

Patrick M. Edwards
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Education

Ph.D. in Environmental Science, Portland State University (2014), Environmental Science and Management. Dissertation Title: Macroinvertebrates and Excessive Fine Sediment Conditions in Oregon Coastal Streams. Advisor: Dr. Yangdong Pan

M.S. in Science Teaching, Portland State University (2000), Center for Science Education. Thesis Title: The Horizons Project: Promoting Research-Based Learning and Inquiry in Portland-Vancouver Area Middle Schools and High Schools. Advisor: Dr. Linda George

B.S. in Environmental Analysis and Planning, Frostburg State University (1994).

Professional Experience

Assistant Professor and Director of the Environmental Professional Program: *September 2014 – present*. Environmental Sciences and Management, Portland State University.

NSF Program Coordinator: *September 2010 – 2016*. Cascades to Coast GK-12 Program Coordinator.

Faculty Instructor: *September 2000 – 2014*. Environmental Sciences and Management, Portland State University. Courses: Water in the Environment I & II (SCI 335&336), ESR Methods (ESR 340), Teaching Everyday Science (SCI 331), Natural Science Inquiry (SCI 201), Freshmen Inquiry (UNST 106).

High School Teaching: *2002 – present*. Clackamas Watershed Health Program (2011-2014) Trillium Charter School (2007-2009), Westview High School (2006-2007), Jefferson High School (2002-2006)

Peer-Reviewed Papers

Edwards P, Shaloum G, Bedell D (2018) A Unique Role for Citizen Science in Ecological Restoration: A Case Study in Streams. *Restoration Ecology*, 26: 29-35

Hubler S, Huff D, Edwards P, Pan Y (2016) The Biological Sediment Tolerance Index: A screening tool for inferring. *Ecological Indicators*, 67: 132-145.

Edwards, P (2016). The Value of Long-Term Stream Invertebrate Data Collected by Citizen Scientists. PLoS one, 11(4), e0153713.

Edwards P, and Shroufe R (2016). Three Simple Experiments to Examine the Effect of Sediment Pollution on Algae-Based Food Webs in Streams. The American Biology Teacher, 78 (1), 57-61.

Edwards P, George L, and McTammany M (2015). Next-generation scientists get a taste of their future careers, EOS, 96, doi:10.1029/2015EO040803.

Rounds SA, Doyle, MC, Edwards P, Furlong ET (2009) Reconnaissance of pharmaceutical chemicals in urban streams of the Tualatin River Basin, Oregon: U.S. Geological Survey Scientific Investigations Report.

Smith J, Edwards, P and Raschke, J (2006) Using technology to facilitate landscape level inquiry. Journal of Geography 105(6):249-258.

Edwards P (2005) Catch and Release Bioassessment. The Volunteer Monitor. Vol. 17 (2).

Other Publications

Edwards P (2014) Stream Insects. Center for Science Education, Portland State University.

Edwards P (2005) Aquatic Macroinvertebrate Field Guide and Biomonitoring Reference Manual for the Willamette Valley. Portland State University. Portland, Or

Edwards P (2004) Improving the Quality of Aquatic Macroinvertebrate Data Collected By Students and Volunteers. Proceedings Water Outreach Education: Best Education Practices. Summer 2004

Grants and Funding

Clean Water Services Environmental Education Grant 2015, 2016, 2017. Title: Raising student awareness and knowledge of water quality restoration efforts. Student biomonitoring of stream restoration sites in the Clean Water Services (CWS) service area.

River Health Watershed Health Program, 2014, 2015, 2016, 2017. Title: The Student Restoration Monitoring (STRM) project: a unique partnership between Clackamas County Schools, Portland State University, the Clackamas County Service. District No. 1

East Asia Pacific Summer Institutes: China, 2014. Title: Insect Mouthparts as Indicators of Excessive Fine Sediment in Streams. National Science Foundation.

GK-12, 2010-2016. Cascades to Coast GK-12: Enhancing STEM Education through Environmental Sustainability. National Science Foundation. Senior Personnel.

PSU Faculty Enhancement Grant, 2005. Title: Developing and Testing a No-Kill Macroinvertebrate Biomonitoring Protocol for Educators.

Environmental Protection Agency Environmental Education Grant, 2004 Title: Increasing the Ability of High School Teachers to Collect High Quality Biomonitoring Data with their Students.

Forest Ecology Education Support Grant, 2002, 2003, and 2004. Oregon Forestry Resources.

Course, Curriculum, and Laboratory Improvement, Environmental Materials Development Grant, 2001. Title: Columbia River Basin: Integrating Watershed and Water Quality Curriculum through GIS into the Undergraduate General Education Classroom. National Science Foundation. Senior Personnel.

Awards and Honors

2018 Stevens River Watch Award

2017 Department Outstanding Teaching Award, Environmental Science, Portland State

2014 NSF EAPSI China Fellow

2008 Best Article for Teaching at the College/University Level Journal of Geography

2004 Scholarship in Teaching Award

2002 – 2004 Oregon Academy of Science, Science Education Co-Chair

2003 Scholarship in Teaching Award, Portland State University, Center for Academic Excellence

2002 Portland State University John Eliot Allen Outstanding Teaching Award.

2002 Teaching and Learning with Technology Award. Portland State University, Center for Academic Excellence.

2001 Community-Based Learning Award (co-recipient), Portland State University Center for Academic Excellence.

2000 Scholarship in Teaching Award (co-recipient), Portland State University Center for Academic Excellence.