

CURRICULUM VITAE
H. MAURICE VALETT
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WORK ADDRESS

Division of Biological Sciences, University of Montana, HS 111, Missoula, MT, 59812; 406-243-6058,
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EDUCATION

Ph.D. Zoology, 1991. Arizona State University, Tempe. Dissertation Title: The role of the hyporheic zone in the structure and function of a Sonoran Desert Stream

M.A. Zoology, 1985. University of Montana, Missoula. Title: Food quality and hydropsychid caddisfly density in a lake outlet stream in Glacier National Park, Montana.

B.S. Animal Biology, 1982. Western Washington University, Bellingham.

PROFESSIONAL HISTORY

Jan 2013 – present: Professor of Systems Ecology, Division of Biological Sciences, University of Montana

Jan 2010 – Dec 2012: Professor of Systems Ecology, Flathead Lake Biological Station, University of Montana

Aug 2009 – Dec 2009: Professor of Ecology, Department of Biological Sciences, Virginia Polytechnic Institute and State University, Blacksburg, VA

Aug 2003 – Jul 2009: Associate Professor of Ecology, Department of Biological Sciences, Virginia Polytechnic Institute and State University, Blacksburg, VA

Jan 1998 – July 2003: Assistant Professor of Ecology, Department of Biology, Virginia Polytechnic Institute and State University, Blacksburg, VA

May 1996 - Dec 1997: Research Assistant Professor, Department of Biology, University of New Mexico, Albuquerque, New Mexico 87131

Jul 1994 - May 1996: Visiting Assistant Professor, Department of Biology, UNM

Jun 1991 - Jul 1994: Post-doctoral Research Fellow, Department of Biology, UNM

RESEARCH FUNDING

- Valett, H.M.** and J.A. Stanford. Revitalizing the Freshwater Research Laboratory at Flathead Lake Biological Station, Murdock Chairitable Trust, \$434,772, Sep 2012-Aug 2014.
- Simon, K.E., **H.M. Valett**, I. Fernandez, S., Norton, and M.B. Adams. Collaborative Research: Interactive effects of chronic N deposition, acidification, and phosphorus limitation on coupled elemental cycling in streams. NSF DEB Ecosystem Studies \$798,430 (\$275,573 to H.M. Valett), May 2009-Apr 2013.
- Gragson, T.L., J.M. Vose, L. Band, E.F. Benfield, E. Bernhardt, P. Bolstad, M. Bradford, J. Clark, C. Dehring., C. Depken, K. Elliott, C. Ford, J. Fraterrigo, J. Hepinstall, N. Heynen, R. Jackson, J. Knoepp, D. Leigh, J. Maerz, J. Mohan, R. Moore, S. Pearson, C. Pringle, M. Turner, **H.M. Valett**, and J.R. Webster. Southern Appalachia on the Edge -Exurbanization & Climate Interaction in the Southeast. Coweeta Long Term Ecological Research. \$7,000,000 (VT subcontract, \$582,090), Oct 2008 – Sep 2014 (PIs alphabetical after first two).
- Valett, H.M.**, J.R. Webster, P.J. Mulholland. Collaborative Research: NPARS2-A Stoichiometric Approach to Coupled N and P Cycling in Headwater Streams – Developing a N and P dual isotope assay. \$130K (\$77,664 to VT), Proof of concept award: NSF DEB Ecosystem Studies Aug 2007 – July 2009
- Benfield, E.B. and **H.M. Valett**. The Ecological Role of Freshwater Mussel Beds in Providing Critical Habitat for Endangered Species and Maintaining Ecosystem Function. United States Geological Survey, \$132,074, May 06 – Sep 09
- Valett, H.M.**, S.A. Thomas, E.F. Benfield. Stream-Riparian Interactions: Disturbance, Linkages, and Resistance. NSF DEB Ecosystem Studies, \$98K, Sep 04 – Aug 06
- Schreiber, M.E. and **H.M. Valett**. Research Experience for Undergraduates (REU) - Transport, Transformation, and Retention of Arsenic in a Headwater Stream: Hydrologic, Biological and Geochemical Controls. NSF Hydrologic Sciences, \$10K, Aug 04 – Jul 07.
- Valett, H.M.** Collaborative Research: The Ecological Circuitry Collaboratory (ECC), NSF DEB Ecosystem Studies, \$32K, May 04 – Apr 06.
- Benfield, E.F. and **H.M. Valett**. Lateral and Longitudinal Control of Organic Matter Dynamics: Responses to Watershed Manipulations. USFS Coop. Agreement, \$20K, Jul 04 – Jun 07.
- Webster, J.R. and **H.M. Valett**. Research Experience for Undergraduates (REU) - Nitrate Uptake and Retention in Streams: Mechanisms and Effects of Human Disturbances -Coweeta Site, NSF DEB \$5K, Jun 04 – May 07
- Valett, H.M.** Stream Function and Riparian Buffer Width. USFS Cooperative Agreement, \$5000, Jul 03 – Sep 05.
- Schreiber, M. and **H.M. Valett**. Transport, Transformation, and Retention of Arsenic in a Headwater Stream: Hydrologic, Biological and Geochemical Controls. NSF Hydrologic Sciences, \$220K, Jul 02 – Jun 07.
- Webster, J.R. and **H.M. Valett**. Nitrate Uptake and Retention in Streams: Mechanisms and Effects of Human Disturbances - Coweeta Site. NSF award to multi-PI group, all are subcontracted by Univ. of Tennessee, subcontract to Webster-Valett \$583,606 with ca. \$368K to cover isotope costs for all sites, \$215,606 to Tech, Jan 02 – Dec 07.
- Valett, H.M.**, J.R. Webster, P.J. Mulholland, C.N. Dahm, P.V. Unnikrishna and C.G. Peterson. Nitrate Retention in Headwater Streams: Influences of Riparian Vegetation, Metabolism and Subsurface Processes, H.M. Valett, PD, NSF DEB, \$1.2 million (\$800 K to Virginia Tech includes a \$377,784 subcontract to ORNL). June 99 – May 02
- Valett, H.M.** The Ecological Circuitry Collaboratory: Integrating Quantitative Training with Ecosystem Ecology - a multi-investigator collaboration to educate and integrate mathematically trained students with ecosystem ecology programs. \$100K. NSF Funding supplement to DEB 9815868. H.M. Valett, PD. see ><http://www.ecostudies.org/cc=>, Nov 00 – Oct 03.

