

Washington State University Vancouver  
Global Change and Watershed Biogeochemistry Lab  
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Vancouver WA, 98686  
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## EDUCATION

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**Washington State University Vancouver**, 14204 NE Salmon Creek Ave., Vancouver WA 98686  
Masters of Environmental Science, May 2010  
Ph.D. Program in Environmental and Natural Resource Sciences, June 2010-Present

**Vassar College**, 124 Raymond Ave, Poughkeepsie NY 12604  
Bachelor of Arts in Environmental Studies Concentrating in Biology, May 2004

## EXPERIENCE

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**US Army Corps Institute for Water Resources**, Policy Fellow, Alexandria VA, February-May 2013

Collaborated with the Institute for Water Resources to compile national information about reservoir management and operation. Worked with the US Global Change Research Program to analyze the 2013 Federal Climate Change Adaptation Plans for science needs. Contributed Significantly to the White House Document: "FY 2013 Federal Agency Climate Change Adaptation Plans: Summary of Research and Information Needs."

**Nitrogen Systems: Policy-oriented Integrated Research and Education NSF IGERT Program**, Fellow, Washington State University Vancouver, Vancouver WA, August 2010-August 2012

Worked with an interdisciplinary team of scientists to explore the policy implications of our nitrogen-related research. Participated in a policy studio course that ended with a trip to Washington D.C. where we met with various boundary spanning organizations to discuss potential internship opportunities working to incorporate science into the policy formation process.

**Partners in Discovery of the Columbia River Watershed NSF GK-12 Program**, Fellow, Washington State University Vancouver, Vancouver WA, August 2009-June 2010

Collaborated with two sixth grade teachers to implement inquiry-based activities in and outside the classroom. Developed water-quality based activities that engaged students in a deeper understanding of their own watershed. Interacted with students to encourage scientific thinking skills and enthusiasm for science.

**Washington State University Vancouver**, Research Assistant, Vancouver WA, January 2008-August 2008, January 2009-July 2009, and May-August 2010

Operated and maintained laboratory equipment including a Hydrolab DS5X Sonde, Membrane Inlet Mass Spectrometer, 5890 Series II Plus Hewlett Packard Gas Chromatograph, Smart Chem Block Digestor, and Smart Chem 200 Nutrient Analyzer. Conducted water sampling via a small motor boat including boat operation, towing, and minor maintenance. Ordered stock supplies for laboratory. Supervised eight undergraduate students in the laboratory and field.

**Washington State University Vancouver**, Chemistry Teaching Assistant, Vancouver WA 98686, August-December 2007 and August-December 2008

Prepared weekly tutorials that addressed laboratory procedures and concepts and placed weekly experiments in the context of current lecture material. Supervised two sections of laboratory, graded lab reports, and held weekly office hours.

**University of Florida and USGS Cooperative**, Biological Technician, Gainesville Florida, February 2007-June 2007

Surveyed snail kite (*Rostrhamus sociabilis*) populations and banded nestlings via air boat as part of an ongoing monitoring program.

**Maria Mitchell Association**, Aquarium Intern, Nantucket MA, June-October 2004 and October 2005

Organized and led marine ecology trips utilizing a beach seine net to educate groups of up to 50 people about the eelgrass (*Zostera marina*) communities in Nantucket's harbors, while incorporating citizen science in order to establish a biodiversity database. Compiled species diversity data collected in a brackish pond and wrote a report submitted to the Marine Superintendent of Nantucket.

**Vassar College**, Senior Research Project, 124 Raymond Ave, Poughkeepsie NY, September 2003 - May 2004

Conducted a senior undergraduate thesis project including field work, data analysis, literature review, and report on the impact of land use change on water quality in deforested versus forested tropical streams during the wet season on Lake Tanganyika, East Africa.

## MANUSCRIPTS IN PREPARATION

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\* indicates joint first authorship

van Grinsven, S., D.C. Reed, **B.R. Deemer**, and J.A. Harrison. *In Prep.* Are elusive anaerobic pathways key methane sinks in eutrophic freshwaters? For *Limnology and Oceanography Letters*

**Deemer, B.R.**, and J.A. Harrison. *In Prep.* Redox biogeochemistry in a eutrophic reservoir prior to and during water level drawdowns. For *Biogeochemistry*.

