

## Luke Clifton Loken

United States Geological Survey  
Upper Midwest Water Science Center

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### EDUCATION

<b>Ph.D., Freshwater and Marine Sciences</b> University of Wisconsin Advisor: Emily Stanley – Center for Limnology	Madison, WI 2018
<b>M.S., Freshwater and Marine Sciences</b> University of Wisconsin Advisor: Emily Stanley – Center for Limnology	Madison, WI 2014
<b>B.S., Biology</b> University of Michigan Academic Minor in Environment	Ann Arbor, MI 2006

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### RESEARCH EXPERIENCE

<b>U.S. Geological Survey – Upper Midwest Water Science Center</b> <i>Hydrologist</i> <ul style="list-style-type: none"><li>Investigating contaminants of emerging concern in tributaries of the Laurentian Great Lakes and evaluating their potential effects on aquatic biota.</li><li>Evaluate best management practices aimed to reduce nutrient and sediment loads in river networks.</li><li>Mapping surface water quality in the large rivers: connections to fisheries and human health.</li></ul>	Middleton, WI Jan 2020 – present
<b>University of California – Davis</b> <i>Postdoctoral Scholar</i> <ul style="list-style-type: none"><li>Investigated the effects of nitrogen and phosphorus on food web dynamics and ecosystem metabolism of the Sacramento-San Joaquin Delta</li></ul>	Davis, CA July 2018 – Jan 2020
<b>U.S. Geological Survey – Wisconsin Water Science Center</b> <i>Hydrologic Research Technician</i> <ul style="list-style-type: none"><li>Researched water, energy, and biogeochemical fluxes and cycles in Northern Wisconsin streams (WEBB).</li><li>Investigated nitrogen and carbon dynamics in the Mississippi and Columbia Rivers (LandCarbon)</li></ul>	Middleton, WI Sept 2015 – Sept 2017
<b>Center for Limnology</b> <i>Graduate Research Assistant</i> <ul style="list-style-type: none"><li>Researched carbon, nitrogen, and phosphorus cycling in the Saint Louis River Estuary.</li><li>Developed mobile sensing platform for assessing spatial heterogeneity of aquatic ecosystems and the implications for biogeochemical and hydrologic processes.</li></ul>	Madison, WI June 2012 – July 2018
<b>Olympic National Park</b> <i>Aquatic Ecologist Field Lead</i> <ul style="list-style-type: none"><li>Managed six crew members monitoring the distributions of marine and freshwater organisms in mountain lakes and intertidal zones. Analyzed physical and chemical properties of surface waters and oversaw a data-logging network in coordination with the National Park Service’s inventory and monitoring program.</li></ul>	Port Angeles, WA June 2009 – May 2012
<b>Restoration Logistics</b> <i>Field Specialist</i> <ul style="list-style-type: none"><li>Implemented vegetation management plans and restored wetlands, hill slopes, and forest habitats for government, private, and non-profit agencies. Monitored stream discharge at City of Seattle gauging stations.</li></ul>	Seattle, WA June 2008 – May 2009
<b>Washington Conservation Corps</b> <i>Field Crew Lead</i> <ul style="list-style-type: none"><li>Managed four crew members and volunteer groups in stream and forest restoration projects. Constructed and maintained hiking trails in the Central Cascade Mountains.</li></ul>	Seattle, WA June 2007 – May 2008
<b>Haleakala National Park</b> <i>Student Conservation Association Intern</i> <ul style="list-style-type: none"><li>Monitored native plant communities in Haleakala National Park. Planted endemic flora and removed invasive plant species to promote native plant communities.</li></ul>	Kula, HI Sept 2006 – Dec 2006
<b>Toolik Lake Field Station – Long Term Ecological Research Network</b>	Fairbanks, AK

- Monitored biogeochemistry of arctic water systems as part of the Long Term Ecological Research Network. Lived and worked at a remote Alaskan field station.

**Cellular & Molecular Biology**

Ann Arbor, MI

Research Assistant

Oct 2003 – May 2006

- Researched developmental genes regulating mouse axial patterning.

