

Roderick W. Lammers

Ph.D. Candidate

rod.lammers@colostate.edu

317.358.6476

www.engr.colostate.edu/~rlammers

Colorado State University
Dept. of Civil & Environmental Engineering
Campus Delivery 1372
Fort Collins, CO 80523

Education

- Ph.D. Civil & Environmental Engineering, 2018 (expected)
Colorado State University, Fort Collins, CO
Hydraulic Engineering, Stream Restoration, and River Mechanics
NSF I-WATER IGERT Fellow
Advisor: Brian Bledsoe, Ph.D., P.E.
- M.S. Civil & Environmental Engineering, 2015
Colorado State University, Fort Collins, CO
Hydraulic Engineering, Stream Restoration, and River Mechanics
Advisor: Brian Bledsoe, Ph.D., P.E.
Thesis: *Uncertainty and sensitivity in a bank stability model: Implications for estimating phosphorus loading*
- B.S. Environmental and Ecological Engineering, 2012
Purdue University, West Lafayette, IN
- B.S. Ecology and Evolutionary Biology, 2012
Purdue University, West Lafayette, IN

Professional and Research Experience

- 2014 – Now Graduate Research Assistant, Colorado State University, Fort Collins, CO
Modeling river channel erosion as a source of sediment and nutrient pollution.
- 2015 – Now Staff Engineer, Wright Water Engineers, Denver, CO (part time)
Provide technical support on river geomorphology, sediment transport, and stream restoration projects.
- 2012 – 2013 Staff Engineer, Keramida, Inc., Indianapolis, IN
Provided sustainability services for the City of Indianapolis, including preparing and winning \$2.1 million in federal grants. Conducted human health risk assessment of brownfield properties.
- 2011 – 2012 Engineering Projects in Community Service, Purdue University, West Lafayette, IN
Designed and tested a slow sand filter to treat drinking water for a community in Colombia.
- 2011 Undergraduate Research Assistant, Purdue University, West Lafayette, IN
Advisor: Ernest (Chip) Blatchley, Ph.D., P.E.
Tested performance of slow sand filters for drinking water treatment to provide recommendations for users
- 2009 Engineer Intern, Keramida, Inc., Indianapolis, IN
Managed and analyzed data for soil and groundwater remediation projects

Peer-Reviewed Publications

Lammers R.W., Bledsoe B.P. 2018. Parsimonious sediment transport equations based on Bagnold's stream power approach. *Earth Surface Processes and Landforms*, 43(1): 242-258. DOI: 10.1002/esp.4237.

Lammers R.W., Bledsoe B.P. 2017. What role does stream restoration play in nutrient management? *Critical Reviews in Environmental Science & Technology*, 47(6): 335-371. DOI: 10.1080/10643389.2017.1318618.

Lammers R.W., Bledsoe B.P., and Langendoen E.J. 2017. Uncertainty and sensitivity in a bank stability model: Implications for estimating phosphorus loading. *Earth Surface Processes and Landforms*, 42(4): 612-623. DOI: 10.1002/esp.4004.

Conference Presentations

Lammers R.W. and Bledsoe B. P. 2017. An intermediate complexity model for predicting channel incision and evolution at the stream network scale. *Presented at the 50th Annual Fall Meeting of the American Geophysical Union*, New Orleans, LA, 11-15 Dec.

Lammers R.W. and Bledsoe B.P. 2017. A new intermediate complexity model for predicting channel evolution in stream networks. *Presented at 17th Annual Meeting of the American Ecological Engineering Society Conference: "Ecological Engineering for Adaption in the Anthropocene"*, University of Georgia, 23-25 May.

Lammers R.W. and Bledsoe B.P. 2017. Modifying Bagnold's bedload transport equation for use in watershed-scale channel incision models. *Presented at AGU Hydrology Days 2017*, Colorado State University, Fort Collins, CO, 20-22 Mar.

