

Bridget Livers

bridget.livers@bc.edu

bridgetlivers.wordpress.com

EDUCATION

Ph.D. Earth Sciences (Fluvial geomorphology), Colorado State University, 2016

M.S. Geosciences, Colorado State University, 2013

B.S.* Environmental Studies, minors in Geology and Music, University of Kansas, 2008
*with Honors and Distinction

Study Abroad in Australia, Duke University and University of New South Wales, 2007

PRIMARY RESEARCH INTERESTS

Fluvial geomorphology, stream-terrestrial interactions, instream large wood dynamics

APPOINTMENTS AND RESEARCH

Postdoctoral Research Fellow, 2023-present

Department of Earth and Environmental Sciences, Boston College, Chestnut Hill, MA
Supervisor: Noah Snyder

Adjunct Assistant Professor, 2021-2022

Department of Geological and Atmospheric Sciences, Iowa State University, Ames, IA

Postdoctoral Research Associate, 2018-2021

Department of Natural Resource Ecology and Management, Iowa State University, Ames, IA
Supervisor: Peter Moore

Lecturer, 2016-2018

Department of Geography, University of California, Los Angeles, CA

Graduate Research Assistant, 2012-2016

Department of Geosciences, Colorado State University, Fort Collins, CO
Supervisor: Ellen Wohl

Graduate Teaching Assistant, 2011-2012

Department of Geosciences, Colorado State University, Fort Collins, CO
Supervisor: Sara Rathburn

Assistant Environmental Scientist, 2008-2011

Environmental Studies & Permitting Division, Burns & McDonnell Engineering, Kansas City, MO
Manager: Chris Wood

PUBLICATIONS

Refereed journal articles:

Lininger, K., A. Rowan, **B. Livers**, N. Kramer, V. Ruiz-Villanueva, A. Sendrowski, and S. Burrough, 2021.
Perspectives on being a field-based geomorphologist during pregnancy and early motherhood.
Earth Surface Processes and Landforms Special Issue on Women in Geomorphology 46(14),
2767-2772. <https://doi.org/10.1002/esp.5238>.

Livers, B., and E. Wohl, 2021. All logjams are not created equal. *Journal of Geophysical Research: Earth Surface*, 126(8), e2021JF006076. <https://doi.org/10.1029/2021JF006076>.

Livers, B., K.B. Lininger, N. Kramer, and A. Sendrowski, 2020. Porosity problems: comparing and reviewing methods for estimating porosity and volume of wood jams in the field. *Earth Surface Processes and Landforms Special Issue on Wood in Rivers* 45(13), 3336-3353. <https://doi.org/10.1002/esp.4969>.

Ortega-Becerril, J.A., **B. Livers**, and E. Wohl, 2020. Regional- to local-scale controls on waterfalls in Rocky Mountain National Park, Colorado. *Journal of Mountain Science* 17(8), 1874-1890. <https://doi.org/10.1007/s11629-019-5804-1>.

Venarsky, M.P., D. Walters, R. Hall Jr., **B. Livers**, and E. Wohl, 2018. Shifting stream planform state decreases stream productivity yet increases riparian animal production. *Oecologia* 187(1), 167-180. <https://doi.org/10.1007/s00442-018-4106-6>.

Livers, B., E. Wohl, K.J. Jackson, and N.A. Sutfin, 2018. Historical land use as a driver of alternative states for stream form and function in forested mountain watersheds of the Southern Rocky Mountains. *Earth Surface Processes and Landforms* 43, 669-684. <https://doi.org/10.1002/esp.4275>.

Livers, B., and E. Wohl, 2016. Sources and interpretation of channel complexity in forested subalpine streams of the Southern Rocky Mountains. *Water Resources Research* 52, 3910-3929. <https://doi.org/10.1002/2015WR018306>.

Wohl, E., S. Rathburn, S. Chignell, K. Garrett, D. Laurel, **B. Livers**, A. Patton, R. Records, M. Richards, D. Schook, N. Sutfin, and P. Wegener, 2016. Mapping longitudinal stream connectivity in the North St. Vrain Creek watershed of Colorado. *Geomorphology* 277, 171-181. <https://doi.org/10.1016/j.geomorph.2016.05.004>.

