Danielle Hare

Ph.D. Candidate

Graduate Research Assistant

Department of Natural Resources and the Environment

University of Connecticut

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EDUCATION

2018 – **Doctor of Philosophy in Natural Resources and the Environment**
University of Connecticut
Anticipated Graduation August 2022
Dissertation Title: *Climate change effects on the temperature regimes and carbon processing of stream ecosystems*
Advisor: Dr. Ashley M. Helton

2012 – 2015 **Master of Science in Geosciences**
University of Massachusetts, Amherst
Thesis Title: *Hydrogeological control on spatial patterns of groundwater seepage in peatlands*
Advisor: Dr. David F. Boutt

2007 – 2011 **Bachelor of Science in Geology**
Syracuse University
Undergraduate Research: *The effect of beaver dams on geochemistry of the hyporheic zone at varied depth and location over a range of discharges during flood recession*
Advisor: Dr. Laura K. Lautz

GRANTS

2021 **CUAHSI Hydroinformatics Innovation Fellowship** Annual Water Temperature Signal Analysis for Evaluating Groundwater Contributions to Streams Across Scales: Web Application. Web Product: https://cuahsi.shinyapps.io/pasta/

PUBLICATIONS

1. **Hare, DK,** AM Helton, ZC Johnson, JW Lane, and MA Briggs (2021) Continental-scale analysis of shallow and deep groundwater contributions to streams. Nature Communications 12, 1450. https://doi.org/10.1038/s41467-021-21651-0

2. Johnson, ZC, BG Johnson, MA Briggs, WD Devine, CD Snyder, NP Hitt, **DK Hare,** TV Minkova (2020). Paired air-water annual temperature patterns reveal hydrogeological controls on stream thermal regimes at watershed to continental scales. Journal of Hydrology. https://doi.org/10.1016/J.JHYDROL.2020.124929

3. Harvey, MC, **DK Hare**, A Hackman, G Davenport, AB Haynes, A Helton, JW Lane, MA Briggs (2019). Evaluation of Stream and Wetland Restoration Using UAS-Based Thermal Infrared Mapping. Water, 11(1568). https://doi.org/10.3390/w11081568

4. Briggs, MA, **DK Hare** (2018). Explicit consideration of preferential groundwater discharges as surface water ecosystem control points. Hydrological Processes, 32(15), 2435–2440. https://doi.org/10.1002/hyp.13178

5. **Hare, DK,** DF Boutt, WP Clement, CE Hatch, G Davenport, A Hackman (2017) Hydrogeological controls on spatial patterns of groundwater discharge in peatlands, Hydrology and Earth System Science. https://doi:10.5194/hess-2017-282.

6. Briggs, MA, **DK Hare**, DF Boutt, G Davenport, JW Lane (2016) Thermal infrared video details multiscale groundwater discharge to surface water through macropores and peat pipes, Hydrological Processes 30(14), 2510-2511, https://doi.org/10.1002/hyp.10722.

7. Rosenberry, DO, MA Briggs, G Delin, **DK Hare** (2016) Combined use of thermal methods and seepage meters to efficiently locate, quantify, and monitor focused groundwater discharge to a sand-bed stream, Water Resources Research 52 (6), 4486-4503, https://doi.org/10.1002/2016WR018808.

8. **Hare, DK,** MA Briggs, DO Rosenberry, DF Boutt, JW Lane (2015), A comparison of thermal infrared to fiber-optic distributed temperature sensing for evaluation of groundwater discharge to surface water, Journal of Hydrology, https://doi.org/10.1016/j.jhydrol.2015.09.059.

9. Briggs, MA, LK Lautz, **DK Hare** (2013) Residence Time Control on Hot Moments of Net Nitrate Production and Uptake in the Hyporheic Zone, Hydrological Processes, https://doi.org/10.1002/hyp.9921.

10. Briggs, MA, LK Lautz, **DK Hare** and RA Gonzalez (2013) Relating hyporheic fluxes, residence times, and redox-sensitive biogeochemical processes upstream of beaver dams, Freshwater Science 32 (2), https://doi.org/10.1899/12-110.1.

