

Kristine Stepenuck
81 Carrigan Dr
Burlington VT 05405
802-656-8504
kris.stepenuck@uvm.edu

Education:

Ph.D. *University of Wisconsin – Madison. 2013*

Focus: Environment and Resources. GPA: 3.9

Dissertation: Improving Understanding of Outcomes and Credibility of Volunteer Environmental Monitoring Programs

M.S. *University of Wisconsin – Stevens Point. 1999*

Focus: Natural Resources with emphasis in Water Resources. GPA: 3.98

Thesis: Impacts of Urban Land Use on Benthic Macroinvertebrate Communities with Comparison of Samples from Snags and Riffles for Southeastern Wisconsin Streams

B.S. *University of New Hampshire, Durham. 1995*

Major: Water Resources Management. Minor: Hydrology. GPA: 3.54

Undergraduate Research: Nitrate Removal from a Region of Underground Flow in a First Order Stream

Experience:

Extension Assistant Professor of Watershed Science, Policy and Education

University of Vermont. Rubenstein School of Environment and Natural Resources and Lake Champlain Sea Grant. Burlington, VT. 2015-present

- Develop research, outreach and education programs to empower communities, businesses and other stakeholders in the Lake Champlain Basin to make informed decisions about aquatic resources
- Advance integrated research to address environmental and natural resources challenges faced by communities
- Develop and foster partnerships with academic institutions, key agencies, and government bodies, NGOs, legislative liaisons, and the greater community throughout the Lake Champlain Basin and beyond
- Represent the Lake Champlain Sea Grant Program at relevant local, state, national and international meetings
- Deliver distinctive education programs in environment and natural resources to prepare the next generations of leaders capable of working in complex and changing socio-ecological systems
- Supervise Lake Champlain Sea Grant staff to help ensure they carry out effective and meaningful programs that align with program priorities and direction
- Seek out and prepare funding proposals that complement the general missions of the Rubenstein School of Environment and Natural Resources and the Lake Champlain Sea Grant Program

Volunteer Stream Monitoring Program Coordinator

University of Wisconsin-Extension and WI Department of Natural Resources. Madison, WI. 2001-2015

- Designed and implemented a multifaceted and dynamic volunteer stream monitoring program for the State of Wisconsin that addresses educational, research and natural resources management decision-making needs
- Developed sound scientific methods and quality assurance plans for a wide variety of parameters
- Trained citizens and local coordinators in monitoring methods
- Analyzed data using a variety of database tools and statistical software, including R and SPSS
- Communicated results to the public and natural resource managers through written reports, mobile technologies and oral presentations

- Developed resources to facilitate increased collaboration, communication and cooperation among volunteer water monitoring programs across the nation
- Identified and pursued funding opportunities and prepare grant proposals to support and enhance statewide, regional and national research and outreach initiatives
- Designed and carried out social and natural science research related to volunteer water monitoring and citizen science
- Prepared and published peer-reviewed manuscripts to disseminate research findings
- Supervised project staff and interns
- Developed and maintained web-based resources to enhance program communications
- Managed online database for volunteer water quality data
- Partnered with other citizen science professionals to develop articles, conferences and opportunities to improve understanding of the field both for practitioners and for managers outside its realm
- Evaluated programming efforts

Adjunct Faculty

Viterbo University. West Allis, WI. June 2013 – December 2014.

- Designed, instructed and graded graduate level courses in stream monitoring and stream biology
- Prepared syllabi, grading rubrics and content for courses

Watershed Project Manager

Macatawa Area Coordinating Council. Holland, MI. March – October 2000

Eurasian Water Milfoil Researcher

University of Wisconsin. Stevens Point, WI. August 1999 – March 2000

Aquatic Macroinvertebrate Researcher (Master's Thesis)

University of Wisconsin. Stevens Point, WI. September 1997 – January 2000

Soil Conservation and Watershed Inventory Field Course Instructor

University of Wisconsin – Stevens Point, Treehaven Field Camp. Tomahawk, WI. Summer 1999

Aquatic Toxicology Lab Manager

University of Wisconsin, Aquatic Toxicology Laboratory. Stevens Point, WI. July 1998 – July 1999

Water and Soil Resources Teaching Assistant

University of Wisconsin. Stevens Point, WI. January – June 1998

Rivers Program Assistant

New Hampshire Department of Environmental Services, NH Rivers Management and Protection Program. Concord, NH. August 1996 – April 1997

Marine, Freshwater, and Terrestrial Environmental Educator February 1995 – August 1997

University of New Hampshire Sea Grant, Durham, NH.

