foster, S.Q., **Fulweiler, R.W.**, Mills, M.M. and Follows, M.J. (2018). Ecological control of nitrite in the upper ocean. *Nature Communications* 9: 1206.
57. Snelgrove, P.V., Soetaert, K., Solan, M., Thrush, S., Wei, C.L., Danovaro, R., **Fulweiler, R.W.**, Kitazato, H., Ingole, B., Norkko, A. and Parkes, R.J., (2018). Global Carbon Cycling on a Heterogeneous Seafloor. *Trends in Ecology & Evolution* 33(2): 96-105.
56. \*Emery, H.E. & **Fulweiler, R.W.** (2017). Incomplete tidal restoration may lead to persistent high CH<sub>4</sub> emission. *Ecosphere*.8(12).
55. \*Maguire, T. J., & **Fulweiler, R. W.** (2017). The fate and effect of dissolved silicon within wastewater treatment effluent. *Environmental Science & Technology*, 51(13): 7403-7411.
54. Fagherazzi, S., Viggato, T., \*Vieillard, A. M., Mariotti, G., & **Fulweiler, R. W.** (2017). The effect of evaporation on the erodibility of mudflats in a mesotidal estuary. *Estuarine, Coastal and Shelf Science*, 194” 118-127.

53. \*Maguire, T. J., Templer, P. H., Battles, J. J., & **Fulweiler, R. W.** (2017). Winter climate change and fine root biogenic silica in sugar maple trees (*Acer saccharum*): Implications for silica in the Anthropocene. *Journal of Geophysical Research: Biogeosciences*, 122(3), 708-715.
52. \*Chua, E., Savidge, W., Short, T., Cardenas-Valencia, A., & **Fulweiler, R. W.** (2016). A Review of the Emerging Field of Underwater Mass Spectrometry. *Frontiers in Marine Science*, 3, 209.
51. Downing, J.A., Cherrier, C.T., **Fulweiler, R.W.** (2016) Low ratios of silica to dissolved nitrogen supplies to rivers arise from agriculture not reservoirs. *Ecology Letters* 19 (12): 1414-1418.
50. Gil, Y., David, C.H., Demir, I., Essawy, B.T., **Fulweiler, R.W.**, Goodall, J.L., Karlstrom, L., Lee, H., Mills, H.J., Oh, J., Pierce, S.A., Pole, A., Tzeng, M.W., Villamizar, S.R., Yu, X. (2016) Towards the geoscience paper of the future: best practices for documenting and sharing research from data to software provenance. *Earth and Space Science* 3 (10): 388-415.
49. **Fulweiler, R.W.**, Emery, H. E., Maguire, T. J. (2016) A workflow for reproducing mean benthic gas fluxes. *Earth and Space Science* 3 (8): 318-325.
48. §Newell, S. E., McCarthy, M. J., Gardner, W. S., & **Fulweiler, R. W.** (2016). Sediment Nitrogen Fixation: a Call for Re-evaluating Coastal N Budgets. *Estuaries and Coasts* 39 (6): 1626-1638.
47. \*Heiss, E.M. & **Fulweiler, R.W.** (2016) Coastal water column ammonium and nitrite oxidation are decoupled in summer. *Estuarine, Coastal and Shelf Science: Volume 178*: 110-119.
46. Humphries, A.T., Ayvazian, S.G., Carey, J., Hancock, B.T., Grabbert, S., Cobb, D., Strobel, C.J., **Fulweiler, R.W.** (2016) Directly measured denitrification reveals oyster aquaculture and restored oyster reefs remove nitrogen at comparable high rates. *Frontiers of Marine Science – Marine Biogeochemistry* 3, 74.
45. \*Foster, S.Q. and **Fulweiler, R.W.** (2016) Sediment Nitrous Oxide Fluxes Are Dominated by Uptake in a Temperate Estuary *Frontiers of Marine Science – Marine Ecosystem Ecology* 3, 40.
44. §Newell, S. E., \*Pritchard, K.R., \*Foster, S.Q., **Fulweiler, R.W.** (2016) Molecular evidence for sediment nitrogen fixation in a temperate New England Estuary. *PeerJ* 4:e1615
43. \*Maguire, T.J., **Fulweiler, R.W.** (2016) Urban Dissolved Silica: Quantifying the role of groundwater and runoff in wastewater effluent. *Environmental Science & Technology* 50 (1): 54-61.

42. Carey, J. C., **Fulweiler, R.W.** (2015) Human appropriation of biogenic silicon – the increasing role of agriculture. *Functional Ecology* 30: 1331-1339.
41. Duarte, C. M., **Fulweiler, R.W.**, Lovelock, C.E., Martinetto, P., Saunders, M.I., Pandolfi, J.M., Gelcich, S. (2015) Ocean Calamities: Delineating the Boundaries between Scientific Evidence and Belief. *Bioscience* (In response to Jacquet et al. (2015) Ocean Calamities: Hyped Litany or Legitimate Concern?).
40. \*Carey, J. C., Moran, S. B., Kelly, R. P., Kolker, A. S., & **Fulweiler, R. W.** (2015). The Declining Role of Organic Matter in New England Salt Marshes. *Estuaries and Coasts* 1-14.
39. **Fulweiler, Robinson W.**, \*Elise M. Heiss, †Mary Kate Rogener, §Silvia E. Newell, Gary R. LeClerc, Sarah M. Kortebein, and Steven W. Wilhelm (2015) Examining the impact of acetylene on N-fixation and the active sediment microbial community. *Frontiers in Microbiology* 6.
38. **Fulweiler, R. W.**, Oczkowski, A. J., Miller, K. M., Oviatt, C. A., & Pilson, M. E. Q. (2015). Whole truths vs. half truths—And a search for clarity in long-term water temperature records. *Estuarine, Coastal and Shelf Science* 157: A1-A6. (Invited)
37. Duarte, Carlos M., **Robinson W. Fulweiler**, Catherine E. Lovelock, Paulina Martinetto, Megan I. Saunders, John M. Pandolfi, Stefan Gelcich, and Scott W. Nixon. (2015) Reconsidering ocean calamities. *BioScience* 65 (2): 130-139.
36. **Fulweiler, R.W.**, \*Maguire, T.J., Carey, J.C. and Finzi, A.C. (2015). Does Elevated CO<sub>2</sub> Alter Silica Uptake in Trees? *Frontiers in Plant Science* 5:793.
35. \*Foster, S.Q. & **Fulweiler. R.W.** (2014) Spatial and historic variability of benthic nitrogen cycling processes in an anthropogenically impacted estuary. *Frontiers of Marine Science – Global Change and the Future Ocean* 56: 1-16.
34. \*Vieillard, A. & **Fulweiler, R.W.** (2014) Tidal pulsing alters nitrous oxide fluxes in a temperate intertidal mudflat. *Ecology* 95 (7): 1960-1971.
33. \*Fields, L., Nixon, S.W., Oviatt, C.A., **Fulweiler, R.W.** (2014) Benthic metabolism and nutrient regeneration in hydrographically different regions on the inner continental shelf of Southern New England. *Estuarine, Coastal Shelf Science* 148: 14-26.
32. \*Carey, J.C. & **Fulweiler, R.W.** (2014) Silica uptake by *Spartina*—evidence of multiple modes of accumulation from salt marshes around the world. *Frontiers of Plant Science* 5:186.
31. Fagherazzi, S., Mariotti, G., †Banks, A.T., Morgan, E.J., **Fulweiler, R.W.** (2014). The relationships among hydrodynamics, sediment distribution, and chlorophyll in a mesotidal estuary. *Estuarine, Coastal and Shelf Science* (144): 56-64.

30. \*Carey, J.C. & **Fulweiler, R.W.** (2014) Salt marsh tidal exchange increases residence time of silica in estuaries. *Limnology and Oceanography* 59(4), 2014, 1203-1212.
29. \*Emery, H.E. & **Fulweiler, R.W.** (2014) The Impact of *Phragmites australis* on Salt Marsh Greenhouse Gas Emissions and Global Warming Potential. *Aquatic Botany* (116): 83-92.
28. **Fulweiler, R.W.** and \*Heiss, R.W. (2014) (Nearly) A Decade of Directly Measured Sediment N<sub>2</sub> Fluxes – What Can Narragansett Bay Tell Us about the Global Ocean Nitrogen Budget? *Oceanography* 27 (1):184–195. (Invited)
27. Cole, L.W. & **Fulweiler, R.W.** (2013) First, do no harm. *Frontiers in Ecology and the Environment* 11: 59.
26. **Fulweiler, R.W.**, Brown, S., Nixon, S.W., Jenkins, B. (2013) Denitrification and Nitrogen Fixation are Coupled in Heterotrophic Marine Sediments. *Marine Ecological Progress Series* 482: 57-68.
25. \*Carey, J.C. & **Fulweiler, R.W.** (2013) Watershed Land Use Alters Riverine Silica Cycling. *Biogeochemistry* (1-3): 525-544.
24. \*Carey, J.C. & **Fulweiler, R.W.** (2013) Nitrogen Enrichment Increases Net Si Accumulation in a Temperate Salt Marsh. *Limnology and Oceanography* 58 (1): 99-111.
23. \*Carey, J.C. & **Fulweiler, R.W.** (2012) The Terrestrial Silica Pump. *PLoS ONE* 7(12): e52932.
22. \*Vieillard, A. & **Fulweiler, R.W.** (2012) Impacts of Long-term Fertilization on Salt Marsh Tidal Creek Benthic Nutrient and N<sub>2</sub> Gas Fluxes. *Marine Ecological Progress Series* 471: 11-22.
21. \*Carey, J. & **Fulweiler, R.W.** (2012) Human Activities Directly Alter Watershed Dissolved Silica Fluxes. *Biogeochemistry* 111: 125-138.
20. **Fulweiler, R.W.** & Nixon, S.W. (2012) Net Sediment N<sub>2</sub> Fluxes in a Southern New England Estuary - Variations in Space and Time. *Biogeochemistry* 111:111-124.
19. **Fulweiler, R.W.**, Rabalais, N.N., Heiskanen, A.S. (2012) The Eutrophication Commandments. *Marine Pollution Bulletin* 64: 1997-1999.
18. \*Heiss, E.M., Fields, L., & **Fulweiler, R.W.** (2012) Directly Measured Net Denitrification Rates in Offshore New England. *Continental Shelf Research* 45: 78-86.
17. Nixon, S.W. & **Fulweiler, R.W.** (2012) Environmental Footprints and Shadows in an Urban Estuary, Narragansett Bay, RI (USA). *Regional Environmental Change* 12: 381-394.