**PUBLICATIONS (\*USGS affiliated)**

- \***Loken LC**, Sadro S, Lenocho LEK, Stumpner PR, Dahlgren RA, Burau JR, Van Nieuwenhuysse EE (2022) Whole-Ecosystem Experiment Illustrates Short Timescale Hydrodynamic, Light, and Nutrient Control of Primary Production in a Terminal Slough. *Estuaries and Coasts*, <https://doi.org/10.1007/s12237-022-01111-8>.
- \*Fermanich K, Meyers M, **Loken LC**, Bischoff-Gray M, Turco R, Stahlheber K, Duriancik L, Dornbush M, Komiskey M (2022; in print) Challenges in linking soil health to edge-of-field water quality across the Great Lakes basin. *Journal of Environmental Quality*, <https://doi.org/10.1002/jeq2.20364>.
- \*Baldwin AK, Corsi SR, Stefaniak OM, **Loken LC**, Villeneuve DL, Ankley GT, Blackwell BR, Lenaker PL, Nott MA, Mills MA (2022) Risk-Based Prioritization of Organic Chemicals and Locations of Ecological Concern in Sediment from Great Lakes Tributaries. *Environmental Toxicology and Chemistry*, 41: 1016-1041, <https://doi.org/10.1002/etc.5286>.
- \*Lenoch LEK, Stumpner PR, Burau JR, **Loken LC**, Sadro S (2021) Dispersion and stratification dynamics in the Upper Sacramento Deep Water Ship Channel. *San Francisco Estuary and Watershed Science*, 19(4): 1-29, <https://doi.org/10.15447/sfews.2021v19iss4art5>.
- \***Loken LC**, Van Nieuwenhuysse EE, Dahlgren RA, Lenocho LEK, Stumpner PR, Burau JR, Sadro S (2021) Assessment of multiple ecosystem metabolism methods in an estuary. *Limnology and Oceanography: Methods*, 19: 741-757, <https://doi.org/10.1002/lom3.10458>.
- Smits AP, Currinder B, Framsted N, **Loken LC**, Lucero D, Neal KA, Parisek CA, Sickman J, Sadro S (2021) Watershed and lake attributes dictate landscape patterns of resource flows in mountain lakes. *Water Resources Research*: 57: e2020WR027673, <https://doi.org/10.1029/2020WR027673>.
- Baldocchi AK, Reed DE, **Loken LC**, Stanley EH, Huerd H, Desai AR (2020) Comparing spatial and temporal variation of lake-atmosphere carbon dioxide fluxes using multiple methods. *Journal of Geophysical Research: Biogeosciences* 125: e2019JG005623, <https://doi.org/10.1029/2019JG005623>.
- Loken LC**, Crawford JT, Schramm PH, Stadler P, Stanley EH (2019) Large spatial and temporal variability of carbon dioxide and methane in a eutrophic lake. *Journal of Geophysical Research – Biogeosciences* 124: 2248–2266, <https://doi.org/10.1029/2019JG005186>.
- \*Kuhn C, de Matos Valerio A, Ward, N, **Loken L**, Sawakuchi H, Kampel M, Richey J, Stadler P, Crawford J, Striegl R, Vermote E, Pahlevan N, Butman D (2019) Performance of Landsat-8 and Sentinel-2 surface reflectance products for river remote sensing retrievals of chlorophyll-a and turbidity. *Remote Sensing of the Environment* 224:104–118, <https://doi.org/10.1016/j.rse.2019.01.023>.
- \*Stadler P, **Loken LC**, Crawford J, Schramm P, Sorsa K, Kuhn C, Savio D, Striegl R, Butman D, Stanley E, Farnleitner AH, Zessner M (2019) Spatial patterns of enzymatic activity in large water bodies: Ship-borne measurements of beta-D-glucuronidase activity as a rapid indicator of microbial water quality. *Science of the Total Environment* 651:1742–1752, <https://doi.org/10.1016/j.scitotenv.2018.10.084>.
- \***Loken LC**, Crawford JT, Dornblaser M, Houser J, Striegl RG, Stanley EH (2018) Minimal nitrate removal in the Upper Mississippi River. *Environmental Research Letters* 13:074030, <https://doi.org/10.1088/1748-9326/aacd51>.
- \*Crawford JT, Butman DE, **Loken LC**, Stadler P, Kuhn C, Striegl RG (2017) Spatial variability of CO<sub>2</sub> concentrations and biogeochemistry in the Lower Columbia River. *Inland Waters* 7(4):417–427, <https://doi.org/10.1080/20442041.2017.1366487>.
- Butitta VB, Cartpenter SR, **Loken LC**, Pace ML, Stanley EH (2017) Spatial early warming indicators in a lake manipulation. *Ecosphere* 8(10):e01941, <https://doi.org/10.1002/ecs2.1941>.
- \*Crawford JT, **Loken LC**, West WE, Crary B, Spawn SA, Gubbins N, Jones SE, Striegl RG, Stanley EH (2017) Spatial heterogeneity of within-stream methane concentrations. *Journal of Geophysical Research – Biogeosciences* 122:1036–1048, <https://doi.org/10.1002/2016JG003698>.
- \*Turner PA, Griffis TJ, Baker JM, Lee X, Crawford JT, **Loken LC**, Venterea RT (2016) Regional-scale controls on dissolved nitrous oxide in the Upper Mississippi River. *Geophysical Research Letters* 43:4400–4407,

<https://doi.org/10.1002/2016GL068710>.

