Ashley M. Helton

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Research Interests

Aquatic ecosystem ecology; Biogeochemistry; Watershed and river corridor hydrology; Effects of global climate and land use change on carbon and nitrogen cycles; Spatial and temporal scaling of ecosystem processes

Education

2011	Ph.D. in Ecology, Odum School of Ecology, University of Georgia, Athens, GA
2006	M.S. in Ecology, Institute of Ecology, University of Georgia, Athens, GA
2004	B.S. in Environmental Studies, University of Cincinnati, Cincinnati, OH

Professional Appointments

2019 -	*Associate Professor* (2013-2019 *Assistant Professor*) Department of Natural Resources and the Environment & the Center for Environmental Sciences and Engineering, University of Connecticut
2022 -	*Deputy Director* (2021 *Acting Director*) Institute of the Environment, University of Connecticut
2020-	Al Geib Term Professor in Environmental Engineering Research and Education, University of Connecticut
2013-	*Associate Member*, Department of Environmental Engineering, University of Connecticut
2014-	*Affiliate Research Professor*, Flathead Lake Biological Station, University of Montana
2011-2013	*Postdoctoral Associate*, Department of Biology, Duke University
2010-2011	*Research Associate*, Montana State University and University of Montana

Peer-reviewed Publications

(*Italicized* names are postdoctoral associates, Underlined names are graduate students, and *underlined and italicized* names are undergraduate students who participated in the research within the publication while they were a part of Helton's lab. The first author is corresponding unless indicated by *)

1. Jackson, KE, EM Moore, **AM Helton***, AB Haynes, JR Barclay, MA Briggs. 2024 Exploring landscape and geologic controls on spatial patterning of streambank groundwater discharge in a mixed land use watershed. *Hydrologic Processes*
2. O'Donnell, K, ES Bernhardt, X Yang, R Emanuel, M Ardón, M Lerdau, A Manda, A Braswell, TK BenDor, EC Edwards, E Frankenberg, **AM Helton**, JS Kominoski, A Lesen, L Naylor, G Noe, K Tully, E White, J Wright. 2024. Saltwater Intrusion and Sea Level Rise threatens coastal landscapes and communities. *Anthropocene*.
3. Moore, EM, JR Barclay, AB Haynes, KE Jackson, AM Bisson, MA Briggs, **AM Helton**. **2023**. Where the past meets the present: Connecting nitrogen from watersheds to their streams through groundwater flow paths. *Environmental Research Letters*. 18 124039. DOI 10.1088/1748-9326/ad0c86
4. Barry, A, SK Ooi, **AM Helton**, B Steven, CS Elphick, BA Lawrence*. **2023**. Carbon dynamics vary among tidal marsh plant species in a sea-level rise experiment. *Wetlands* 43 (7) 78

5. Haynes, AB, MA Briggs*, E Moore, K Jackson, J Knighton, DM Rey, **AM Helton**. **2023**. Shallow and local or deep and regional? Inferring source groundwater characteristics across mainstem river discharge faces. *Hydrological Processes* 27 (7) e14939.
6. Snarski, JW, M Dietz, **AM Helton**, J Knighton. **2023**. Potential hydrologic pathways of deicing salt chloride transport evaluate with SWMM. *Journal of Hydrologic Engineering*. 28 (8) 04023022
7. Hare, DK, SA Benz, BL Kurylyk, ZC Johnson, NC Terry, **AM Helton**. **2023**. Paired air and stream temperature analysis (PASTA) to evaluate groundwater influence on streams. *Water Resources Research*. doi: 10.1029/2022WR033
8. **Helton, AM**, JL Morse, EB Sudduth, M Ardón, R Bier, KA Voss, MRV Ross, JR Blaszczak, JE Brandt, M Simonin, JD Rocca, A Carter, JR Gerson, EA Ury, MJ Vlah. **2023**. At the interfaces of the hydrologic sciences: Connecting water, elements, ecosystems, and people through the major contributions of Dr. Emily Bernhardt. *Journal of Hydrology* 619: 129251. doi: 10.1016/j.jhydrol.2023.129251
9. Blaszczak, JR, *LE Koenig*, FH Mejia, L Gomez-Gener, CL Dutton, AM Carter, NB Grimm, JW Harvey, **AM Helton,** MJ Cohen. **2022**. Global extent, patterns, and drivers of hypoxia in streams and rivers. *Limnology and Oceanography-Letters.* doi: 10.1002/lol2.10297
10. Swails, EE, M Ardon, KW Krauss, AL Peralta, RE Emmanuel, **AM Helton**, JL Morse, L Gutenberg, N Cormier, D. Shoch, S Settelmyer, E Soderholm, B Boutin, C Peoples, S Ward. **2022.** Response of soil respiration to changes in soil temperature and water table level in drained and restored peatlands of the southeastern United States. *Carbon Balance and Management* 17, 18. doi: 10.1186/s13021-022-00219-5
11. Tomczyk, N, AD Rosemond, J Kominoski, D Manning, J Benstead, V Gulis, S Thomas, E Hotchkiss, **AM Helton**. **2022**. Nitrogen and phosphorus uptake stoichiometry tracks supply ratio during two-year whole-ecosystem nutrient additions. *Ecosystems*. doi: 10.1007/s10021-022-00813-1
12. Ooi, SK, A Barry, BA Lawrence, CS Elphick, **AM Helton**. **2022**. Vegetation zones are indicators of denitrification potential in salt marshes. *Ecological Applications*. 32 (6) e2630
13. Bernhardt, ES, P Savoy, MJ Vlah, AA Appling, *LE Koenig*, RO Hall, M Arriota, JR Blaszczak, AM Carter, M Cohen, NB Grimm, JW Harvey, JB Heffernan, **AM Helton**, JD Hosen, L Kirk, WH McDowell, JS Reed, EH Stanley, EG Stets, CB Yackulic. **2022**. Light and flow regimes regulate the metabolism of rivers. *Proceedings of the National Academy of Sciences.* 119 (8) e2121976119
14. Wollheim, WM. TK Harms, AL Robinson, *LE Koenig*, **AM Helton** C Song, WB Bowden, JC Finlay. **2022**. Superlinear scaling of riverine biogeochemical function with watershed size. *Nature Communications* 13, 1230. doi: 10.1038/s41467-022-28630-z
15. Barclay, JR, MA Briggs, JJ Starn, EM Moore, AEH Hanson, **AM Helton**. **2022**. Where groundwater seeps: Evaluating modeled groundwater discharge patterns with thermal infrared surveys at the river network scale. *Advances in Water Research* 160 (104108). https://doi.org/10.1016/j.advwatres.2021.104108
16. Briggs, MA, KE Jackson, *F Liu,* EM Moore, A Bisson, **AM Helton**. **2022**. Exploring local riverbank sediment controls on the occurrence of preferential groundwater discharge points. *Water* 14(1), 11. https://doi.org/10.3390/w14010011
17. Rodriquez-Cardona, B, A Wymore, A Argerich, R Barnes, S Bernal, J Brookshire, A Coble, WK Dodds, H Fazekas, **AM Helton**, P Johnes, S Johnson, J Jones, S Kaushal, P Kortelainen, C Lopez-Lloreda, R Spencer, W McDowell. **2021**. Shifting stoichiometry: Long-term trends in stream dissolved organic matter alter C:N ratios due to history of atmospheric acid deposition. *Global Change Biology* 28(1): 98-114. https://doi.org/10.1111/gcb.15965
18. Wymore, AS, PJ Johnes, S Bernal, ENJ Brookshire, HM Fazekas, **AM Helton**, A Argerich, RT Barnes, AA Coble, WK Dodds, S Haq, SL Johnson, JB Jones, SS Kaushal, P Kortelainen, C Lopez-Lloreda, B Rodriquez-Cardona, RGM Spencer, PL Sullivan, CA Yates, WH McDowell. **2021**. Gradients of Anthropogenic Nutrient Enrichment Alter N Composition and DOM Stoichiometry in Freshwater Ecosystems. *Global Biogeochemical Cycles*. Doi: 10.1029/2021GB006953