16. † Vieillard, A., **Fulweiler, R.W.**, Hughes, Z., Carey, J.C. (2011) The Ebb and Flood of Silica: Quantifying Dissolved and Biogenic Silica Fluxes from a Temperate Salt Marsh. *Estuarine, Coastal and Shelf Science* 95 (4): 415-423.
15. **Fulweiler, R.W.**, \*Emery, H., \*Heiss, E.M., Berounsky, V. (2011) Assessing the Role of pH in Determining Water Column Nitrification Rates in a Coastal system. *Estuaries and Coasts* 34: 1095-1102.
14. Bargu, S., White, J.R., Chunyan, L., Czubakowski, J., **Fulweiler, R.W.** (2011) Effects of Freshwater Input on Nutrient Loading, Phytoplankton Biomass, and Cyanotoxin Production in an Oligohaline Estuarine Lake. *Hydrobiologia* 661 (1): 377-389.
13. **Fulweiler, R.W.**, Nixon, S.W., Buckley, B.A. (2010). Spatial and Temporal Variability of Benthic Oxygen Demand and Nutrient Regeneration in an Anthropogenically Impacted New England Estuary. *Estuaries and Coasts* 33 (6): 1377-1390.
12. Rivera-Monroy, Victor H., Peter Lenaker, Robert R. Twilley, Ronald D. Delaune, Charles W. Lindau, William Nuttle, Emad Habib, **Robinson W. Fulweiler**, and Edward Castañeda-Moya. Denitrification in Coastal Louisiana: A Spatial Assessment and Research Needs. *Journal of Sea Research* 63, no. 3 (2010): 157-172.
11. **Fulweiler, R.W.** Fantastic Fixers. (2009) *Science* 326: 377-378. (Invited).
10. White, John; **Fulweiler, Robinson**; Li, Chunyan; Bargu, Sibel; Walker, Nan; Twilley, Robert; Green, Sara. (2009). Mississippi River Flood of 2008 - Observations of a Large Freshwater Diversion on Physical, Chemical and Biological Characteristics of a Shallow, Estuarine Lake. *Environment, Science, and Technology* 43: 5599-5604.
9. **Fulweiler, R.W.** & Nixon, S.W. (2009). Responses of benthic-pelagic coupling to climate change in a temperate estuary. *Hydrobiologia* 629: 147-156.
8. Groffman, P. M., Butterbach-Bahl, K., **Fulweiler, R.W.**, Gold, A.J., Morse, J.L., Stander, E.K., Tague, C., Tonitto, C., Vidon, P. (2009) Challenges to incorporating spatially and temporally explicit phenomena (hotspots and hot moments) in denitrification models. *Biogeochemistry* 93:1-5.
7. Fennel, K., Brady, D., DiToro, D., **Fulweiler, R.W.**, Gardner, W.S., Giblin, A., McCarthy, M.J., Rao, A., Seitzinger, S., Thouvenot-Korppoo, Tobias, C. (2009) Modeling denitrification in aquatic systems. *Biogeochemistry* 93:159-178.
6. Nixon, S.W., **Fulweiler, R.W.**, Buckley, B.A., Granger, S.L., Nowicki, B.L., Henry, K.M. (2009). The impact of changing climate on phenology, productivity, and benthic-pelagic coupling in Narragansett Bay. *Estuarine, Coastal, and Shelf Science* 82: 1-18. (Invited Feature).



5. **Fulweiler, R.W.**, Nixon, S.W., Buckley, B.A., Granger, S.L. (2008). Net Sediment N<sub>2</sub> Fluxes in a Coastal Marine System – Experimental manipulations and a Conceptual Model. *Ecosystems* 11: 1168-1180.
4. **Fulweiler, R.W.**, Nixon, S.W., Buckley, B.A., Granger, S.L. (2007). Reversal of the net nitrogen flux in coastal marine sediments. *Nature* 448: 180-182.
3. **Fulweiler, R.W.** & Nixon, S.W. (2005) Terrestrial vegetation and the seasonal cycle of dissolved silica in a southern New England Coastal River. *Biogeochemistry* 74: 115-130.
2. **Fulweiler, R.W.** & Nixon, S.W. (2005) Annual export of nitrogen, phosphorus, and suspended solids from a southern New England Watershed. *Biogeochemistry* 76: 567-593.
1. **Fulweiler, R.W.**, Nixon, S.W., Buckley, B., Granger, S. (2003) Export of organic carbon from a minimally developed southern New England watershed. In: B.A. Brebbia (ed.) *River Basin Management II*, Wessex Institute of Technology. Southampton, UK.

Book Chapters:

8. **Fulweiler, R.W.** (In press) The Oligotrophication of Narragansett Bay, In *Fundamental of Ecosystem Science*. Editors: K.C. Weathers, D.L. Strayer, G.E. Likens. (*Invited*)
7. Groffman, P.M., Rosi, E.J., **Fulweiler, R.W.** (In press) The Nitrogen Cycle, In *Fundamental of Ecosystem Science*. Editors: K.C. Weathers, D.L. Strayer, G.E. Likens. (*Invited*)
6. Giblin, A.E., **Fulweiler, R.W.**, Hopkinson, C.S. (In press) The Role of Marshes in Coastal Nutrient Dynamics and Loss, In *Marshes: Function, Dynamics, and Stresses*. Editors: FitzGerald, D. and Hughes, Z.
5. **Fulweiler, R.W.** & Bartoli, M. (2012) Variation Among Estuarine Geochemistry and Productivity, In *Volume 1: Features/Classification of Estuaries and Coastal Waters*. Editors: E. Wolanski and D. McLusky, Elsevier (*Invited*).
4. Fagherazzi S., FitzGerald D.M., **Fulweiler R.W.**, Hughes Z., Wiberg P.L., McGlathery K.J., Morris J.T., Tolhurst T.J., Deegan L.A., Johnson D.S. (2013) Ecogeomorphology of Tidal Flats, *Treatise on Geochemistry, Volume 12 Ecogeomorphology*. Editors: Butler D., Hupp C., Executive Editor: Shroder J. Elsevier.
3. Fagherazzi S., FitzGerald D.M., **Fulweiler R.W.**, Hughes Z., Wiberg P.L., McGlathery K.J., Morris J.T., Tolhurst T.J., Deegan L.A., Johnson D.S. (2013) Ecogeomorphology of Salt Marshes, *Treatise on Geochemistry, Volume 12 Ecogeomorphology*. Editors: Butler D., Hupp C., Executive Editor: Shroder J. Elsevier.

2. Nixon, S.W. & **Fulweiler, R.W.** (2009). Nutrient Pollution, Eutrophication, and the Degradation of Coastal Marine Ecosystems. In: C.M. Duarte, J. Culberston et al. (ed). Global Loss of Coastal Habitats: Rates, Causes, and Consequences. Bilbao: Fundacion BBVA. 184 p.
1. Nixon, S.W., B. A. Buckley, S.L. Granger, L. A. Harris, A.J. Oczkowski, **R.W. Fulweiler**, and L.W. Cole. (2008). Nutrient (N and P) inputs to Narragansett Bay: past, present, and future. In: B. Costa-Pierce, A. Colt, and A. Desbonnet (eds.) Science for Ecosystem-based Estuarine management: Narragansett Bay in the 21st Century. Springer Verlag, NY.

Theses:

- Fulweiler, R.W.** (2007) The Impact of Climate Change on Benthic-Pelagic Coupling and the Biogeochemical Cycling of Narragansett Bay, R.I. Ph.D. thesis in Oceanography, Narragansett, University of Rhode Island: p. 265.
- Fulweiler, R.W.** (2003) An assessment of carbon, nutrient, and total suspended solids export from the Wood-Pawcatuck Watershed to Little Narragansett Bay. Masters thesis in Oceanography. Narragansett, University of Rhode Island: p. 165.

Technical Reports/Workshop Proceedings:

- Fulweiler, R.W.** and Ferrini, V. (2016) Coastal Ecosystems in Developing submergence science for the next decade (DESCEND-2016).
- Gawarkiewicz, G., J. Nelson, R. He, **R. W. Fulweiler**, J. Goff, T. Grothues, and E. LaBrecque, (2011) Shelf/Slope Processes: Science opportunities and issues relating to the OOI Pioneer Array. OOI/NSF Technical Report, 57 pp.
- Nixon S.W., Buckley B., Granger S., Harris L., Oczkowski A., Cole L., and **Fulweiler R.** (2005) Anthropogenic Nutrient Inputs to Narragansett Bay: A Twenty-five Year Perspective. A report to the Narragansett Bay Commission and Rhode Island Sea Grant. Narragansett, RI. 30 p.
- Nixon, S.W., Olsen, S.B., Buckley, E., **Fulweiler, R.** (2004) Lost to the Tide: The importance of Freshwater Flow to Estuaries. Final Report submitted to the Coastal Resources Center. Narragansett, RI: University of Rhode Island, Graduate School of Oceanography.  
[http://www.crc.uri.edu/download/2\\_LosttotheTide\\_Nixon\\_2004.pdf](http://www.crc.uri.edu/download/2_LosttotheTide_Nixon_2004.pdf).

