Danielle Hare, Ph.D.

Postdoctoral Fellow
Cary Institute of Ecosystem Studies
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EDUCATION

2022 **Doctor of Philosophy in Natural Resources and the Environment**
Ecosystem Ecology, University of Connecticut
Advisor: Dr. Ashley M. Helton

2015 **Master of Science in Geosciences**
Hydrogeology, University of Massachusetts, Amherst
Advisor: Dr. David F. Boutt

2011 **Bachelor of Science in Geology**
Syracuse University
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. Awarded $8000. Web Product: https://cuahsi.shinyapps.io/pasta/

PUBLICATIONS

1. **Hare, DK,** S Benz, B Kurylyk, ZC Johnson, N Terry, AM Helton (2023). Paired air and stream temperature analysis (PASTA) to evaluate groundwater influence on streams. Water Resources Research, 59, e2022WR033912. https://doi.org/10.1029/2022WR033912

2. **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

3. 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

4. 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

5. 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

6. **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.

7. 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.

8. 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.

9. **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.

10. 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.

11. Briggs, MA, LK Lautz, **DK Hare,** 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.

12. 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 Review

Hare, DK, AM Helton, C Cummins, P Bumpers, N Tomczyk, S Wenger, ER Hotchkiss, A Rosemond, JP Benstead. (In Revision) Leaf litter breakdown phenology in headwater stream networks is modulated by groundwater thermal regimes and litter type, Limnology and Oceanography Letters.

Rey DM, **DK Hare**, JH Fair, MA Briggs. Diel temperature signals track seasonal shifts in localized groundwater contributions to headwater streamflow generation at network scale. Journal of Hydrology

RESEARCH AND WORK EXPERIENCE

2023 **Post Doctoral Fellow**
Cary Institute of Ecosystem Studies, Millbrook, NY

2023 **Research Assistant**

Project: Interactive map of water quality data for the Long Island Sound watershed
Department of Natural Resources and the Environment
University of Connecticut, Storrs, CT

2022 **Research Assistant**
Project: Predicting Flood Insurance Premiums along Coastal Connecticut
Department of Agricultural & Resource Economics
University of Connecticut, Storrs, CT

2021 – 2022 **Graduate Research Assistant**
Project: Can Watershed Land Use Legacies Inform Nitrogen Management?
Department of Natural Resources and the Environment
University of Connecticut, Storrs, CT

2018 – 2022 **Graduate Research Assistant**
Project: Carbon Response to Experimental Warming
Department of Natural Resources and the Environment
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

2022 **Excellence in Mentorship**
Advanced Research Methods High School Class
Glastonbury High School, Glastonbury CT

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 (First Author Only, *Invited)

Hare, DK, AM Helton, ZC Johnson, B Kurylyk, S Benz. Automated Paired Air and Stream Temperature Analysis for Evaluating Groundwater Connectivity and Habitat Resiliency Across Scales: PASTA Web Application. Frontiers in Hydrology Meeting (FIHM22), June 19-24 2022, San Juan, Puerto Rico

Hare DK, AM Helton, C Cummins, P Bumpers, S Wenger, V Gulis, E Hotchkiss, JP Benstead, A Rosemond (2022) The Role of Groundwater in Stream Network Carbon Cycling Under a Changing Climate, Joint Aquatic Sciences Meeting in Grand Rapids, Michigan.

***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

Webinars & Guest Lectures

2024 Guest Lecturer
Fundamentals of Ecosystem Ecology
Cary Institute of Ecosystem Studies

2022 Annual Water Temperature Signal Analysis for Evaluating Groundwater Contributions to Streams Across Scales: Web Application, November 8th, 2022. CUAHSI Cyberseminars - Making waves in Water Science: Open-source tools.

Mentorship

2022- 2023 Advanced Research Methods Mentor
Glastonbury High School

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

Nature - Water
Hydrologic Processes
Water Resources Research
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