19. Walker, S, G Robbins, **AM Helton**, BA Lawrence*. **2021**. Road salt inputs alter biogeochemistry but not community composition in exurban forested wetlands. *Ecosphere*. https://doi.org/10.1002/ecs2.3814
20. Barry, A, SK Ooi, **AM Helton**, S Blaire, C Elphick, BA Lawrence*. **2021**. Vegetation zonation predicts soil carbon mineralization and microbial communities in southern New England salt marshes. *Estuaries and Coasts*. https://doi.org/10.1007/s12237-021-00943-0
21. Sullivan, CJ, JC Vokoun, **AM Helton**, MA Briggs, BL Kurylyk. **2021**. An ecohydrological typology for thermal refuges in streams and rivers. *Ecohydrology*. https://doi.org/10.1002/eco.2295 **** Ignacio Rodriguez-Iturbe Publication Award winner**
22. Hare, DK, **AM Helton**, ZC Johnson, JW Lane, MA Briggs. **2021**. Continental-scale analysis of shallow and deep groundwater contributions to streams. *Nature-Communications* 12 (1450). doi: 10.1038/s41467-021-21651-0
23. *Granville, KE*, SK Ooi, *LE Koenig*, BA Lawrence, CS Elphick, **AM Helton***. **2021**. Seasonal patterns of denitrification and N_2O production in a southern New England salt marsh. *Wetlands* 41(7) https://doi.org/10.1007/s13157-021-01393-x
24. Barclay, JR, JJ Starn, MA Briggs, **AM Helton**. **2020**. Improved prediction of management-relevant groundwater discharge characteristics throughout river networks. *Water Resources Research*. 26(10): e2020WR028027. doi:10.1029/2020WR028027
25. Macklem, DC, **AM Helton**, MW Tingley, JM Dickson, TAG Rittenhouse. **2020**. Stream salamander persistence influenced by the interaction between exurban housing age and development. *Urban Ecosystems*. 23 (117): 117-132.
26. *Harvey, MC*, DK Hare, A Hackman, G Davenport, AB Haynes, **AM Helton**, JW Lane, MA Briggs. **2019**. Evaluation of stream and wetland restoration using UAS-based thermal infrared mapping. *Water*. 11(8), 1668, https://doi.org/10.3390/w11081568
27. *Koenig, LE*, **AM Helton**, P Savoy, E Bertuzzo, JB Heffernan, RO Hall, ES Bernhardt. **2019**. Emergent productivity regimes of river networks. *Limnology and Oceanography-Letters*. https://doi.org/10.1002/lol2.10115
28. Schoepfer, VA, AJ Burgin, TD Loecke, **AM Helton**. **2019**. Seasonal salinization decreases spatial heterogeneity of sulfate reducing activity. *Soil Systems*. 3(2), 25; https://doi.org/10.3390/soilsystems3020025
29. Doroski, AA, **AM Helton***, T Vadas. **2019**. Denitrification potential and carbon mineralization in restored and unrestored coastal wetland soils across an urban landscape. *Wetlands*. https://doi.org/10.1007/s13157-019-01128-z
30. **Helton, AM**, M Ardon, ES Bernhardt. **2019**. Hydrologic context alters greenhouse gas feedbacks of coastal wetland salinization. *Ecosystems*. https://doi.org/10.1007/s10021-018-0325-2
31. Doroski, AA, **AM Helton***, T Vadas. **2019**. Greenhouse gas fluxes from wetlands at the intersection of urban pollution and saltwater intrusion: a soil core experiment. *Soil Biology and Biochemistry.* 131: 44-53. https://doi.org/10.1016/j.soilbio.2018.12.023
32. Reinhold, AM, GC Poole, C Izurieta, **AM Helton**, and ES Bernhardt. **2019.** Constraint-based simulation of multiple interactive elemental cycles in biogeochemical systems. *Ecological Informatics*. 50: 102-121. https://doi.org/10.1016/j.ecoinf.2018.12.008
33. Ardon, M, **AM Helton**, ES Bernhardt. **2018**. Salinity effects on greenhouse gas emissions from wetland soils are contingent upon hydrologic setting: a microcosm experiment. *Biogeochemistry*. 140:217-232. https://doi.org/10.1007/s10533-018-0486-2
34. Song, C, WK Dodds, J Ruegg, A Argerich, CL Baker, WB Bowden, MM Douglas, KJ Farrell, MB Flinn, EA Garcia, **AM Helton**, TK Harms, S Jia, JB Jones, LE Koenig, JS Kominoski, WH McDowell, D McMaster, SP Parker, AD Rosemond, CM Ruffing, KR Sheehan, MT Trentman, MR Whiles, WM Wollheim, F Ballantyne. **2018**. Continental-scale decrease in net primary productivity in streams due to climate warming. *Nature Geosciences*. doi: 10.1038/s41561-018-0125-5
35. Carmichael, MJ, **AM Helton**, JC White, WK Smith. **2017**. Standing dead trees are a conduit for the atmospheric flux of CH_4 and CO_2 from wetlands. *Wetlands*. 38: 133-143. Doi: 10.1007/s13157-017-0963-8

