

Heather A. Bechtold

Idaho State University
Center for Ecological Research and Education
Stream Ecology Center
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EDUCATION

- Ph.D. Biology, Idaho State University, Pocatello, Idaho. Dissertation title: Investigating the influence of land use change on nutrient patterns in streams using a process-based approach. (est. 2010)
- M.S. Biology, Idaho State University, Pocatello, Idaho. Thesis title: Temporal and spatial distribution of N and C in sagebrush steppe; the influence of shrub loss and N addition 2005.
- B.A. Biology, University of Colorado, Boulder. Department of Environmental, Population, Organismal Biology 2000.
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PUBLICATIONS

- Hopkins, J.M., Marcarelli, A.M., Bechtold, H.A., Ecosystem structure and function are complementary measures of water quality in a polluted, spring-influenced river. In review : Water, Air, and Soil Pollution (submitted 10-09).
- Bechtold, H.A., Germino, M.J., Mathies, S.M., Ruiz-Herrera, A., Inouye, R.S. Sagebrush loss and N additions: spatial changes in biomass and photosynthesis of dominant herbaceous species. In review: Great Basin Naturalist (submitted: 10-09).
- Marcarelli, A.M., Bechtold, H.A., Rugenski, A.T., Inouye, R.S. 2008. Nutrient limitation of biofilm biomass and metabolism in the Upper Snake River basin, southeast Idaho, USA. *Hydrobiologia* 620: 63-76.
- Suding, K.N., Ashton, I.W., Bechtold, H.A., Bowman, W.D., Mobley, M.L., Winkleman, R. 2008. Plant and microbe contribution to community resilience in a directionally changing environment. *Ecological Monographs* 78: 313-329.
- Rugenski, A.T., Marcarelli, A.M., Bechtold, H.A., Inouye, R.S. 2008. Effects of temperature and concentration on nutrient release rates from nutrient diffusing substrates. *Journal of the North American Benthological Society* 27: 52-57.
- Bechtold, H.A., R.S. Inouye, 2007. Distribution of carbon and nitrogen in sagebrush steppe after six years of nitrogen addition and shrub removal. *Journal of Arid Environments* 71: 122-132.
- Suding, K.N., Miller, A.E., Bechtold, H.A., Bowman, W.D. 2006. The consequence of species loss on ecosystem nitrogen cycling depends on community compensation. *Oecologia* 149:141-149.
- Bechtold, H. A., Forbis, T. A., Bowman, W.D, Diggle, P.K. 2002. Lack of reproductive plasticity in alpine *Saxifraga rhomboidea* Greene (Saxifragaceae). *Nordic Journal of Botany* 22:316-368.

Dalton, M.B., Fantle K.S., Bechtold H.A., Demaio L., Evans R.M., Krystosek A., Sinensky, M. 1995. The farnesyl protein transferase inhibitor BZA-5B blocks farnesylation of nuclear lamins and p21 ras but does not affect their function or localization. *Cancer Research* 55 (15), 3295-3304.

