

## Ashley M. Helton

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### Research Interests

Biogeochemistry; Aquatic ecosystem ecology; Watershed & floodplain 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*, Department of Natural Resources and the Environment & the Center for Environmental Sciences and Engineering, University of Connecticut  
2020- Al Geib Term Professor in Environmental Engineering Research and Education, University of Connecticut  
2021 Acting Director, Institute of the Environment, University of Connecticut  
2013 - 2019 *Assistant Professor*, Department of Natural Resources and the Environment & the Center for Environmental Sciences and Engineering, 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.)

1. Ooi, SK, A Barry, BA Lawrence, CS Elphick, **AM Helton**. *Accepted*. Vegetation zones are indicators of denitrification potential in salt marshes. *Ecological Applications*.
2. Bernhardt, ES, P Savoy, MJ Vlah, AA Appling, *LE Koenig*, RO Hall, M Arriota, JR Blaszcak, 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. *In Press*. Light and flow regimes regulate the metabolism of rivers. *Proceedings of the National Academy of Sciences*.

3. Wollheim, WM, TK Harms, AL Robinson, *LE Koenig*, **AM Helton**, C Song, WB Bowden, JC Finlay. *In Press*. Superlinear scaling of riverine biogeochemical function with watershed size. *Nature Communications*.
4. 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>
5. 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>
6. Rodriguez-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 Spences, 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>
7. 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 Rodriguez-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
8. 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>
9. 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>
10. 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>
11. 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
12. Granville, KE, SK Ooi, *LE Koenig*, BA Lawrence, CS Elphick, **AM Helton**. 2021. Seasonal patterns of denitrification and N<sub>2</sub>O production in a southern New England salt marsh. *Wetlands* 41(7) <https://doi.org/10.1007/s13157-021-01393-x>
13. 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
14. 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.
15. *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>
16. *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>

17. 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>
18. 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>
19. **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>
20. 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>
21. 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>
22. 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>
23. 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
24. Carmichael, MJ, **AM Helton**, JC White, WK Smith. 2017. Standing dead trees are a conduit for the atmospheric flux of CH<sub>4</sub> and CO<sub>2</sub> from wetlands. *Wetlands*. 38: 133-143. <https://doi.org/10.1007/s13157-017-0963-8>
25. 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.
26. **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.**
27. 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>
28. 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.
29. Mclnerney, 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.
30. 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
31. **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**
32. 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.

33. **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.
34. 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.
35. **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
36. 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.
37. 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
38. **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
39. 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.
40. 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
41. 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.
42. **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
43. 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
44. 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.

45. 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.
46. 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.
47. **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.
48. 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.
49. 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.
50. 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 <sup>15</sup>N addition experiments: Denitrification. *Limnology and Oceanography*. 54(3): 666–680.
51. 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 <sup>15</sup>N addition experiments: Total uptake. *Limnology and Oceanography*. 54(3): 653-665.
52. 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.
53. 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.

### Publications in revision or under review

54. Blaszcak, JR, *LE Koenig*, FH Mejia, L Gomez-Gener, CL Dutton, AM Carter, NB Grimm, JW Harvey, **AM Helton**, MJ Cohen. Global extent, patterns, and drivers of hypoxia in streams and rivers. *In review for PNAS*.



## Data Releases

- Blaszcak, J.R., *Koenig, L.E.*, Mejia, F.H., Gómez-Gener, L., Dutton, C.L., Carter, A.M., Grimm, N.B., Harvey, J.W., **Helton, A.M.**, Cohen, M.J., Anyanwu, E.D., Pokrovsky, O.S., Krickov, I.V., Manasyov, R.M., Vorobyev, S.N., and Serikova, S., 2021, Distribution, frequency, and global extent of hypoxia in rivers: U.S. Geological Survey data release, <https://doi.org/10.5066/P99X6SIR>.
- Moore, E.M., Jackson, K.E., Haynes, A.B., **Helton, A.M.**, and Briggs, M.A., 2020, Thermal infrared images of groundwater discharge zones in the Farmington and Housatonic River watersheds (Connecticut and Massachusetts, 2019): U.S. Geological Survey data release, <https://doi.org/10.5066/P915E8JY>.
- Barclay, J.R., Hanson, A.E.H., Briggs, M.A, and **Helton, A.M**, 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

### Active

- 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).
- Can watershed land use legacies inform nitrogen management? (2021 – 2023) 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)
- 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)
- 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)
- 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)
- Groundwater discharge of legacy nitrogen at the scale of river networks: Where are stream interface sediments conduits or filters? (2018-2022) National Science Foundation, Hydrologic Sciences. PI: **AM Helton**, co-PIs: MA Briggs, JJ Starn (USGS). (Total award \$696K 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 – 2022) 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)
- 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)