36. Bertuzzo, E, **AM Helton**, RO Hall, TJ Battin. **2017**. Scaling of dissolved organic carbon removal in river networks. *Advances in Water Resources*. 110: 136-146.
37. **Helton, AM**, RO Hall, E Bertuzzo. **2017**. How network structure can affect nitrogen removal by streams. *Freshwater Biology*. doi: 10.1111/fwb.12990 *****Top 20 downloaded article June 2016 to July 2018.***
38. Ardon, M, **AM Helton**, MD Scheuerell, ES Bernhardt. **2017**. Fertilizer legacies meet saltwater incursion: Challenges and constraints for coastal plain wetland restoration. *Elementa: Science of the Anthropocene.* Special Collection: Ghosts of land-use past: Do land-use legacy effects constrain the restoration of aquatic ecosystems? doi: http://doi.org/10.1525/elementa.236
39. Barclay, J, *H Tripp*, CJ Bellucci, GS Warner, **AM Helton**. **2016**. Do water body classifications predict water quality? *Journal of Environmental Management*. 183(1): 1-12.
40. *McInerney, E* and **AM Helton***. **2016**. The effects of soil moisture and vegetation on carbon emissions from constructed wetlands. *Wetlands*. 36: 275-284. doi:10.1007/s13157-016-0736-9.
41. Ardon, M, **AM Helton**, ES Bernhardt. **2016**. Drought and saltwater incursion synergistically reduce dissolved organic carbon export from coastal freshwater wetlands. *Biogeochemistry*. 127 (2-3): 411-426
42. **Helton, AM**, M Ardon, ES Bernhardt. **2015**. Thermodynamic constraints on the utility of ecological stoichiometry for explaining global biogeochemical patterns. *Ecology Letters***.** 18 (10): 1049-1056. *****Recommended by Faculty of 1000***
43. Tant, CJ, AD Rosemond, **AM Helton**, MR First. **2015**. Nutrient enrichment alters the relative contribution of fungi, bacteria, and detritivores to leaf litter breakdown. *Freshwater Science*. 34 (4): 1259-1271.
44. **Helton, AM**, MS Wright, ES Bernhardt, GC Poole, RM Cory, JA Stanford. **2015**. Dissolved organic carbon lability increases with water residence time in the alluvial aquifer of a river floodplain ecosystem. *Journal of Geophysical Research - Biogeosciences*. 120. doi:10.1002/2014JG002832.
45. Payn, RA, **AM Helton**, GC Poole, C Izurieta, ES Bernhardt, and AJ Burgin. **2014**. A generalized model of aquatic microbial metabolism based on thermodynamic, kinetic, and stoichiometric theory. *Ecological Modelling*. 294: 1-18.
46. **Helton, AM,** ES Bernhardt, A Fedders. **2014**. Biogeochemical regime shifts in coastal landscapes: The contrasting effects of saltwater incursion and agricultural pollution on greenhouse gas emissions from a freshwater wetland. *Biogeochemistry.* 120: 133-147. doi: 10.1007/s10533-014-9986-x
47. Hopfensperger, KN, AJ Burgin, VA Schoepfer, and **AM Helton**. **2014**. Impacts of saltwater incursion on plant communities, anaerobic microbial metabolism, and resulting relationships in a restored freshwater wetland. *Ecosystems*. 17(5): 792-807. doi: 10.1007/s10021-014-9760-x.
48. LINX collaborators: WK Dodds, JR Webster, CL Crenshaw, **AM Helton**, JM O'Brien, E Martí, AE Hershey, JL Tank, AJ Burgin, NB Grimm, SK Hamilton, DJ Sobota, GC Poole, JJ Beaulieu, LT Johnson, LR Ashkenas, RO Hall, Jr., SL Johnson, WM Wollheim, WB Bowden. **2014**. The Lotic Intersite Nitrogen Experiments: an example of successful ecological research collaboration. *Freshwater Science.* 33(3):700–710. doi: 10.1086/676938
49. **Helton, AM**, GC Poole, RA Payn, C Izurieta, and JA Stanford. **2014**. Relative influences of the river channel, floodplain surface, and alluvial aquifer on simulated hydrologic residence time in a montane river floodplain. *Geomorphology.* Special Issue: "Discontinuities in Fluvial Systems"205:17-26. doi: 10.1016/j.geomorph.2012.01.004
50. Potter, JD, WH McDowell, ML Daley, and **AM Helton**. **2013**. Incorporating urban infrastructure into biogeochemical assessment of urban tropical streams in Puerto Rico. *Biogeochemistry*. doi: 10.1007/s10533-013-9914-5
51. Mehring, AS, RR Lowrance, **AM Helton**, G Vellidis, CM Pringle, and DD Bosch. **2013.** Inter-annual drought length governs dissolved organic carbon dynamics in blackwater rivers of the western upper Suwannee River basin. *Journal of Geophysical Research - Biogeosciences.* 118: 1636–1645. doi: 10.1002/2013JG002415.

52. Luhr, R, D Reimanis, R Cross, C Izurieta, GC Poole, **AM Helton**. **2013**. Natural Science Visualization Using Digital Theater Software: Adapting existing planetarium software to model ecological systems. *Proceedings of the International Conference on Information Science and Applications.* doi: 10.1109/ICISA.2013.6579381.
53. **Helton, AM**, GC Poole, RA Payn, C Izurieta, JA Stanford. **2012**. Scaling flow path processes to fluvial landscapes: An integrated field and model assessment of temperature and dissolved oxygen dynamics in a river-floodplain-aquifer system. *Journal of Geophysical Research - Biogeosciences*, Special Issue "Linking physical, chemical, and biological processes in watersheds from the cellular and grain scales to the landscape scale" 117, G00N14. doi:10.1029/2012JG002025
54. Bernhardt, ES, BD Lutz, RS King, JP Fay, CE Carter, **AM Helton**, D Campagna, and J Amos. **2012**. How many mountains can we mine? Assessing the regional degradation of Central Appalachian rivers by surface coal mining. *Environmental Science & Technology*. 46 (15): 8115–8122. doi: 10.1021/es301144q
55. Izurieta, C, GC Poole, RA Payn, **AM Helton**, I Griffith, R Nix, E Bernhardt, and AJ Burgin. **2012**. Development and application of a simulation environment (NEO) for integrating empirical and computational investigations of system-level complexity. *Proceedings of the International Conference on Information Science and Applications.* doi:10.1109/ICISA.2012.6220928.
56. Lindberg, TT, ES Bernhardt, R Bier, **AM Helton**, R Merola, A Vengosha, and RT Di Giulioa. **2011.** Cumulative impacts of mountaintop mining on an Appalachian watershed. *Proceedings of the National Academy of Sciences of the United States of America.* 108(52): 20929–20934.
57. Beaulieu, JJ, JL Tank, SK Hamilton, WM Wollheim, RO Hall Jr., PJ Mulholland, BJ Peterson, LR Ashkenas, LW Cooper, CN Dahm, WK Dodds, NB Grimm, SL Johnson, WH McDowell, GC Poole, HM Valett, CP Arango, MJ Bernot, AJ Burgin, C Crenshaw, **AM Helton**, L Johnson, JM. O'Brien, JD Potter, RW Sheibley, DJ Sobota, and SM Thomas. **2011**. Nitrous oxide emission from denitrification in stream and river networks. *Proceedings of the National Academy of Sciences of the United States of America.* 108(1): 214-219.
58. **Helton, AM**, GC Poole, JL Meyer, WM Wollheim, BJ Peterson, PJ Mulholland, ES Bernhardt, JA Stanford, C Arango, LR Ashkenas, LW Cooper, WK Dodds, SV Gregory, RO Hall Jr, SK Hamilton, SL Johnson, WH McDowell, JD Potter, JL Tank, SM Thomas, HM Valett, JR Webster, and L Zeglin. **2011**. Thinking outside the channel: Modeling nitrogen cycling in networked river ecosystems. *Frontiers in Ecology and the Environment*. 9(4): 229–238.
59. Bernot, MJ, DJ Sobota, RO Hall Jr., PJ Mulholland, WK Dodds, JR Webster, JL Tank, LR Ashkenas, LW Cooper, CN Dahm, SV Gregory, NB Grimm, SK Hamilton, SL Johnson, WH McDowell, JL Meyer, BJ Peterson, GC Poole, HM Valett, C Arango, JJ Beaulieu, AJ Burgin, C Crenshaw, **AM Helton**, L Johnson, J Meriram, BR Niederlehner, JM O'Brien, JD Potter, RW Sheibley, SM Thomas, and K Wilson. **2010**. Inter-regional comparison of land-use effects on stream metabolism. *Freshwater Biology*. 55: 1874-1890.
60. Mulholland, PJ, RO Hall, DJ Sobota, WK Dodds, SEG Findlay, NB Grimm, SK Hamilton, WH McDowell, JM O'Brien, JL Tank, LR Ashkenas, LW Cooper, CN Dahm, SV Gregory, SL Johnson, JL Meyer, BJ Peterson, GC Poole, HM Valett, JR Webster, CP Arango, JJ Beaulieu, MJ Bernot, AJ Burgin, CL Crenshaw, **AM Helton**, LT Johnson, BR Niederlehner, JD Potter, RW Sheibley, and SM Thomas. **2009**. Nitrate removal in stream ecosystems measured by ^{15}N addition experiments: Denitrification. *Limnology and Oceanography.* 54(3): 666–680.
61. Hall, RO, JL Tank, DJ Sobota, PJ Mulholland, JM O'Brien, WK Dodds, JR Webster, HM Valett, GC Poole, BJ Peterson, JL Meyer, WH McDowell, SL Johnson, SK Hamilton, NB Grimm, SV Gregory, CN Dahm, LW Cooper, LR Ashkenas, SM Thomas, RW Sheibley, JD Potter, BR Neiderlehner, LT Johnson, **AM Helton**, CM Crenshaw, AJ Burgin, MJ Bernot, JJ Beaulieu, and CP Arango. **2009**. Nitrate removal in stream ecosystems measured by ^{15}N addition experiments: Total uptake. *Limnology and Oceanography.* 54(3): 653-665.
62. Small, GE, **AM Helton**, and C Kazanci. **2009**. Can consumer stoichiometric regulation control nutrient spiraling in streams? *Journal of the North American Benthological Society.* 28(4):747–765.