Livers, B., and E. Wohl, 2015. An evaluation of stream characteristics in glacial versus fluvial process domains in the Colorado Front Range. *Geomorphology* 231, 72-82. <https://doi.org/10.1016/j.geomorph.2014.12.003>.

Ortega, J.A., E. Wohl, and **B. Livers**, 2013. Waterfalls on the eastern side of Rocky Mountain National Park, Colorado, USA. *Geomorphology* 198, 37-44. <https://doi.org/10.1016/j.geomorph.2013.05.010>.

Manuscripts in review:

Day, N.K., R.O. Hall, **B. Livers**, and E. Wohl, (in review). Stream channel complexity, transient storage, and NO₃-uptake in mountain streams. Submitted to *PLoS Biology*.

Manuscripts in preparation:

Livers, B., N. Snyder, and M. Collins. Sources, mechanisms, locations, and fate of legacy sediment: a conceptual model and perspective on the role of dams, to be submitted to *Earth Surface Processes and Landforms*.

Livers, B., and E. Wohl. Logjams in space: Spatial patterns of logjam characteristics in forested unmanaged subalpine streams, to be submitted to Earth Surface Processes and Landforms.

Carullo, S., **B. Livers**, and P. Moore. Impacts of riparian forest on stream morphology in an agricultural landscape, to be submitted to River Research and Applications.

Non-refereed contributions:

Gonzalez, B.L., 2016. Instream wood loads and channel complexity in headwater Southern Rocky Mountain streams under alternative states. Doctoral dissertation. Colorado State University, Fort Collins, CO. <http://hdl.handle.net/10217/176644>

Livers, B., 2013. Field delineation of geomorphic process domains along river networks in the Colorado Front Range. Master's thesis. Colorado State University, Fort Collins, CO. <http://hdl.handle.net/10217/81037>

TEACHING EXPERIENCE

Iowa State University

Instructor, Department of Geological and Atmospheric Sciences

GEOL/ENVS 101: Environmental Geology (delivered online; Fall 2021, Spring 2022)

Instructor, Department of Natural Resource Ecology and Management

FOR/BIOL 356: Dendrology (Fall 2020)

University of California, Los Angeles

Instructor, Department of Geography

GEOG 1: Earth's Physical Environment (Winter and Fall 2017, Spring 2018)

GEOG 5: People and Earth's Ecosystems (Summer and Fall 2017)

GEOG 100: Principles of Geomorphology (Winter 2017, Spring 2018)

GEOG M107/ENVIRON M114: Soil and Water Conservation (Fall 2016)

GEOG 180: North America (Spring 2017)

GEOG 191: Research Seminar: Geomorphology of Rivers (Spring 2017)

Colorado State University

Guest Lecturer, Department of Ecosystem Science and Sustainability

WR 417: Watershed Measurements (Fall 2015), "Sediment dynamics in streams"

Guest Lecturer, Department of Geosciences

GEOL 652: Fluvial Geomorphology (2014, 2015), "Stream channel initiation, drainage network evolution and properties", "Sediment transport properties and measurements", "Terraces and alluvial fans"

Teaching Assistant, Department of Geosciences

GEOL 121: Introduction to Geology Lab (Spring 2012)

INVITED PRESENTATIONS

"Valparaiso to Valdivia, coast to high Andes: Field excursions in Central Chile", Department of Geological and Atmospheric Sciences Brown Bag Talk Series, Iowa State University, Feb. 2019

“Instream wood, channel complexity, and their impact on stream ecology in forested headwater streams under alternative states”, Department of Natural Resource Ecology and Management Seminar Series, Iowa State University, Sept. 2018

“Instream wood characteristics and channel complexity in natural versus disturbed watersheds of the Southern Rocky Mountains”, Facultad de Agronomía E Ingeniería Forestal, Pontificia Universidad Católica de Chile, Santiago, Chile, March 2016

“Field delineation of geomorphic process domains along river networks in the Colorado Front Range”, Facultad de Agronomía E Ingeniería Forestal, Pontificia Universidad Católica de Chile Santiago, Chile, January 2014

CONFERENCE ABSTRACTS AND PRESENTATIONS

Oral presentations as lead author:

