

Walter K. Dodds

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Education:

Ph.D. 1986 University of Oregon, Biology
B.S. 1980 University of Denver, cum laude, Biology and Chemistry

Advisors: Ph.D., Dr. Richard Castenholz, University of Oregon
Post-Doctoral, Dr. John Priscu, Montana State University

Professional Experience and Appointments:

2017-present Edwin G. and Lillian J. Brychta Chair in Biology, Kansas State University
2009-present University Distinguished Professor, Kansas State University
2002-2009 Professor, Division of Biology, Kansas State University
1995-2002 Associate Professor, Division of Biology, Kansas State University
1990-1995 Assistant Professor, Division of Biology, Kansas State University
1990 Adjunct Assistant Professor, Department of Biology, Montana State University
1988-1990 NSF Postdoctoral Fellow, Department of Biology, Montana State University
1987-1988 Postdoctoral Research Associate, Department of Biology, Montana State University
1986-1987 Visiting Assistant Professor, University of Oregon
1985-1986 Research Assistant, University of Oregon
1981-1985 Teaching Assistant, University of Oregon

Research Goals:

My overarching goal is to provide a general and predictive understanding of aquatic ecology, and to promote the application of basic ecological science to water quality and conservation. A central focus of my research has been on river and stream ecosystems and how human influences affect water quality and biological integrity. Nutrient dynamics, especially nitrogen, and eutrophication are major highlights of my program, as are scaling and metabolism in flowing waters. I have also emphasized valuation of aquatic ecosystem services.

Professional Memberships:

American Association for the Advancement of Science
American Geophysical Union
American Institute of Biological Sciences
American Society of Limnology and Oceanography
Society of Freshwater Science (North American Benthological Society)
Sigma Xi

Awards and Professional Recognition:

2018 Karen Ann Griffith Research Award, Kansas State University
2017 Excellence in Reviewing Award, Biogeochemistry
2017 Award of Excellence, Society of Freshwater Science
2017 Fellow, Society of Freshwater Science
2016 Fellow, Association for the Sciences of Limnology and Oceanography
2015 Society of Freshwater Science. Board of Directors (3 years)

- 2014 Kansas State University Sigma Xi Outstanding Senior Scientist
- 2013 Fellow, American Association for the Advancement of Science
- 2009 University Distinguished Professor of Biology, Kansas State University
- 2008 Commerce Bank Distinguished Graduate Faculty Member Award, KSU Graduate School
- 2007 Outstanding Graduate Faculty Award, Biology Graduate Student Association, Kansas State University. Featured in Mentors and Protégés, Award Winning Commitment. *Nature* 447:610 (www.nature.com/naturejobs/2007/070531/pdf/nj7144-610b.pdf)
- 2006 Best Paper Award, North American Lake Management Society. Dodds, W.K., E. Carney and R.T. Angelo. 2006. Determining ecoregional reference conditions for nutrients, Secchi depth and chlorophyll *a* in Kansas lakes and reservoirs. *Lake and Reservoir Management* 22:151-159

Teaching Experience:

- 2014 Escola de Engenharia de São Carlos. Universidade de São Paulo: Value of Freshwater in Brazil (short course)
- 1990-present Kansas State University: Fresh Water Ecology (BIOL 612), Principles of Biology (BIOL 198), Conservation Biology (BIOL 642), Environmental Problems (BIOL 303), Microbial Ecology (BIOL 687), Origins of Life (BIOL 620), Herbivory (BIOL 890), Presentations in Ecology (BIOL 862), Advanced Aquatic Ecology (BIOL 812), Stream Ecology, Algal Identification (BIOL 890), Professional Skills in Biology (BIOL 890)
- 1994, 1996 Flathead Lake Biological Station: Algal Ecology
- 1990 Montana State University: Algal Ecology
- 1986-1987 University of Oregon: Bacteriology, Origins of Life, Freshwater Biology
- 1985 Oregon Institute of Marine Biology: Measuring Primary Production
- 1981-1985 University of Oregon: Teaching Assistant in laboratory and field courses

Graduate Students Supervised:

<u>Student</u>	<u>Degree</u>	<u>Year</u>	<u>Current Position</u>	<u>Location</u>
Chris Edler	Ph. D.	deceased		
Eric Strauss	MS	1995	Associate Professor	University of Wisconsin, LaCrosse
Ken Fritz	M.S.	1997	Ecologist	US EPA
Michelle Evans-White	M.S.	2000	Associate Professor	University of Arkansas
Melody Bernot	Ph.D.	2001	Associate Professor	Ball State University
Randall Bernot	Ph.D.	2003	Associate Professor	Ball State University
Robert Oakes	M.S.	2003	Lawyer	Fish & Richardson
Nicole Gerlanc	Ph.D.	2004	Associate Professor	Frederick Community College
Kymerly Wilson	M.S.	2005	Laboratory Manager	Arizona Department of Water Resources
Jonathan O'Brien	Ph.D.	2006	Assistant Professor	Canisius College
Jessica Eichmiller	M.S.	2007	PhD candidate	University of Minnesota
Justin Murdock	Ph.D.	2008	Assistant Professor	Tennessee Tech University
Alex Reisinger	M.S.	2010	Postdoctoral Associate	Carey Institute
Kyle Winders	M.S.	2010	Research Scientist	Missouri Department of Conservation
Alyssa Riley	Ph.D.	2011	Environmental Quality Analyst	Michigan Department of Environmental Quality
Danelle Larson	Ph.D	2014	Research Scientist	Minnesota Department of Natural Resources
Allison Veach	Ph.D	2015	Postdoctoral Associate	Oak Ridge National Laboratory
Matthew Trentman	M.S.	2015	PhD Student	University of Notre Dame
Sophie Higgs	M.S.		In progress	Kansas State University

James Guinnip	Ph.D	In progress	Kansas State University
Anne Shechner	Ph.D	In progress	Kansas State University

Postdoctoral Associates:

Wilfred Singogo 1992-1994	Michelle Evans-White 2006-2007
Francisco Costa 1994-1995	David Hoeinghaus 2006-2009
Yiyong Zhou 1995-1996	Justin Murdock 2008-2009
Deb Walks 2006-2007	Janine Rüegg 2011-2014

Undergraduate Students Mentored:

Molly Bassette, 2015	Kajsa Stromberg 2000
Katherine Culbertson 2014	Alex Corum, 2000
Margaret Spangler 2013-2016	Janelle Riger 2000
John Brant (REU) 2013, 2014	Amanda López (REU) 1999
Taylor Laskowski 2013, 2014	Molly McGill (REU) 1999
Adam Siders (REU) 2012, 2013	Jennifer Nelson (REU) 1998
Lauren Bansbach (REU) 2011	Michelle Evans 1995-1997
Anika Bratt (REU) 2010	Britta Culbertson 1995
Dumi Presuma (REU) 2009	Esra Aksoy 1995
Sarah Muetting 2006, 2007	Jeannie Skalsky 1993-1994
Loren Reinhardt (REU) 2006	Angie Eichem 1991-1993
Alyssa Standorf (REU) 2005	Eric Strauss 1991-1992
Eric Banner (REU) 2002, 2003	Clay Randel 1991-1992
Amy Junglass 2001	Ruth Lehmann 1991-1992

Publications

Books Authored:

Dodds, W.K. and M.R. Whiles. 2010. *Freshwater Ecology: Concepts and Environmental Applications in Limnology* (2nd ed.). Academic Press. 839 pp

Dodds, W.K. 2009. *Laws, Theories and Patterns in Ecology*. University of California Press. 232 pp

Dodds, W.K. 2008. *Humanity's Footprint: Momentum, Impact and Our Global Environment*. University of Columbia Press. 270 pp

Dodds, W.K. 2002. *Freshwater Ecology: Concepts and Environmental Applications*. Academic Press. 569 pp

Peer-reviewed articles:

Cunha, D., N. R. Finkler, M.do Carmo Calijuri, T. P. Covino, F. Tromboni, and W. K. Dodds (in press). Nutrient uptake in a simplified homogeneous stream channel: experimental manipulation of residence time and transient storage. *Ecohydrology* DOI: 10.1002/eco.2012

Sullivan PL, Stops MW, Macpherson GL, Li L, Hirmas DR, Dodds WK. (in press). How landscape heterogeneity governs stream water concentration-discharge behavior in carbonate terrains (Konza Prairie, USA). *Chemical Geology*.