- Training forest resources graduates for an exurban forest future. 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)
- Integrated economic assessment of contaminant, best practice agricultural management, and environmental policies in Northeastern U.S. watersheds. USDA, National Institute of Food and Agriculture – Hatch PI: K Rollins, co-PIs: S Steinbach, M Dietz, **AM Helton**, J Brandt

## Completed

- 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)
- To fix or not to fix: Do nitrogen fixing plants enhance green roof performance? PI: M Dietz, co-PI: AM Helton. Connecticut Sea Grant College Program Development Grant (Total award \$5000 to Univ. of Connecticut)
- College of Agriculture, Health and Natural Resources Equipment Grant for a Discrete Photometric Analyzer. 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)
- 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)
- 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)
- 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)
- Transport and fate of riverine nitrogen: Understanding hydrologic, physiochemical, and biological interactions. Environmental Protection Agency STAR Graduate Fellowship, 2006-2009 (\$112,500 for tuition, stipend, and research)
- Incorporating a temporal dimension to investigate stoichiometric control of nutrient cycling in stream ecosystems. Journal of the North American Benthological Society Rosemary MacKay Fund award to CS Small, **AM Helton**, and C Kanzanci, 2009 (\$500 plus publication costs)
- Carbon bioavailability along hyporheic flow paths within the Nyack Floodplain, Odum School of Ecology Graduate Student Research Grant, 2009 (\$1000)
- Biogeochemical processing along a gradient of redox potential and hydrologic complexity on the Nyack Floodplain. Institute of Ecology Dean Lindholm Memorial Travel Award, 2006 (\$500)

## **Additional Collaborative Research Activities**

### Working Groups

- Steering Committee, Salt Water 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.

## **Research Awards**

- UConn-AAUP Excellence in Research and Creativity: Early Career, 2019



## Teaching Awards

- *Donald M. Kinsman Award for Excellence in Teaching*, College of Agriculture, Health, and Natural Resources, Univ. of Connecticut, 2017

## Courses taught

- 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)
- Stream Ecology (NRE 4205, Univ. of Connecticut, Fall 2015, 2017, 2019, 2021)
- Advanced Stream Ecology (NRE 5335, Univ. of Connecticut, Fall 2015, 2019, 2021)
- 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)
    - Danielle Hare, PhD (expected 2022)
    - Eric Moore, PhD (expected 2024)
    - Madeline Kollegger, PhD (expected 2027)
    - Alaina Bisson, MS (expected 2022)
    - Ariana Dionisio, MS (expected 2023)
  - Major advisor (past)
    - Janet Barclay, PhD (2019)
    - Adam Haynes, MS (2021)
    - Kevin Jackson, MS (2020)
    - Sean Ooi, MS (2019)
    - April Doroski, MS (2017)
    - Jason Sauer, MS (2016)
  - Associate advisor (current)
    - Chris Sullivan, PhD, Natural Resources, Univ. of Connecticut
    - Jason Lech, PhD, Ecology and Evolutionary Biology, Univ. of Connecticut
    - Madeleine Meadows-McDonnell, PhD, Natural Resources, Univ. of Connecticut
    - Sarah Klinosky, PhD, Natural Resources, Univ. of Connecticut
    - Sharmin Akter, PhD, Environmental Engineering, Univ. of Connecticut
    - Brendan Noons, MS, Plant and Soil Science, Univ. of Connecticut
    - Katherine King, MS, Natural Resources, Univ. of Connecticut
  - Associate advisor (past)
    - Randi Mendes, PhD (2021), Environmental Engineering, 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

- 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 (expected 2022)
    - Caitlin Daddona (expected 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 (expected 2022)
  - Undergraduate University Scholar Faculty Committee: Fiona Liu (Major advisor, expected 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
- Proposal review
  - National Science Foundation, EAR, Hydrologic Sciences Proposal Panel (2020)
  - 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 Early Career Committee (2016-2020)
  - Society for Freshwater Science ad hoc Membership Committee (2014-2015)
  - Faculty representative, Annual University Consortium for Atmospheric Research meeting (2013)

## **Outreach Activities**

- Instructor 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)

## **University Service**

### **Department**

- Chair, NRE awards committee (2022 – ongoing)
- Member, NRE merit committee (2021 – ongoing)
- Honor's Advisor (2015 - ongoing)
- Member, Natural Resources Graduate Application Committee (2014 - ongoing)
- Chair, Connecticut Conference on Natural Resources (2019-2020)
- Chair, Scholarship Committee (2018 – 2020)
- Search Committees
  - Chair, Director, Office of Sustainability (2022)
  - Chair, Education, Outreach, and Communications Coordinator, Office of Sustainability (2021)
  - 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

- Co-chair, Strategic Visioning Committee, College of Agriculture, Health, and Natural Resources (2019-2020)
- 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

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

## Scientific Presentations

### Invited Seminars

- 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 30<sup>th</sup> 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 (2016 - present)\*Note cancelled spring 2020 abstracts not included

(*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 presentation while they were a part of Helton's lab.)