11. Briggs, MA, LK Lautz, JM McKenzie, RP Gordon, **DK Hare** (2012) High resolution distributed temperature sensing of hyporheic flux patterns in varied space and time around beaver dams, Water Resources Research, 48, https://doi.org/10.1029/2011WR011227.

In Preparation

Hare, DK**,** S Benz, B Kurylyk, ZC Johnson, N Terry, AM Helton (In Preparation) Paired Air and Stream Temperature Analysis (PASTA) to Evaluate Groundwater Influence on Streams. Groundwater Methods Note. Anticipated Submission by July 2022.

Hare, DK, AM Helton, P Bumpers, N Tomczyk, C Cummins, S Wenger, V Gulis, ER Hotchkiss, JP. Benstead, A Rosemond. Groundwater delivers carbon and buffers stream warming: effects on stream network carbon cycling. Anticipated Submission by July 2022.

Hare, DK, AM Helton, P Bumpers, N Tomczyk, C Cummins, S Wenger, V Gulis, ER Hotchkiss, JP. Benstead, A Rosemond. Influences of climate-induced terrestrial carbon quality modifications on carbon processing in headwater stream networks. Anticipated Submission by October 2022.

Hare, DK, E Moore, K Jackson K, AM Helton (In Preparation) Hot dam! Evaluating how thermal regimes downstream of dams change across the conterminous United States. Environmental Research Letters. Anticipated Submission by January 2023.

RESEARCH AND WORK EXPERIENCE

2018 – **Graduate Research Assistant**
Project: Carbon Response to Experimental Warming
University of Connecticut, Storrs, CT

2021 – **Graduate Research Assistant**
Project: Can Watershed Land Use Legacies Inform Nitrogen Management?
University of Connecticut, Storrs, CT

2014 – 2019 **Environmental Scientist/Hydrogeologist**
Remediation Division
AECOM Technical Services, Rocky Hill CT

2012 – 2014 **Graduate Research Assistant**
Project: Tidmarsh Farms Wetland Restoration
University of Massachusetts, Amherst, MA

2014 **Graduate Research Assistant**
Project: Tobago Freshwater Resource Evaluation
University of Massachusetts, Amherst, MA

2012 **Graduate Research Assistant**
Project: Blackstone River Nutrient Evaluation
University of Massachusetts, Amherst, MA

2010 **Hydrologic Field and Laboratory Assistant**
Project: Nutrient Effects of Groundwater-Surface Water Exchange
Syracuse University, Syracuse, NY

HONORS AND AWARDS

2022 **Graduate Student Research and Creativity Award**
College of Agriculture, Health, and Natural Resources
University of Connecticut

2021 **Outstanding Graduate Student Award**
Department of Natural Resources and the Environment
University of Connecticut

2021 **Graduate School Conference Participation Award**
University of Connecticut

2020 **Student Travel Grant**
American Geophysical Union

2014 **Outstanding Teaching Assistant**
Department of Geosciences
University of Massachusetts, Amherst

2011 **Norma Slepecky Undergraduate Research**
Women in Science and Engineering
Syracuse University

2011 **Fay M. Merriam Award- Professional Promise**
Department of Earth Sciences
Syracuse University

MEDIA

The Conversation US. Your favorite fishing stream may be at high risk from climate change – here's how to tell. March 4, 2021.

UConn Today Groundwater Information is No Longer Out of Depth March 4th, 2021

CONFERENCE PRESENTATIONS (Selected/ *Invited)

***Hare DK,** AM Helton, ZC Johnson, MA Briggs, C Cummins, P Bumpers, S Wenger, V Gulis, E Hotchkiss, JP Benstead, A Rosemond (2021) Groundwater Flow Path Depth Influences the Temperature Stability of Streams: Implications for Instream Carbon Cycling. Geologic Society of America, Portland, OR. Invited

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 (platform) Society of Freshwater Science, Virtual

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 (platform) AGU Fall Meeting 2020, Virtual

Hare, DK, DF Boutt, WP Clement, CE Hatch, A Hackman, G Davenport (2018) Identifying groundwater discharge spatial patterns to inform process-based peatland restoration (platform) Society for Ecological Restoration, New Haven, CT