63. Mulholland, PJ, **AM Helton**, GC Poole, RO Hall, Jr., SK Hamilton, BJ Peterson, JL Tank, LR Ashkenas, LW Cooper, CN Dahm, WK Dodds, S Findlay, SV Gregory, NB Grimm, SL Johnson, WH McDowell, JL Meyer, HM Valett, JR Webster, C Arango, JJ Beaulieu, MJ Bernot, AJ Burgin, C Crenshaw, L Johnson, BR Niederlehner, JM O'Brien, JD Potter, RW Sheibley, DJ Sobota, and SM Thomas. **2008**. Stream denitrification across biomes and effects of anthropogenic nitrate loading. *Nature.* 452: 202-206.
64. Poole, GC, SJ O'Daniel, KL Jones, WW Woessner, ES Bernhardt ES, **AM Helton**, JA Stanford, BR Boer, TJ Beechie. **2008**. Hydrologic Spirals: The Role of Multiple Interactive Flow Paths in Stream Ecosystems. *River Research and Applications.* 24*:* 1018-1031.

Data Releases and Technical Reports

- Moore, EM, AB Haynes, KE Jackson, AM Bisson, JR Barclay, *F Liu*, MA Briggs, and **AM Helton**. **2023**. Biogeochemical and source characteristics of preferential groundwater discharge in the Farmington River watershed (Connecticut and Massachusetts, 2017 - 2021): U.S. Geological Survey data release, https://doi.org/10.5066/P941XKST.
- Haynes, A.B., Briggs, M.A., Moore, E., Rey, D.M., Jackson, K., and **Helton, A.M**., **2023**, Riverbank vertical temperature profiler data and calculated groundwater discharge flux estimates from the Farmington River corridor, CT, USA: US Geological Survey data release, https://doi.org/10.5066/P9B3CYWW
- Moore, EM, KE Jackson, AB Haynes, **AM Helton**, and MA Briggs. **2023**, Thermal infrared images of groundwater discharge zones in the Farmington and Housatonic River watersheds (Connecticut and Massachusetts, 2019) (ver 3.0, January 2023): U.S. Geological Survey data release, https://doi.org/10.5066/P915E8JY.
- Vaudrey, J, K O'Brien, J Barrett, P Comins, **AM Helton**, R Lewis. **2022**. Connecticut National Estuarine Research Reserve - Final Environmental Impact Statement. https://www.regulations.gov/document/NOAA-NOS-2020-0089-0122.
- Blaszczak, JR, LE *Koenig*, FH Mejia, L Gómez-Gener, CL Dutton, AM Carter, NB Grimm, JW Harvey, **AM Helton**, MJ Cohen, ED Anyanwu, OS Pokrovsky, IV Krickov, RM Manasypov, SN Vorobyev, and S Serikova. **2021**. Distribution, frequency, and global extent of hypoxia in rivers: U.S. Geological Survey data release, https://doi.org/10.5066/P99X6SIR.
- Barclay, JR, AEH Hanson, MA Briggs, and **AM Helton. 2019**. Thermal infrared images and direct temperature measurements of groundwater discharge zones throughout the Farmington River watershed (Connecticut and Massachusetts): U.S. Geological Survey data release, https://doi.org/10.5066/P9EIV8L5.

Funding

Recent

- **PI**
  - Can watershed land use legacies inform nitrogen management? (2021 – 2024) EPA, Long Island Sound Study Research Fund. PI: **AM Helton**, co-PIs: C Arnold, E Wilson, and D Bjerklie (Univ. of Connecticut), W Wollheim (Univ. of New Hampshire), C Bellucci and M Becker (CT DEEP), P Stacey (Footprints in the Water, LLC). (Total award $487K to Univ. of Connecticut)
  - Groundwater discharge of legacy nitrogen at the scale of river networks: Where are stream interface sediments conduits or filters? (2018-2023) National Science Foundation, Hydrologic Sciences. PI: **AM Helton**, co-PIs: MA Briggs, JJ Starn (USGS). (Total award $696K to Univ. of Connecticut)
  - Evaluating the relationships between land use legacies and water quality in the Connecticut River Valley (2021 – 2024) USDA, National Institute of Food and Agriculture – Hatch PI: **AM Helton**. (Total Award $60K to Univ. of Connecticut)
  - Collaborative Research: Headwater Stream Networks in a Warming World: Predicting Heterotrophic Ecosystem Function Using Theory, Multi-scale Temperature Manipulations and Modeling. National

Science Foundation, DEB. (2017 – 2023) Lead PI: J Benstead (Univ. of Alabama), **AM Helton** (Univ. of Connecticut), AD Rosemond (Univ. of Georgia), E Hotchkiss (Virginia Tech.), V Gulis (Coastal Carolina). (Total award $1.95M; $251K to Univ. of Connecticut)

- **Co-PI**
  - Testing the effects of vegetation on saltmarsh ecology, services, and restoration success: from microbial ecology and biogeochemistry to wildlife conservation. (2023-2025) EPA, Long Island Sound Study Research Fund. PI: C Elphick, co-PIs: **AM Helton**, BA Lawrence, M Huang (CT DEEP), B Steven (CT Agricultural Experiment Station). (Total award $910k to Univ. of Connecticut)
  - Ecosystem service tradeoffs in beaver-created wetlands across southern New England landscapes. USDA, National Institute of Food and Agriculture – Hatch. PI: BA Lawrence, co-PI: **AM Helton**. (Total Award $60k to Univ. of Connecticut)
  - Leveraging sediment addition experiments across the Long Island Sound to examine medium-term ecosystem responses. (2024-2026) Connecticut Sea Grant College Program. PI: BA Lawrence, co-PIs: **AM Helton**, C Elphick (Total Award $150k to Univ. of Connecticut)
  - Quantifying PFAS fate and biotransport in stream-to-riparian food webs. (2021 – 2023) USGS 104g PFAS Competitive Grants Program. PI: J Brandt (Univ. of Connecticut), co-PIs: **AM Helton** and D Walters (USGS). (Total award $250K to the Univ. of Connecticut).
  - Evaluating thin layer placement in Long Island Sound marshes using a multi-scale approach. (2021-2023) EPA, Long Island Sound Study Research Fund. PI: B. Lawrence, co-PIs: **AM Helton**, C Elphick, M Huang. (Total award $471K to Univ. of Connecticut)
  - Training forest resources graduates for an exurban forest future. USDA NIFA National Needs Fellowships Program. PI: R Fahey, co-PIs: J Vokoun, T Rittenhouse, C Rittenhouse, **AM Helton**, A Morzillo, B Lawrence, T Worthley. (2019 – 2024) (Total award $246K to Univ. of Connecticut)