Seacoast Science Center, Rye, NH.

Habitat Education Center, Massachusetts Audubon, Belmont, MA.

Shelburne Farms, Shelburne, VT.

Tanglewood 4H Camp and Learning Center, University of Maine Cooperative Extension, Lincolnville, ME.

Aquatics Education Intern – Merrimack River Watershed Education Program

New Hampshire Fish and Game Department. Concord, NH. September – December 1995

Chemistry Lab Technician

Keene State College. Keene, NH. September – December 1995

Honors and Awards:

David N. Redell Award for Lifetime Achievement in Citizen-based Monitoring. 2016.

Wisconsin Extension Environmental and Community Development Association Outstanding Achievement Award. 2015.

Rock River Coalition River Friends Award. 2014.

North American Lake Management Society (NALMS) Technical Merit Award for Public Education/Outreach. Extension Volunteer Monitoring Network. 2012.

Wisconsin Department of Natural Resources Water Resources Employee of the Year Award. 2011.

USDA National Water Program Project of Excellence, National Water Resources Project “Moving Volunteer Water Monitoring to the Next Level.” 2010.

USDA National Water Program Project of Excellence, Regional *E. coli* Monitoring Project, “Building Volunteer Capacity and Comparing Methods for *E. coli* Monitoring in Streams: A Multi-State Effort.” 2010.

UW-Extension Academic Staff Regents Award for Excellence nominee. 2010

USDA National Water Program, Outstanding Extension Program – Water Resources Team Award, Building *E. coli* Monitoring Capacity. 2008

Association of Natural Resource Extension Professionals Outstanding Team Award. 2006

Wisconsin State Council of Trout Unlimited Appreciation Award. 2003

Best student paper at the 60th Midwest Fish and Wildlife Conference. 1998

Governor’s Success Scholarship (4-year tuition scholarship), University of New Hampshire. 1991-1995

Valedictorian, Monadnock Regional High School (NH). 1991

Grants and Contracts:

Integrating Volunteer Nutrient Monitoring and Outreach with Extension across States. North Central Region Water Network. 2015. \$26,480

Water Action Volunteers Contract. WI Department of Natural Resources. \$70,965. Federal FY2015

Lower Fox Tributary Volunteer Monitoring. WI Department of Natural Resources Office of the Great Lakes Area of Concern Support Grant. 2014-2015. \$43,609

Water Action Volunteers Contract. WI Department of Natural Resources. \$70,965. Federal FY2014

Building Public Awareness of Wisconsin’s Streams and the Impacts of Land Use on Their Water Quality Through Self-Guided Tours of Long-term Volunteer Stream Monitoring Sites. Wisconsin Environmental Education Board. 2013-2014. \$9,969

Water Action Volunteers Contract. WI Department of Natural Resources. \$70,965. Federal FY2013

Building Partnerships and Broadening Horizons: Expanding Volunteer Urban Road Salt Monitoring in Streams across the Upper Midwest. Great Lakes Regional Water Program. 2012-2013. \$45,108

Exploring Streams: A Stream Monitoring Curriculum Guide for Wisconsin Middle and High School Teachers and Students. Wisconsin Department of Natural Resources Partnership Program. 2012-2013. \$4,900

Water Action Volunteers Contract. WI Department of Natural Resources. \$70,965. Federal FY2012

Water Action Volunteers Contract. WI Department of Natural Resources. \$70,965. Federal FY2011

Volunteer Monitoring in Underserved Communities: Exploring Opportunities & Programs for Enhanced Watershed Management. Great Lakes Regional Water Program. 2010-2011. \$27,487

Teacher Training with BLM Riparian Zone Curriculum. Bureau of Land Management Youth Initiative Incentive Funding. 2010-2011. \$25,000

Moving the Extension Volunteer Monitoring Network to the Next Level, USDA Cooperative State Research Education and Extension Section 406 National Water Resources Project. 2008-2012. \$380,000