Livers, B., Snyder, N.P., and Collins, M. 2023. Legacy sediment and a perspective on the role of dams. Annual meeting of *Geological Society of America*, Pittsburg, PA. *Abstracts with Programs*, Vol. 55, No. 6, doi: 10.1130/abs/2023AM-394653

Livers, B., and E. Wohl, 2020. All logjams are not created equal. Annual meeting of *Geological Society of America*. *Abstracts with Programs*, Vol 52, No. 6, doi: 10.1130/abs/2020AM-358465

Livers, B., and E. Wohl, 2016. Alternative states of stream form, function, and carbon storage induced by historic land use in forested watersheds of the Southern Rocky Mountains. Annual meeting of *Geological Society of America*, Denver, CO. *Abstracts with Programs*, Vol. 48, No. 7, doi: 10.1130/abs/2016AM-286346

Livers, B., and E. Wohl, 2013. Downstream hydraulic geometry relationships among geomorphic process domains along river networks in the Colorado Front Range. Annual meeting of *Geological Society of America*, Denver, CO. *Geological Society of America Abstracts with Programs*, Vol. 45, No. 7, p. 629

Poster and co-author presentations:

Lininger, K., A. Rowan, **B. Livers**, N. Kramer, V. Ruiz-Villanueva, A. Sendrowski, and S. Burrough, 2022. Promoting and supporting field-based geomorphologists during pregnancy and early motherhood. *European Geophysical Union General Assembly 2022*, Vienna, Austria, 23–27 May 2022, EGU22-726, <https://doi.org/10.5194/egusphere-egu22-726>.

Livers, B., and E. Wohl. 2020. Spanning the channel: Not all logjams are created equal. *2020 Upper Midwest Stream Restoration Symposium*. Stillwater, MN. P-06 (<https://drive.google.com/file/d/1gLotBaUhC-kl1ehhWjh3ycElxNGQJr31/view>).

Livers, B., and E. Wohl. 2015. Instream wood recruitment, channel complexity, and their relationship to stream ecology in forested headwater streams under alternative stable states. *American Geophysical Union 2015 Fall Meeting*, San Francisco, CA. Abstract No. H11E-1399.

Livers, B., K. Lininger, N. Kramer, and E. Wohl. 2015. Porosity problems. *Third International Conference on Wood in World Rivers*. University of Padova, Italy.

- Livers, B.**, and E. Wohl. 2015. Instream wood loads, channel complexity, and ecological potential in forested headwater streams under alternative stable states in Rocky Mountain National Park. *Rocky Mountain National Park 2015 Biennial Research Conference*, Estes Park, CO.
- Sutfin, N.S., **B. Livers**, and E. Wohl. 2015. Large-wood-induced storage of sediment and organic carbon in mountainous streams of the Colorado Rocky Mountains, U.S.A. *Third International Conference on Wood in World Rivers*. University of Padova, Italy.
- Sutfin, N.A., **B. Livers**, E.E. Wohl, L. Mao, and F. Ugalde. 2015. Organic carbon storage in steep mountain streams of Chile. Latin America session at the 35th Annual American Geophysical Union *Hydrology Days* conference. Colorado State University, Fort Collins, CO.
- Carlson, S. P., G.C. Poole, R.O. Hall, E. Wohl, D.M Walters, M.P. Venarsky, **B. Livers**, and N.A. Sutfin. 2014. Relationships between stream denitrification, respiration, and nitrate concentration provide the foundation for a coupled C-N network model. *Joint Aquatic Sciences Meeting*, Portland, OR.
- Day, N. K., R.O. Hall, E. Wohl, and **B. Livers**. 2014. Geomorphological controls on nitrate uptake in 3 Rocky Mountain streams. *Joint Aquatic Sciences Meeting*, Portland, OR.
- Hall, R., N. Day, H. Madinger, E. Wohl, **B. Livers**, S. Carlson, M. Plemel, G. Poole, D. Walters, and M. Venarsky. 2014. Forest age, channel morphology, and biogeochemical processes in mountain rivers. *American Geophysical Union 2014 Fall Meeting*, San Francisco, CA. Abstract No. B41L-07.
- Hall, R.O., E.E. Wohl, M. Venarsky, N. Sutfin, **B. Livers**, D.M. Walters, G.C. Poole, and S. Carlson. 2014. The capacity for rivers to store carbon: Combining geomorphic and ecological perspectives. *Joint Aquatic Sciences Meeting*, Portland, OR.
- Livers, B.**, and E. Wohl. 2014. Instream wood loads and channel complexity in headwater streams under alternative stable states. *American Geophysical Union 2014 Fall Meeting*, San Francisco, CA. Abstract No. EP53D-3690.
- Venarsky, M. P., D. Walters, E.E. Wohl, R.O. Hall, G.C. Poole, D. Winkelman, **B. Livers**, N. Day, H. Madinger, and A. Herdrich. 2014. Western mountain streams past and present: The influence of forest stand age and logjam density on aquatic community structure and function. *Joint Aquatic Sciences Meeting*, Portland, OR.
- Livers, B.**, and E. Wohl. 2012. Field delineation of geomorphic process domains along river networks in the Colorado Front Range. *American Geophysical Union 2012 Fall Meeting*, San Francisco, CA. Abstract No. EP51B-0985.

