

EDUCATION

Ph.D., Freshwater and Marine Sciences

University of Wisconsin (expected completion 2018)
Advisor: Emily Stanley – Center for Limnology

Madison, WI
Aug 2014 – present

M.S., Freshwater and Marine Sciences

University of Wisconsin
Advisor: Emily Stanley – Center for Limnology

Madison, WI
June 2012 – Aug 2014

B.S., Biology

University of Michigan
Academic Minor in Environment

Ann Arbor, MI
May 2006

RESEARCH EXPERIENCE

U.S. Geological Survey – Wisconsin Water Science Center

Hydrologic Research Technician

- Researched water, energy, and biogeochemical fluxes in Northern Wisconsin streams (WEBB)
- Investigated nitrogen and carbon dynamics in the Mississippi and Columbia Rivers (LandCarbon)

Middleton, WI
Sept 2015 – present

Center for Limnology

Graduate Research Assistant

- Researched biogeochemical processes of the Saint Louis River Estuary jointly with the University of Minnesota and the Lake Superior National Estuary Research Reserve. Research focused on carbon, nitrogen, and phosphorus cycling in a freshwater estuary of Lake Superior.
- Developed sensing platform for spatial analysis of aquatic ecosystems and biogeochemical processes. Investigated nitrogen and carbon cycling dynamics in lakes and rivers.

Madison, WI
June 2012 - present

Olympic National Park

Aquatic Ecologist Field Lead

- Managed six crew members monitoring the distributions of marine and fresh water organisms. Analyzed physical and chemical properties of surface waters (marine and fresh) and oversaw a network of data-logging instruments in coordination with the National Park Service's inventory and monitoring program.

Port Angeles, WA
June 2009 – May 2012

Restoration Logistics

Field Specialist

- 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.

Seattle, WA
June 2008 – May 2009

Washington Conservation Corps

Field Crew Lead

- Managed four crew members and volunteer groups in stream and forest restoration projects. Constructed and maintained hiking trails in the Central Cascade Mountains.

Seattle, WA
June 2007 – May 2008

Haleakala National Park

Student Conservation Association Intern

- Monitored native plant communities in Haleakala National Park. Planted endemic flora and removed invasive plant species to promote native plant communities.

Kula, HI
Sept 2006 – Dec 2006

Toolik Lake Field Station - LTER

Research Assistant

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

Fairbanks, AK
May 2006 – Aug 2006

Cellular & Molecular Biology

Research Assistant

- Researched developmental genes regulating mouse axial patterning.

Ann Arbor, MI
Oct 2003 – May 2006

TEACHING EXPERIENCE

University of Wisconsin – Zoology Department

Graduate Student Instructor

Lead Instructor for Limnology Laboratory (Zoology 316).

Graduate Student Instructor

Instructor for Introductory to Animal Biology Laboratory (Biology 102).

Madison, WI

Aug 2013 – Dec 2014

Aug 2012 – Dec 2012

MENTORING & SUPERVISION

Undergraduate Students:

Patrick Dowd

2015

Paul Schramm

2014 – 2016

Nicholas Gubbins

2014 – 2016

Ryan Hassemer

2012 – 2014

OUTREACH AND SERVICE EXPERIENCE

Winter Limnology - *Instructor*

Jan 2013 – present

Limnology and Fisheries Society - *President*

Oct 2013 – Sep 2014

Lussier Community Education Center – *Data Management Volunteer*

Oct 2012 – present

YMCA of Greater Seattle – *Teen Programs Volunteer*

Oct 2008 – May 2012

Mountains to Sound Greenway – *Volunteer Event Leader*

June 2007 – May 2008

GRANTS AND AWARDS

Dorothy Powers Grant and Eugene Lodewick Grant Memorial Fellowship - \$5,484

2016

Student Research Travel Grant (UW Graduate School) - 2 awards totaling \$1200

2016-2017

Charlotte Stein Travel Award - \$500

2014

John Jefferson Davis Travel Award – 6 awards totaling \$3500

2013-2017

Anna Grant Birge Grant – 4 awards totaling \$8,090

2013-2017

Limnology and Marine Sciences Chancellor's Opportunity Award - \$2,000

2012

Star Award – Olympic National Park - \$1,500

2010

PUBLICATIONS

Butitta VB, Cartpenter SR, **Loken LC**, Pace ML, Stanley EH (in press) Spatial early warming indicators in a lake manipulation. *Ecosphere*, doi:?

Crawford JT, **Loken LC**, West WE, Cray 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.

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, doi:10.1002/2016GL068710

Crawford JT, **Loken LC**, Stanley EH, Stets EG, Dornblaser MM, Striegl RG (2016) Basin scale controls on CO₂ and CH₄ emissions from the Upper Mississippi River. *Geophysical Research Letters*, 43, doi: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.

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.

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.

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

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

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

DATA PUBLICATIONS

- 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>

MANUSCRIPTS IN PREP

- Loken LC**, Crawford JT, Dornblaser M, Houser J, Striegl RG, Stanley EH (in review) Minimal nitrate removal in the Upper Mississippi River.
- Stanley EH, **Loken LC**, Casson NJ, Crawford JT, Oliver SK, Butitta VB, Corman, JR (in prep) Anthropogenic enhancement of methane emissions from the world's inland waters.
- Crawford JT, **Loken LC**, Dornblaser M, Stets E, Houser J, Stackpool S, Striegl RG (in prep) The carbon balance of a eutrophic reach of the Upper Mississippi River: Does CO₂ undersaturation signify autotrophy?.
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PRESENTATIONS

- 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
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PROFESSIONAL SERVICE

Ad-hoc Journal Reviewer:

- Global Biogeochemical Cycles (1)
- Global Change Biology (1)
- Journal of Geophysical Research - Biogeosciences (2)
- Limnology and Oceanography Methods (1)
- Water Research (1)
- Water Resources Research (1)

PROFESSIONAL AFFILIATIONS

- American Geophysical Union (AGU)
 - Association for the Sciences of Limnology and Oceanography (ASLO)
 - Society of Freshwater Sciences (SFS)
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RELEVANT SKILLS

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