PRESENTATIONS

- Bechtold H.A., Baxter C.V., Marcarelli A.M. and Inouye R.S. 2009 .Difference in nutrient uptake (N, P, carbon) and organic matter processing rates in relation to land use intensity. North American Benthological Society Meeting, Grand Rapids, MI. Presentation.
- Bechtold,H.,Marcarelli,A.,Baxter, Inouye, R.. 2008. A spatially nested analysis of land use effects on nutrient limitation: C and N interact to control autotrophic and heterotrophic responses. North American Benthological Society, Salt Lake City, UT. Presentation.
- Walker,M.J., Flandro, K., Bechtold, H.A., Baxter, C.V. 2008. Consequences of recreational landuse for small urban fringe streams: Are we loving them to death? North American Benthological Society, Salt Lake City, UT. Poster.
- Bechtold, H., Marcarelli, A., Baxter, C.,Inouye, R. 2007. The Effect of Agro-urban Land Use on Stream Retention of Dissolved Nitrogen, Carbon, and Phosphorus in SE Idaho. North American Benthological Society, Columbia, SC.
- Marcarelli, A., Bechtold, H., Inouye, R., Rugenski, A., Baxter, C. 2007. Concordance (or lack there of) between water chemistry and ecosystem function in a eutrophic southeast Idaho river. North American Benthological Society, Columbia, SC.
- Rugenski, A.,Marcarelli, A., Bechtold, H., Inouye, R. 2007. Interacting effects of nutrient concentration and temperature on release rates of nutrient diffusing substrates. North American Benthological Society, Columbia, SC.
- Bechtold, H.A. 2007. Understanding ecosystem function of the Portneuf River Watershed. Ph.D. Proposal. Idaho State University Seminar Series, Pocatello, Idaho.
- Marcarelli, A., Rugenski, A., Bechtold, H.,Inouye, R.,Baxter, C.. 2007. Nutrients differentially affect biomass accrual, production, and activity of biofilm communities in a eutrophic Southeast Idaho river. American Society of Limnology and Oceanography meeting, Santa Fe, NM.
- Inouye, R.S.,Rugenski, A.T., Bechtold, H.A., Baxter, C.V., Marcarelli, A.M.. 2006. Nutrient limitation, carbon export, and leaf decay rates in Southeastern Idaho rivers. Poster, NSF EPSCor Meeting, Moscow, Idaho.
- Baxter,C.V., Inouye, R., Ames,D., Marcarelli, A.M., Bechtold, H.A., Rugenski, A.T. 2006. Understanding Human Effects on Watershed Nutrient Processing and Export: A Collaborative Approach to a Complex Problem. Poster, NSF EPSCor Meeting, Moscow Idaho.
- Suding, K.N., Miller, A.E., Bowman, W.D., Bechtold, H.A. 2006. Resilience following loss of dominant species: Subdominant compensation buffers alpine tundra from significant functional change. Ecological Society of America annual meeting abstracts. Montreal, Canada 2006.
- Bechtold, H.A. and R.S. Inouye, 2005. Nutrient patterns in sagebrush steppe. Idaho State University Summer Seminar Series, Thesis Defense. Pocatello, Idaho. July 2005.

Bechtold, H.A. and R.S. Inouye. 2004. Dominant vegetation and nutrient distribution in sagebrush steppe. Ecological Society of America annual meeting abstracts. Poster. Portland, Oregon. August 2004.

Bechtold, H.A. 2003. Dominant vegetation and nutrient distribution in sagebrush steppe. Idaho State University Proposal Seminar, Pocatello, Idaho. March 2003.

Bechtold, H.A., Forbis, T. A., Diggle, P.K. 2000. The potential for reproductive plasticity of *Saxifrage rhomboidea* Greene (*Saxifragaceae*) under simulated pollination. Research Experiences for Undergraduates summer symposium. Nederland, Colorado August 2000.

GRANTS AND FELLOWSHIPS

2009 Doctoral Arts Fellowship for Education Minor, ISU \$11,700
2009 NSF Doctoral Dissertation Improvement Grant \$15,000
2009 Office of Research, Travel Grant, ISU, \$150
2008 Thomas Sherwood Scholarship/Grant, Northwind Consulting Incorporation \$1000
2007 Colorado Alumni Scholarship \$350
2007 EPA Star Grant (submitted November 2007, \$100,000, not funded)
2006 Department of Biological Sciences Travel Grant, ISU, \$250
2005 Department of Biological Sciences Travel Grant, ISU, \$350
2004 National Science Foundation GK-12 Project Fellowship \$30,000
2004 Idaho State University Graduate Student Research Scholarship, \$1200
2004 Department of Biological Sciences Grant, ISU, August, \$250
2004 Department of Biological Sciences Grant, ISU March \$120
2004 Idaho State University Biology Graduate Students Grant, \$100
2004 Department of Biological Sciences Grant, \$250
2004 Office of Research, Dr. Edwin House/Lawrence Ford Grant, ISU, \$150
1999 Research Experiences for Undergraduates Scholarship, CU, Boulder
1998 Undergraduate Research Opportunity Scholarship, CU, Boulder 1998-99
1996 University of Colorado Cancer Fellowship, Boulder
1995 Westinghouse Science Scholarship Nomination, Denver, CO