Completed

- **PI**
  - College of Agriculture, Health and Natural Resources Equipment Grant for a Portable Mass Spectrometer. (Internal) PI: **AM Helton**; co-PIs: B Lawrence, M Briggs (2022) ($62, 600)
  - The role of stream interface sediments in legacy nitrogen removal at groundwater discharge zones. USDA, National Institute of Food and Agriculture – Hatch. (2018-2021) PI: **AM Helton**, co-PI: MA Briggs (USGS). (Total award $60K to Univ. of Connecticut)
  - College of Agriculture, Health and Natural Resources Equipment Grant for a Discrete Photometric Analyzer. (Internal) PI: **AM Helton**; co-PIs: B Lawrence, K Guillard, J Brandt, J Knighton (2020) ($52, 672)
  - Collaborative Research: Defining stream biomes to better understand and forecast stream ecosystem change. National Science Foundation, Macrosystems Biology. (2015 – 2021) Lead PI: E Bernhardt (Duke University), **AM Helton** (Univ. of Connecticut), RO Hall (Univ. of Wyoming), J Heffernan and B McGlynn (Duke University), N Grimm (Arizona State Univ.), M Cohen (Univ. of Florida), E Stanley (Univ. of Wisconsin), B McDowell (Univ. of New Hampshire). (Total award $4.48M; $353K to Univ. of Connecticut)
  - Understanding the timing and magnitude of nutrient fluxes from headwater streams to river networks. USDA, National Institute of Food and Agriculture – Hatch. (2014 – 2019) **PI: AM Helton.** (Total award $42K to Univ. of Connecticut)
  - Integrating fine-scale field measurements with regional groundwater models to predict legacy nitrogen transport in Long Island Sound watersheds. Connecticut Institute of Water Resources (2017-2018) PI: **AM Helton**, co-PIs: M Briggs, J Starn (USGS). (Total award $14K to Univ. of Connecticut)
  - Coastal wetlands at the leading edge of sea level rise: Effects of saltwater intrusion on wetland ecosystem function in urban landscapes. National Oceanic and Atmospheric Administration, Connecticut

Sea Grant College Program. (2015 – 2017) **PI: AM Helton**, Co-PI: Timothy Vadas. (Total award $130K to Univ. of Connecticut)

- Effects of road salts on ephemeral wetland ecosystems. Connecticut Institute of Water Resources (2015-2016) **PI: AM Helton**, Co-PI: T Rittenhouse, Univ. of Connecticut (Total award $11K to Univ. of Connecticut)
- Interactions between catchment land cover, storm events, and nitrogen export from Connecticut streams. Connecticut Institute of Water Resources (2014 - 2015). **PI: AM Helton** (Total award $23K to Univ. of Connecticut)

- **Co-PI or Senior Personnel**
  - Stormwater Treatment Trains: From BMPs to Floodplains. Connecticut Sea Grant College Program. PI: T Vadas, co-PIs: **AM Helton**, B Li. (2020 – 2022) (Total award $50K to Univ. of Connecticut)
  - Contaminant threats to groundwater-supplied ecosystem services in the Farmington River watershed. (2021-2022) Connecticut Institute of Water Resources. PI: J Brandt, co-PIs: **AM Helton**, M Briggs (Total award $20K to Univ. of Connecticut)
  - To fix or not to fix: Do nitrogen fixing plants enhance green roof performance? PI: M Dietz, co-PI: **AM Helton**. CT Sea Grant Development Grant (Total award $5k to Univ. of Connecticut)
  - Agricultural nutrient management in the Long Island Sound watershed (2018-2020) USDA, NRCS. PI: M O'Neil co-PIs: **AM Helton**, E Wilson, R Meinert. (Total award $312K to Univ. of Connecticut)
  - Valuation of Water Quality Change in Environment and Economy Context: Ecosystem Services across Gradients of Degradation and Local Economic Interest. Environmental Protection Agency, Science To Achieve Results (STAR) Research Program. (2016 – 2019) PI: S Swallow; co-PIs: **AM Helton**, C Kirchhoff, T Vadas, C Towe. (Total award $800K to Univ. of Connecticut)
  - How will sea level rise-driven shifts in wetland vegetation alter ecosystem services? Long Island Sound Research Grant Program and Connecticut Institute for Resilience & Climate Adaptation. (2017 – 2019). PI: B Lawrence; co-PIs: **AM Helton**, C Elphick (Total award $318K to Univ. of Connecticut)
  - Collaborative Research: Scaling Consumers and Lotic Ecosystem Rates (SCALER): Centimeters to Continents. National Science Foundation, Emerging Frontiers, Macrosystems Biology. (2011-2016) PIs: WK Dodds (lead-Kansas State Univ.), W Wollheim (modeling synthesis lead-Univ. of New Hampshire), and 11 others; **Senior Personnel: AM Helton** (Total award $3.3M)

Additional Collaborative Research Activities

Working Groups

- Steering Committee, Saltwater Intrusion and Sea Level Rise Research Coordination Network, funded by the National Science Foundation; PIs – ES Bernhardt (Duke University) and X Yang (University of Virginia). 2021 - ongoing
- Selected participant in the Spatial Analysis Working Group hosted by the Stream Resiliency Research Coordination Network, funded by the National Science Foundation; PIs – J Jones (University of Alaska-Fairbanks), M Whiles (Southern Illinois University). 2018-2019
- Research participant in "Global patterns in stream energy and nutrient cycling" funded by the National Center for Ecological Analysis and Synthesis (NCEAS); PIs – A. Wymore (University of New Hampshire) and S. Kaushal (University of Maryland). 2016-2018
- Selected participant in the Time Series Analysis Working Group hosted by the Stream Resiliency Research Coordination Network, funded by the National Science Foundation; PIs – J Jones (University of Alaska-Fairbanks), M Whiles (Southern Illinois University). 2015-2016

Workshops

- Invited participant, RiverScapes Initiative, a workshop to create a research coordination network around a set of key questions about the socioecological connectivity, sustainability and conservation of riverine landscapes. Flathead Lake Biological Station, May 2015.
- Invited participant, "Strategies to improve understanding of dissolved organic carbon dynamics through time-varying regional to continental scale models" workshop. University of New Hampshire, June 2014.