- Valett, H.M.** and J.R. Webster. Research Experience for Undergraduates (REU)-Supplement to Collaborative Research: NO₃-N retention in headwater streams. NSF DEB, Ecosystem Studies Program, \$5K, Jun 02 – May 03.
- Valett, H.M.** and J.R. Webster. Research Experience for Undergraduates (REU)-Supplement to Collaborative Research: NO₃-N retention in headwater streams. NSF DEB, Ecosystem Studies Program, \$5K, Jun 01 – May 02.
- Valett, H.M.** and J.R. Webster. Research Experience for Undergraduates (REU)-Supplement to Collaborative Research: NO₃-N retention in headwater streams. NSF DEB, Ecosystem Studies Program, \$10K, Jun 00 – May 01.
- Jones, R.H., J.A. Burger, W.L. Daniels, E.F. Benfield, E.T. Nilsen, **H.M. Valett**, J.W. Webster, W.M. Alley, J.C. Baker, D.F. Berry, G.K. Evanylo, Reneau, R.B. and Zelany, L.W. Strategy to Link Ecology Research Programs at Virginia Tech, H.M. Valett, co-PI, VPISU ASPIRES Program, \$63,401, Jan 2000.
- Valett, H.M.**, J.R. Webster, E.F. Benfield, R.H. Jones and E.T. Nilsen. Aquatic-terrestrial interactions: Multi-Disciplinary Applications of Chromotography to Research and Training. HM Valett, PD, VPISU ASPIRES Program, \$46,300, Jan 1999.
- Dahm, CN, T.M. Mulhern, P.V. Unnikrishna, **H.M. Valett** M.C. Molles Jr. and C.S. Crawford. Riparian Ecosystem Restoration: Effects of Flooding and Vegetation Type on Annual Evapotranspiration in a Semi-Arid landscape, H.M. Valett, co-PI, NASA, \$700K, Jul 98 – Jun 01.
- Crossey, L.J., and **H.M. Valett**. EGB: Biogeochemical Cycling of Redox-Sensitive Metals During Surface -Subsurface Water Exchange is a Shallow Alluvial Aquifer, H.M. Valett, co-PI, NSF EGB Award, \$290K, Jul 96 – Jun 99.
- Valett, H.M.** Nitrogen Uptake, Retention and Cycling in Stream Ecosystems: An Intersite N-15 Tracer Experiment. H.M. Valett, PD, NSF DEB, subcontract to HM Valett, \$53,593, Jul 96 – Jun 99.
- Valett, H.M.** M.E. Campana, and C.N. Dahm. Stream/Groundwater Ecotones: Hydrology, Biogeochemistry and Ecology, H.M. Valett, PD, NSF Ecosystem Studies, \$610K, Jan 95 – Dec 98.
- Valett, H.M.**, M.C. Molles, Jr., C.S. Crawford, M.E. Campana. SGER: Experimental Flooding of the Bosque del Apache National Wildlife Refuge, Rio Grande, NM. H.M. Valett, PD. NSF DEB Ecosystem Studies, \$25K, Jul 94 – Jun 96
- Valett, H.M.** Nutrient Retention in the Rio Grande Continuum. H.M. Valett, PD. USFS Cooperative Agreement, \$40K, Sep 94 – Aug 95

PUBLICATIONS: Journals

- Johnson, L.T., J.L. Tank, R.O. Hall, Jr, P.J. Mulholland, S.K. Hamilton, W.K. Dodds, N.B. Grimm, **H. M. Valett**, J.R. Webster, L.R. Ashkenas, C.N. Dahm, S.V. Gregory, S.L. Johnson, W.H. McDowell, J.L. Meyer, B. J. Peterson, C.P. Arango¹, J. J. Beaulieu¹, M. J. Bernot, A. J. Burgin, C.M. Crenshaw, B.R. Niederlehner, J. M. O'Brien, J.D. Potter, R.W. Sheibley, D.J. Sabota, and S.M. Thomas. In review. The fate of 15N- nitrate streams across North America: a mass balance approach. *Limnology and Oceanography*
- Caldwell, S.K., M. Peipoch, and **H.M. Valett**. 2015. Spring brooks of western Montana riverscapes: nitrate processing across a floodplain continuum. *Freshwater Science* 34:233-244. DOI:10.1086/679300
- Johnson, L.T., J.L. Tank, R.O. Hall, Jr, P.J. Mulholland, S.K. Hamilton, **H.M. Valett**, J.R. Webster, M. J. Bernot W.H. McDowel, B.J. Peterson, and S.M. Thomas. 2013. Quantifying the production of dissolved organic nitrogen in headwater streams using 15N 1 tracer additions. *Limnology and Oceanography*. 58:1271-1285.
- Valett, H.M.**, F.R. Hauer, and J.A. Stanford. 2013. Landscape influences on ecosystem function: local and routing control of oxygen dynamics in a floodplain aquifer. *Ecosystems* 17:195-211. DOI:10.1007/s10021-013-9717-5.
- Mineau, M. M., C.M. Rigsby, D.T. Ely, I. J. Fernandez, S. A. Norton, T. Ohno, **H. M. Valett**, and K.S. Simon. 2013. Stoichiometric constraints on the bioavailability of leaf leachate dissolved organic matter under chronic catchment nitrogen enrichment. *Freshwater Biology*. 58:248–260.
- Sokol, E.R., Benfield, E.F., Belden, L.K., and H.M. **Valett**. 2011. The assembly of ecological communities inferred from taxonomic and functional composition. *American Naturalist*

177:630-644.

- Beaulieu, J.L., J.L. Tank., S.K. Hamilton, W.M. Wollheim, R.O. Hall, Jr., P.J. Mulholland, B.J. Peterson, L.R. Ashkenas, L.W. Cooper, C.N. Dahm, W.K. Dodds, N.B. Grimm, S.L. Johnson, W.H. McDowell, G.C. Poole, **H. M. Valett**, C.P. Arango, M.J. Bernot, A.J. Burgin, C.L. Crenshaw, A.M. Helton, L. Johnson, J.M O'Brien, J.D. Potter, R.W. Sheibley, D.J. Sobota, and S.M Thomas. 2011. Nitrous oxide emission from denitrification in stream and river networks. *Proceedings of the National Academy of Sciences USA* 108:214-219.
- McManamay, R.A., J.R. Webster, **H.M. Valett**, and C.A. Dolloff. 2011. Does diet influence consumer nutrient cycling? Macroinvertebrate and fish excretion in streams. *Journal of the North American Benthological Society* 30:84-102.
- Ely, D.T., D. Von Schiller, and **H.M. Valett**. 2010. Stream acidification increases nitrogen uptake by leaf biofilms: implications at the ecosystem scale. *Freshwater Biology* 55:1337-1348.
- Bernot, M.J., D.J. Sobota, R.O. Hall, P.J. Mulholland, W.K. Dodds, J.R. Webster, J L. Tank, L.R. Ashkenas, L. W. Cooper, C.N. Dahm, S.V. Gregory, N.B. Grimm, S.K. Hamilton, S.L. Johnson, W.H. McDowell, J L. Meyer, B. Peterson, G C. Poole, **H.M. Valett**, C. Arango, J.J. Beaulieu, A.J. Burgin, C. Crenshaw, A.M. Helton, L. Johnson, J. Merriam, B.R. Niederlehner, J.M. O'Brien, J. D. Potter, R W. Sheibley, S.M. Thomas, and K. Wilson. 2010. Inter-regional comparison of land-use effects on stream metabolism. *Freshwater Biology* **55**:1874-1890.
- Helton, A. M., G. C. Poole, J. L. Meyer, W. M. Wollheim, B. J. Peterson, P. J. Mulholland, E. S. Bernhardt, J. A. Stanford, C. Arango, L. R. Ashkenas, L. W. Cooper, W. K. Dodds, S. V. Gregory, R. O. Hall, S. K. Hamilton, S. L. Johnson, W. H. McDowell, J. D. Potter, J. L. Tank, S. M. Thomas, **H. M. Valett**, J. R. Webster, and L. Zeglin. 2010. Thinking outside the channel: modeling nitrogen cycling in networked river ecosystems. *Frontiers in Ecology and the Environment* **9**:229-238.
- Simon, K.S., M.A. Chadwick, A.D. Huryn, and **H.M. Valett**. 2010. Stream ecosystem response to chronic deposition of N and acid at Bear Brook Watershed, Maine. *Environmental Monitoring and Assessment*. 171:83-92
- Webster, J.R., J.D. Newbold, S.A. Thomas, **H.M. Valett**, and P.J. Mulholland. 2009. Nutrient uptake and mineralization during leaf decay in streams. *International Review of Hydrobiology*. 94:372-390.
- Brookshire, E.N., **H.M. Valett**, and S. Gerber. 2009. Maintenance of terrestrial nutrient loss signatures during in-stream transport. *Ecology*. 90:293-299.
- Hall, R.O., J.L. Tank, D.J. Sabota, P.J. Mulholland, J.M. O'Brien, W.K. Dodds, J.R. Webster, **H.M Valett**, G.C. Poole, B.J. Peterson, J.L. Meyer, W.H. McDowell, S.J. Johnson, S.K. Hamilton, N.B. Grimm, S.V. Gregory, C.N. Dahm, L.W. Cooper, L.R. Ashkenas, S.M. Thomas, R.W. Sheibley, J.D. Potter, B. R. Neiderlehner, L.T. Johnson, A.M. Helton, C.M. Crenshaw, A.J. Burgin, M.J. Bernot, J.J. Beaulieu, and C.P. Arango. 2009. Nitrate removal in stream ecosystems measured by ¹⁵N addition experiments: Total uptake. *Limnology and Oceanography*. 54:653-665.
- Mulholland, P.J., R.O. Hall, R.O., D.J. Sabota, W.K. Dodds, S.E. Findlay, N.B. Grimm, S.K. Hamilton, W.H. McDowell, J.M. O'Brien, J.L. Tank, L.R. Ashkenas, L.W. Cooper C.N. Dahm, S.V. Gregory, J. Johnson, J.L. Meyer B.J. Peterson, G.C. Poole, **H.M Valett**, J.R. Webster , C.P. Arango, J.J. Beaulieu, M.J. Bernot, A.J. Burgin, C.M. Crenshaw, A.M. Helton, L.T. Johnson, B. R. Neiderlehner, J.D. Potter, R.W. Sheibley, and S.M. Thomas. 2009. Nitrate removal in stream ecosystems measured by ¹⁵N addition experiments: Denitrification. *Limnology and Oceanography*. 54:666-680.
- Nogaro, G., Mermilliod-Blondin, F., H.H. **Valett**, F. Fracais-Carcaillet, J.-P. Gaudet, M. Lafont, and J. Gibert. 2009. Ecosystem engineering at the sediment-water interface: bioturbation and consumer-substrate interaction. *Oecologia* 161:125-138.
- Valett, H.M.**, S.A. Thomas, P.J. Mulholland, J.R. Webster, C.N. Dahm, C.S. Fellows, C.L. Crenshaw, and C.G. Peterson. 2008. Endogenous and exogenous control of ecosystem function: N cycling in headwater streams. *Ecology* 89: 3515-3527.
- Mulholland, P.J., A. M. Helton, G.C. Poole, R.O. Hall, Jr., S.K. Hamilton, B.J. Peterson, J.L. Tank, L.R.