1. Hare, D, **AM 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.
2. 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.

3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. Haynes, AB, KE Jackson, EM Moore, JR Barclay, MA Briggs, **AM Helton**. 2020. Characterizing groundwater seepscales: Variable hydrologic and biogeochemical fluxes through space and time. American Geophysical Union Fall Meeting. Virtual Poster.
11. 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.
12. Blaszcak, 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.
13. 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.
14. 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.
15. Carter, AM, JR Blaszcak, 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.
16. 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.
17. 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.
18. 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.
19. 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.



20. *Koenig, LE, AM Helton*. 2019. Poster: Primary production regimes within and across river networks. Connecticut Conference on Natural Resources. Storrs, CT.
21. *Bell, K, K Witik, AM Helton, J Volin*. 2019. Deicing salt-induced cation exchange in roadside soils. Connecticut Conference on Natural Resources. Storrs, CT.
22. *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.
23. *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.
24. *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.
25. *Jackson, KE, AM Helton*. 2019. Poster: Land cover change and water quality legacies. Connecticut Conference on Natural Resources. Storrs, CT.
26. *Briggs, MA, C Dawson, C Holmquist-Johnson, AM Helton, JR Barclay, F Day-Lewis, M Domanski, J Lane*. 2018. Comprehensive geolocation of preferential groundwater discharges using heat tracing techniques. Geological Society of America Annual Meeting. Indianapolis, IN.
27. *Bertuzzo E, AM Helton, RO Hall, T Battin*. 2018. Poster: Scaling of dissolved organic carbon removal in river networks. American Geophysical Union Fall Meeting. Washington, DC.
28. *Wollheim W, W Bowden, T Harms, AM Helton, LE Koenig, D Robinson, C Song, and SCALER Project Team*. 2018. Metabolic scaling of river networks. American Geophysical Union Fall Meeting. Washington, DC.
29. *Handler A, AM Helton, NB Grimm*. 2018. Poster: Effect of rainy and dry seasons on nitrate loading and retention in an Arizona dryland watershed. American Geophysical Union Fall Meeting. Washington, DC.
30. *Barclay JR, AM Helton, MA Briggs, JJ Starn*. 2018. Linking regional groundwater models with thermal infrared field surveys to characterize spatial patterns of groundwater discharge at the scale of river networks. American Geophysical Union Fall Meeting. Washington, DC.
31. *Koenig LE, AM Helton, P Savoy, E Bertuzzo, JB Heffernan, RO Hall, ES Bernhardt*. 2018. Emergent metabolic regimes of river networks. American Geophysical Union Fall Meeting. Washington, DC.
32. *Ooi SK, Barry AT, B Stevens, CS Elphick, AM Helton, BA Lawrence*. 2018. Poster: Effect of Salt Marsh Tidal Restoration on Soil Microbial Process Rates. Society for Ecological Restoration New England Regional Conference.
33. *Barry AT, SK Ooi, AM Helton, CS Elphick, BA Lawrence*. 2018. Salt Marsh Vegetation Influence on Carbon-cycling and Microbial Communities. CAES Symbiosis Symposium 2018.
34. *Savoy P, LE Koenig, ES Bernhardt, AM Helton*. 2018. The seasonality of river productivity at the network scale. Ecological Society of America Annual Meeting. New Orleans, LA.
35. *Barry AT, SK Ooi, AM Helton, CS Elphick, BA Lawrence*. 2018. Salt marsh vegetation influence on carbon-based services. Society of Wetland Scientists Annual Meeting. Denver, CO.
36. *Ooi SK, AT Barry, BA Lawrence, CS Elphick, AM Helton*. 2018. Potential denitrification rates vary with salt marsh vegetation zone. Society of Wetland Scientists Annual Meeting. Denver, CO.
37. *Song, C, WK Dodds, J Ruegg and 23 others including AM Helton*. 2018. Warming induces asymmetric convergence of stream metabolic balance. Society for Freshwater Science Annual Meeting. Detroit, MI.
38. *Ardon, M, AM Helton, ES Bernhardt*. 2018. Salinity effects on greenhouse gas emissions are contingent on hydrologic setting: A microcosm experiment. Society for Freshwater Science Annual Meeting. Detroit, MI.
39. *Helton, AM, JR Barclay, MA Briggs, JJ Starn, A Hunt*. 2018. River network-scale patterns of groundwater discharge and denitrification of legacy nitrogen at the streambed interface. Society for Freshwater Science Annual Meeting. Detroit, MI.
40. *Koenig LE, AM Helton, P Savoy, RO Hall, Jr, ES Bernhardt*. 2018. Emergent metabolic regimes of river networks. Society for Freshwater Science Annual Meeting, Detroit, MI.