Awards

2024 Mentorship Excellence Award, Office of Undergraduate Research, Univ. of Connecticut
2024 Excellence in Research Award, College of Agriculture, Health, and Natural Resources, Univ. of Connecticut
2019 UConn-AAUP Excellence in Research and Creativity: Early Career
2017 *Donald M. Kinsman Award for Excellence in Teaching,* College of Agriculture, Health, and Natural Resources, Univ. of Connecticut

Courses Instructed

- Ecosystem Science and Management (NRE 5150, Univ. of Connecticut, Spring 2023)
- Stream Ecology (NRE 4205, Univ. of Connecticut, Fall 2015, 2017, 2019, 2021, 2023)
- Advanced Stream Ecology (NRE 5335, Univ. of Connecticut, Fall 2015, 2019, 2021, 2023)
- Global Sustainable Natural Resources (NRE 2600, Univ. of Connecticut, Spring 2014, 2016, 2018, 2020)
- Biogeochemical cycles and global change (NRE 5695, Univ. of Connecticut, Spring 2015, 2019)
- Natural Resources Planning and Management (NRE 4000W, Univ. of Connecticut, Spring 2017)

Advising

- *Postdoctoral Associates*
    - Dr. Lauren Koenig (2017 – 2021)
    - Dr. Mark Harvey (2019 - 2020)
- *Graduate students*
    - Major advisor (current)
        - Eric Moore, PhD (expected 2024)
        - Madeline Kollegger, PhD (expected 2025)
    - Major advisor (past)
        - Danielle Hare, PhD (2023)
        - Janet Barclay, PhD (2019)
        - Ariana Dionisio, MS (2023)
        - Alaina Bisson, MS (2022)
        - Adam Haynes, MS (2021)
        - Kevin Jackson, MS (2020)
        - Sean Ooi, MS (2019)
        - April Doroski, MS (2017)
        - Jason Sauer, MS (2016)
    - Committee member (current)
        - Chris Sullivan, PhD, Natural Resources, Univ. of Connecticut
        - Madeleine Meadows-McDonnell, PhD, Natural Resources, Univ. of Connecticut
        - Sarah Klionsky, PhD, Natural Resources, Univ. of Connecticut
        - Sharmin Akter, PhD, Environmental Engineering, Univ. of Connecticut
        - Chloe Zampetti, MS, Natural Resources, Univ. of Connecticut

- Committee member (past)
  - Randi Mendes, PhD (2023), Environmental Engineering, Univ. of Connecticut
  - Jason Lech, PhD (2022), Ecology and Evolutionary Biology, Univ. of Connecticut
  - Alice Carter, PhD (2021), University Program in Ecology, Duke University
  - Amalia Handler, PhD (2019), Environmental Life Sciences, Arizona State University
  - David Rosa, PhD (2017), Natural Resources, Univ. of Connecticut
  - Hongwei Luan, PhD (2017), Environmental Engineering, Univ. of Connecticut
  - Brendan Noons, MS (2023), Plant and Soil Science, Univ. of Connecticut
  - Katherine King, MS (2023), Natural Resources, Univ. of Connecticut
  - Alison Baranovic, MS (2022) Natural Resources, Univ. of Connecticut
  - Joshua Snarski, MS (2021), Natural Resources, Univ. of Connecticut
  - Anna Puchkoff, MS (2020), Natural Resources, Univ. of Connecticut
  - Samantha Walker, MS (2019), Natural Resources, Univ. of Connecticut
  - Aidan Barry, MS (2019), Natural Resources, Univ. of Connecticut
  - Olivia Johnson, MS (2018), Natural Resources, Univ. of Connecticut
  - Alexandria Hibbard, MS (2017), Natural Resources, Univ. of Connecticut

- *Undergraduate Students*
  - Undergraduate Honors Thesis advisor
    - Marissa Naclerio (2022)
    - Kayleigh Granville (2019); Univ. of Connecticut Holster Scholar, University Scholar, and Summer Undergraduate Research Fund Award recipient
    - Katherine Bell (2019); Univ. of Connecticut IDEA Grant recipient, and Summer Undergraduate Research Fund Award recipient
    - Kelsey Witik (2018); Univ. of Connecticut IDEA Grant recipient
    - Emily McInerney (2015); UConn Summer Undergraduate Research Fund Award recipient
  - McNair Scholar advisor
    - Fiona Liu (2022)
  - Undergraduate University Scholar Faculty Committee: Fiona Liu (Major advisor, 2022), Kayleigh Granville (Major advisor, 2019), Rachel Smiley (2017), Cristina Macklem (2016)
  - Undergraduate researchers: Kenneth Bell (2020), Huayile Zhang (2020), Madelin Stagnito (2017), Mary Zawatski (2016), Shaylea McAvay (2016), Eva Nelson (2015), Mary Schoell (2015), Hannah Tripp (2015)

Professional Service

- Manuscript review
  - *Aquatic Sciences, Biogeochemistry, Ecological Applications, Ecosystems, Environmental Management, Estuaries and Coasts, Freshwater Sciences, Geoderma, Hydrological Processes, Journal of Applied Ecology, Journal of Environmental Management, Journal of Geophysical Research-Biogeosciences, Limnology and Oceanography, Limnology and Oceanography – Letters, Nature Communications, Science Advances, Water Resources Research, Wetlands*
  - *Biogeochemistry* Excellence in Reviewing – Top 25 Reviewers of 2016
- Editorial positions
  - *Ecosystems* Subject-Matter Editor, 2022 - ongoing
- Proposal review
  - National Science Foundation, EAR, Hydrologic Sciences Proposal Panel (2020, 2023)

    - Department of Energy, Linking Above and Belowground Processes and Traits & Terrestrial-Aquatic Interfaces, ad hoc review (2018)
    - Connecticut Institute of Water Resources, ad hoc review (2017)
    - Delaware Watershed Research Fund Proposal Panel (2016)
    - National Science Foundation, Division of Environmental Biology, Ecosystems Pre-proposal panel (2015)
    - National Science Foundation, Graduate Research Fellowship Program panel (2015)
    - National Science Foundation, Hydrologic Sciences, ad hoc review (2015)
    - Maryland Sea Grant, ad hoc review (2015)
    - National Institute of Water Resources, ad hoc review (2014)
- Advisory committees
    - Science and Technical Advisory Committee, EPA Long Island Sound Study (2014- 2021)
    - Connecticut Sea Grant External Research Advisory Panel (2016)
    - Study Committee Member, Connecticut Academy of Science and Engineering - A study on methods to measure phosphorus and make future predictions for the Connecticut Department of Energy and Environmental Protection (2014)
- Society service
    - Society for Freshwater Science
        - Journal Advisory Working Group (2024)
        - Journal Taskforce (2023)
        - Early Career Committee (2016-2020)
        - Ad hoc Membership Committee (2014-2015)
    - Session co-organizer Joint Aquatic Sciences Meeting (2022) “Wet & salty: coastal ecosystem science and management under rising tides”
    - Faculty representative, Annual University Consortium for Atmospheric Research meeting (2013)

University Service

Department

- Natural Resources Graduate Program Coordinator and Chair of the Natural Resources Graduate Application Committee (2022 – ongoing, Committee Member 2014 – 2022)
- Member, NRE awards committee (2022 – ongoing)
- Member, NRE merit committee (2021 – ongoing)
- Honor's Advisor (2015 - 2022)
- Chair, Connecticut Conference on Natural Resources (2019-2020)
- Chair, Scholarship Committee (2018 – 2020)
- Faculty search committee member
    - Climate change adaptation scientist (2021-22)
    - Watershed hydrologist (2019)
    - Environmental toxicologist (2018)
    - Assistant Professor in Residence (2018)
    - Environmental Geospatial Scientist (2018)
    - Wildlife or Fisheries Ecotoxicologist (2013)
- Natural Resources Seminar Committee
    - Chair (2015 - 2016)
    - Member (2014 - 2015, 2017 - 2018)
- Curriculum sub-committee for conservation (2014-2015)
- Curriculum sub-committee for water (2014-2015)