- Ashkenas, L.W. Cooper, C.N. Dahm, W.K. Dodds, S.E.G. Findlay, S.V. Gregory, N. B. Grimm, S. L. Johnson, W.H. McDowell, J. L. Meyer, **H.M. Valett**, J.R. Webster, C.P. Arango, J.L. Beaulieu, M.J. Bernot, A.J. Burgin, C.L. Crenshaw, L.T. Johnson, B.R. Niederlehner, J.M. O'Brien, J.D. Potter, R.W. Scheibley, D.J. Sobota, and S. M. Thomas. 2008. Stream denitrification across biomes and its response to anthropogenic nitrate loading. *Nature* 452:202-206.
- Brown, B.V., **H.M. Valett**, and M.E. Schreiber. 2007. Arsenic transport in groundwater, surface water, and the hyporheic zone of a mine-influenced stream-aquifer system. *Water Resources Research* 43: W11404.
- Brookshire, E.N.J., **H.M. Valett**, S.A. Thomas, and J.R. Webster. 2007. Atmospheric N deposition increases organic N loss from temperate forest watersheds. *Ecosystems* 10:252-262.
- Earl, S.R., **H.M. Valett**, and J.R. Webster. 2007. Comparison of nitrogen spiraling in stream ecosystems quantified using stable isotope tracers and nutrient addition experiments. *Limnology and Oceanography* 52:1718-1723.
- Lottig, N.R., **H.M. Valett**, and M.E. Schreiber. 2007. Flooding and arsenic contamination: Influences on ecosystem structure and function in an Appalachian headwater stream. *Limnology and Oceanography* 52:1991-2001.
- Burcher, C.L., **H.M. Valett**, and E.F. Benfield. 2007. The land-cover cascade: relationships coupling land and water. *Ecology* 88:228-242.
- Earl, S.R., **H.M. Valett**, and J.R. Webster. 2006. Nitrogen saturation in streams. *Ecology* 87:3140-3151.
- Fellows, C.S., **H.M. Valett**, C. N. Dahm, P.J. Mulholland, and S.A. Thomas. 2006. Nutrient uptake and energy flow: Coupling ecosystem function in headwater streams. *Ecosystems* 9:788-804.
- Mulholland, P.J., **H.M. Valett**, S.A. Thomas, J.R. Webster. 2006. Effects of light on nitrate uptake in a small forested stream: effects of diurnal and daily variations. *Journal of the North American Benthological Society* 25:583-595.
- Starry, O.S., **H.M. Valett**, and M.E. Shreiber. 2005. Nitrification rates in a headwater stream: influences of seasonal variation in carbon and nitrogen. *Journal of the North American Benthological Society* 24:753-768.
- Brookshire, E.N.J., **H.M. Valett**, S.A. Thomas, and J.R. Webster. 2005. Coupled cycling of dissolved organic nitrogen and carbon in a forest stream. *Ecology* 86: 2486-2497.
- Valenti, T.W., J.L. Chaffin, D.S. Cherry, M.E. Schreiber, **H.M. Valett**, and M. Charles. 2005. Bioassessment of an Appalachian headwater stream influenced by an abandoned arsenic mine. *Archives of Environmental Contamination and Toxicology* 49:488-496.
- Chaffin, J.L, **H.M. Valett**, J.R. Webster, and M.E. Schreiber. 2005. The influence of elevated arsenic on leaf breakdown in an Appalachian headwater stream. *Journal of the North American Benthological Society* 24:553-568
- Payn, R.A., J.R. Webster, P.J. Mulholland, **H.M. Valett**, and W.K. Dodds. 2005. Estimation of stream nutrient uptake from nutrient addition experiments. *Limnology and Oceanography:Methods* 3:174182.
- Valett, H.M.**, M.A. Baker, J.A. Morrice, C.S. Crawford, M.C. Molles, Jr., C.N. Dahm, D.L. Moyer, J.R. Thibault, and L.M. Ellis. 2005. The Flood Pulse in a Semi-Arid Floodplain: Ecosystem Responses to the Inter-Flood Interval. *Ecology* 86:220-234.
- Mulholland, P.J., **H.M. Valett**, J.R. Webster, L.W. Cooper, S.K. Hamilton, and B.J. Peterson. 2004. Stream denitrification and total nitrate uptake rates measured using a field ¹⁵N tracer addition approach. *Limnology and Oceanography* 49:809-820.
- Dodds, W.K., E. Marti, J. L. Tank, J. Pontius, S.K. Hamilton, N.B. Grimm, W.B. Bowden, W.H. McDowell, B.J. Peterson, **H.M. Valett**, J.R. Webster, and S. Gregory. 2004. Carbon and nitrogen stoichiometry and nitrogen cycling rates in streams. *Oecologia* 140:458-467.
- Webster, J.R., P.J. Mulholland, J.L. Tank, **H.M. Valett**, W.K. Dodds, B.J. Peterson, W.B. Bowden, C.N. Dahm, S. Findlay, S.V. Gregory, N.B. Grimm, S.K. Hamilton, S.L. Johnson, E. Marti, W.H. McDowell, J.L. Meyer, D.D. Morrall, S.A. Thomas, and W.M. Wollheim. 2003. Factors affecting ammonium uptake

in streams - an inter-biome approach. *Freshwater Biology* 48:1329-1354.