41. Wymore, A, **AM Helton**, R Barnes, and 16 others. 2018. De-coupling of dissolved organic carbon and dissolved organic nitrogen across stream ecosystems. Society for Freshwater Science. Detroit, MI.
42. Barry AT, SK Ooi, **AM Helton**, CS Elphick, BA Lawrence. 2018. Salt marsh vegetation influence on carbon-based services. New England Estuarine Research Society Spring Meeting. Portsmouth, NH.
43. Ooi SK, AT Barry, BA Lawrence, CS Elphick, **AM Helton**. 2018. Potential denitrification rates vary with salt marsh vegetation zone. New England Estuarine Research Society Spring Meeting. Portsmouth, NH.
44. Bertuzzo, E, **AM Helton**, RO Hall Jr, TJ Battin. 2018. Scaling of Dissolved Organic Carbon Removal in River Networks. European Geophysical Union General Assembly.
45. Barry AT, SK Ooi, **AM Helton**, CS Elphick, BA Lawrence. 2018. Salt marsh vegetation influence on carbon-based services. Connecticut Conference on Natural Resources. Storrs, CT.
46. Granville, KE, **AM Helton**, SK Ooi. 2018. Poster: Denitrification and N<sub>2</sub>O Emissions in Coastal Salt Marshes. Connecticut Conference on Natural Resources. Storrs, CT.
47. Bell, K, K Witik, **AM Helton**, J Volin. 2018. Poster: Road salt induced cation exchange in upland and wetland soil. Connecticut Conference on Natural Resources. Storrs, CT.
48. Witik, K, K Bell, **AM Helton**, J Volin. 2018. Road salt effects on sugar maple and black locust saplings. Connecticut Conference on Natural Resources. Storrs, CT.
49. Koenig, LE and **AM Helton**. 2018. Emergent metabolic regimes of river networks. Connecticut Conference on Natural Resources. Storrs, CT.
50. Ooi SK, AT Barry, BA Lawrence, CS Elphick, **AM Helton**. 2018. Potential denitrification rates vary with salt marsh vegetation zone. Connecticut Conference on Natural Resources. Storrs, CT.
51. Barclay JR, **AM Helton**, MA Briggs, JJ Starn. 2018. What's old is new: Managing nitrogen legacies. Connecticut Conference on Natural Resources. Storrs, CT.
52. Barclay JR, **AM Helton**, MA Briggs, JJ Starn, A Hunt. 2018. Groundwater Discharge of Legacy Nitrogen to River Networks: Patterns of Subsurface Travel Time, Nitrogen Loading, and Denitrification. Geological Society of America, Northeastern Section Meeting. Burlington, VT.
53. Wymore, A, S Kaushal, WH McDowell, P Kortelainen, ES Bernhardt, P Johnes, WK Dodds, S Johnson, J Brookshire, R Spencer, B Rodriguez-Cardona, **AM Helton**, R Barnes, A Argerich, S Haq, PL Sullivan, C López-Lloreda, AA Coble, M Daley. 2017. Poster: Carbon and nitrogen stoichiometry across stream ecosystems. American Geophysical Union Fall Meeting. New Orleans, LA.
54. Handler, AM, **AM Helton**, NB Grimm. 2017. Poster: Consequences of variation in stream-landscape connections for stream nitrate retention and export. American Geophysical Union Fall Meeting. New Orleans, LA.
55. **Helton AM**, JR Barclay, C Bellucci, C Rittenhouse. 2017. Increasing Base Cations in Streams: Another Legacy of Deicing Salts? American Geophysical Union Fall Meeting. New Orleans, LA.
56. Barclay JR, **AM Helton**, MA Briggs, JJ Starn, A Hunt. 2017. Poster: Groundwater Discharge of Legacy Nitrogen to River Networks: Linking Regional Groundwater Models to Streambed Groundwater-Surface Water Exchange and Nitrogen Processing. American Geophysical Union Fall Meeting. New Orleans, LA.
57. Song, C, WK Dodds, J Ruegg, A Argerich, CL Baker, WB Bowden, M Douglas, KJ Farrell, MB Flinn, EA Garcia, KB Gido, TK Harms, **AM Helton**, S Jia, JB Jones, LE Koenig, JS Kominoski, WH McDowell, D McMaster, SP Parker, AD Rosemond, KR Sheehan, MT Trentman, MR Whiles, WM Wollheim, F Ballantyne. 2017. Interactions between physiology and environmental heterogeneity determines discrepancy in stream metabolism across scales. Society for Freshwater Science Annual Meeting. Raleigh, NC.
58. **Helton, AM**, RO Hall, E Bertuzzo. 2017. How river network structure affects nitrogen removal and export. Society for Freshwater Science Annual Meeting. Raleigh, NC.
59. Doroski, A, **AM Helton**, T Vadas. 2017. Effects of saltwater intrusion and urban runoff on greenhouse gas emissions from freshwater wetland mesocosms. Society of Wetland Scientists Annual Meeting. San Juan, Puerto Rico.
60. Barclay, JR, **AM Helton**, JR Mullaney, CJ Bellucci. 2017. Base cation leaching: another legacy of deicing salts? Northeast Ecosystem Research Cooperative Conference. Saratoga Springs, NY.
61. Granville, KE, **AM Helton**, H Gruner. 2017. Poster: The effects of salinity on ephemeral wetland food webs. Connecticut Conference of Natural Resources. Storrs, CT.