\*Crawford JT, **Loken LC**, Stanley EH, Stets EG, Dornblaser MM, Striegl RG (2016) Basin scale controls on CO<sub>2</sub> and CH<sub>4</sub> emissions from the Upper Mississippi River. *Geophysical Research Letters* 43:1973–1979, <https://doi.org/10.1002/2015GL067599>.

**Loken LC**, Finlay, JC, Small GE, Sterner RW, and Stanley EH (2016) Nitrogen cycling in a freshwater estuary. *Biogeochemistry* 127:199–216, <https://doi.org/10.1007/s10533-015-0175-3>.

\*Stanley EH, Casson NJ, Christel ST, Crawford JT, **Loken LC**, Oliver SK (2016) The ecology of methane in streams and rivers: patterns, controls, and global significance. *Ecological Monographs* 86(2):146–171, <https://doi.org/10.1890/15-1027>.

**Loken LC**, Oliver SK (2016) Habitat requirements and occurrence of *Crematogaster pilosa* (Hymenoptera: Formicidae) ants within intertidal salt marshes. *The Florida Entomologist* 99(1):82–88, <https://doi.org/10.1653/024.099.0115>.

\*Crawford JT, **Loken LC**, Casson NJ, Smith C, Stone AG, and Winslow LA (2015) High-speed limnology: Using advanced sensors to investigate spatial variability in biogeochemistry and hydrology. *Environmental Science and Technology* 49:442–450, <https://doi.org/10.1021/es504773x>.

\*Crawford JT, Stanley EH, Spawn SA, Finlay JC, **Loken LC**, Striegl RG (2014) Ebullitive methane emissions from oxygenated wetland streams. *Global Change Biology* 20:3408–3422, <https://doi.org/10.1111/gcb.12614>.

McIntyre DC, Rakshit S, Yallowitz AR, **Loken LC**, Jeannotte L, Capecchi MR, Wellik DM (2007) Hox patterning of the vertebrate rib cage. *Development* 134:2981–2989, <https://doi.org/10.1242/dev.007567>.

## DATA AND SOFTWARE PUBLICATIONS (\*USGS affiliated)

\***Loken LC**, DeCicco LA, Corsi SR, Oliver SK, Blackwell BR, Ankley GT, Villeneuve DL (2021) ToxMixtures: A package to explore toxicity due to chemical mixtures, <https://doi.org/10.5066/P9BX71PG>.

\***Loken LC**, Alvarez DA, Baldwin AK, Corsi SR (2021) Pesticides and pesticide transformation product data from passive samplers deployed in 15 Great Lakes tributaries, 2016: U.S. Geological Survey data release, <https://doi.org/10.5066/P9QOMM22>.

\*Meyers ME, **Loken LC**, Fermanich KJ, Dornbush ME, Bischoff Gray M, Turco RF, Komiskey MJ (2021) Soil physical, chemical, and biological data from edge-of-field agricultural water quality monitoring sites in Great Lakes States: U.S. Geological Survey data release, <https://doi.org/10.5066/P99ETDL5>.

\*Lenoch LEK, **Loken LC**, Stumpner PR, Sadro S, Van Nieuwenhuysse EE, Burau JR, Dahlgren RA, Beaver J (2021) Nutrient Addition Experiment in the Sacramento River Deep Water Ship Channel: U.S. Geological Survey data release, <https://doi.org/10.5066/P9SKCIUW>.

\*Komiskey MJ, Stuntebeck TD, **Loken LC**, Hood KA, Danz ME, Rachol CM, Toussant CA, Dobrowolski EG, Kowalczyk AJ, Ennis RP, Snarski SA, Hardebeck MJ (2021) Nutrient and sediment concentrations, loads, yields, and rainfall characteristics at USGS surface and subsurface-tile edge-of-field agricultural monitoring sites in Great Lakes States: U.S. Geological Survey data release, <https://doi.org/10.5066/P9LO8O70>.