- Thomas, S.A., **H.M. Valett**, P.J. Mulholland, C.S. Fellows, J.R. Webster, C.N. Dahm and C.G. Peterson. 2003. A regression approach to estimating reactive solute uptake in advective and transient storage sub-compartments of stream ecosystems. *Advances in Water Resources* 26:954-976.
- Crenshaw, C.L., **H.M. Valett** and J.L. Tank. 2002. The effects of coarse particulate organic matter on fungal biomass and invertebrate density in the subsurface of a headwater stream. *Journal of the North American Benthological Society* 21:28-42.
- Crenshaw, C.L., **H.M. Valett** and J.R. Webster. 2002. The effects of augmentation of coarse particulate organic matter on metabolism and nutrient retention of hyporheic sediments. *Freshwater Biology* 47:1820-1831.
- Dodds, W.k., A. J. López, W. B. Bowden, S. Gregory, N. B. Grimm, S. K. Hamilton, A. E. Hershey, E. Martí, W. H. McDowell, J. L. Meyer, D. Morrall, P. J. Mulholland, B. J. Peterson, J. L. Tank, **H.M. Valett**, J. R. Webster, W. Wollheim. 2002. Nutrient uptake as a function of concentration in streams. *Journal of the North American Benthological Society* 21:206-220. (note: authors in alphabetical order following 2nd author)
- Findlay, S., J.L. Tank, S. Dye, **H.M. Valett**, P.J. Mulholland, W.H. McDowell, S. Johnson, S.K. Hamilton, J. Edmonds, W. Dodds, W.B. 2002. A cross-system comparison of bacterial and fungal biomass in detritus pools of headwater streams. *Microbial Ecology* 43:55-66 (note: authors in alphabetical order following 4th author)
- Mulholland, P.J., J.L. Tank, J.R. Webster, W.B. Bowden, W.K. Dodds, S.V. Gregory, H.B. Grimm, S.K. Hamilton, S.L. Johnson, E. Marti, W.H. McDowell, J.L. Merriam, J.L. Meyer, B.J. Peterson, **H.M. Valett**, and W.M. Wollheim. 2002. Can uptake length be determined by nutrient addition experiments? Results from an interbiome comparison study. *Journal of the North American Benthological Society* 21:544-560. (note: authors in alphabetical order following 3rd author)
- Valett, H.M.**, C.L. Crenshaw and P.F. Wagner. 2002. Stream nutrient uptake, forest succession and biogeochemical theory. *Ecology* 83:2888-2901.
- Fellows, C.S., **H.M. Valett** and C.N. Dahm. 2001. Whole-stream metabolism in two montane streams: contribution of the hyporheic zone. *Limnology and Oceanography* 46:523-531.
- Martin, L.A., P.J. Mulholland, J.R. Webster and **H.M. Valett**. 2001. Denitrification in sediments from streams in the Southern Appalachian Mountains, USA. *Journal of the North American Benthological Society* 20:505-519.
- Peterson, C.G., M.A. Horton, M.C. Marshall, **H.M. Valett** and C.N. Dahm. 2001. Spatial and temporal variation in the influence of grazing macroinvertebrates on epilithic algae in a montane stream. *Archiv für Hydrobiologie*.153:29-54.
- Peterson, C.G., **H.M. Valett**, C.N. Dahm and M.C. Marshall. 2001. Heterogeneity in algal-grazer associations in a small montane stream. *Vereinigung für Theoretische und Angewandte Limnologie, Verhandlungen*. 27:2453-2460.
- Peterson, C.G., **H.M. Valett** and C.N. Dahm. 2001. Shifts in habitat templates for lotic macroalgae linked to interannual variation in snowmelt intensity. *Limnology and Oceanography* 46:858-870.
- Peterson, B.J. , W. Wollheim, P.J. Mulholland, J.R. Webster, J.L. Meyer, J.L. Tank, N.B. Grimm, W.B. Bowden, **H.M. Valett**, A.E. Hershey, W.H. McDowell, W.K. Dodds, S.K. Hamilton, S.V. Gregory, and D.J. D'Angelo. 2001. Stream processes alter the amount and form of nitrogen exported from small watersheds. *Science* 292:86-90.
- Sponseller, R.A., E.F. Benfield and **H.M. Valett**. 2001. Relationships between land use, spatial scale and stream macroinvertebrate communities. *Freshwater Biology* 46:1409-1424.
- Thomas, S.A., **H.M. Valett**, P.J. Mulholland, C.S. Fellows, J.R. Webster, C.N. Dahm, and C.G. Peterson.

2001. Nitrogen retention in headwater streams: The influence of groundwater-surface water exchange. *The Scientific World* 1:623-631.
- Baker, M.A., **H.M. Valett** and C.N. Dahm. 2000. Organic carbon retention and metabolism in a near-stream groundwater ecosystem. *Ecology* 81:3133-3148.
- Morrice, J.A., C.N. Dahm, **H.M. Valett**, P.V. Unnikrishna and M.E. Campana. 2000. Terminal electron accepting processes in the hyporheic zone of a headwater stream. *Journal of the North American Benthological Society* 19:593-608.
- Baker, M.A., C.N. Dahm and **H.M. Valett**. 1999. Acetate retention and metabolism in the hyporheic zone of a mountain stream. *Limnology and Oceanography* 44:1530-1539.
- Dahm, C.N., N.B. Grimm, P. Marmonier, **H.M. Valett** and Ph. Vervier. 1998. Nutrient dynamics at the interface between surface waters and ground waters. *Freshwater Biology* 40:427-451.
- Boulton, A.J., S. Findlay, P. Marmonier, E.H. Stanley and **H.M. Valett**. 1998. The functional significance of the hyporheic zone in streams and rivers. *Annual Review of Ecology and Systematics*. 29:59-81. (junior authors arranged by alphabetical order)
- Molles, M.C., Jr., C.S. Crawford, L.M. Ellis, **H.M. Valett** and C.N. Dahm. 1998. Managed flooding for Riparian Ecosystem Restoration. *Bioscience* 48:749-756.
- Peterson, C.G., K.A. Vormittag and **H.M. Valett**. 1998. Ingestion and digestion of epilithic algae by larval insects in a heavily grazed montane stream. *Freshwater Biology* 40:607-623.
- Wroblicky, G.J., M.E. Campana, **H.M. Valett** and C.N. Dahm. 1998. Seasonal variation in surface-subsurface water exchange and lateral hyporheic area of two stream-aquifer systems. *Water Resources Research* 34:317-328.
- Morrice, J.A., **H.M. Valett**, C.N. Dahm and M.E. Campana. 1997. Alluvial characteristics, groundwater-surface water exchange and hydrologic retention in headwater streams. *Hydrological Processes* 11:253-267.
- Valett, H.M.**, C.N. Dahm, M.E. Campana, J.A. Morrice, M.A. Baker and C.S. Fellows. 1997. Hydrologic influences on groundwater-surface water ecotones: heterogeneity in nutrient composition and retention. *Journal of the North American Benthological Society* 16:239-247.
- Valett, H.M.**, J.A. Morrice, C.N. Dahm and M.E. Campana. 1996. Parent lithology, groundwater-surface water exchange and nitrate retention in headwater streams. *Limnology and Oceanography* 41:333-345. Dahm, C.N., K.W. Cummins, **H.M. Valett** and R.L. Coleman. 1995. An ecosystem view of the restoration of the Kissimmee River. *Restoration Ecology* 3:225-238.
- Valett, H.M.**, S.G. Fisher, N.B. Grimm and P. Camill. 1994. Vertical hydrologic exchange and ecological stability of a desert stream ecosystem. *Ecology* 75:548-560.
- Valett, H.M.** 1993. Surface-hyporheic interactions in a Sonoran Desert stream: Hydrologic exchange and diel periodicity. *Hydrobiologia* 259:133-144.
- Valett, H.M.**, C. Hakenkamp and A.J. Boulton. 1993. Perspectives on integrating hydrology and biology in studies of the hyporheic zone. Introduction. *Journal of the North American Benthological Society* 24:40-43.
- Hakenkamp, C., **H.M. Valett** and A.J. Boulton. 1993. Perspectives on integrating hydrology and biology in studies of the hyporheic zone. Conclusions. *Journal of the North American Benthological Society* 24:94-99.
- Boulton, A.J., **H.M. Valett** and S.G. Fisher. 1992. Spatial distribution and taxonomic composition of the hyporheos of several Sonoran Desert streams. *Archiv für Hydrobiologie* 125:37-61.
- Grimm, N.B., **H.M. Valett**, E.H. Stanley and S.G. Fisher. 1991. Contribution of the hyporheic zone to stability of an arid-land stream. *Internationale Vereinigung für Theoretische und Angewandte Limnologie, Verhandlungen* 24:1595-1599.
- Valett, H.M.**, S.G. Fisher and E.H. Stanley. 1990. Physical and chemical characteristics of the hyporheic zone of a sonoran desert stream. *Journal of the North American Benthological Society*. 9:201-215.
- Valett, H.M.** and J.A. Stanford. 1985. Food quality and hypsychid caddisfly density in a lake outlet stream in Glacier National Park, Montana, USA. *Canadian Journal of Fisheries and Aquatic*