Lammers R.W. and Bledsoe B.P. 2016. Modifying Bagnold's sediment transport equation for use in watershed-scale channel incision models. *Poster presented at the 49th Annual Fall Meeting of the American Geophysical Union*, San Francisco, CA, 12-16 Dec.

Bledsoe B., Jones J., Strecker E., Struck S., Leisenring M., Clary J., **Lammers R.**, McGuire A. 2016. Development of stream restoration practices database: Initial progress. *Presented at the 89th Annual WEFTEC Conference*, New Orleans, LA, 24-29 Sep.

Lammers R.W. and Bledsoe B.P. 2016. Can stream restoration remedy the nutrient pollution problem? *Presented at the 16th Annual American Ecological Engineering Society Conference: "Rooftops to Rivers: Integrating Built and Natural Systems"*, Knoxville, TN, 7-9 June.

Lammers R.W. and Bledsoe B.P. 2016. Can stream restoration remedy the nutrient pollution problem? *Presented at AGU Hydrology Days 2016*, Colorado State University, Fort Collins, CO, 21-23 Mar.

Lammers R.W. and Bledsoe B.P. 2015. Uncertainty and sensitivity in bank stability modeling: Implications for estimating phosphorus loading. *Presented at AGU Hydrology Days 2015*, Colorado State University, Fort Collins, CO, 23-25 Mar.

Struck S., Bledsoe B.P., Jones J., Strecker E., Leisenring M., Clary J., and **Lammers R.W.** 2015. Stream restoration: A new BMP database module that may support water quality crediting. *Presented at AWRA Annual Water Resources Conference*, Denver, CO, 16-19 Nov.

Online Webcast

Bledsoe B.P., **Lammers R.W.**, Clary J., Leisenring M. 2016. Water Quality Crediting for Stream Restoration Projects. Water Environment & Reuse Foundation (WE&RF) Webcast, through Water Environment Federation Technical Exhibition and Conference (WEFTEC): "Watershed Management: Water Quality Crediting for Stream Restoration Projects," Online, October 26.

Selected Reports

Bledsoe, B., **Lammers R.W.**, Jones J., Clary J., Earles A., Strecker E., Leisenring M., Struck S., McGuire A. 2017. Stream Restoration BMP Database: Version 1.0 Summary Report, Project No. WERF-U5R14, Water Environment & Reuse Foundation (WE&RF), Alexandria, VA, January, [online PDF](#), 183 p.

Bledsoe, B., **Lammers R.W.**, Jones J., Clary J., Earles A., Strecker E., Leisenring M., Struck S., McGuire A. 2016. Stream Restoration as a BMP: Crediting Guidance. Final Report, Project No. WERF-1T13, Water Environment & Reuse Foundation (WE&RF), Alexandria, VA, November, [online PDF](#), 120 p.

Other Publications

Lammers R.W. and Anderson G.B. 2017. countyfloods: Quantifying United States county-level flood measurements. R package version 0.1.0. <https://CRAN.R-project.org/package=countyfloods>.

Awards and Honors

- 2017 – 2018 SOGES Sustainability Leadership Fellow
- 2017 – 2018 Institute for the Built Environment Graduate Fellow
- 2017 – 2018 Borland Chair of Water Resources Graduate Student Scholarship
- 2017 – 2018 Tipton and Kalmbach/Stantec Consulting Graduate Fellowship
- 2015 – 2018 NSF I-WATER IGERT Fellow
- 2014 – 2015 Dr. Jeng Song Wang Memorial Scholarship

Software and Programming Skills

Scripting Languages: Proficient in R, C++, and Visual Basic for Applications for numerical modeling and data management, statistical analysis, and visualization. Familiar with MATLAB, FORTRAN, and Python.

Geospatial Analysis: Proficient in ESRI GIS software for hydrologic analysis.

Numerical Models: Developed custom numerical model in C++. Proficient in HEC-RAS.