62. Bell, K, K Witik, **AM Helton**, J Volin. **2017**. Poster: The effects of road salt accumulation on soil cation concentrations. Connecticut Conference of Natural Resources. Storrs, CT.
63. Barclay, JR, **AM Helton**, JR Mullaney, CJ Bellucci. **2017**. Poster: Base cation leaching: another legacy of deicing salts? Connecticut Conference of Natural Resources. Storrs, CT.
64. Barclay, JR, **AM Helton**, JJ Starn, MA Briggs. **2017**. Quantifying legacy nitrogen transport in Connecticut watersheds. Connecticut Conference of Natural Resources. Storrs, CT.
65. Doroski, A, **AM Helton**, T Vadas. **2017**. Effects of saltwater intrusion on wetland greenhouse gas emissions. Connecticut Conference of Natural Resources. Storrs, CT.
66. Doroski, A, **AM Helton**, T Vadas. **2016**. Poster: Effects of salinity and metals on denitrification across restored and reference wetlands in urban landscapes. New England Chapter of the Society for Ecological Restoration Regional Conference. Durham, NH.
67. Barclay, JR, **AM Helton**, JJ Starn, MA Briggs. **2016**. A conceptual cross-scale approach for linking empirical discharge measurements and regional groundwater models with application to legacy nitrogen transport and coastal nitrogen. American Geophysical Union Meeting. San Francisco, CA.
68. Doroski, A, **AM Helton**, T Vadas. **2016**. Effects of salinity and metals on denitrification across coastal wetlands in urban landscapes. Society of Wetland Scientists. Corpus Christi, TX.
69. Reinhold, AM, GC Poole, **AM Helton**, C Izurieta, RA Payn, ES Bernhardt. **2016**. A constraint-based, compound specific approach to modeling linked biogeochemical cycles. Society for Freshwater Science Annual Meeting. Sacramento, CA.
70. Wollheim, W and 21 others including **AM Helton**. **2016**. Scaling laws for aquatic metabolism vs. watershed size. Society for Freshwater Science Annual Meeting. Sacramento, CA.
71. Barclay, JR, H Tripp, CJ Bellucci, G Warner, **AM Helton**. **2016**. Waterbody classification and land cover patterns as predictors of water quality. Geological Society of America Northeastern Section Meeting. Albany, NY.
72. Zawatski, M, M Schoell, A Doroski, **AM Helton**. **2016**. The effects of road salts on denitrification in ephemeral wetlands. Connecticut Conference on Natural Resources. Storrs, CT.
73. Doroski, A, **AM Helton**, T Vadas. **2016**. Coastal wetland ecosystem function at the intersection of sea level rise and urban runoff. Connecticut Conference on Natural Resources. Storrs, CT.
74. Barclay, JR, H Tripp, CJ Bellucci, G Warner, **AM Helton**. **2016**. Water quality, waterbody classification, and land cover patterns in Connecticut. Connecticut Conference on Natural Resources. Storrs, CT.