PUBLICATIONS: Proceedings & Texts

- Webster, J.R., E.F. Benfield, K. Cecala, J.F. Chamblee, C. Dehering, T.Gragson, J. Hepinstall, C.R. Jackson, J. Knoepp, D. Leigh, J. Maerz, C. Pringle, and **H.M. Valett**. 2012. Water quality and exurbanization in southern Appalachian streams. Pages 91-106 in P.J. Boon and P.J. Raven (editors). River Conservation and Management. Wiley-Blackwell, Chichester, UK.
- Valett, H.M** and R.W. Sheibley. 2009. MS #19: Groundwater and Surface Water Interaction, Pages 691-701. In: G.E. Likens (Ed.), Encyclopedia of Inland Waters, ISBN 978-0-12088462-9, Academic Press, Oxford.
- Webster, J.R. and **H.M. Valett**. 2006. Solute dynamics. Pages 169 - 185, *In*: F.R. Hauer and G.A. Lamberti, editors. Stream Ecology: Field and Laboratory Exercises. 2nd edition, Kendall/Hunt.
- Dahm, C.N., Baxter, C., **H.M. Valett**, and W. Woessner. 2006. Hyporheic zones. Pages 119-142, *In*: F.R. Hauer and G.A. Lamberti, editors. Stream Ecology: Field and Laboratory Exercises. 2nd edition, Kendall/Hunt.
- Baker, M.A., C.N. Dahm and **H.M. Valett**. 2000. Anoxia, anaerobic metabolism and the biogeochemical structure of the stream-groundwater interface. Pages 259-284, *In*: J.B. Jones and P.J. Mulholland, editors. Streams and Ground Waters. Academic Press, San Diego.
- Thibault, J.R., D.L. Moyer, C.N. Dahm, **H.M. Valett** and M.C. Marshall. 1999. Effects of livestock grazing on morphology, hydrology and nutrient retention in four riparian/stream ecosystems, New Mexico, USA. Pages 123-128, *In*: D.M. Finch, J.C. Whitney, J.F. Kelly, and S.R. Loftin, editors. Rio Grande Ecosystems: linking land, water and people. Towards a sustainable future for the Middle Rio Grande Basin. 1998, June 2-5; Albuquerque, NM, Proc. RMRS-P-7. Ogden, UT: US Department of Agriculture, Forest Service, Rocky Mountain Research Station.
- Moyer, D.L., C.N. Dahm, **H.M. Valett**, J.R. Thibault and M.C. Marshall. 1998. Effects of livestock grazing on morphology, hydrology and nutrient retention in four southwestern stream ecosystems. Pages 397-408, *In*: D.F. Potts, editor. Proceedings of AWRA Specialty Conference, Rangeland Management and Water Resources. American Water Resources Association, Herndon, Virginia, TPS-98-1, 474 pp.
- Vervier, P., **H.M. Valett**, C.C. Hakenkamp, M.-J. Dole-Olivier. 1997. Contribution of the groundwater/ surface water ecotone concept to our knowledge of river ecosystem functioning. Pages 238-242, *In*: J. Gibert, J. Mathieu, and F. Fournier, editors. Groundwater/Surface Water Ecotones: biological and hydrological interactions and management options. Cambridge University Press, Cambridge.
- Grimm, N.B., S.G. Fisher, S.V. Gregory, G.R. Marzolf, D.M. McKnight, F.J. Triska and **H.M. Valett**. 1997. Sustainability of western watersheds: nutrients and productivity. Pages 314-3, *In*: W.L. Minckley, editor. Aquatic Ecosystem Symposium: a report to the Western Water Policy Review Advisory Commission, Tempe, AZ.
- Dahm, C.N., **H.M. Valett**, and J.A. Stanford. 1996. Hyporheic zones. Pages 107-199, *In*: F.R. Hauer and G.A. Lamberti, editors. Stream Ecology: Field and Laboratory Exercises. Kendall/Hunt.
- Sewards, M. and **H.M. Valett**. 1996. Effects of grazing on nutrient retention in a headwater stream of the Rio Puerco basin. Pages 143-147, *In*: D.W. Shaw and D.M. Finch, technical coordinators. Desired future conditions for Southwestern riparian ecosystems: Bringing interests and concerns together. September 18-25, 1995. Albuquerque, NM. General Technical Report RM-GTR-272. Fort Collins, CO. US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station. 359 pp.
- Crawford, C.S., L.M. Ellis, M.C. Molles, Jr., and **H.M. Valett**. 1996. The potential for implementing partial restoration of the Middle Rio Grande ecosystem. Pages 93-99, *In*: D.W. Shaw and D.M. Finch, technical coordinators. Desired future conditions for Southwestern riparian ecosystems: Bringing interests and concerns together. September 18-25, 1995. Albuquerque, NM. General Technical Report RM-GTR-272. Fort Collins, CO. US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station. 359 pp.

- Crawford, C.S., M.C. Molles, Jr. and **H.M. Valett**. 1995. Flooding and conservation in the Albuquerque bosque. Pages 101-105, *In: Proceedings of the 39th Annual New Mexico Water Conference*. WRRI Report No. 290.
- Fox, D.C., R. Jemison, D.U. Potter, **H.M. Valett** and R. Watts. 1995. Chapter 4: Geology, Climate, Land and Water quality. Pages 52-79, *In: D.M. Finch, technical editor. Geology, diversity, and sustainability of the Middle Rio Grande Basin. General Technical Report RM-GTR-268*. US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station. 186 pp.
- Baker, M.A., C.N. Dahm, **H.M. Valett**, J.A. Morrice, K.S. Henry, M.E. Campana and G.J. Wroblicky. 1994. Spatial and temporal variation in methane distribution at the ground water/surface water interface in headwater catchments. Pages 29-38, *In: J.A. Stanford and H.M. Valett, editors. Proceedings of the Second International Conference on Groundwater Ecology*. AWRA, Herndon, VA.
- Henry, K.S., **H.M. Valett**, J.A. Morrice, C.N. Dahm, G.J. Wroblicky, M.A. Santistevan and M.E. Campana. 1994. Ground water-surface water exchange in two headwater streams. Pages 319-328, *In: J.A. Stanford and H.M. Valett, editors. Proceedings of the Second International Conference on Groundwater Ecology*. AWRA, Herndon, VA.
- Lieurance, F.S., **H.M. Valett**, M.C. Molles, Jr., and C.S. Crawford. 1994. Experimental flooding of a riparian forest: restoration of ecosystem functioning. Pages 365-374, *In: J.A. Stanford and H.M. Valett, editors. Proceedings of the Second International Conference on Groundwater Ecology*. AWRA, Herndon, VA.
- Wroblicky, G.J., M.E. Campana, C.N. Dahm, **H.M. Valett**, J.A. Morrice, K.S. Henry and M.A. Baker. 1994. Simulation of stream-groundwater exchange and near-stream flow paths of two first-order mountain streams using MODFLOW. Pages 187-196, *In: J.A. Stanford and H.M. Valett, editors. Proceedings of the Second International Conference on Groundwater Ecology*. AWRA, Herndon, VA.
- Stanley, E.H. and **H.M. Valett**. 1992. Interaction between drying and the hyporheic zone of a desert stream ecosystem. Pages 234-249, *In: Firth, P. and S. Fisher, editors. Global climate change and freshwater ecosystems*. Springer Verlag, New York.
- Valett, H.M.**, S.G. Fisher, N.B. Grimm, E.H. Stanley and A.J. Boulton. 1992. Hyporheic -surface exchange: implications for the structure and functioning of desert stream ecosystems. Pages 395-405, *In: J.A. Stanford and J.J. Simons, editors. Proceedings of the First International Conference on Groundwater Ecology*. AWRA, Bethesda, Md.
- Wroblicky, G.J., M.E. Campana, **H.M. Valett**, J.A. Morrice, K.S. Henry, C.N. Dahm, J.V. Hurley, and J.M. Noe. 1992. Remote monitoring of stream hyporheic zones with inexpensive pressure transducer - data acquisition systems. Pages 267-277, *In: J.A. Stanford and J.J. Simons, editors. Proceedings of the First International Conference on Groundwater Ecology*. AWRA, Bethesda, Md.