Popular Press and Science Outreach:

**Fulweiler, R. W.** (2017). The Signal and the Noise: Lessons from GE Hutchinson. *Limnology and Oceanography Bulletin*, 26(1), 9-10.

**Fulweiler, R.W.** (2017) Hot Vents and Cold Seeps.

<https://www.thenakedscientists.com/articles/features/hot-vents-and-cold-seeps>

**Fulweiler, R.W.** (2016): Blog for BU Experts on Alvin Dive:

<https://medium.com/boston-university-pr/taking-a-dive-on-a-deep-sea-sub-alvin-343bda0e1ba7#.mehqzzcw1>

**Fulweiler, R.W.** (2013): Blog for Nitrogen News about N impacts on sea turtles in Hawaii:

<http://www.nitrogennews.com/interactivemap/hawaii.html>

**Fulweiler, R.W.** (2012) Nitrogen News: Nitrogen Impacts on New England Salt Marsh

<http://www.nitrogennews.com/interactivemap/massachusetts.html>

**Fulweiler, R.W.** (2012) Big Foot: Nitrogen Part IV:

<http://www.thenakedscientists.com/HTML/articles/article/bigfoot-the-nitrogen-problem/>

**Fulweiler, R.W.** (2012) No Smoke Detectors in the Sea: The Nitrogen Story Part III:

<http://www.thenakedscientists.com/HTML/articles/article/no-smoke-detectors-in-the-sea/>

**Fulweiler, R.W.** (2011) Breathless: The Nitrogen Story Part II:

<http://www.thenakedscientists.com/HTML/articles/article/breathless/>

**Fulweiler, R.W.** (2011) The Wheels on the Bus: The Nitrogen Story for the Naked Scientist:

<http://www.thenakedscientists.com/HTML/articles/article/the-wheels-on-the-bus/>

**Fulweiler, R.W.** (2007) The Louisiana Wetlands: An Introduction; Science Tales from the Red Stick for the Naked Scientist:

<http://www.thenakedscientists.com/HTML/articles/article/thelouisianawetlandsanintroduction/>

**Fulweiler, R.W.** (2007) Climate change and the Marine Nitrogen Cycle for the Naked Scientist:

<http://www.thenakedscientists.com/HTML/>.

**Fulweiler, W.** (2004) The Importance of Land and Sea. Wood-Pawcatuck Watershed Report. Vol 21(1).

#### Media Coverage of Research:

Story on Narragansett Bay Temperature Increase and communicating w/ the press:

<http://www.bu.edu/today/2015/communicating-climate-change-research/>

Story on Fulweiler's research on nitrogen:

<http://www.bu.edu/today/2013/fulweilers-message-in-a-bottle/>

Fulweiler speaks on Fox News about Sewage Spill in Hull, MA:  
<http://www.myfoxboston.com/video?clipId=8536323&auto>

Story on Fulweiler's research on salt marshes and tidal flats:  
<http://www.bu.edu/cas/magazine/spring12/fulweiler/>

Interview (8/22/10) with the Naked Scientist's Helen Scales on Gulf of Mexico spill and the Louisiana Wetlands:  
<http://www.thenakedscientists.com/HTML/podcasts/show/2010.08.22/>

Interview (6/13/10) with the Naked Scientist's Ben Valsler on evaluation the impact of the Gulf Horizon Oil Spill on Louisiana Wetlands.  
<http://www.thenakedscientists.com/HTML/podcasts/show/2010.06.13/>

Interview (6/9/10) with Mark Strassman from CBS news:  
<http://www.cbsnews.com/video/watch/?id=6566045n&tag=related:photovideo>

Interview (2/2/08) with the Naked Scientist's Dr. Chris Smith on the importance of wetlands in Louisiana, "Wet and Wild,"  
<http://www.thenakedscientists.com/HTML/podcasts/show/2008.02.03/>

Lane, Nick (2007). What's in the Rising Tide? *Nature* 449, 778-780 (2007).

Interview with Rhode Island Public Radio's Nancy Cook, "Climate change changing Narragansett Bay," <http://www.wrni.org/wrninews/archive/070926-bay1.asp>.

Nature Podcast: July 12, 2007. <http://www.nature.com/nature/podcast/v448/n7150/nature-2007-07-12.mp3>.

## **Presentations**

### Invited Seminars / Plenary Lectures / Keynote Talks / Panels

*(Please note invited seminars at Scripps and the University of Minnesota in Spring 2020 were canceled)*

- 2019 "Tight linkages between C and Si Cycling Across the Land-Ocean Continuum." Harvard Forest, Petersham, MA.
- 2019 "Oysters, Nitrogen Cycling, and Coastal Ocean Water Quality." University of Massachusetts Dartmouth - School for Marine Science and Technology. Dartmouth, MA.
- 2018 "The Undiscovered: Life." Radcliffe Institute of Advanced Study, Harvard University. Cambridge, MA.

- 2018 “*Understanding Eutrophication: How far have we come and where do we go from here?*” (lead author with co-authors Krause-Jense, D., Richardson, K.) EUTRO 2018, Nyborg, Denmark.
- 2018 “*So many estuaries, so little time: Narragansett Bay as a model for coastal systems under change.*” Annual Nixon Lecture, Graduate School of Oceanography, University of Rhode Island, Narragansett, RI.
- 2017 “*Narragansett Bay – Living and dying by the choices we’ve made.*” Changes in Narragansett Bay – A conversation among citizens and scientists; 16<sup>th</sup> Annual Ronald C. Baird Sea Grant Science Symposium. University of Rhode Island, Graduate School of Oceanography, Narragansett, RI.
- 2017 “*Owning the Grand Challenge/Opportunity.*” Changes in Narragansett Bay – A conversation among citizens and scientists; 16<sup>th</sup> Annual Ronald C. Baird Sea Grant Science Symposium. University of Rhode Island, Graduate School of Oceanography, Narragansett, RI.
- 2017 “*Narragansett Bay as a Sentinel Estuary.*” State of Narragansett Bay & Its Watershed, Narragansett Bay Estuary Program, Providence, RI.
- 2017 “*From Forests to the Sea – Exploring the role of forests in watershed Si export.*” Annual Harvard Forest Ecology Symposium, Petersham, MA.
- 2016 “*This I Believe: Musings from eighteen years in marine science.*” Keynote Talk at the Society for Women in Marine Science Fall Symposium, Woods Hole, MA.
- 2016 “*Nitrogen Cycling in Modern Estuaries - Tales of Ruin and Resilience.*” Talk at the Estuarine Coastal Sciences Association Conference, Bremen, Germany. (*Plenary*)
- 2016 “*All the Nitrogen Fixation We Cannot See.*” Bigelow Laboratory for Ocean Sciences, Boothbay, ME.
- 2016 “*Sentinels of Change – Are Salt Marshes in Long Island Sound Keeping Pace with Sea Level Rise?*” Environmental Protection Agency, Boston, MA.
- 2016 “*Coastal Nitrogen Cycling Dynamics - Exploring Variations in Space and Time.*” University of Georgia – Jointly hosted seminar: Marine Sciences and Odum School of Ecology, Athens, GA.
- 2016 “*The Terrestrial Silica Pump-Exploring the Role of Vegetation in Altering the Flux of Si to the Coastal Ocean.*” Harvard Forest, Petersham, MA

- 2015 “*Shore to Shelf Nitrogen Cycling Dynamics – Exploring Variations in Space and Time.*” Marine Biological Laboratory, Woods Hole, MA.
- 2015 “*Triaging the Coastal Ocean.*” Coastal Estuarine Research Federation Conference, Portland, Oregon. (Invited Plenary)
- 2014 “*Climate Change Impacts on Nitrogen Cycling in the Coastal Ocean.*” University of Delaware, College of Earth, Ocean, and Environment, Newark, DE.
- 2014 “*The Where, the Who, and Maybe the Why of N-Fixation Coastal Marine Systems.*” Michigan State University, Ecology, Evolutionary Biology, and Behavior Department; Lansing, MI.
- 2013 “*Have We Underestimated the Importance of Sediment N Fixation?*” Woods Hole Oceanographic Institute, Marine Chemistry and Geochemistry Seminar; Woods Hole, MA.
- 2013 “*Have We Underestimated the Importance of Sediment N Fixation?*” MIT, Microbial Systems Seminar Series; Cambridge, MA.
- 2013 “*Climate, Carbon, and Heterotrophic Sediment N Fixation.*” Mediterranean Institute for Advanced Studies (IMEDEA); Mallorca, Spain.
- 2013 “*Climate, Carbon, and Heterotrophic Sediment N Fixation.*” University of North Carolina–Chapel Hill; Chapel Hill, NC. (\**Gussenhoven Lecture*)
- 2013 “*The Immortal Life of Nitrogen.*” Darwin Festival. Salem State University. Salem, MA. (*Sponsored by the Charles Albert Read Trust*).
- 2012 “*Harmful Algal Blooms and Benthic Nutrient Mineralization – A Positive Feedback Loop or a Dead End?*” University of Massachusetts–Boston; Boston, MA.
- 2012 “*The Global Nitrogen Cycle – Today and Tomorrow.*” Lecturer for Global Biogeochemical Cycles. Lund University; Lund, Sweden.
- 2012 “*A Different Kind of Dam: The Influence of Terrestrial Vegetation on Silica Export to Coastal Waters.*” Marine Biological Laboratory; Woods Hole, MA.
- 2012 “*Climate, Carbon, and Heterotrophic Sediment N Fixation.*” Rutgers University, Marine Science Institute; Brunswick, NJ.
- 2011 “*Climate, Carbon, and Heterotrophic Sediment N Fixation.*” Graduate School of Oceanography/University of Rhode Island; Narragansett, RI.
- 2011 “*Climate Induced Changes of Benthic-Pelagic Coupling and Biogeochemistry in a New England Estuary (and beyond...).*” University of Florida; Environmental Engineering; Gainesville, FL.