**Loken LC**, Stanley E, Schramm P, Gahler M (2019) Spatial surface water chemistry of Lake Mendota with FLAMe: 2014–2016. Environmental Data Initiative. <https://doi.org/10.6073/pasta/fe9c5437f67254f521bf5f7e0308bf93>.

**Loken LC**, Crawford J, Stanley E, Butman D, Striegl R (2018). Columbia River spatial water chemistry. Environmental Data Initiative. <https://doi.org/10.6073/pasta/e881070c9e8f6b7f774d3c65b27a9f69>.

**Loken LC**, Crawford JT, Stanley EH (2018) Mississippi River spatial water chemistry Environmental Research Letters datasets. Environmental Data Initiative. <https://doi.org/10.6073/pasta/c1b9dbd9a96edfb5e39a94cfef2982b9>.

Butitta VB, Carpenter SR, **Loken LC**, Pace ML, Stanley EH (2017) Cascade project at North Temperate Lakes LTER - High-resolution spatial analysis of CASCADE lakes during experimental nutrient enrichment 2015 - 2016. Environmental Data Initiative. <http://dx.doi.org/10.6073/pasta/403cc21eba48b801114801ea05c5c2fa>.

**Loken LC**, Crawford JT, Stanley EH (2017) Spatial variability in water chemistry of four Wisconsin aquatic ecosystems - High speed limnology Environmental Science and Technology datasets. Environmental Data Initiative. <http://dx.doi.org/10.6073/pasta/a736ade04c0faf57868c38fa3dba5abb>.

**Loken LC**, Small GE, Finlay JC, Sterner RW, Runde E, Brovold S, Stanley EH (2016) Saint Louis River Estuary water chemistry, Wisconsin, Minnesota, USA 2012 - 2013. Long Term Ecological Research Network. <http://dx.doi.org/10.6073/pasta/08fdc0fb8528e37dd7ef6d6ad2b77f99>.

Stanley EH, **Loken LC**, Crawford JT, Casson NJ, Oliver SK, Gries C, Christel ST (2015) A Global database of methane concentrations and atmospheric fluxes for streams and rivers. Long Term Ecological Research Network. <http://dx.doi.org/10.6073/pasta/21f5bd6642e9689baf90262f3c85ac4a>.