\***Deemer, B.R.**, \*N.M. Hayes, N., J.R. Corman, N.R. Razavi, K.E. Strock. *In Prep.* Catchment characteristics modify climate signals in reservoirs: a case for a new conceptual model. For *Limnology and Oceanography Letters*

Harrison, J.A., **B.R. Deemer**, M.K. Birchfield, and M.T. O'Malley. *In Prep.* Reservoir water-level drawdowns accelerate and amplify methane emission. For *Environmental Science and Technology*.

**Deemer, B.R.**, J.A. Harrison, S. Li, J. Beaulieu, T. DelSontro, N. Barros, M.A. dos Santos, J.F.B. Neto, S.M. Powers, and J.A. Vonk. *Submitted.* Greenhouse gas emissions from reservoirs: A new global synthesis. For *BioScience*.

## PUBLICATIONS

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**Deemer, B.R.**, S.M. Henderson, and J.A. Harrison. 2015. Chemical mixing in the bottom boundary layer of a eutrophic reservoir: the effects of internal seiche on nitrogen dynamics. *Limnology and Oceanography* 60: 1642-1655.

**Deemer, B.R.**, K.E. Goodwin, T.A. Lee, M.K. Birchfield, K. Dallavis, J. Emerson, D. Freeman, E. Henry, L. Wynn, and J.A. Harrison. 2012. Elevated nitrogen and phosphorus concentrations in urbanizing southwest Washington streams. *Northwest Science* 86: 237-247.

Henderson, S.M., and **B.R. Deemer**. 2012. Vertical propagation of lakewide internal waves. *Geophysical Research Letters* 39: doi:10.1029/2011GL050534.

**Deemer, B.R.**, J.A. Harrison, and E.W. Whiting. 2011. Microbial dinitrogen and nitrous oxide production in a small eutrophic reservoir: an in situ approach to quantifying hypolimnetic process rates. *Limnology and Oceanography* 56: 1189-1199.

Losey, E.B., **B.R. Deemer** and R.G. Corace. 2007. History of Sharp-tailed Grouse (*Tympanuchus phasianellus*) at Seney National Wildlife Refuge and Surrounding Areas, Schoolcraft County, Michigan. *Michigan Birds and Natural History*.

**PRESENTATIONS**

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Deemer, B.R., J.A. Harrison, J. Beaulieu, S. Li, M.A. dos Santos, J.F.B. Neto, S. Powers, J.A. Vonk, T. del Sontro, and N. Barros. 2015. Global greenhouse gas emissions from reservoirs: a matter of methane. Talk at the Association for the Sciences of Limnology and Oceanography Meeting. Granada, Spain.

Deemer, B.R. 2014. Reservoir nitrogen removal and greenhouse gas production: More than the "middle child" on the river-lake continuum. Talk at the Eco-DAS Symposium. University of Hawaii

Deemer, B.R., and J.A. Harrison. 2014. Reservoir water level management affects water column chemistry: A case study. Talk at the Joint Aquatic Sciences Meeting. Portland, OR.

Deemer, B.R., M.K. Birchfield, and J.A. Harrison. October 18, 2013. Reservoir water level management affects methane bubble emissions on the Upper Klamath River, Oregon. Talk at the Joint Meeting of the Oregon Lakes Association and the Washington State Lake Protection Association. Vancouver, WA.

Deemer, B.R., J.A. Harrison, and M.T. Glavin. 2012. Water level drawdown affects methane and nitrous oxide production in a small eutrophic reservoir. Poster at the Ecological Society of America Meeting, Portland, OR.

Deemer, B.R., J.A. Harrison, and M.T. Glavin. 2012. Water level affects methane and nitrous oxide production in a small eutrophic reservoir. Poster at the Society for Freshwater Science Meeting, Louisville, KY.

Deemer, B.R., K.E. Goodwin, T.A. Lee, M.K. Birchfield, K. Dallavis, J. Emerson, D. Freeman, E. Henry, L. Wynn, and J.A. Harrison. 2012. Elevated nitrogen and phosphorus concentrations in urbanizing southwest Washington streams. Talk at the Urban Ecology and Conservation Symposium at Portland State University, Portland, OR.

Deemer, B.R., J.A. Harrison, and J.R. Arnold. 2011. Managing reservoirs for water quality: the intersection of science and policy. Poster presentation at the Washington Water Research Center Conference, Stevenson WA.