- 2010 “*Sediment N<sub>2</sub> and Greenhouse Gas Fluxes from Shore to Shelf – Seasonal Patterns and Environmental Controls.*” University of Virginia; Department of Environmental Sciences; Charlottesville, VA.
- 2010 “*Climate Change Impacts on Biogeochemical Cycling in a Temperate Estuary.*” California Institute of Technology, Environmental Science and Engineering Seminar; Pasadena, CA.
- 2010 “*We know a lot, we have more to Learn, but what more do we need to know to take action?*” (lead author w/ co-authors Heiskanen, A., Rabalais.) EUTRO 2010 - Research and Management of Eutrophication in Coastal Ecosystems; Nyborg, Denmark. (*Plenary*)
- 2009 “*Climate Induced Changes of Benthic-Pelagic Coupling and Biogeochemical Cycling in Narragansett Bay, RI.*” Carey Institute of Ecosystem Studies; Millbrook, NY.
- 2009 “*The Impact of Changing Climate on Phenology, Productivity, and Benthic-Pelagic Coupling in Narragansett Bay.*” (co-Presentation w/ Dr. Scott W. Nixon). Woods Hole Oceanographic Institute, Woods Hole, MA.
- 2009 “*Climate Change Impacts on Biogeochemical Cycling in a Temperate Estuary.*” Virginia Institute of Marine Science; Gloucester Point, VA.
- 2009 “*The History and Future of Urban Water Use in Providence, RI.*” (lead author w/ co-author Nixon, S.W.) Workshop on History of Urban Ecological Imprint, CNRS/UPMC. Paris, France.
- 2008 “*Climate Induced Changes of Benthic-Pelagic Coupling in Narragansett Bay, RI.*” Massachusetts Institute of Technology; Earth, Atmospheric & Planetary Sciences; Cambridge, MA.
- 2007 “*Climate Induced Changes of Benthic-Pelagic Coupling in Narragansett Bay, RI.*” Princeton University; Ecology and Evolutionary Biology; Princeton, NJ.
- 2007 “*Climate Induced Changes of Benthic-Pelagic Coupling in Narragansett Bay, RI.*” Louisiana State University; Department of Oceanography and Coastal Science; Baton Rouge, LA.
- 2007 “*Climate Induced Changes of Benthic-Pelagic Coupling in Narragansett Bay, RI.*” Florida State University; Oceanography Department; Tallahassee, FL.
- 2007 “*Climate Induced Changes of Benthic-Pelagic Coupling in Narragansett Bay, RI.*” University of Texas at Austin Coastal Marine Lab; Port Aransas, TX.
- 2007 “*Climate Induced Changes of Benthic-Pelagic Coupling in Narragansett Bay, RI.*” University of Connecticut; Marine Science Department; Avery Point, CT.

2006 “Natural and anthropogenic modifications of the Si cycle along the land-ocean continuum: Worldwide Ecological, Biogeochemical and Socio-economic consequences (Si-Webs) Conference; Brest, France.

Conferences: (#research technician, §postdoctoral associate, \*graduate student, ¥undergraduate student; Presenting author is underlined)

2020 \*Al-Haj, A. and **Fulweiler, R.W.** Methane Fluxes from Temperate Eelgrass Meadows. (Poster) Ocean Sciences Meeting. San Diego, CA.

2020 \*Chua, E., Short, T., Cardenas-Valencia, A.M., Savidge, W., Algar, C.K. and **Fulweiler, R.W.** Using Mass Spectrometry to Measure Dissolved Gases in Sandy Sediment Porewater. (Oral) Ocean Sciences Meeting. San Diego, CA.

2020 Ray, N. and **Fulweiler, R.W.** Factors Regulating Sediment Methane and Nitrous Oxide Production and Consumption in Northern Temperate Estuaries. (Poster) Ocean Sciences Meeting. San Diego, CA.

2019 Haley, B., Schifman, L.A., Templer, P.H., **Fulweiler, R.W.** and Heiger-Bernays, W., 2019, December. Characterizing patterns of combined sewer discharge in a drinking water source: Spatiotemporal variation of fecal indicator bacteria in the Merrimack River. (Oral) AGU Fall Meeting AGU. San Francisco, CA.

2019 Spivak, A.C., McNichol, S.M., Wankel, S.D., **Fulweiler, R.W.**, Karolewski, J.C. Benthic microalgae help retain detrital marsh grass carbon and nitrogen in estuarine sediments. (Oral) Coastal and Estuarine Research Federation. Mobile, AL.

2019 ¥Laaker, E.M., \*Ray, N.E., Oczkowski, A.J., **Fulweiler, R.W.** Trace metal concentrations in *Mercenaria mercenaria* from Narragansett Bay. New England Estuarine Research Society (NEERS). York, ME.

2019 ¥Masterman, J., ¥Hillyer, G., \*Maguire, T., **Fulweiler, R.W.** Impact of Canadian Geese (*Branta canadensis*) on Charles River Water Quality. (Oral) New England Estuarine Research Society (NEERS). York, ME.

2019 \*Mazur, C., #Sanchez-Viruet, I., #Al-Haj, A., **Fulweiler, R.W.** Benthic metabolism along a nutrient gradient in Long Island Sound, NY. (Oral) New England Estuarine Research Society (NEERS). York, ME. [**\*\*Awarded Ketchum Prize for Best Graduate Talk**].

2019 ¥McCarthy, G., \*Ray, N.E., **Fulweiler, R.W.** Native and Non-Native Oysters as a source of Nitrous oxide but not Methane in a New England Estuary. New England Estuarine Research Society (NEERS). York, ME. [**\*\*Awarded Ranking Prize for Best Undergraduate Talk**].



- 2019 Masterman, J., Hillyer, G., Maguire, T., **Fulweiler, R.W.** Impact of Canada Goose (*Branta canadensis*) on Charles River Water Quality. (Poster) MIT Water Night. Cambridge, MA.
- 2018 Mazur, C. I., Sanchez-Viruet, I., Al-Haj, A., and **Fulweiler, R.W.** Biogenic Gas Fluxes Across the Sediment-Water Interface Along a Gradient of Anthropogenic Stressors. (Poster) Ocean Sciences Meeting. Portland, OR.
- 2018 Ray, N., Al-Haj, A., Babu, M., Henning, M., Momyer, V., Scott, E., and **Fulweiler, R.W.** Oyster Aquaculture Alters Estuarine Silica Pools and Fluxes. (Poster) Ocean Sciences Meeting. Portland, OR.
- 2018 Zakem, E., Al-Haj, A., Church, M., van Dijken, G., Dutkeiwicz, S., Foster, S., Fulweiler, R.W., Mills, M., Follows, M. Ecological control of nitrite in the upper ocean. (Oral) Ocean Sciences Meeting. Portland, OR.
- 2017 Chua, E., Cardenas-Valencia, A., Short, T., Savidge, W. and **Fulweiler, R.W.** Characterization of a porewater sampling device for in situ measurements in permeable marine sediments. (Ignite Talk) Coastal & Estuarine Research Federation (CERF). Providence, RI.
- 2017 Emery, H., Angell, J., Tawade, A. and **Fulweiler, R.W.** Salt marsh microbial community change and trace greenhouse gas fluxes under precipitation intensification. (Oral) Coastal & Estuarine Research Federation (CERF). Providence, RI.
- 2017 Foster, S.Q. and **Fulweiler, R.W.** Impacts of low oxygen on sediment biogeochemical fluxes in a shallow, temperate estuary. (Poster) Coastal & Estuarine Research Federation (CERF). Providence, RI.
- 2017 Maguire, T.M. and **Fulweiler, R.W.** Legacy of Urban Fills Alters Current Coastal Groundwater Si Concentrations. (Oral) Coastal & Estuarine Research Federation (CERF). Providence, RI.
- 2017 Ray, N. and **Fulweiler, R.W.** Does oyster-mediated sediment nutrient regeneration influence phytoplankton community structure? (Oral) Coastal & Estuarine Research Federation (CERF). Providence, RI.
- 2017 Yacano, M., Foster, S.Q., and **Fulweiler, R.W.** Assessing the Role of Macroalgae on the Silicon Cycle in Two Temperate Estuaries (Oral) Coastal & Estuarine Research Federation (CERF). Providence, RI.
- 2017 Chua, E.J., Rodrigo, M., Savidge, W., Cardenas-Valencia, A.M., Short, R.T., **Fulweiler, R.W.** Determination of suitable sediments for deployment of a novel porewater sampling underwater mass spectrometer. (Poster) Harsh Environment Mass Spectrometry Workshop. Oxnard, California.