POSTERS, ORAL PRESENTATIONS, AND INVITED TALKS

- Valett, H.M.**, M. , Marc Peipoch, M. DeGrandpre, V. Watson, R. Payn, and M. Suplee and. Long-term water quality data and biogeochemical filtering along the Upper Clark Fork River, MT, USA. Joint Aquatic Sciences Meeting, May 18-13, 2014, Portland, OR - oral presentation
- Valett, H.M.**, M. , Marc Peipoch, M. DeGrandpre, V. Watson, M. Suplee and R. Payn. Long-term water quality data and nitrate filtering along the Upper Clark Fork River, MT, USA. Nitrate in Montana Hydrosystems, Montana Department of Environmental Quality, April 23-24, 2014, Helena, MT – oral presentation
- Valett, H.M.**, M. Peipoch, S.K. Caldwell, and F.R. Hauer. Spring brooks of western Montana riverscapes: nitrate processing across a floodplain continuum. . Nitrate in Montana Hydrosystems, Montana Department of Environmental Quality, April 23-24, 2014, Helena, MT – poster presentation

- Valett, H.M.**, M. , Marc Peipoch, M. DeGrandpre, V. Watson, M. Suplee and R. Payn. Long-term water quality data and nitrate filtering along the Upper Clark Fork River, MT, USA. Northwest Science Association, 85th Annual Meeting of the Northwest Scientific Association, March 26-28, 2014, Missoula, MT – oral presentation
- Valett, H. M.**, S.K. Caldwell*, A.M. Helton, G.C. Poole, D. C. Whited and J.A. Stanford. Natural and cultural disturbance and the dynamics of floodplain riverscapes: II – function. 60th Annual Meetings of the Society for Freshwater Science, May 20-24, 2013, Louisville, KY – oral presentation
- Valett, H.M.** Disturbance and linkage in running water ecosystems: spatial influences on ecosystem function, USGS Office, Helena, MT. February 10, 2012
- Valett, H. M.**; Lorang, M. S.; Anderson, M. S.; Bansak, T. S.; Stanford, J. A.; Location, linkage, and disturbance on a floodplain landscape: spatial influence on ecosystem function (Abstract ID: 9398) 59th National meeting of the North American Benthological Society, 22-26 May, 2011, Providence, RI.
- Valett, H. M.**, R.A. Sponseller, K.J. McGuire, E.H. Stanley, and S.K. Hamilton. Streams, water residence times, and nutrient processing domains. Joint National Meetings of the North American Benthological Society and the American Society of Limnology and Oceanography, June 6-11, 2010, Santa Fe, New Mexico.
- Valett, H.M.** Ecology among places: Biogeochemistry of running water ecosystems. Division of Biological Sciences, Organismal Biology and Ecology. University of Montana, November 16, 2009.
- Valett, H.M.** What to do when you don't have a department of movement: Linking ecosystems in biogeochemical studies. Department of Land Resources and Environmental Sciences, Montana State University, Bozeman, MT. Invited Speaker, April 28, 2009.
- Valett, H.M.**, E.N. Brookshire, and E.S. Bernhardt. A gray box approach to nutrient budgets: watershed subsystems and the biogeochemical continuum. Joint meeting of the Geological Society of America (GSA), Soil Science Society of America (SSSA), American Society of Agronomy (ASA), Crop Science Society of America (CSSA), and the Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM (GCAGS), hosted by the Houston Geological Society (HGS). Invited Speaker, October 6, 2008
- Valett, H.M.**, J.M. O'Brien, S.K. Hamilton, E.H. Stanley, A.J. Burgin, and R.A. Sponseller. Streams, wetland and lakes as nutrient processing domains. 56th Annual Meeting of the North American Benthological Society, Salt Lake City, UT, May 15-30, 2008.
- Valett, H.M.**, E. Bernhardt, G. Poole, R. Norris, V. Resh, and P. Silver. JNABS: journal assessment and state of the society. 57th Annual Meeting of the North American Benthological Society, Columbia, SC, June 3-8, 2007.
- Valett, H.M.** Watershed Ecosystems: Subsystem Response to Chronic N Loading. Invited Seminar, University of Wisconsin, March 2006.
- Valett, H.M.**, E.F. Benfield, Clinton, B.D. and J.D. Knoepp. Lateral and longitudinal influences of riparian zones on forest cutting: streams and forests in a patchwork. 54th Annual Meeting of the North American Benthological Society, Anchorage, AK, June 4-9, 2006.
- Valett, H.M.** Nutrient Influences on Watershed Subsystems: N cycling across a gradient of chronic N loading. Invited Seminar, University of North Carolina, Chapel Hill, November 2005.
- Valett, H.M.**, E.S. Bernhardt and E.N.J. Brookshire. Streams in watershed ecosystems: biogeochemical continuum concept. Ecological Society of America, Montreal, Canada, Aug 1-7, 2005
- Valett, H.M.** Nutrient retention in watershed ecosystems: a spiraling approach. Invited seminar: Department of Ecology, Montana State University, October 2005
- Valett, H.M.**, C.L. Burcher, and E.F. Benfield. The land cover cascade: linking terrestrial and aquatic subsystems. 2005 Annual Meeting of the Geological Society of America, Salt Lake City, UT, October 2005.
- Valett, H.M.** Nutrient Retention in Stream Ecosystems: Lessons from stream tracer experiments. Invited seminar, Cornell University, Sep 2004.