RESEARCH EXPERIENCE

Ph.D. Candidate, Stream Ecology, 2005-(2010), Supervisor: Dr. Richard Inouye, Dr. Colden Baxter, Dr. Amy Marcarelli. Idaho State University, Stream Ecology Center and Center for Ecological Research and Education.

Portneuf River Monthly Monitoring 2005-2009, Idaho Department of Environmental Quality, Contacts: Lynn Van Avery, Greg Mladenka, Dr. Andy Ray.

M.S. Graduate Fellow 2003-2005, Supervisor: Dr. Richard Inouye
Idaho State University, Department of Biological Sciences, Pocatello, ID
Great Basin vegetation identification, sampling and collection procedures

Wet/ dry Laboratory Manager 2000-2003, Supervisor: Dr. William Bowman
University of Colorado, Ecology and Evolutionary Biology
Mountain Research Station – INSTAAR, Boulder, CO
Investigation of nutrient cycling in alpine and arctic nutrient cycling
Investigation of alpine soil-plant interactions

Field Project Manager 2001-2003, Supervisor: Dr. Katharine Nash Suding

University of Colorado Mountain Research Station–Institute for Arctic and Alpine Research,
Boulder & UC-Irvine, CA
Long Term Ecological Research project manager, alpine plant species interactions
Supervisor of project crew organization and management
Data organization, management and project design

Project Technician 1999, 2002, Supervisor: Dr. Ann-Marie Odasz
University of Norway, Tromsø and University of Colorado, Boulder

Professional Research Assistant 1998-2000, Supervisor: Dr. Pamela Diggle
University of Colorado, Ecology and Evolutionary Biology, Boulder, CO

TEACHING EXPERIENCE

I have mentored 7 undergraduate senior research project, with one 1 international undergraduate student (Great Britain), and 1 high school independent project from 2005-2008, which resulted in a presentation, report, or publication.

Co-instructor, 2009. Freshwater Ecology, Idaho State University (with Colden Baxter)

Instructor, 2010. Biogeochemistry graduate level seminar, Idaho State University

Guest Lecturer, 2008. Charter School, Stream Ecology Basics, Pocatello Idaho

NSF GK-12 Graduate Fellow 2004-2005, Supervisor: Dr. Rosemary Smith
Idaho State University in collaboration with Highland High School
Pocatello, Idaho, Educator partner: Mrs. Markette Kelemete

Restoration project on sage steppe, non-native plant removal, burning procedures, re-seeding, transplants, and education on native species
Supervision and educator of the Environmental Academy at Highland High School
Initiated various small projects in the community
Restoration of upland bird and large mammal habitat

OUTREACH AND SYNGERSTIC ACTIVITIES

2009	Guest Speaker, Portneuf Watershed Partnership Education
2008	Idaho State Museum, RiverWalk Host
2008	Guest speaker, Pocatello Charter School
2008	Tenure and Promotion Committee Member, ISU, Biological Sciences
2007-09	Portneuf River Clean Up
2007	Tenure and Promotion Committee Member, ISU, Biological Sciences
2005-09	Department of Environmental Quality, Portneuf River Monthly Monitoring

PROFESSIONAL MEMBERSHIPS

2003-09	Idaho State University Graduate Student Society
2003-09	Ecological Society of America
2002-09	The Nature Conservancy
2005-09	North American Benthological Society
2007-09	American Geophysical Union