- 2016 \*Chua, E.J., Short, R.T., Cardenas-Valencia, A.M., Savidge, W., **Fulweiler, R.W.** Development of an in situ porewater sampler coupled to an underwater mass spectrometer for high-resolution biogenic as measurements in permeable sediments. (Oral) New England Estuarine Research Society (NEERS), Block Island, RI.
- 2016 \*Ray, N.E., <sup>‡</sup>Henning, M.C., <sup>#</sup>Al-Haj, A.N., **Fulweiler, R.W.** N<sub>2</sub>O and CH<sub>4</sub> Fluxes from oyster aquaculture. (Oral) New England Estuarine Research Society (NEERS), Block Island, RI.
- 2016 \*Maguire, T.J., and **Fulweiler, R.W.** Urban Dissolved Silica: The impact of wastewater effluent on the coastal ocean. (Oral) New England Estuarine Research Society (NEERS), Block Island, RI. [*\*\*Awarded Ketchum Award for best graduate talk*]
- 2016 <sup>‡</sup>Yacano, M.R., <sup>\*</sup>Foster, S.Q., **Fulweiler, R.W.** Assessing the role of macrophytes in silicon cycling. (Oral) New England Estuarine Research Society (NEERS), Block Island, RI.
- 2015 \*Maguire, T.J. & **Fulweiler, R.W.** City Shortcuts: Documenting Si Export Pathways in an Urban Ecosystem. Geological Society of America, Baltimore, Maryland.
- 2015 \*Buckley, S., Kelly, R., Moran, B., and **Fulweiler, R.W.** The Effect of Anthropogenic Stressors on Long Island Sound Salt Marshes. (Oral) Coastal Estuarine Research Federation, Portland, OR.
- 2015 \*Emery, H.E. and **Fulweiler, R.W.** Salt marshes in a changing climate: greenhouse gas emissions, carbon cycling, precipitation change. (Oral) Coastal Estuarine Research Federation, Portland, OR.
- 2015 \*Foster, S.Q. and **Fulweiler, R.W.** Evidence of phosphorus limitation on sediment nitrous oxide uptake in a shallow, temperate estuary. (Poster) Coastal Estuarine Research Federation, Portland, OR.
- 2015 Humphries, A., Ayvazian, S., and **Fulweiler, R.W.** The role of oyster restoration and aquaculture in nitrogen removal within a Rhode Island Estuary. (Oral) Coastal Estuarine Research Federation, Portland, OR.
- 2015 <sup>‡</sup>Lauto, R., Hattenrath-Lehmann, T., Gobler, C., and **Fulweiler, R.W.** The impact of harmful algal bloom organic matter on sediment denitrification. (Oral) Coastal Estuarine Research Federation, Portland, OR.
- 2015 \*Maguire, T.J. and **Fulweiler, R.W.** Waste water and urban runoff – significant anthropogenic sources of silica to coastal ecosystems. (Oral) Coastal Estuarine Research Federation, Portland, OR.

- 2015 §Chowdhury, P.R. and **Fulweiler, R.W.** Effect of oyster aquaculture on elemental cycling and nitrous oxide fluxes: Insights from ionomics and gene expression. (Poster) Ecological Society of America, Baltimore, MD.
- 2015 \*Buckley, S.B., and **Fulweiler, R.W.** Greenhouse gas emissions in Long Island Sound Salt Marshes. (Oral) New England Estuarine Research Society (NEERS), Bristol, RI.
- 2015 \*Foster, S.Q. and **Fulweiler, R.W.** Environmental controls on sediment nitrous oxide fluxes in an anthropogenically impacted coastal ecosystem. (Oral) New England Estuarine Research Society (NEERS), Bristol, RI. [**\*\*Awarded Ketchum Award for best graduate talk**]
- 2015 \*Maguire, T.J. and **Fulweiler, R.W.** Urban Runoff – An overlooked yet significant source of silica to coastal habitats. (Oral) New England Estuarine Research Society (NEERS), Bristol, RI.
- 2014 Carey, J.C. and **Fulweiler, R.W.** Salt Marshes as Sources and Sinks of Silica. (Oral, *Invited*). American Geophysical Union, San Francisco, CA.
- 2014 Fagherazzi, S., Viggato, T., \*Vieillard, A., **Fulweiler, R.W.** The effect of evaporation and nutrient enrichment on the mudflats in a mesotidal estuary. American Geophysical Union, San Francisco, CA.
- 2014 **Fulweiler, R.W.**, §Newell, S.E., \*Heiss, E.M., ‡Rogener, M.K., LeCleur, G.R., Wilhelm, S.W. The Observer Effect: Quantifying the Impact of the Acetylene Reduction Assay on Marine Sediment N-Fixers. (Oral) Joint Aquatic Sciences Meeting. Portland, OR.
- 2014 Carey, J.C., Ayvazian, S., Hancock, B., Brown, D.S., **Fulweiler, R.W.** Investigating the Role of Oysters in Altering Net N<sub>2</sub> Fluxes Using a Novel *In-Situ* Experimental Design. (Poster) Ocean Sciences Meeting. Honolulu, HI.
- 2014 **Fulweiler, R.W.**, \*Heiss, E.M., §Newell, S.E., M.K., LeCleur, G.R., Wilhelm, S.W. Assessing Acetylene Impacts on Marine Sediment N-fixers. (Oral) Ocean Sciences Meeting. Honolulu, HI.
- 2014 \*Heiss, E.M., **Fulweiler, R.W.** The Role of Nitrification in Estuarine Water Column Nitrous Oxide Production and Consumption. (Poster) Ocean Sciences Meeting. Honolulu, HI.
- 2014 §Newell, S.E., McCarthy, M.J., Gardner, W.S., **Fulweiler, R.W.** Disentangling sediment N<sub>2</sub> Fluxes: A Call for Re-Evaluating the Coastal Marine N Budget. (Poster). Ocean Sciences Meeting. Honolulu, HI.

- 2013 Ayvazian, S., Carey, J., Hancock, B., Brown, S., **Fulweiler, R.W.** Oyster Reef Restoration and Aquaculture Impacts on Denitrification and the Benthic Community. (Poster) Coastal Estuarine Research Federation. San Diego, CA.
- 2013 Brawley, J.W., Weeks, M.V., Hare, M., **Fulweiler, R.W.**, Murphy, D., Reitsma, J. A Study on the Effects of Cultured vs. Wild Oysters (*Crassostrea Virginica*) on Nitrogen Cycling And Ecosystems with Two Similar, Eutrophic Estuaries in Cape Cod, MA. (Oral) Coastal Estuarine Research Federation. San Diego, CA.
- 2013 Fields, L., Nixon, S.W., Oviatt, C., **Fulweiler, R.W.** Responses of Benthic-Pelagic Coupling to Anthropogenic and Climate-Driven Ecosystem Changes in a Temperate Estuary. (Oral) Coastal Estuarine Research Federation. San Diego, CA.
- 2013 \*Foster, S.Q. & **Fulweiler, R.W.** Trends in Sediment Nutrient Cycling Dynamics and Net Ecosystem Metabolism Over Twenty Years in Waquoit Bay, MA. (Oral) Coastal Estuarine Research Federation. San Diego, CA.
- 2013 **Fulweiler, R.W.** & Nixon, S.W. Guiding Light. (Oral) Coastal Estuarine Research Federation. San Diego, CA.
- 2013 §Newell, S., McCarthy, M.J., Gardner, W.S., **Fulweiler, R.W.** The Enigmatic Nitrogen Cycle: Disentangling Sediment N<sub>2</sub> Fluxes in a Temperate Estuary. (Oral) Coastal Estuarine Research Federation. San Diego, CA.
- 2013 **Fulweiler, R.W.** & Heiss, E.M. A Decade of Net Sediment N<sub>2</sub> Fluxes - What can Narragansett Bay tell us about the Global Ocean Nitrogen Budget? (Oral) Scott W. Nixon Symposium - Science Worth Noticing. Graduate School of Oceanography, University of Rhode Island, Narragansett Bay, RI.
- 2013 \*Carey, J.C. & **Fulweiler, R.W.** Land Use Change Directly Alters Riverine Dissolved Silica Fluxes. (Oral) Association for the Sciences of Limnology and Oceanography. New Orleans, LA.
- 2013 Cramer, C.B. & **Fulweiler, R.W.** Video Fluxes: An Interpretation for Education and Outreach. (Oral) Association for the Sciences of Limnology and Oceanography. New Orleans, LA.
- 2013 \*Emery, H.E. & **Fulweiler, R.W.** Anthropogenic Impacts on Salt Marsh Greenhouse Gas Emissions. (Oral) Association for the Sciences of Limnology and Oceanography. New Orleans, LA.
- 2013 \*Fields, L., Nixon, S.W., **Fulweiler, R.W.** Rapid Response of Benthic-Pelagic Coupling to Climate Driven Ecosystem Changes in a Temperate Estuary. (Oral) Association for the Sciences of Limnology and Oceanography. New Orleans, LA.