## PRESENTATIONS (\*Invited)

- Loken LC**, Bonville DB, Kula SP, Koltun GF, Robertson DM, Komiskey MJ (2022) Water quality trends since 2011 in 24 tributaries in the Great Lakes Restoration Initiative (GLRI) tributary monitoring program. Joint Aquatic Sciences Meeting, Grand Rapids, MI. - Oral
- Loken LC**, DeCicco L, Villeneuve D, Ankley G, Blackwell B, Baldwin A, Nott M, Oliver S, Alvarez D, Corsi SR (2021) Using the new R package “ToxMixtures” to evaluate potential biological effects of pesticide mixtures in Great Lakes tributaries. Society of Environmental Toxicology and Chemistry, Portland, OR. -Poster
- Loken LC**, Pronschinske M, Carvin B, Komiskey M (2021) Changes in water quality at the edge-of-field and stream scale after implementation of agricultural conservation practices as part of the Great Lakes Restoration Initiative Priority Watersheds program. Ecological Society of America, Long Beach, CA. - Oral
- Loken LC**, Sadro S, Lenocho L, Stumpner P, Dahlgren R, Burau J, Bergamaschi B, Van Nieuwenhuysse E (2021) Whole ecosystems experiments unravel effects of nutrients, light, and hydrodynamics on productivity in the upper Sacramento-San Joaquin Delta. Bay-Delta Science Conference, Sacramento, CA. -Oral
- Loken LC**, Dahlgren RA, Van Nieuwenhuysse E, Bergamaschi B, Sadro S (2019) Primary production in estuaries is complicated. Whole ecosystem experiments and multiple metabolism methods reveal nitrogen limitation in part of the Sacramento-San Joaquin Delta. American Geophysical Union – Fall Meeting, San Francisco, CA -Poster
- \*Loken LC**, Dahlgren RA, Van Nieuwenhuysse E, Sadro S (2019) Using nutrient subsidies to stimulate primary production and increase basal food web resources in the Sacramento Deep Water Ship Channel. Interagency Ecological Program – Annual Meeting, Folsom, CA -Oral
- Loken LC**, Dahlgren RA, Van Nieuwenhuysse E, Sadro S (2018) Nitrogen and light co-limitation of primary production in the Sacramento-San Joaquin Delta. American Geophysical Union – Fall Meeting, Washington D.C. -Oral
- \*Loken LC**, Butitta VL, Stanley EH (2018) Spatial heterogeneity within lake ecosystems. American Geophysical Union – Fall Meeting, Washington D.C. –ePoster and invited
- Loken LC**, Dahlgren RA, Van Nieuwenhuysse E, Sadro S (2018) Nitrogen and light limitation of primary production in the northern Sacramento-San Joaquin Delta. Bay-Delta Science Conference, Sacramento, CA. -Oral
- Loken LC**, Butitta VL, Stanley EH (2018) Spatial heterogeneity within lake ecosystems: Dominant scales of variation for physical and biological variables. Association for the Sciences of Limnology and Oceanography – Summer Meeting, Victoria, CA. -Oral
- Loken LC**, Crawford JT, Schramm PJ, Stadler P, Stanley EH (2017) Integrating time-series and spatial surveys to assess annual, lake-wide emissions of carbon dioxide and methane from a eutrophic lake. American Geophysical Union – Fall Meeting, New Orleans, LA. -Poster
- Loken LC**, Crawford JT, Schramm PJ, Stadler P, Stanley EH (2017) Spatiotemporal variability of carbon dioxide and methane in a eutrophic lake. European Geosciences Union – General Assembly, Vienna, Austria. -Oral
- Loken LC**, Crawford JT, Dornblaser MM, Striegl RG, Stanley EH (2016) Nitrate loading and processing in the Upper Mississippi River: An odyssey from Minnesota to Kentucky. Association for the Sciences of Limnology and Oceanography – Summer Meeting, Santa Fe, NM. -Oral
- Loken LC**, Crawford JT, Butitta VL, Corman JR, Stanley EH (2015) Variability in surface water chemistry of North America’s largest river. Long Term Ecological Research – All Science Meeting, Estes Park, CO. -Poster
- Loken LC**, Crawford JT, Casson NJ, Butitta VL, Stanley EH (2015) Surface water variability in a eutrophic lake during fall turnover. Society of Freshwater Sciences – Annual Meeting, Milwaukee, WI. -Oral
- Loken LC**, Crawford JT, Casson NJ, Butitta VL, Stanley EH (2015) Spatial variability in Lake Mendota surface water chemistry during fall turnover. Long Term Ecological Research - Young Scientist Meeting, Madison, WI. –Oral
- Loken LC**, Crawford JT, Childress ES, Casson NJ, Stanley EH (2014) Nitrate dynamics within a stream-lake network through time and space. American Geophysical Union – Annual Meeting, San Francisco, CA. -Poster
- Loken LC**, Crawford JT, Childress ES, Casson NJ, Stanley EH (2014) Nitrate dynamics within a stream-lake network through time and space. Science in the Northwoods, Boulder Junction, WI. -Oral
- Loken LC**, Finlay JC, Small GE, Stanley EH, Sterner RW (2014) Sediment properties control denitrification rates in a Lake Superior freshwater estuary. Joint Aquatic Sciences Meeting, Portland, OR. -Oral
- Loken LC**, Finlay JC, Small GE, Stanley EH, Sterner RW (2013) Sediment composition and nitrate availability control denitrification rates in the Saint Louis River Estuary. Ecological Society of America – Annual Meeting, Minneapolis, MN. -Oral
- Loken LC**, Finlay JC, Small GE, Stanley EH, Sterner RW (2013) Denitrification patterns of the Saint Louis River Estuary. Lake Superior National Estuary Research Reserve Science Summit, Superior, WI. -Oral

## WORKSHOPS & SPECIAL SESSIONS ORGANIZED

Linking soil health assessment to edge-of-field water quality in the Great Lakes Basin. Webinar co-organizer and speaker (2021)

Evaluating potential biological effects of chemicals detected in multiple environmental media using ToxCast high-throughput screening results. Speaker and panel member for workshop at National Monitoring Conference (2021)

Linkages among physics, chemistry, and biology in the Sacramento Deep Water Ship channel. Special session at Biennial Bay Delta Science Conference, Sacramento, CA (2021)

Flow Paths, Snapshots, and Fixed Sites: Advances in Alternative Approaches in Ecosystem Science. Special session at American Geophysical Union – Annual Meeting, San Francisco, CA (2017)

Human Aquatic Linkages of Southeast Asia Proposal Workshop – Madison, WI (2017)

## TEACHING EXPERIENCE

**University of California-Davis – Environmental Science and Policy** Davis, CA  
*Co-Instructor* 2019  
Principles and practices of estimating ecosystem metabolic rates (Ecology 290)

**University of Wisconsin-Madison – Zoology Department** Madison, WI  
*Guest Lecturer* 2018  
Spatial analysis and GIS in R (Zoology 955)

*Graduate Student Instructor* 2013 – 2014  
Lead Instructor for Limnology Laboratory (Zoology 316).