Hare, DK, DF Boutt, WP Clement, CE Hatch, A Hackman, G Davenport (2018) Process-based evaluation of the groundwater discharge spatial patterns in peatlands (poster) Society for Freshwater Science, Detroit, MI

Hare, DK, R Henderson, Z Smith, DF Boutt (2017) Delineating groundwater discharge inputs to surface waters using thermal methods (platform) Battelle Bioremediation Symposium, Miami, FL

Hare, DK, MA Briggs, DO Rosenberry, DF Boutt, JW Lane (2015) A comparison of thermal infrared to fiber-optic distributed temperature sensing for evaluation of groundwater discharge to surface water. (platform) American Geophysical Union, San Francisco, CA

Hare, DK, D Boutt, A Hackman, G Davenport (2013) Peatland structural controls on spring distribution (poster) American Geophysical Union, San Francisco, CA

Hare, DK, D Boutt, A Hackman, G Davenport (2013) Constraining the hydrodynamics of peatlands using non-invasive tools to guide restoration (poster) Society for Freshwater Science, Jacksonville, FL.

Hare, **DK**, MA Briggs and LK Lautz (2010) The effect of beaver dams on geochemistry of the hyporheic zone at varied depth and location over a range of discharges during flood recession (poster) American Geophysical Union, San Francisco, CA.

TECHNICAL SKILLS

Programming/Modeling

Python, R, RShiny, MATLAB, ArcGIS, QGIS, MODFLOW, GMS, AQTESOLV, Comsol Multiphysics Modeling, Sigmaplot, Microsoft Office Suite, Adobe Creative Suite

Field Skills

Well slug and pump tests, surveying, GPS, stream gauging, water quality field instrumentation, low-flow sampling, pore water sampling, electrical resistivity, ground penetrating radar, fiber-optic distributed temperature sensing, infrared surveys (handheld and unmanned aircraft systems experience), thermal profiles, sediment coring and description

Laboratory Skills

Water standard preparations, water isotopes Picarro L2130-*i* Analyzer, sediment analysis

TEACHING EXPERIENCE

Instructor of Record

2019 Stream Ecology (NRE 3205)
Summer Session II
University of Connecticut

Teaching Assistantships

2019 Natural Resources Measurements (NRE 2010)
University of Connecticut

2012 – 2014 Groundwater Geology Teaching Assistant (GEOG 227)
Mount Holyoke University

2012 – 2014 Hydrogeology Teaching Assistant (GEO 587)
University of Massachusetts, Amherst, MA

2014 Global Environment Change Teaching Assistant (GEO 110)
University of Massachusetts, Amherst, MA

2014 Global Environment Change Teaching Assistant (GEO 110)
University of Massachusetts, Amherst, MA

2012 – 2014 The Earth Lab Coordinator and Lab Instructor (GEO 101)
University of Massachusetts, Amherst, MA

WORKSHOPS & EXPERIENCE

2022 River Field Studies Scholar
2022 River Field Instructor Professional Development Cohort
River Field Studies Network

2019 Fundamentals of Ecosystem Ecology
Cary Institute of Ecosystem Studies

2015 – 2018 Vice President
Engineers Without Borders: Hartford Professional Chapter

2013 – USGS Volunteer for Science
Branch of Geophysics, Department of Groundwater
United States Geological Survey

2017 Innovative Technology Program: Drones – Unmanned Aircraft Use in the Environmental and Energy Industry
Environmental Business Council

2016 Managing PCB Impacted Building Materials
Connecticut Chapter Program: Environmental Business Council

2015 Scientific Sensing using Unmanned Aircraft Systems
AirCTEMPs short-course: Center for Transformative Environmental Monitoring Programs

2013 Gordon Research Conference—Andover, NH
Catchment Science: Interactions of Hydrology, Biology & Geochemistry

2012 Surface Water/Groundwater Workshop
Techniques to Quantify Stream-Groundwater Exchange and Shallow Transport
Penn State, PA

2011 S.E.A Oceans and Climate Semester
Woods Hole, MA

PEER REVIEW SERVICE

Hydrologic Processes
Journal of Hydrology
Journal of Geophysical Research

PROFESSIONAL MEMBERSHIPS

2021 – River Management Society

2014 – Society of Freshwater Science

2010 – Geologic Society of America

2010 – American Geophysical Union