- 2013 **\*Foster, S.Q. & Fulweiler, R.W.** Effects of Increasing Eutrophication on Sediment N<sub>2</sub>O and N<sub>2</sub> Fluxes in a Shallow Coastal Ecosystem. (Oral) Association for the Sciences of Limnology and Oceanography. New Orleans, LA.
- 2013 **\*Heiss, E.M. & Fulweiler, R.W.** Pelagic Nitrification in Varying Environments: How Rates Change Along an Estuary-to-Shelf Gradient. (Oral) Association for the Sciences of Limnology and Oceanography. New Orleans, LA.
- 2013 **\*Vieillard, A.M. & Fulweiler, R.W.** High-resolution Nitrous Oxide Fluxes from a Temperate Intertidal Mudflat. (Talk) Association for the Sciences of Limnology and Oceanography. New Orleans, LA.
- 2013 **‡Rogener, M., \*Heiss, E.M., Ireland, T., Murray, R., Fulweiler, R.W.** Short and Long-term Temporal Variations of Manganese, Iron, and N<sub>2</sub> Fluxes Across the Sediment Water Interface in a Temperate Estuary. (Oral) Association for the Sciences of Limnology and Oceanography. New Orleans, LA.
- 2013 **Fulweiler, R.W. & \*Emery, H.E.** Greenhouse Gas Fluxes in Tidal Restricted and Restored Salt Marshes. Salt Marsh Symposium: Symposium on C/N Cycling and Ecosystem Valuation of Tidal Wetlands in the Northeast. Waquoit Bay National Estuarine Research Reserve, East Falmouth, MA. (*Invited*)
- 2012 **Fulweiler, R.W.** “Times They Are a-Changin’ - Examining Long-term Changes and Short-term Variations in Benthic-pelagic Coupling and Sediment N Cycling in the Coastal Ocean.” 2<sup>nd</sup> International Council for the Exploration of the Seas (ICES) and the North Pacific Marine Science Organization (PICES) Conference for Early Career Scientists. Mallorca, Spain. (*Invited*)
- 2012 **\*Carey, J.C. & Fulweiler, R.W.** Land Use Change Directly Alters Dissolved Silica Export to Coastal Systems. (Oral) Coastal Estuarine Research Federation. Mar Del Plata, Argentina.
- 2012 **\*Vieillard, A.M., Deegan, L.A., Fulweiler, R.W.** Influence of Long-term fertilization on Salt Marsh Tidal Creek Nitrogen Removal. (Poster). Coastal Estuarine Research Federation. Mar Del Plata, Argentina.
- 2012 **\*Carey, J.C. & Fulweiler, R.W.** Watershed Land Use – A Major Control on Silica Export to Marine Waters. (Oral) New England Estuarine Research Society. Block Island, Rhode Island. [**\*\*Awarded Ketchum Award for best graduate talk**]
- 2012 **\*Emery, H.E. & Fulweiler, R.W.** Decreased Salt Marsh Greenhouse Gas Emissions Associated with *Phragmites Australis*. (Talk). New England Estuarine Research Society. Block Island, Rhode Island.

- 2012 Fields, L., Nixon, S.W., Granger, S., **Fulweiler, R.W.** An Apparent Rapid Response of Benthic-Pelagic Coupling to Ecosystem Changes in Mid-Narragansett Bay, Rhode Island. (Talk). New England Estuarine Research Society. Block Island, RI.
- 2012 \*Foster, S.Q. & **Fulweiler, R.W.** Net N<sub>2</sub> Flux and Nutrient Cycling Dynamics Over a Trajectory of Increasing Eutrophication in Waquoit Bay, MA. (Talk). New England Estuarine Research Society. Block Island, RI.
- 2012 \*Heiss, E.M. & **Fulweiler, R.W.** Water Column Nitrification From Shore to Shelf. (Talk). New England Estuarine Research Society. Block Island, RI.
- 2012 ‡Rogener, M.K., \*Heiss, E.M., **Fulweiler, R.W.** Metals, Mud, and the Nitrogen Cycle – The Impact of Mn and Fe on Sediment N<sub>2</sub> Fluxes in a Temperate Marine Ecosystem. (Talk). New England Estuarine Research Society. Block Island, RI. [**\*\*Awarded Rankin Award for best undergraduate talk**]
- 2012 \*Vieillard, A.M. & **Fulweiler, R.W.** Are Tidal Flats Funny? Nitrous Oxide Fluxes and the Wetting and Drying of Tidal Flat Sediments. (Talk). New England Estuarine Research Society. Block Island, RI.
- 2011 **Fulweiler, R.W.**, Gobler, C., \*Heiss, E.M., Wall, C. Harmful Algal Blooms and Benthic Nutrient Remineralization: A Positive Feedback Loop or a Dead End? (Talk) Sixth Symposium on Harmful Algae in the U.S. Austin, Texas.
- 2011 \*Carey, J.C. & **Fulweiler, R.W.** Exploring the Role of Silica Limitation in Nutrient-Enriched Marshes. (Talk) Coastal Estuarine Research Federation: Daytona Beach, FL.
- 2011 \*Emery, H.E. & **Fulweiler, R.W.** The Effects of Phragmites Invasion, Tidal Restriction and Marsh Restoration on the Greenhouse Gas Emissions in a New England Salt Marsh System (Poster). Coastal Estuarine Research Federation: Daytona Beach, FL.
- 2011 \*Foster, S.Q. & **Fulweiler, R.W.** Effects of Low Oxygen on Sediment Nitrous Oxide Flux in a Shallow Coastal Ecosystem. (Talk) Coastal Estuarine Research Federation: Daytona Beach, FL.
- 2011 \*Heiss, E.M. & **Fulweiler, R.W.** Directly Measured Net N<sub>2</sub> Fluxes in Offshore New England Sediments. (Talk) Coastal Estuarine Research Federation: Daytona Beach, FL.
- 2011 \*Vieillard, A.M., **Fulweiler, R.W.**, Carey, J.C., Hughes, Z.J., Fagherazzi, S., Deegan, L.A., Fitzgerald, D.M. The Ebb and Flood of Silica in a New England Salt Marsh. (Talk) Coastal Estuarine Research Federation: Daytona Beach, FL.
- 2011 \*Heiss, E.M. & **Fulweiler, R.W.** Net Sediment N<sub>2</sub> Fluxes in the Coastal New England Ocean: Evidence of Direct Denitrification (Poster). Graduate Climate Conference: Woods Hole, MA.

- 2011 \*Carey, J. & Fulweiler, R.W. The Impact of Nutrient Enrichment on Si Accumulation in Two Temperate Salt Marshes. (Talk). IBI-S: Isotopes in Biogenic Silica, Antwerp, Belgium.
- 2011 Fulweiler, R. W., \*Heiss, E. M.; Morgan, E. J. Hitting a Moving Target - Sediment Heterotrophic Activity in a Changing Coastal Ocean Ecosystem. (Talk). American Society of Limnology and Oceanography (ASLO), San Juan, Puerto Rico.
- 2011 Fulweiler, R.W., White, J.R., Twilley, R.R. The Impact of Flood-Pulse Disturbance on Lake Ponchartrain Sediment Biogeochemistry. North American Benthological Society Annual Meeting; Linking Landscapes: Watersheds to the Ocean. Providence, Rhode Island. (*Invited*).
- 2010 Fulweiler, R.W., \*Heiss, E.M., Morgan, E. Sediment Nitrous Oxide Fluxes from Shore to Shelf. (Talk). American Geophysical Union (AGU), San Francisco, CA.
- 2010 ‰Vieillard, A.M. & Fulweiler, R.W., Deegan, L., Fagherazzi, S., Fitzgerald, D. Effects of Fertilization on Benthic and Pelagic Silica Fluxes in a New England Salt Marsh. (Talk). New England Estuarine Research Society. Provincetown, MA. [*\*\*won Rankin Award for best undergraduate talk*]
- 2010 \*Carey, J. & Fulweiler, R.W. Dissolved Silica in Salt Marsh Porewater Profiles – Do Concentrations Vary along a Nutrient Gradient? (Talk). New England Estuarine Research Society. Provincetown, MA.
- 2010 \*Heiss, E.M. & Fulweiler, R.W. Sediment N<sub>2</sub> Fluxes from Estuary to Offshore Along and Anthropogenic Gradient. (Talk). New England Estuarine Research Society. Provincetown, MA.
- 2010 ‰Gifford, S. & Fulweiler, R.W. Using nitrogen and carbon isotopes to compare wild and captive penguin colonies. (Poster). Seventh International Penguin Conference. Boston, MA.
- 2010 Brown, S. M., Fulweiler, R. W., Nixon, S. W., Tahmassian, A., Fogarty, C. E., Jenkins, B. D. Elucidating Controls on Nitrogen Fixation and Denitrification in Estuarine Sediments by Coupling Gene Activity and Biogeochemical Flux Measurements. (Poster). American Society for Limnology and Oceanography. Portland, OR.
- 2009 Brown, S. M., Fulweiler, R. W., Nixon, S. W., Tahmassian, A., Fogarty, C. E., Jenkins, B. D. Coupling Gene Expression and Biogeochemical Measurements to Understand Controls on Estuarine Sediment Nitrogen Cycling Processes. (Poster). EPSCoR National Conference. Washington, D.C.
- 2009 Brown, S. M., Fogarty, C. E., Fulweiler, R. W., Nixon, S. W., Jenkins, B. D. Using