*Graduate Student Instructor* 2012  
Instructor for Introductory to Animal Biology Laboratory (Biology 102).

## MENTORING & SUPERVISION

Undergraduate Students:

Lindsay Vaughan	2019 – 2020
Owen Sowerwine	2019
Reed Tran	2019
Isabella Glenn	2018 – 2019
Christopher Dunbar	2018 – 2019
Quinn Gavin	2017 – 2018
Angela Baldocchi	2017 – 2018
Patrick Dowd	2015
Paul Schramm	2014 – 2016
Nicholas Gubbins	2014 – 2016
Ryan Hassemer	2012 – 2014

## GRANTS AND AWARDS

Upper Midwest Water Science Center, Two Star awards totally \$2,000	2022
U.S. Bureau of Reclamation (R21AC10519) - \$394,729	2021
U.S. Agency for International Development	2021
Sub-agreement with University of Nevada-Reno - \$92,000	
Fixed Station Monitoring and Science Support in the Sacramento San Joaquin Delta.	2020-2022
Bureau of Reclamation – \$28,851	
ASLO Student Travel Award – \$606	2018
AGU Fall Meeting Outstanding Student Presentation Award, Biogeosciences	2017
Dorothy Powers Grant and Eugene Lodewick Grant Memorial Fellowship – \$5,484	2016
Student Research Travel Grant (UW Graduate School) – 3 awards totaling \$2400	2016 – 2017
Charlotte Stein Travel Award – 2 awards totaling \$1000	2014 – 2018
John Jefferson Davis Travel Award – 8 awards totaling \$4700	2013 – 2018
Anna Grant Birge Grant – 4 awards totaling \$8,090	2013 – 2017
Limnology and Marine Sciences Chancellor's Opportunity Award – \$2,000	2012
Olympic National Park, Star Award – \$1,500	2010

## PROFESSIONAL SERVICE

Ad-hoc Journal Reviewer:

Aquatic Sciences	Biogeochemistry
Biogeosciences	Ecosystems
Environmental Research Letters	Environmental Science & Technology
Global Biogeochemical Cycles	Global Change Biology
Hydrological Processes	Journal of Geophysical Research – Biogeosciences
Limnology and Oceanography	Limnology and Oceanography Letters
Limnology and Oceanography: Methods	Nature Geosciences
United States Geological Survey	Water Research
Water Resources Research	

## PROFESSIONAL AFFILIATIONS

American Geophysical Union (AGU)  
Association for the Sciences of Limnology and Oceanography (ASLO)  
Society of Freshwater Sciences (SFS)  
The Long-Term Ecological Research Network (LTER)

## OUTREACH AND SERVICE EXPERIENCE

Winter and summer limnology – <i>Instructor</i>	<i>2013 – 2018</i>
Limnology and Fisheries Society – <i>President</i>	<i>2013 – 2014</i>
Lussier Community Education Center – <i>Data Management Volunteer</i>	<i>2012 – present</i>
YMCA of Greater Seattle – <i>Teen Programs Volunteer</i>	<i>2008 – 2012</i>
Mountains to Sound Greenway – <i>Volunteer Event Leader</i>	<i>2007 – 2008</i>

## RELEVANT SKILLS

Proficiency in Microsoft Office software, ArcGIS, GitHub, and the programming language R  
Experience with deployment, calibration, maintenance, and repair of sampling equipment for marine and freshwater systems (Hobo, PME, YSI, Hydrolab, Turner, Satlantic, Manta, Los Gatos Research, Campbell, ISCO, Flow-Meters)  
Experience with wet chemical, spectroscopic, and fluorometric analytical methods used in water quality monitoring  
Boat operator (including trailering) during research and teaching cruises (MOCC certified)  
Certified open water diver (PADI)  
Wilderness first aid & CPR