College & Institute

- Lead organizer and committee co-chair, "Securing our Sustainable Environmental Future", A cross-college research symposium sponsored by the Institute of the Environment, the College of Agriculture, Health and Natural Resources, the College of Liberal Arts and Sciences, and the School of Engineering, 2022-2023
- Review Committee, Small Grants in Environmental and Social Sustainability, Institute of the Environment (Chair, 2022; Member, 2023)
- Member, Sustainability Visioning Committee, Institute of the Environment (2022)
- Co-chair, Strategic Visioning Committee, College of Agriculture, Health, and Natural Resources (2019-2020)
- Search Committees
    - Chair, Director, Office of Sustainability (2022)
    - Chair, Education, Outreach, and Communications Coordinator, Office of Sustainability (2021)
- Member, College of Agriculture, Health, and Natural Resources Scholarship Committee (2018 – 2020)
- Member, College of Agriculture, Health, and Natural Resources Diversity Committee (2015 – 2019)
- Center for Environmental Sciences & Engineering Mini-grant review (2017)
- Member, College of Agriculture, Health, and Natural Resources Multidisciplinary Research Grant Workshop Committee (2015-2016)

University

- Graduate Faculty Representative, Graduate Faculty Council (2013 – 2018; 2022 - ongoing)
- Member, Teale Lecture Organizing Committee (2013 - ongoing)
- Research Excellence Program grant review (2017, 2023)
- SURF Proposal Review (2023)
- Member, Re-starting Research working group (2020 – 2021)

Outreach Activities

- Instructor and community partner for the Natural Resources Conservation Academy at the Univ. of Connecticut, which trains high school students in environmental science and land management decisions (2014 - ongoing)
- Thames River Basin Partnership quarterly speaker: Can Watershed Land Use Legacies Inform Nitrogen Management? (2021)
- NEAG STEM Middle School Demonstration (2015)
- Outreach speaker on effects of pesticides on aquatic ecosystem health, Connecticut Environmental Council Education Program and Annual Meeting (2013)

Scientific Presentations

Invited Seminars

2022 Department of Biology seminar, University of Louisville, virtual
Land Resources and Environmental Sciences seminar, Montana State University, virtual
2021 Center for Land Use Education and Research (CLEAR) Webinar, Can watershed land use legacies inform nitrogen management?
2020 Center for Land Use Education and Research (CLEAR) Mini-Webinar Series, Water Quality Challenges in Groundwater Influenced Streams
2018 Connecticut SeaGrant 30th Anniversary Research Forum, University of Connecticut, Avery Point, CT.
2017 Organismic and Evolutionary Biology Seminar Series, University of Massachusetts. Amherst, MA.
2016 Biology Lecture Series, Fairfield University. Fairfield, CT.

2015 Advanced Biogeochemistry Seminar, Yale University. New Haven, CT.
2014 Center for Integrative Geosciences, University of Connecticut. Storrs, CT.
Cary Institute of Ecosystem Studies. Millbrook, NY.
2013 University of Connecticut. Environmental Engineering Seminar. Storrs, CT.
Wake Forest University. Ecology lunch seminar. Winston-Salem, NC.
2012 University of Connecticut. Department of Natural Resources and the Environment. Storrs, CT.
2011 Duke University. Program in Ecology Seminar. Durham, NC.

Conference Presentations (2019 - present) *Note cancelled spring 2020 abstracts not included.

(*Italicized* names are postdoctoral associates, Underlined names are graduate and *underlined and italicized* names are undergraduate students who participated in the research while they were a part of Helton's lab.)

1. Dionisio, AB, J Buonpane, EM Moore, W Wollheim, M Becker, Q Lei-Parent, E Wilson, P Stacey, **AM Helton**. 2023. Past or present: How structural and signal legacies are realized in afforested watersheds. Society of Freshwater Science Annual Meeting. Brisbane, Australia
2. Lawrence, BA, C Elphick, F Gigliotti, **AM Helton**, M Huang, M Kollegger, C Mack, M Meadows-McDonnell, N Nelson. 2023. Quantifying how sediment placement in submerging salt marshes alters greenhouse gas emissions. ILEAPS-Oz Flux Joint Conference. Aukland, New Zealand.
3. **Helton, AM**, A Dionisio, EM Moore, DK Hare, D Bjerklie, EH Wilson, Q Lei-Parent, W Wollheim, J Buonpane, J Barclay, C Bellucci, M Becker. 2023. How watershed land use legacies can inform nitrogen management. Northeast Aquatic Biologists Conference. Plymouth, MA.
4. Dionisio, A, EM Moore, DK Hare, D Bjerklie, EH Wilson, Q Lei-Parent, W Wollheim, J Buonpane, J Barclay, C Bellucci, M Becker, **AM Helton**. 2023. Imprints in colonial agriculture: The role of legacies in stream ecosystems. Northeast Aquatic Biologists Conference. Plymouth, MA
5. Kollegger, M, N Nelson, M Meadows-McDonnell, F Gigliotti, M Huang, C Elphick, BA Lawrence, **AM Helton**. 2022. Managing coastal marshes in the face of sea level rise: thin layer placement and soil pore water chemistry. New England Estuarine Research Society. Salem, MA.
6. Lawrence, BA, C Elphick, F Gigliotti, **AM Helton**, M Huang, M Kollegger, M Meadows-McDonnell, N Nelson, A Puchkoff, A Tienken. 2022. Evaluating thin layer placement in Long Island Sounds marshes using a multi-scale approach. Society of Wetland Scientists New England Chapter Meeting. University of New Hampshire, Durham, NH.
7. Gigliotti, F, M Kollegger, BA Lawrence, C Elphick, **AM Helton**, M Huang, M Meadows-McDonnell, N Nelson. 2022. Testing the Efficacy of Targeted Saltmarsh Restoration at Great Meadows Marsh for a Globally Rare Species. Coastal and Estuarine Summit: Restore America's Estuaries. New Orleans, LA.
8. Kollegger, M, BA Lawrence, C Elphick, F Gigliotti, **AM Helton**, M Huang, M Meadows-McDonnell, N Nelson. 2022. How Does Sediment Addition at Great Meadows Marsh Alter Salt Marsh Vegetation, Porewater Chemistry and Greenhouse Gas Fluxes? Coastal and Estuarine Summit: Restore America's Estuaries. New Orleans, LA.
9. Hare, DK, J Buonpane, A Dionisio, Q Lei-Parent, EM Moore, M Becker, C Bellucci, D Bjerklie, PE Stacey, EH Wilson, W Wollheim, AM Helton. 2022. Can watershed land use legacies inform nitrogen management? Long Island Sound Research Conference (May 18, 2022)
10. Kollegger, M, C Elphick, BA Lawrence, **AM Helton**. 2022. Poster: Managing coastal marshes in the face of sea level rise: think layer placement and soil pore water chemistry. Joint Aquatic Sciences Meeting. Grand Rapids, MI.
11. *Liu, F*, A Bisson, EM Moore, MA Briggs, **AM Helton**. 2022. Poster: The Role of Groundwater Delivery in Stream Bank Nitrous Oxide Emissions. Joint Aquatic Sciences Meeting. Grand Rapids, MI.
12. Bisson, A, *F Liu*, EM Moore, MA Briggs, **AM Helton**. 2022. Carbon gas emissions at the interface of groundwater and streambanks. Joint Aquatic Sciences Meeting. Grand Rapids, MI.