- Gene Expression and Biogeochemical Measurements to Understand Controls on Estuarine Sediment Nitrogen Cycling Processes. (Talk). American Society for Limnology and Oceanography. Nice, France.
- 2009 **Fulweiler, R.W.** Granger, S.L., Buckley, B.A., Van Keuren, A., Nixon, S.W. Downstream Changes in Groundwater N<sub>2</sub> Concentrations of Constructed Subterranean Wetlands. (Poster). RCN Denitrification Workshop, University of Rhode Island, Narragansett, RI.
- 2008 Nixon, S.W. & Fulweiler, R.W. Oligotrophication – Coming to an estuary near you? (Talk). American Society of Limnology and Oceanography (ASLO); Orlando, FL.
- 2008 Twilley, R.R., **Fulweiler, R.W.**, Lenaker, P., Bond, D.C., Baker, J., and Rich, S. Hot Flashes in Dynamic Coastal Landscapes: Tracking the Fate of Nitrogen in Coastal Louisiana. (Poster). American Society of Limnology and Oceanography (ASLO); Orlando, FL.
- 2008 **Fulweiler, R.W.** Reversal of the net N<sub>2</sub> Flux in Narragansett Bay. (Talk). RCN Denitrification Workshop; Horn Point Laboratory, Cambridge, MD (*Invited*).
- 2007 **Fulweiler, R.W.** & Nixon, S.W. The Impact of Climate Change on Benthic Remineralization and Sediment Net N<sub>2</sub> Flux. (Talk). Estuarine Research Federation (ERF); Providence, RI.
- 2006 **Fulweiler, R.W.** & Nixon, S.W. Climate-induced Alteration of the Coastal Marine N Cycle. (Poster). RCN Denitrification Workshop; Institute for Ecosystem Studies (IES); Millbrook, NY.
- 2006 **Fulweiler, R.W.** & Nixon, S.W. Climate Induced Changes of Benthic-Pelagic Coupling in Narragansett Bay, R.I. (Talk). New England Estuarine Research Society (NEERS); Groton, CT.
- 2006 **Fulweiler, R.W.** & Nixon, S.W. Impact of Climate Induced Oligotrophication on Benthic-Pelagic Coupling in Narragansett Bay (Talk). Research and Management of Eutrophication in Coastal Ecosystems. Nyborg, Denmark.
- 2005 **Fulweiler, R.W.** & Nixon, S.W. Denitrification in organic rich coastal sediments under varying levels of hypoxia (Talk). Estuarine Research Federation (ERF); Norfolk, VA.
- 2004 **Fulweiler, R.W.** & Nixon, S.W. A Different Kind of Dam: Terrestrial Vegetation and the Annual Flux of Silica to Little Narragansett Bay. (Talk). New England Estuarine Research Society (NEERS); Block Island, RI.
- 2004 **Fulweiler, R.W.** & Nixon, S.W. Terrestrial vegetation and the seasonal cycle of dissolved silica in a southern New England coastal river. (Talk). American Society of



Limnology and Oceanography (ASLO) and The Oceanography Society (TOS) Ocean Research Conference; Honolulu, HI.

- 2003 **Fulweiler, R.W.** & Nixon, S.W. Carbon, Nitrogen, and the Black Hole of New England: Examining Thirty years of C and N Export from the Wood-Pawcatuck Watershed, R.I. (Poster). Estuarine Research Federation (ERF): Estuaries on the edge, convergence of ocean, land, and culture; Seattle, WA.
- 2003 **Fulweiler, R.W.** & Nixon, S.W. Export of Organic Carbon from a Minimally Developed Southern New England Watershed (Talk). Wessex Institute of Technology: River Basin Management II; Las Palmas, Gran Canaria.
- 2002 **Granger, S.**, Nixon, S., Harris, L., Chaves, J., **Fulweiler, R.**, Mueller, C., Sturgis, B., and Almario, A. A preliminary assessment of seagrass health and vitality in Assateague National Seashore's coastal bays. Understanding the Role of Macroalgae in Shallow Estuaries. January 10-11, 2002. Linthicum, MD.
- 2002 **Fulweiler, R.W.**, Nixon, S.W., Buckley, B., Granger, S.L. Quantifying Nutrient Loading From the Pawcatuck Watershed to Little Narragansett Bay. (Talk). New England Estuarine Research Society (NEERS); Bar Harbor, ME.

## **Funding**

### Current

*(Please see the table at the end of this document for list of funding history between 2014-present)*

NOAA RI Sea Grant: *Assessing the Human Health Safety of Kelp Aquaculture and Macroalgae Associated with Oyster Farms*. Lead PI; 09/01/20-08/30/22; \$250,101.

NOAA RI Sea Grant: *The Role of Nitrogen Fixation in Driving Future Productivity in Narragansett Bay – field observations and a mesocosm experiment*; Lead PI; 02/01/20-01/31/22; \$245,360.

NSF CoPe: EAGER: *Collaborative Research: Development of A Novel, Mobile Coastal Observatory for Quantifying Coastal Carbon Cycling by Professional and Citizen Scientists*. Lead PI w/ one other; 9/1/2019-8/31/2021; \$208,556.

NOAA ECOHAB: *The raphidophyte-NO connection: The role of nitric oxide in promoting raphidophyte blooms*. Co-PI w/ two others; 9/1/2018-8/31/2021; \$228,274 (Direct: \$138,348).

NOAA RI Sea Grant: *Benthic-Pelagic Coupling and Harmful Algal Blooms in Narragansett Bay*. Lead PI; 02/01/18-01/31/20; \$190,850.

NOAA MIT Sea Grant: *Quantifying Coastal Ocean Acidification Impacts on Estuarine Nitrogen Removal*. Lead PI; 02/01/18-01/31/20; \$179,454.

NSF LTER: *From Microbes to Macrosystems: Understanding the response of ecological systems to global change drivers and their interactions*. Co-PI with many others; 01/01/19-12/31/24; \$2,254,000 (Direct Fulweiler portion: \$43,975).

## **MENTORING AND TEACHING**

### **Postdoctoral Mentoring**

John Angell, Postdoctoral Researcher (2016-2020). Currently: Lecturer at University of Massachusetts and Boston University.

Silvia Newell, Postdoctoral Researcher (2011-2014). Currently: Associate Professor of Earth and Environmental Science, Wright State University

Priyanka Chowdhury, Postdoctoral Researcher (2014-2015). Currently: Assistant Professor, Keene State

### **Graduate students (9 completed: 2 MS, 6 Ph.D., 1 shared Ph.D.)**

1. Sarah Foster, MS (2010-2012).
2. Joanna Carey, Ph.D. (2009-2013). Currently: Assistant Professor, Babson College
3. Amanda Vieillard, MS (2011-2013). Currently: Ph.D. student at the University of Auckland.
4. Lindsey Fields, Ph.D., co-advised w/ C. Oviatt at GSO/URI for her last year (2012-2013). Currently: University of Georgia College of Engineering Instructor, Consultant with Carter and Sloope Consulting Engineers
5. Elise Heiss, Ph.D. (2009-2014) Currently: Assistant Professor of Chemistry at King's College.
6. Timothy Maguire, Ph.D. (2013-2017) Currently: Postdoctoral Researcher at the Great Lakes Water Research Institute.
7. Hollie E. Emery, Ph.D. (2010-2018) Currently: Postdoctoral Researcher in the Department of Organismal and Evolutionary Biology at Harvard University.
8. Sarah Foster, Ph.D. (2012-2019) Currently: Lecturer at Babson College
9. Nick Ray, Ph.D. (2015-2020) Currently: Postdoctoral Researcher in the Department of Environmental Science at Stockholm University.

### **Graduate students (in progress)**

1. Alia Al-Haj, Ph.D. student (2017-present)
2. Nia Bartolucci (2019-present)
3. Emily Chua, Ph.D. candidate (2015-present)
4. Claudia Mazur, Ph.D. student (2017-present)

### **High school and Undergraduate Research Mentor (past five years)**

Undergraduate Research Opportunity Program (UROP): Primary mentor for 17 student projects  
Undergraduate Directed Studies: 8 students

Undergraduate Honors Thesis: Primary Mentor (10); Committee Member (8)  
Undergraduate Laboratory Volunteers: 40  
High School Internships: 9

### ***Courses Taught***

2009-14,18-19 Marine Biogeochemistry, ES/BI 423/623  
2008-2018\* Introduction to Oceanography, ES 144 (\*did not teach this in 2015 & 2017)  
2015 Bigfoot: Nitrogen, the Ocean, and You, Kilachand Honors Course  
2008, 2012 Invited Lecturer; Lund University (Lund, Sweden), Global Biogeochemical Cycles  
2011 Coastal Biogeochemistry, ES/BI 558  
2011 Advanced Topics in (Bio)Geochemical Cycles  
2007 Invited Lecturer; Louisiana State University for Estuarine Ecology (OCE 4372).  
2006-2007 Invited Lecturer; University of Rhode Island, Graduate School of Oceanography for Coastal Marine Ecosystems (OCG 689).  
2005 Invited Lecturer; University of Rhode Island, Graduate School of Oceanography for Biological Oceanography (OCG 561).  
2003-2005 Teaching Assistant at the University of Rhode Island, Graduate School of Oceanography for Biological Oceanography (OCG 561). Duties include planning and preparing field and laboratory exercises.  
2000–2001 Teaching Assistant at the University of Rhode Island Biological Science Department: General Zoology – Fall '00 and Spring '01. Duties included planning and preparing lectures and labs.

### **SERVICE**

#### *University Level*

2020- present Inclusive Pedagogy Working Group – *Our goal is to review current best practices and develop recommendations to improve inclusive teaching at BU.*

2016-present Member of the Dive Control Board – *We provide recommendations and develop policy on how our research divers can become and maintain compliance for the American Academy of Underwater Sciences (AAUS) research diving certification. We also re-vamped the dive control manual and diving paperwork.*

2019-2020 Member of the Provost Teaching Awards Committee – *We reviewed all of the applications for the Provost Teaching Awards. This includes class visit of seven professors nominated for the Metcalf Teaching Awards.*

2018-2020 Member of the University Council Committee on Faculty Policies – *At the request of the Provost we review and provide policy recommendations on a range of topics related to faculty (e.g., tenure policy/wording).*