Building Capacity of E. coli Monitoring by Volunteer Networks: A Multi-State Effort – Continuation Project. USDA Great Lakes Water Quality Team. 2008-2010. \$50,000

Marsh Monitoring – A Pilot for Partnership with the Citizen-based Water Monitoring Network. Wisconsin Department of Natural Resources Partnership Program. 2007-2008. \$5,000

Volunteer Water Quality Monitoring National Facilitation Project. USDA Cooperative State Research Education and Extension Section 406 National Facilitation Grant. 2004-2008. \$399,852

A Pilot Project to Evaluate Citizen-based Monitoring Groups' Ability to Use a Family-Level Macroinvertebrate Index to Assess Stream Health. Wisconsin Department of Natural Resources Partnership Program. 2005-2006. \$4,640

Who's Who in Citizen-based Monitoring in Wisconsin. Wisconsin's Comprehensive Wildlife Conservation Planning Grant. 2005. \$18,000

Water for Everyone. Ira and Ineva Reilly Baldwin Wisconsin Idea Endowment. University of Wisconsin. 2004-2006. \$50,000

Building Capacity of E. coli Monitoring by Volunteer Networks: A Multi State Effort. USDA Cooperative State Research Education and Extension Section 406 Extension Education Grant. 2003-2006. \$275,000

Ellwood H. May Environmental Center Watershed Education Resource Center. CD Besadny Natural Resources Foundation Conservation Grant. 2004. \$830

Shawano-area Watershed Education Resource Center. Wisconsin Environmental Education Board Grant. 2002-2003. \$4,437

Peer-reviewed Publications:

McKinley, D. C., A. J. Miller-Rushing, H. L. Ballard, R. E. Bonney, H. Brown, D. M. Evans, R. A. French, J. K. Parrish, T.B. Phillips, S. F. Ryan, L. A. Shanley, J. L. Shirk, K. F. Stepenuck, J. F. Weltzin, A. Wiggins, O. D. Boyle, R. D. Briggs, S. F. Chapin III, D. A. Hewitt, P. W. Preuss, and M. A. Soukup. Accepted. *Citizen Science Can Improve Conservation Science, Natural Resource Management, and Environmental Protection Biological Conservation.* Biological Conservation.

McKinley, D. C., A. J. Miller-Rushing, H. L. Ballard, R. E. Bonney, H. Brown, D. M. Evans, R. A. French, J. K. Parrish, T.B. Phillips, S. F. Ryan, L. A. Shanley, J. L. Shirk, K. F. Stepenuck, J. F. Weltzin, A. Wiggins, O. D. Boyle, R. D. Briggs, S. F. Chapin III, D. A. Hewitt, P. W. Preuss, and M. A. Soukup. 2015. *Investing in citizen science can improve natural resource management and environmental protection.* Issues in Ecology. Report Number 19.

Stepenuck, K.F., and L. Green. 2015. *Individual and Community-Level Impacts of Volunteer Environmental Monitoring: A Synthesis of Peer-Reviewed Literature.* Ecology and Society. 20(3):19. <http://www.ecologyandsociety.org/vol20/iss3/art19/>

Stepenuck, K.F. 2013. *Improving Understanding of Outcomes and Credibility of Volunteer Environmental Monitoring Programs.* Doctoral dissertation, The University of Wisconsin-Madison.

Akin, H., B. Shaw, K.F., Stepenuck, and E. Goers. 2013. *Factors Associated with Ongoing Commitment to a Volunteer Stream Monitoring Program.* Journal of Extension. 51(3).

Stepenuck, K., L. Wolfson, B. Liukkonen, J. Iles, and T. Grant. 2011. *Volunteer Monitoring of E. coli in Streams of the Upper Midwestern United States: A Comparison of Methods.* Environmental Monitoring and Assessment. 174(1-4):625-33. Epub 2010 May 8.

- Stepenuck, K., R. Crunkilton, M. Bozek, and L. Wang. 2008. *Comparison of Macroinvertebrate-Derived Stream Quality Metrics between Snag and Riffle Habitats*. Journal of the American Water Resources Association. 44(3): 670-678.
- Overdeest, C., C. Huyck Orr, and K. Stepenuck. 2004. *Volunteer Stream Monitoring and Local Participation in Natural Resource Issues*. Human Ecology Review. 11(2): 177-185.
- Stepenuck, K.F., R.L. Crunkilton, L. Wang. 2002. *Impacts of Urban Land Use on Macroinvertebrate Communities in Southeastern Wisconsin Streams*. Journal of the American Water Resources Association. 38 (4): 1041-1052.