13. Moore, EM, AM Bisson, *FS Liu*, JR Barclay, MA Briggs, **AM Helton**. 2022. Streambank sediments as conduits and filters of groundwater nitrogen. Joint Aquatic Sciences Meeting. Grand Rapids, MI.
14. Nelson, N, C Elphick, **AM Helton**, BA Lawrence. 2022. Poster: Effects of think layer placement restoration on plant growth in Long Island Sound salt marshes. Joint Aquatic Sciences Meeting. Grand Rapids, MI.
15. Dionisio, AB, J Buonpane, EM Moore, W Wollheim, C Arnold, M Becker, Q Lei-Parent, P Stacey, E Wilson, **AM Helton**. 2022. How Do Historic Land Uses Affect Stream Ecosystems? The Role of Structural Legacies. Joint Aquatic Sciences Meeting. Grand Rapids, MI.
16. Hare, DK, **AM Helton** P Bumpers, N Tomczyk, C Cummins, S Wenger, V Gulis, E Hotchkiss, J Benstead, AD Rosemond. 2022. The Role of Groundwater in Stream Network Carbon Cycling Under a Changing Climate. Joint Aquatic Sciences Meeting. Grand Rapids, MI.
17. Rogers, PA, J Benstead, AD Rosemond, **AM Helton**, ER Hotchkiss, S Wenger. 2022. Effects of Experimental Warming on Community Structure of Forest Stream Invertebrates. Joint Aquatic Sciences Meeting. Grand Rapids, MI.
18. Snarski, J, J Knighton, **AM Helton**, M Dietz. 2021. Using SWMM to Estimate Hydrologic Pathways for Chloride Transport from Deicing Salts. American Geological Society Annual Meeting. Portland, OR.
19. Hare, D, **A M Helton**, MA Briggs, Z Johnson, C Cummins, P Bumpers, N Tomczyk, V Gulis, S Wenger, E Hotchkiss, J Benstead, A Rosemond. 2021. Groundwater flowpath depth influences the thermal stability of streams: Implications for instream carbon cycling. American Geological Society Annual Meeting. Portland, OR.
20. Sullivan, CJ, JC Vokoun, **AM Helton**, MA Briggs, BL Kurylyk. 2021. An ecohydrological typology for thermal refuges in streams and rivers. American Fisheries Society Annual Meeting. Baltimore, MD.
21. Moore, EM, JR Barclay, KE Jackson, AB Haynes, MA Briggs, **AM Helton**. 2021. Connecting land cover to groundwater discharge nutrient concentrations across stream sizes. Society of Freshwater Science Annual Meeting. Virtual Presentation.
22. Hare, DK, **AM Helton**, ZC Johnson, MA Briggs. 2021. A Continental-scale analysis of how groundwater flow path depth influences the temperature stability of streams. Society of Freshwater Science Annual Meeting. Virtual Presentation.
23. Moore, EM, JR Barclay, KE Jackson, AB Haynes, MA Briggs, **AM Helton**. 2021. Linking land use legacies: Connecting groundwater nutrient export to historical land use using MODPATH. Geologic Society of America Northeastern Section. Virtual Presentation.
24. Moore, EM, JR Barclay, KE Jackson, AB Haynes, MA Briggs, **AM Helton**. 2021. Historical land use impacts on groundwater nutrient export. Connecticut Conference on Natural Resources. Virtual presentation.
25. Jackson, KE, MA Briggs, JR Barclay, A Haynes, E Moore, **AM Helton**. 2020. Local and Valley-Scale Controls on the Physical Patterns of Groundwater-Surface Water Interactions. American Geophysical Union Fall Meeting. Virtual Presentation.
26. Hare, DK, **AM Helton**, ZC Johnson, JW Lane, MA Briggs. 2020. Shallow vs Deep Groundwater Discharge Influences the Thermal Stability of Streams: A Continental-Scale Analysis. American Geophysical Union Fall Meeting. Virtual Presentation.
27. Moore, EM, JR Barclay, KE Jackson, AB Haynes, MA Briggs, **AM Helton**. 2020. Linking land use legacies: Connecting groundwater nutrient export to historical land use using MODPATH. American Geophysical Union Fall Meeting. Virtual Poster.
28. Haynes, AB, KE Jackson, EM Moore, JR Barclay, MA Briggs, **AM Helton**. 2020. Characterizing groundwater seepscapes: Variable hydrologic and biogeochemical fluxes through space and time. American Geophysical Union Fall Meeting. Virtual Poster.
29. Jackson, KE, MA Briggs, JR Barclay, *MC Harvey*, A Haynes, E Moore, **AM Helton**. 2019. From seeps to watersheds: Characterizing the spatial distribution of groundwater discharge across riverscapes. American Geophysical Union Fall Meeting. San Francisco, CA.
30. Blaszczak, J, AM Carter, CL Dutton, L Gomez-Gener, NB Grimm, JW Harvey, **AM Helton**, *LE Koenig*, FH Mejia, MJ Cohen. 2019. Patterns and drivers of global riverine hypoxia. American Geophysical Union Fall Meeting. San Francisco, CA.

31. Ooi SK, A Barry, BA Lawrence, CS Elphick, **AM Helton**. 2019. Using Salt Marsh Vegetation Zones to Predict the Current and Future Rates of Potential Denitrification on Regional Scales. Society of Wetland Scientists Annual Meeting. Baltimore, MD.
32. Barry A, SK Ooi, **AM Helton**, CS Elphick, BA Lawrence. 2019. Plant-mediated carbon turnover overrides effects of sea level rise in a salt marsh field experiment. Society of Wetland Scientists Annual Meeting. Baltimore, MD.
33. Carter, AM, JR Blaszczak, M Doyle, **AM Helton**, JB Heffernan, ES Bernhardt. 2019. The Prevalence of Hypoxia in River Networks and the Role of Not So Dead Zones in Element Cycling. Society for Freshwater Science Annual Meeting. Salt Lake City, UT.
34. *Koenig, LE*, **AM Helton**, P Savoy, A Carter, E Moore, JB Heffernan, ES Bernhardt. 2019. How the spatial structure of light shapes metabolic regimes within and across river networks. Society for Freshwater Science Annual Meeting. Salt Lake City, UT.
35. Barry, A, SK Ooi, **AM Helton**, CS Elphick, B Steven, BA Lawrence. 2019. Plant drive carbon turnover under sea-level rise. Long Island Sound Study Research Conference.
36. Ooi, SK, A Barry, *K Granville*, BA Lawrence, CS Elphick, **AM Helton**. 2019. Using vegetation zones to predict salt marsh denitrification. Long Island Sound Study Research Conference.
37. Barclay, JR, **AM Helton**, MA Briggs, JJ Starn. 2019. Groundwater flow paths: Sources and sinks of legacy nitrogen. Connecticut Conference on Natural Resources. Storrs, CT.
38. *Koenig, LE*, **AM Helton**. 2019. Poster: Primary production regimes within and across river networks. Connecticut Conference on Natural Resources. Storrs, CT.
39. *Bell, K*, *K Witik*, **AM Helton**, J Volin. 2019. Deicing salt-induced cation exchange in roadside soils. Connecticut Conference on Natural Resources. Storrs, CT.
40. Ooi, SK, A Barry, *K Granville*, BA Lawrence, CS Elphick, **AM Helton**. 2019. Using vegetation zones to predict salt marsh denitrification. Connecticut Conference on Natural Resources. Storrs, CT.
41. Barry, A, SK Ooi, **AM Helton**, CS Elphick, B Steven, BA Lawrence. 2019. Plant species affect carbon turnover under sea-level rise. Connecticut Conference on Natural Resources. Storrs, CT.
42. *Granville, KE*, SK Ooi, BA Lawrence, CS Elphick, AM Helton. 2019. Seasonal patterns of denitrification in salt marshes. Connecticut Conference on Natural Resources. Storrs, CT.