- 2016-2019 Director of the BU Marine Program – This is an interdisciplinary program comprised of ~20 faculty primarily from the Departments of Biology and Earth and Environment. As Director, I had numerous responsibilities. Here I outline a sample of them:
- I was responsible for coordinating the teaching and research mentoring needs of the faculty. I helped design the Marine Semester Schedule each fall.
  - I instituted monthly faculty meetings, with agenda items (including those suggested by participating faculty), and implemented a policy of sharing faculty meeting notes to allow all the faculty to feel included in the program.
  - I worked on promoting the BU Marine Program at BU that included meeting the various Deans, adding the program to campus tours, and starting the Annual Night at the BU Marine Program Aquarium – an open house event for members of the BU community that highlighted our research capabilities and opportunities.
  - I increased the overall enrollment of majors and minors.
  - I introduced a Code of Conduct for our Marine Semester for both students and faculty.
  - I was responsible for interviewing and hiring lecturers in the program. I worked with a committee of Marine Program Faculty to do this.
  - I started the process of developing a formal collaboration between BU and University of Belize. This included generating a proposal and business model for such a relationship and discussions with BU Global Programs.
  - I coordinated the annual Fred Lang Lecture, which invites a well-known marine scientist to campus to give a public seminar and to meet with our students and faculty.
  - I helped coordinate graduation and senior awards.
  - I coordinated the Warren-McLeod fellowship applications and introduced a level of transparency and organization to the process. For example, I developed a rubric based on the NSF GRFP that the program faculty edited and approved.
  - Working with our program manager, I helped our faculty adjust their courses to meet HUB requirements.
- 2017-2019 Boston University Goldwater Scholarship Review Committee – *We reviewed ~10-15 applications for this scholarship.*
- 2016- 2017 Interim Chair of the BU Dive Control and Boating Safety Board – *see above.*
- 2014, 2015 Boston University Trustees Scholarship Committee - *We reviewed applications for this scholarship.*

- 2013, 2014 Boston University Graduate Student Orientation Talk – How to be a good Teaching Fellow – *At the request of the Deans of the CAS Graduate School I gave a talk on best practices for teaching undergraduates.*
- 2012-2013 Boston University Biology Department Search Committee for Microbiology Faculty position
- 2012 Boston University Volunteer Judge for Scholars Day
- 2012 Boston University Earth Sciences and Geography and the Environment Merging Space Committee
- 2010-2011 Earth System Forum Steering Committee - helped plan and schedule forum; presented at forum on behalf of the BU Marine Program (BUMP)
- 2010-2012 Dive Safety Committee - help monitor and approve diving projects associated with BU research or educational activity.
- 2009-2013 UROP Science Presentation Judge
- 2010-present Associate Director of the BU Marine Program (BUMP)
- 2009-2012 Volunteer Judge for Science and Engineering Day
- 2009-2010 Earth Sciences Graduate Student Admissions Committee

*Department Level*

- 2018-2019 Department of Earth and Environment Merit Review Committee
- 2017-2018 Member of the Biology Department Search Committee for Global Change Biologist
- 2016 Member of BU HUB Satellite Implementation Team
- 2016 Member of Search Committee for Full-time Lecturer in Biology
- 2015-2016 Boston University Marine Program Search Committee for Marine Genomics/Marine Ecology
- 2014-2015 Boston University Department of Earth and Environment Search Committee for Global Climate Change Scientist

- 2013-2014 Boston University Department of Earth and Environment Curriculum Redevelopment Committee
- 2013-2014 Boston University Department of Earth and Environment Search Committee for Social Scientist specializing in Global Climate Change
- 2008 BU Geological Society (BUGS) Graduate School Advise Panel
- 2008-2009 Geography and the Environment Faculty Search Committee
- 2008-2009 Boston University Department Biology Search Committee for Marine Biologist

*Professional*

Scientific Society service

- 2014-2018 Chair of the Publications Committee for the Association for the Sciences of Limnology and Oceanography (ASLO). *I was invited to serve in this role by the President of ASLO. I was invited to do a second term, starting in 2018, but declined. In this role, I led the publications committee in providing annual reviews for ASLO publications and Editors. I also helped start a new journal. And I led the committee in hiring two Editor-in-Chiefs, and two Deputy Editors.*
- 2012-2018 Voted to the ASLO Board as Member at Large. *I was nominated to run for election for this position by a colleague. Responsibilities included helping run the society, representing membership needs, bringing membership ideas/requests to the board, planning society projects, and maintain fiscal health for the society. I was the first person to be elected to serve two terms.*
- 2013- 2015 Appointed as co-Chair of the Public Policy Committee of the Association for the Sciences of Limnology and Oceanography (ASLO). *I was invited to serve in this role by the President of ASLO. We developed public policy plan for the society, helped craft letters about timely events, and helped build a network within the society of policy interested/skilled people.*
- 2011, 2013 Geosciences Congressional Visits Day; participated via ASLO on behalf of marine scientists. *I received training on how to speak with elected officials and then we spoke with officials on the hill about society relevant issues.*
- 2010-2015 Member at Large, New England Estuarine Research Society. *I was invited to serve in this role by the President of NEERS. We*

*Conference related service*

- 2018 Co-Chair of a special session for Goldschmidt 2018 with J. Waldbauer, A. Steen, E. Roden, N. Butterfield, G. Antler, A. Zerkle, & P. Girguis titled: What the Flux?: Advances in Understanding the Role of Microbes and Animals Governing Biogeochemical Flux at Local and Global Scales. *Responsibilities included developing the session concept, advertising the session, organizing the day, and introducing the speakers. I also organized, with Pete Girguis, a networking event for session participants where we played geomicrobiology trivia.*
- 2015-2017 Co-Chair of the Coastal Estuarine Research Federation 2017 Fall Meeting. *My co-Chair and I were responsible for developing the theme of the conference, populating all of the committees, and meeting regularly with these committees for two years to ensure the conference was organized, inclusive, and a success. We approved the plenary speakers, commissioned the conference artwork, etc. We also participated in final reporting and meeting with the next conference co-chairs to share lessons learned.*
- 2015 Co-organized a special session for the Coastal Estuarine Research Federation fall meeting w/ Carlos Duarte titled: Triaging the Coastal Ocean. *Responsibilities included developing the session concept, advertising the session, organizing the day, and introducing the speakers.*
- 2014 Co-organized a special session for the Aquatic Sciences Meeting (ASM) (May meeting) w/ A. Marcelli, T. Scott, and J. Welter titled: We have a Nitrogen Fixation. *Responsibilities included developing the session concept, advertising the session, organizing the day, and introducing the speakers.*
- 2014 Co-organized a special session for the Association for the Sciences of Limnology and Oceanography (ASLO) (February meeting) w/ P.J. Treguer, J.C. Carey, M.A. Brzezinski, C. De La Rocha, and M. Maldonado entitled: Advancing the Frontiers of the Si cycle in Terrestrial, Coastal, and Open Ocean Ecosystems. *Responsibilities included developing the session concept, advertising the session, organizing the day, and introducing the speakers.*
- 2013 Co-organized a special session for the ASLO (February meeting) w/ K. Fennel, J. Lehrter, and R. Maranger entitled: Biological and Biogeochemical Responses to Human Impacts at the Sediment-Water Interface. New Orleans, LA.
- 2013 Co-organized a special session for the Coastal Estuarine Research Federation (CERF) (November meeting) w/ L. Fields, M. Brush, and K. Henry entitled: Synthesis Research in Estuarine and Coastal Science: A Session in Honor of Scott W. Nixon.
- 2008 Co-organized a special session for the Association for the Sciences of Limnology and Oceanography (ASLO) (February meeting) w/ R. Maranger and M. McCarthy entitled: Can nitrogen fixation in aquatic systems reverse nitrogen limitation?

- 2008 Co-organized a special session Association for the Sciences of Limnology and Oceanography (ASLO) (June meeting): Special Session w/ R. Twilley entitled: The Response of Coastal Marine Ecosystems to Pulsing Events.
- 2007 Co-organized a special session (Coastal) Estuarine Research Federation (CERF) (November meeting) w/ S. Nixon for session entitled: The Impact of Climate change on Biogeochemical Cycles.

*Journal related service*

- 2016-present Associate Editor for Marine Ecological Progress Series.
- 2016-present Associate Editor for the Journal of Geophysical Research: Biogeosciences.
- 2016 Steering Committee for UNOLS - Ocean Observatories Initiative Coastal Array Workshop (*Invited*).
- 2014- present Associate Editor of Frontiers of Marine Science - Global Change and the Future Ocean.
- 2012-2017 Associate Editor for *Estuarine, Coastal, and Shelf Science*.
- 2005-present *Journal Reviews (2019/20 reviews in bold)*: Aquatic Microbial Ecology; Aquatic Sciences, **Biogeochemistry**; Biogeosciences, Chemical Ecology; Chemosphere; Continental Shelf Research, Deep Sea Research, Ecological Modeling; Ecosystems; Environmental Microbiology; Earth Science Reviews; Environmental Microbiology; Environmental Science and Technology; **Estuaries and Coasts**; Estuarine, Coastal, and Shelf Science; Frontiers in Aquatic Microbiology; **Frontiers in Marine Science**; **Functional Ecology**; Geophysical Research Letters; Global Change Biology; Global Biogeochemical Cycles; **Journal of Ecology**; Journal of Vegetation Science; Journal of Environmental Quality; **Limnology and Oceanography**; **Limnology and Oceanography – Letters**; Marine Ecology Progress Series; Marine Pollution Bulletin; Nature; Plant and Soil; **Proceedings of the National Academy of Sciences (PNAS)**; Silicon; **Science**; **Scientific Reports**; **Science of the Total Environment**; **The ISME Journal**; Water Research; Wetlands.

*Funding review service*

- 2013 Louisiana Sea Grant (NOAA) Proposal Review Panel
- 2012 Reviewer for National Fellowships Committee for Sigma Delta Epsilon, Graduate Women in Science.
- 2007 NSF Chemical Oceanography Proposal Review Panel



2011 MIT Sea Grant (NOAA) Proposal Review Panel  
2008-present *Proposal Reviews*: NSF: Biological Oceanography, Chemical Oceanography, OPUS, Arctic Programs; Sea Grant: Alabama, Louisiana, Maryland, MIT, North Carolina, Virginia, Washington; National Institute for Climate Change Research (NICCR); Swedish National Science Foundation.