- Valett, H.M.**, E.N. J. Brookshire, and S.A. Thomas. Ecosystem Nutrient Retention: Lessons Learned from Stream Tracer Studies. 89th Annual Meeting of the Ecological Society of America, Portland, OR, Aug 1-6, 2004.
- Valett, H.M.** Nutrient spiraling in stream ecosystems. Invited Seminar, Flathead Lake Biological Station, University of Montana, July 2004
- Valett, H.M.**, S.A. Thomas, P.J. Mulholland, J.R. Webster, C.N. Dahm, and C.G. Peterson. Assessing transient storage influences on nutrient spiraling: an updated approach. Poster presentation at the 52nd Annual Meeting of the North American Benthological Society, Van, BC, Jun 6-10, 2004. *Bull. of the North American Benthological Society* 21(1):424
- Valett, H.M.**, S.A. Thomas, P.J. Mulholland, J.R. Webster, C.N. Dahm, and C.G. Peterson. Assessing transient storage influences on nutrient spiraling: an updated approach. Poster presentation at the Geol. Soc. of America Annual Meeting, Nov 2–5, 2003, Seattle, WA.
- Valett, H.M.**, S.A. Thomas, P.J. Mulholland, J.R. Webster, C.N. Dahm, and C.G. Peterson. Nitrate spiraling in headwater streams: the importance of temporal variation. Oral presentation at the 51st Annual Meeting of the North American Benthological Society, Athens, GA, May 27 - May 31, 2003. *Bulletin of the North American Benthological Society* 20(1):245.
- Valett, H.M.** 2001. Nutrient spiraling: fundamentals and applications, Invited Seminar, Anchor Environmental Consultants, Seattle, WA.
- Valett, H.M.**, S.A. Thomas, P.J. Mulholland, J.R. Webster and C.N. Dahm. 2001. Nitrogen retention in headwater streams: The influence of groundwater- surface water exchange. Second International Nitrogen Conference, October 14-18, Bolger Center, Potomac, MD.
- Valett, H.M.**, S.A. Thomas, J.R. Webster, P.J. Mulholland, C.N. Dahm, and C.G. Peterson. 2001. Nitrate Processing and Retention in Streams: Distinguishing Benthic and Interstitial Contributions to Energy Flow and Nutrient Retention. 49th Annual Meeting of the North American Benthological Society, La Crosse, WI, Keystone, CO, Jun 3-8. *Bulletin of the North American Benthological Society* 18(1):255.
- Valett, H.M.**, E.F. Benfield and R.A. Sponseller. 2000. Catchment land use and the physical-chemical structure of low-order streams in a southern Appalachian drainage. 48th Annual Meeting of the North American Benthological Society, Keystone, CO, May 28-Jun 1, 2000. *Bulletin of the North American Benthological Society* 17(1):168.
- Valett, H.M.**, C.L. Crenshaw and P.F. Wagner. 1999. Old growth vs. second growth forests: lasting impacts of land-use on surface - hyporheic interactions and nutrient retention in headwater streams. 47th Annual Meeting of the North American Benthological Society, Duluth, MN, May 25-28, 1999. *Bulletin of the North American Benthological Society* 16(1):129.
- Valett, H.M.**, C.L. Crenshaw and P.F. Wagner. 1999. Surface - hyporheic interactions and nutrient retention in headwater streams: old growth vs second-growth forests. *p. 183, In: American Society of Limnology and Oceanography Aquatic Sciences Meetings: Navigating into the next century*, Santa Fe, NM, February 1-5, 1999.
- Valett, H.M.**, P.V. Unnikrishna and C.N. Dahm. 1998. Seasonal variation in nitrogen retention by a montane headwater stream. 46th Annual Meeting of the North American Benthological Society, Charlottetown, Prince Edward Island, Canada, June 2-5, 1998. *Bulletin of the North American Benthological Society* 15(1):48.
- Valett, H.M.**, C.L. Crenshaw and P.F. Wagner. 1999. Surface-hyporheic interactions and nutrient retention in headwater streams: old growth vs second-growth forests. *American Society of Limnology and Oceanography, 1999 Aquatic Sciences Meeting*, Santa Fe, New Mexico.
- Valett, H.M.**, C.N. Dahm, M.E. Campana, P.V. Unnikrishna, M.A. Baker and J.A. Morrice. 1996. Biogeochemical responses to snowmelt in a stream/groundwater ecotone. 44th annual meeting of the North American Benthological Society. Kalispell, Montana.
- Valett, H.M.**, J.A. Morrice, M.A. Baker, M.C. Molles, Jr., and C.S. Crawford. 1995. Ecological restoration of a riparian forest: limnology and biogeochemistry of manipulative flooding, Rio Grande, NM. 43rd annual meeting of the North American Benthological Society. Keystone, Colorado.

- Valett, H.M.** 1994. Hydrologic exchange between streams and alluvial aquifers: Implications for the functioning of surface/groundwater ecotones. Invited Paper: Special Session on Solute transport and transformation near the interface between groundwater and streams, Fall Meetings of the American Geophysical Union. San Francisco, California.
- Valett, H.M.,** C.S. Crawford, M.C. Molles, Jr. and F.S. Lieurance. 1994. Experimental flooding of a riparian forest: restoration of ecosystem functioning. Second International Conference on Groundwater Ecology. Atlanta, Georgia
- Valett, H.M.** 1993. Plenary Address: Surface-groundwater exchange: hydrology, biogeochemistry and retention in stream ecosystems. Groundwater/surface water ecotones: biological and hydrological interactions and management options. UNESCO MAB and IHP Congress, Lyon, France.
- Valett, H.M.,** J.A. Morrice, C.N. Dahm, M.E. Campana and G.J. Wroblicky. 1993. Groundwater/surface water exchange and NO₃-N utilization in the hyporheic zone of three first-order streams. 41st annual meeting of the North American Benthological Society. Calgary, Alberta
- Valett, H.M.,** S.G. Fisher, N.B. Grimm, E.H. Stanley and A.J. Boulton. 1992. Hyporheic-surface water exchange: implications for the structure and functioning of desert stream ecosystems. (Invited paper). American Water Resources Association, First International Conference on Groundwater Ecology, Tampa, Florida.
- Valett, H.M.,** S.G. Fisher, C.N. Dahm and N.B. Grimm. 1991. Influence of the hyporheic zone on stream ecosystem dynamics. Fall Meeting of the American Geophysical Union, San Francisco, CA.
- Valett, H.M.** and C. Hakenkamp. 1991. Integrating hydrology and biology in studies of the hyporheic zone. Introductory remarks. Workshop coordinator, 39th Annual Meeting, Santa Fe, New Mexico.
- Valett, H.M.,** S.G. Fisher and N.B. Grimm. 1991. Subsystem exchange: The role of the hyporheic zone in the stability of a Sonoran Desert stream. 39th Annual Meeting, Santa Fe, New Mexico.
- Valett, H.M.,** S.G. Fisher, and E.H. Stanley. 1989. Characterization of the hyporheic zone of a Sonoran Desert stream. North American Benthological Society, 37th Annual Meeting, Guelph, Ontario.
- Valett, H.M.** and J.A. Stanford. 1985. Food quality and hydropsychid caddisfly density in a lake outlet stream in Glacier National Park, Montana, USA. North American Benthological Society, Program for the 33rd Annual Meeting, Corvallis, Oregon p. 58. Also junior author on 132 additional published abstracts

STUDENT ADVISING/ACCOMPLISHMENTS

Visting graduate students advised:

Marc Peipolch-Guell, International Student Apprenticeship – summer 2010 & 2011
Tom Drinan, University of Cork – summer 2011

Past graduate students advised:

Samantha K. Caldwell, M.S. 2012. Spatial drivers of ecosystem structure and function in a floodplain riverscape: springbrook nutrient dynamics. University of Montana

Damon, Ely, Ph.D. 2009. Anthropogenic acidification and stream ecosystem function. *The role of anthropogenic acidification in stream nitrogen cycling: understanding stress effects on ecosystem functioning. NSF Doctoral Dissertation Improvement Grant \$11,778, Aug 2008-Jul 2009.*

Philip G. Taylor, M.S. 2008. Consequences of nitrogen fertilization and soil acidification from acid rain on dissolved carbon and nitrogen stability in the unglaciated Appalachian Mountains

Travis M. Gray, M.S. 2007. Linking heterotrophic metabolism and nutrient uptake in headwater streams. Virginia Tech