AWARDS AND HONORS

- | | |
|-----------|---|
| 2016 | Outstanding Student Award, Laramide Chapter, Association of Women Geoscientists |
| 2015-2016 | Schumm Graduate Scholarship, Dept. of Geosciences, Colorado State University |
| 2014-2015 | Shepherd Graduate Scholarship, Dept. of Geosciences, Colorado State University |
| 2014-2015 | Larry Kent Burns Memorial Scholarship, Dept. of Geosciences, Colo. State University |
| 2013-2015 | Joby Adams Graduate Geosciences Scholarship, Dept. of Geosciences, Colo. State Univ. |
| 2012-2014 | Michael D. Horowitz Scholarship, Warner College of Natural Resources, Colo. State Univ. |

2012-2013 Evelyn I. Clark Graduate Scholarship, Dept. of Geosciences, Colorado State University
2007 Honorable Mention, Morris K. Udall Foundation
2007-2008 University of Kansas Women's Club Scholarship
2006 University of Kansas College Scholarship
2005 Admitted membership into Phi Kappa Phi Honors Society
2003-2008 Ruben Zadigan Undergraduate Scholarship, Environmental Studies Dept., Univ. of Kansas
2003-2008 Completed University of Kansas Honors Program

PROFESSIONAL DEVELOPMENT

Workshop shadow and field assistant, Oct. 2018, May 2019

River Restoration Toolbox Training Level 1/Base Training, Iowa Department of Natural Resources

Workshop participant, Nov. 2018

Iowa Women for Water Gathering: Women who lead, Des Moines, IA

Visiting Student Researcher, Jan. 2016 – Sept. 2016

Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, CA
Supervisor: Michael Lamb

Visiting interdisciplinary research collaborator and workshop participant, March 2016

Pontificia Universidad Católica de Chile Facultad de Agronomía E Ingeniería Forestal, Santiago, Chile

Restoration field assistant, September 2015

Upper Colorado River Restoration, Rocky Mountain National Park

Workshop Participant, June 2015

Sharing Science in Your Community: Science Communications Workshop hosted by AGU, UCAR, and Climate Voices, Boulder, CO

Visiting interdisciplinary research collaborator, January 2014

Pontificia Universidad Católica de Chile Facultad de Agronomía E Ingeniería Forestal, Santiago, Chile

Workshop Participant, July 2013

On the Cutting Edge: Preparing for an Academic Career in the Geosciences, Boulder, CO

Workshop Participant, 2012, 2014

Annual Front Range River Retreat, Bellvue, CO

SOCIETY AFFILIATIONS

American Geophysical Union
Association of Women Geoscientists
Geological Society of America
Earth Science Women's Network

ADDITIONAL SERVICE, ACTIVITIES, AND SKILLS

Journal reviewer

2023: River Research and Applications

2021: Earth Surface Processes and Landforms
2020: Earth Surface Processes and Landforms (2)
2019: Earth Surface Processes and Landforms
2018: Ecohydrology, Earth Surface Processes and Landforms

Proposal reviewer

2021: NSF Geomorphology and Land-use Dynamics Program

Community Service

2007-2011 Project Blue River Rescue, Volunteer, Kansas City, MO
2006-2007 Operation Wildlife, Volunteer, Linwood, KS

Computer programs and software experience

R, ArcGIS Pro, MATLAB, Inkscape