Deemer, B.R., and J.A. Harrison. 2011. Dam spill is a hot moment for microbial nitrogen removal in a eutrophic reservoir. Poster at the American Society of Limnology and Oceanography Annual Meeting, San Juan, PR.

Deemer, B.R., and J.A. Harrison. 2010. Patterns of microbial nitrogen removal in a eutrophic reservoir: insights from a new in-situ approach. Talk at the joint meeting of the American Society of Limnology and Oceanography and the North American Benthological Society, Santa Fe, NM.

Deemer, B.R., and J.A. Harrison. 2009. Nitrogen removal and greenhouse gas production during stratification in a eutrophic reservoir. Talk at the Ecological Society of America Annual Meeting, Albuquerque, NM.

Deemer, B.R., and J.A. Harrison. 2008. Seasonal variation in denitrification in a small eutrophic reservoir, Lacamas Lake, Camas Washington. Poster presentation at the Ecological Society of America Annual Meeting, Milwaukee, WI.

Deemer, B.R., L. Merriam, and C.M. O'Reilly. 2004. The Influence of Land Use Change on Nutrient Concentrations and Tropical Stream Community Structure During the Wet Season: A study of small tributaries of Lake Tanganyika, East Africa. Poster presentation at the North American Benthological Society Conference, Vancouver, B.C.

**OUTREACH**

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Essayist for Next Gen Voices. 2016. Science 351: 20-22.

Participant in Virtual Town Hall Meetings pertaining to climate change science with WA Governor Jay Inslee, 2015

Speaker for the WSU Center for Environmental Research Education and Outreach External Advisory Board, 2014

Guest Lecturer for Undergraduate Course in Global Biogeochemistry, 2014

Brown Bag Speaker for the US Army Corps Institute for Water Resources, Arlington, VA, 2013

Seminar Speaker for the US Global Change Research Program, Washington DC, 2013

Passport to Lacamas Lake- Organized and Co-Led Field Trips For Middle School Students, 2010 and 2013

Guest Lecturer for Undergraduate Course in Stream Ecology, 2009

**PROFESSIONAL MEMBERSHIPS**

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American Geophysical Union Member  
Association for the Sciences of Limnology and Oceanography (ASLO) Member  
Ecological Society of America Member  
Society for Freshwater Science Member

**PEER REVIEWS**

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2013: Limnology and Oceanography, Journal of Hydrology  
2014: Ecological Engineering, Journal of Hydrology  
2015: Ecology, Limnology and Oceanography, Global Change Biology

**STUDENTS MENTORED**

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Kathleen Denlinger  
-\*Dawn Freeman  
-\*Elliott Whitling  
-Zack Budiselic  
Abraham Robles  
Drew Houston  
Landon King  
-\*Maria Glavin  
-Francesca Wignes  
-Anna Withington  
-\*Sigrid van Grinsven  
*\*co-authorship on a publication with the student*  
*-co-advised on an independent project*

**ACADEMIC ACTIVITIES**

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Special Session Co-Chair for the 2014 Joint Aquatic Sciences Meeting, Portland, OR, 2014  
ASLO Student Representative for the 2014 Joint Aquatic Sciences Meeting, Portland, OR, 2014  
Eco-DAS Symposium Participant, Honolulu, HI, 2014  
Co-founder/Co-leader of the WSU Scientific Writing Association for Graduate Students, 2013-Present  
Special Session Co-Chair for the 2015 ASLO Conference, Granada, Spain, 2015  
Special Session Co-Chair for the 2016 ASLO Conference, Santa Fe, New Mexico, Proposed

**FELLOWSHIPS AND AWARDS**

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Hewlett-Mellon Presidential Discretionary Fund Grant 2003  
Collins Fund Grant 2003  
Robert Lane Fellowship 2008 and 2009  
Washington State University Vancouver, Research Showcase Outstanding Student Poster Award 2009  
National Science Foundation GK-12 Fellowship 2009-2010  
North American Benthological Society General Fund Award 2010  
Washington Water Research Center, Honorable Mention Student Poster Award 2011  
Pacific Northwest Chapter of the Society of Wetland Scientists- Student Research Grant 2012  
National Science Foundation IGERT Fellowship 2010-2012  
Society of Wetland Scientists Graduate Student Grant- Pacific Northwest Chapter 2012  
WSU College of Arts and Sciences Professional Development Award 2014  
Environmental Protection Agency STAR Fellowship 2012-2015