E.N. Jack Brookshire, Ph.D. 2006. The organic nature and atmosphere-climate dependency of nitrogen loss from forest watershed ecosystems. Virginia Tech

Brendan V. Brown, M.S. 2005. Arsenic transport in groundwater, surface water, and the hyporheic zone of a mine-influenced stream-aquifer system. Virginia Tech

Noah R. Lottig, M.S. 2005. Influence of multiple disturbances on stream structure and function. Virginia Tech

Olyssa S. Starry, M.S. 2004. Seasonal variation in rates of nitrification associated with patterns of carbon and nitrogen supply in a southern Appalachian headwater stream. Virginia Tech

Robert A. Payn, M.S. 2004. The geomorphic influence of agricultural land use on stream hydraulics and biological function. Virginia Tech

Stevan R. Earl, Ph.D. 2004. Nitrogen spiraling in stream ecosystems spanning a gradient of chronic nitrogen loading. Virginia Tech Supported by: *Valett, H.M. and S.R. Earl. Dissertation Research: Quantifying Nitrogen Spiraling in Anthropogenically Enriched Stream Ecosystems. NSF DEB Ecosystem Studies, \$9985 to S.R. Earl, Jun 02 - May 03.*

Jake L. Chaffin, M.S. 2003. The influence of elevated arsenic concentrations on stream biota and leaf breakdown in a headwater stream. Virginia Tech

Chelsea L. Crenshaw, M.S. 2000. The effects of augmentation of coarse particulate organic matter in hyporheic sediments. Virginia Tech

Current graduate students advised:

Peter Davis, starting August 2015

Current undergraduate students advised

David Fulton-Beale, Summer 2014-Fall 2015, Nutrient uptake dynamics in the Upper Clark Fork River, MT – N and P interaction in an enriched river system.

Bonnie Holzworth, Summer 2014-Fall 2015, Soil carbon quality of restored floodplains – Reach A of the Upper Clark Fork River Superfund Site

Past undergraduate research advisees:

University of Montana:

Malachi Cryder, IoE Undergraduate Research Intern, Multiscale Assessment of Riverscape Complexity Project, Summer 2013

Bryan Finneran, visiting Undergraduate Research Appointee, Cornell University, Summer 2013

Kimber Corsen, UNC Greensboro, visiting undergraduate appointment, methane production and oxidation in the hyporheic zone of the Nyack Floodplain, Middle Fork Flathead River, Montana

Glenn Woerdnel, UNC Greensboro, visiting undergraduate appointment, invertebrates of the Nyack Floodplain, Middle Fork Flathead River, Montana

Dillion Inskeep, UM, *EPSCoR Undergraduate Fellowship*, Methane and carbon quality in the hyporheic zone of the Nyack Floodplain, Middle Fork Flathead River, Montana

Leah Row, UM; Nutrient limitation to periphyton growth in Flathead Lake, Montana.

McKenna Meyer, UW Stevensville. University of Montana Introductory Multicultural Summer Undergraduate Experience in Environmental Biology (IM-SURE), nutrient uptake and disturbance: littoral epilithic biofilms of Flathead Lake, Montana

Bianca Rodriguez Cardona, 2011. *NSF Research Experience for Undergraduates (REU)*. Carbon quality among aquatic ecosystems of the Flathead Indian Reservation, Montana.

Tanner Tompkins, 2011. *EPSCoR Undergraduate Fellowship*, Floodplain mapping of the Middle Fork, Flathead River, Montana

Virginia Tech:

Loren Reinhardt. 2004 & 2005. Arsenic influence on organic matter dynamics in a mine-influenced stream. NSF Research Experience for Undergraduates (REU) Appointee, Virginia Tech

Megan Charles. 2004. Bioassessment of an Appalachian stream influenced by an abandoned arsenic mine. Virginia Tech
 Travis Gray. 2003. Heterotrophic influences on N uptake in stream. Virginia Tech

Holly Houtz. 2002. Ammonium absorption and nitrification in stream sediments. Virginia Tech

Matt Powers. 2002. Assessing N uptake in streams. NSF Research Experience for Undergraduates (REU) Appointee. Virginia Tech

Lara Taylor. 2001. Comparison of two methods to measure microbial respiration. NSF Research Experience for Undergraduates (REU) Appointee. Virginia Tech

Chris McLaughlin. 2001. Transient storage and hydrologic variation in headwater streams. Virginia Tech

Mike Kirkman. 2000. The influence of burial and watershed disturbance on organic matter processing in forested headwater streams; NSF Research Experience for Undergraduates (REU) Appointee. Virginia Tech

Maura Bozeman. 2000. Nitrogen uptake kinetics – a study of stream periphyton response to chronic nitrogen loading; NSF Research Experience for Undergraduates (REU) Appointee. Virginia Tech

Andrea Schriver. 1999. Contribution of surface structures to transient storage in streams. Virginia Tech

Christine Fomchenko. 1999. Equilibrium phosphorus concentrations for stream sediments of second- and old-growth forests. Virginia Tech

TEACHING EXPERIENCE

University of Montana (2010 – present):

Bios 532: Fundamentals of Ecosystem Ecology, Fall 2013 & 2014, graduate core curriculum for the Systems Ecology Intercollegiate Graduate Program.

Bios 534: Integrated Systems Ecology, Spring 2013, graduate core curriculum for the Systems Ecology Intercollegiate Graduate Program

BIOS 595 01: ST: Systems Ecology Graduate Seminar, Fall 2014

BIOB 596 06: Independent study: readings in ecosystem ecology, Fall 2013 & 2014

BIOB 454: Stream Ecology .Two-week intensive course in ecology of streams and rivers, FLBS Summer Session, July-Aug (2010 – 2012)

BIOB 493: Undergrad research in aquatic ecology

Virginia Tech (1998-2009):

Biology 2804: Ecology. Fundamentals of introductory ecology

Biology 5074: Stream Ecology. Graduate level course focusing on the application of ecological concepts to the populations, communities, and ecosystems of running waters

Biology 5084: Groundwater Ecology. Graduate and undergraduate sections of an interdisciplinary course on hydrology, geochemistry, ecology, biogeochemistry, and ecosystem ecology of groundwater ecosystems

Biology 5094: Stable Isotopes in Ecology. Graduate level course on the methods and applications of stable isotopes to ecological studies.

University of New Mexico (1994-1998):

Biology 514: Ecosystems Ecology. Graduate course on the fundamentals of ecosystem ecology and biogeochemical cycling

Biology 495: Limnology. Undergraduate course on the study of freshwater ecosystems

AWARDS

2000 Editor's Citation for Excellence in Manuscript Review Award; American Society of Agronomy, Crop Science Society of America and Soil Science Society of America, Journal of Environmental Quality,

SERVICE

Member, USEPA Science Advisory Board for Ecological Processes and Effects, April 2014 - present

Member: Association for the Sciences of Limnology & Oceanography, Ecological Society of America, Society of Freshwater Sciences

Associate Editor, Limnology and Oceanography, January 2008 - Present

Panel Member, National Science Foundation, Carbon and Water in Earth Systems, Directorate for Geosciences, June 2006, Low Temperature Geochemistry and Biogeochemistry, June 2011

Panel Member, Geobiology and Low Temperature Geochemistry, National Science Foundation, May 2011

Member, Executive Committee, North American Benthological Society, 2002-2005

Member, International Committee, North American Benthological Society, 2002-2005

Associate Editor, Journal of the North American Benthological Society, March 1998 - May 2001 Participant in 'Sustainability of western watersheds: nutrients and productivity', part of a report to the Western Water Policy Review Advisory Commission, Tempe, AZ, 1997.

Invited Investigator, International Workshop on Riparian Ecology, Swiss Federal Institute for Science and Technology, Limnological Research Center, Kastanienbaum, Switzerland, Winter 1996.