Select Educational Publications:

- Stepenuck, K. and K. Murphy. 2013. *Exploring Streams: Stream Monitoring Curriculum Guide for Middle and High School Teachers and Students*. University of Wisconsin. 275 pp.
- Kushner, J., J. Klink, K. Stepenuck, K. Genskow, E. Herron, and L. Green. 2012. *Evaluating Your Volunteer Water Quality Monitoring Program*. National Water Resources Project Fact Sheet XVI. University of Rhode Island and University of Wisconsin.
- Herron, E., K. Stepenuck, K. Kleehammer, and L. Green. 2012. *Presenting Bacteria Data Effectively*. National Water Resources Project Fact Sheet XV. University of Rhode Island and University of Wisconsin.
- Herron, E., K. Stepenuck, and L. Green. 2009. *Tools for Effective Outreach*. National Water Resources Project Fact Sheet XII. University of Rhode Island and University of Wisconsin.
- Herron, E., K. Stepenuck, and L. Green. 2009. *Fundraising for Volunteer Monitoring*. National Water Resources Project Fact Sheet XI. University of Rhode Island and University of Wisconsin.
- Stepenuck, K. and J. Strobel. 2007. *Friends of the St. Croix Headwaters 2006-2007 Level 2 Stream Monitoring Results*. University of Wisconsin-Extension and WI Department of Natural Resources Citizen-based Stream Monitoring Program.
- Stepenuck, K. E. Herron, and L. Green. 2006. *Considerations for Planning Your Program's Data Management System*. National Water Resources Project Fact Sheet IX. University of Rhode Island and University of Wisconsin.
- Herron, E., L. Green, and K. Stepenuck. 2006. *Volunteer Management and Support*. National Water Resources Project Fact Sheet VIII. University of Rhode Island and University of Wisconsin.
- Herron, E., L. Green, K. Stepenuck, and K. Addy. 2004. *Building Credibility: Quality Assurance and Quality Control for Volunteer Monitoring Programs*. National Water Resources Project Fact Sheet VI. University of Rhode Island and University of Wisconsin.
- Herron, E. and K. Stepenuck. 2003. *Cooperative Extension Volunteer Monitoring Partnerships*. The Volunteer Monitor. 15(1): 18-20.
- Herron, E., K. Stepenuck, L. Green, and K. Addy. 2003. *Designing Your Monitoring Strategy: Basic Questions and Resources to Help Guide You*. National Water Resources Project Fact Sheet IV. University of Rhode Island and University of Wisconsin.
- Stepenuck, K., J. Peterson, M. Miller, and C. Javid. 2002. *Stream Flow: Flow Speaks Volumes*. University of Wisconsin-Extension and WI Department of Natural Resources Water Action Volunteers Monitoring Program Fact Sheet #7.
- Addy, K., L. Green, E. Herron, and K. Stepenuck. 2002. *Why Volunteer Water Quality Monitoring Makes Sense*: National Water Resources Project Fact Sheet II. University of Rhode Island and University of Wisconsin.

Select Presentations:

- Stepenuck, K. and T. Phillips. August 2016. *Exploring the Worlds of Citizen Science and Volunteer Monitoring*. National Water Quality Monitoring Council Webinar. (Invited presenter)
- Stepenuck, K. June 2016. *Understanding Outcomes for Natural Resource Policy and Management in U.S. Citizen Observatories*. Citizens Observatories for Water Management. Venice, Italy. (Invited plenary speaker)
- Stepenuck, K. June 2016. *Outcomes of Volunteer Monitoring Programs on Natural Resources Policy and Management*. Vermont Lakes Seminar. Castleton, VT. (Invited keynote speaker)
- Stepenuck, K. May 2016. *Is the Whole Greater than the Sum of its Parts? Assessing Costs and Benefits of a Volunteer Monitoring Program*. 10th National Monitoring Conference. Tampa, FL.
- Stepenuck, K. March 2016. *Does Volunteer Monitoring Really Make a Difference?* Wisconsin Lakes Convention. Stevens Point, WI. (Invited keynote speaker)
- Stepenuck, K. September 2015. *Leveling the Playing Field: The Role of Citizen-generated Water Level Data in Natural Resources Management Decision-making*. Open Science and Innovation: Of the People, For the People, By the People. White House Citizen Science Forum. Washington DC. (Invited presenter)
- Stepenuck, K. September 2015. *The Key Role of States in Citizen Science*. National Advisory Council for Environmental Policy and Technology. EPA Headquarters, Washington DC. (Invited presenter)
- Stepenuck, K. May 2015. *Understanding Impacts of Volunteer Water Monitoring Programs on Natural Resource Policy and Management*. Society for Freshwater Science. Milwaukee, WI.
- Stepenuck, K. December 2014. *Costs, Benefits and Coordination: The Wisconsin Experience*. (Invited presenter) Chesapeake Bay Innovative Water Quality Monitoring Workshop. Annapolis, MD (via webinar).
- Glynn, P. and K. Stepenuck. September 2014. *Citizen Science: Empower the Public*. (Invited presenter) American Water Resources Association Webinar Series.
- Stepenuck, K. May 2014. *Improving Understanding of Impacts of Volunteer Water Monitoring Programs on Natural Resource Policy and Management*. 9th National Monitoring Conference. Cincinnati, OH.
- Corsi, S. and K. Stepenuck. September 2013. *Winter Road Management: Go Easy on the Salt*. (Invited presenters). Wisconsin Water Star 2013 Municipal Water Resource Management Webinar Series.
- Stepenuck, K. July 2013. *Outcomes of Water Action Volunteers Stream Monitoring Program* (Invited presenter). Connecting social and ecological systems through public participation in scientific research (PPSR): Understand conservation and community outcomes Focus Group at the 26th International Congress for Conservation Biology. Baltimore, MD.
- Stepenuck, K. August 2012. *Understanding the Connection between Participant Motivations and Program Outcomes for Most Effective Program Design* (Invited presenter). Public Participation in Scientific Research Community Forum. Portland, OR.
- Stepenuck, K. C. Anderson, S. Corsi, and E. Grazia. May 2012. *Volunteer Road Salt Monitoring: Assessing Impacts of Winter Safety Measures on Stream Quality in Wisconsin*. 8th National Monitoring Conference. Portland, OR.
- Stepenuck, K. B. Deutsch, S. Ruiz-Cordova, T. Muenz, A. Hughes, S. Patrick, and E. Conway. September 2011. *How to Be Outstanding in the Stream: Exploring Methods and Approaches for Volunteer Stream Monitoring*. Southern Regional Water Conference. Athens, GA.
- Green, L., E. Herron, K. Stepenuck, F. Finley, and A. Sigler. February 2010. *Community-based Water Monitoring Programs: Things to Consider before Getting Your Feet Wet*. (workshop) 2010 Land and Sea Grant National Water Conference. Hilton Head, SC.
- Stepenuck, K., L. Green, E. Herron, F. Finley, K. Genskow, and A. Gold. October 2009. *Supporting Volunteer Water Quality Monitoring Nationwide*. North American Lake Management Society. Hartford, CT.

- Stepenuck, K., J. Iles, and L. Wolfson. May 2009. *Citizens Monitoring Bacteria Workshop*. Ohio Watershed Academy. Delaware, OH.
- Herron, E., K. Stepenuck, K. Genskow, and F. Finley. February 2009. *Making the Most of Your Monitoring Data: Strategies for Effective Outreach in Your Local Community*. (workshop) Cooperative State Research Education and Extension Service National Water Conference. St. Louis, MO.
- Stepenuck, K. February 2009. *Monitoring Lakes, Streams and Ponds*. Southeast Wisconsin Woodland Owners Conference. Waukesha, WI.
- Stepenuck, K., L. Green, and E. Herron. September 2008. *Utilizing Online Databases To Share And Understand Volunteer Water Monitoring Data*. Alliance of Natural Resource Outreach and Service Programs. New Braunfels, TX.
- Stepenuck, K., L. Green, and E. Herron. May 2008. *Becoming Outstanding in the Field: Resources to Help Volunteer Monitoring Programs Get Up and Running*. Association of Natural Resources Extension Professionals Conference. Madison, WI.
- Stepenuck, K. April 2008. *Data to Effect Change: Volunteer Monitoring Makes a Difference*. Clean Rivers, Clean Lakes V. Milwaukee, WI.
- Stepenuck, K., E. O'Brien, L. Crighton, J. Iles, B. Liukkonen, and L. Wolfson. January 2007. *Volunteer Monitoring of E. coli in Upper Midwest Streams: A Comparison of Methods and Preferences*. Cooperative State Research Education and Extension Service National Water Conference. Savannah, GA.
- Stepenuck, K. and D. Ledin. November 2006. *Water for Everyone*. Wisconsin Association of Environmental Educators Conference. Manitowoc, WI.
- Stepenuck, K., E. O'Brien, L. Crighton, J. Iles, B. Liukkonen, and L. Wolfson. May 2006. *Volunteer Monitoring of E. coli in Upper Midwest Streams: A Comparison of Methods and Preferences*. National Water Quality Monitoring Conference. San Diego, CA.
- Stepenuck, K. and J. Williamson. April 2006. *Aquatic Insects: They Come From Beneath*. Wisconsin Lakes Convention. Green Bay, WI.
- Stepenuck, K., L. Green, and E. Herron. February 2005. *Obtaining Quality Data*. Cooperative State Research Education and Extension Service National Water Conference. LaJolla, CA.
- Stepenuck, K. January 2005. *Volunteer Monitoring: A National Perspective*. (Invited presenter) 5th Annual Iowa Water Monitoring Conference. Ames, IA.
- Stepenuck, K., L. Green, E. Herron, A. Gold, K. Addy, and R. Shepard. November 2004. *Partnering with Extension for Volunteer Water Quality Monitoring*. (Invited presenter) Citizen Environmental Monitoring in Appalachia. Bristol, VA.
- Stepenuck, K., C. Overdeest, and C. Huyck-Orr. May 2004. *Volunteer Stream Monitoring and Local Participation in Natural Resource Issues*. National Water Quality Monitoring Conference. Chattanooga, TN.
- Stepenuck, K. April 2004. *Water Action Volunteers' Citizen Stream Monitoring Program*. Wisconsin Lakes Convention. Green Bay, WI.
- Stepenuck, K. February 2004. *Volunteer Stream Monitoring: Benefits and How You Can Participate*. Wisconsin Association of Land Conservation Employees. Milwaukee, WI.
- Stepenuck, K., E. Herron, L. Green, and K. Addy. July 2003. *Obtaining and Using Volunteer-Collected Information*. Pacific Northwest Voluntary Water Quality Monitoring Workshop. Ketchum, ID.
- Stepenuck, K. March 2002. *Volunteer Stream Monitoring in Wisconsin*. Northern Landscapes: Connecting People with Nature. Cable, WI.
- Stepenuck, K. March 2001. *Friends of the Branch River Volunteer Stream Monitoring Data Summary*. Friends of the Branch River Annual Meeting. Whitelaw, WI.

Professional Service and Society Memberships:

National Water Quality Monitoring Council Communications and Outreach Team member. 2015 – present
Citizen Science Association Board of Directors Secretary. 2014 – 2016. Vice Chair 2016 – present
North American Lake Management Society member. 2011 – present
National Volunteer Monitoring Board (formerly *Volunteer Monitor* Newsletter Editorial Board). 2011 – 2015
Wisconsin Extension Environmental and Community Development Association. 2010 – 2014
Wisconsin’s Citizen-based Monitoring Advisory Council. 2004 – 2015
Alliance of Natural Resource Outreach and Service Programs. 2008
Association of Natural Resources Extension Professionals. 2006 – 2008
University of Wisconsin System Women & Science Advisory Board. 2003 – 2008

Reviewing Activity:

Reviewer for book chapter in: “Citizen Engagement in Local Environmental Issues: Intersecting Modes of Communication”, and for the following journals: *BioScience*, *Citizen Science: Theory and Practice*, *Journal of Science Communication*, *Environmental Monitoring and Assessment*, *Ecology and Society*, *Freshwater Science*, *Journal of the American Water Resources Association*, *Environmental Management*, and *Human Dimensions of Wildlife*

Graduate Student Committees:

Anya Tyson, Gabriel Andrews