Larson, D. M., W. K. Dodds, and A. M. Veach. 2019. Riparian tree removal substantially altered streams in an otherwise undisturbed grassland watershed. *Ecosystems* 22:64-76

- Cunha, D. G. F., W. K. Dodds, and S. A. Loiselle. 2018. Factors related to water quality and thresholds for microcystin concentrations in subtropical Brazilian reservoirs. *Inland Waters* 8:368-380.
- Dodds, W. K., S. A. Higgs, M. J. Spangler, J. Guinnip, J. D. Scott, S. C. Hedden, B. D. Frenette, R. Taylor, A. E. Schechner, D. J. Hoeinghaus, and M. A. Evans-White. 2018. Spatial heterogeneity and controls of ecosystem metabolism in a Great Plains river network. *Hydrobiologia* 13:85–102. <https://doi.org/10.1007/s10750-018-3516-0>
- Saltarelli, W. A., W. K. Dodds, F. Tromboni, M. do Carmo Calijuri, V. Neres-Lima, C. E. Jordão, J. C. P. Palhares, D. G. F. Cunha 2018. Variation of stream metabolism along a tropical environmental gradient. *Journal of Limnology* 77: 359-371 <https://doi.org/10.4081/jlimnol.2018.1717>
- Song, C., W. K. Dodds, J. Rüegg, A. Argerich, C. L. Baker, W. B. Bowden, M. M. Douglas, K. J. Farrell, M. B. Flinn, E. A. Garcia, A. M. Helton, T. K. Harms, S. Jia, J. B. Jones, L. E. Koenig, J. S. Kominoski, W. H. McDowell, D. McMaster, S. P. Parker, A. D. Rosemond, C. M. Ruffing, K. R. Sheehan, M. T. Trentman, M. R. Whiles, W. M. Wollheim, and F. Ballantyne. 2018. Continental-scale decrease in net primary productivity in streams due to climate warming. *Nature Geoscience* 11:415-420.
- Tank, J., Martí, E., Riis, T., von Schiller, D., Reisinger, A., Dodds, W., Whiles, M., Ashkenas, L., Bowden, W., Collins, S., Crenshaw, C., Crowl, T., Griffiths, N., Grimm, N., Hamilton, S., Johnson, S., McDowell, W., Norman, B., Rosi, E., Simon, K., Thomas, S., and Webster, J. 2018. Partitioning assimilatory nitrogen uptake in streams: an analysis of stable isotope tracer additions across continents. *Ecological Monographs* 88:120-138. DOI 10.1002/ecm.1280
- Veach, A. M., Troia, M. J., Jumpponen, A. and Dodds, W. K. 2018. Top-down effects of a grazing, omnivorous minnow (*Camptostoma anomalum*) on stream microbial communities. *Freshwater Science* 37:123-133
- Dodds, W. K., F. Tromboni, W. A. Saltarelli, and D. G. Fernandes Cunha. 2017. The root of the problem: Direct influence of riparian vegetation on estimation of stream ecosystem metabolic rates. *Limnology and Oceanography Letters* 2:9-17.
- Follstad Shah, J., J. Kominoski, M. Ardon, W. Dodds, M. Gessner, N. Griffiths, C. Hawkins, A. Lecerf, C. LeRoy, D. Manning, S. Johnson, A. Rosemond, R. Sinsabaugh, C. Swan, J. Webster, and L. Zeglin. 2017. Global synthesis of the temperature sensitivity of leaf litter breakdown in streams and rivers. *Global Change Biology*. 2033:3064-3075
- Norman, B. C., Whiles, M. R., Collins, S. M., Flecker, A. S., Hamilton, S. K., Johnson, S. L., Rosi-Marshall, E. J., Ashkenas, L. R., Bowden, W. B., Crenshaw, C. L., Crowl, T., Dodds, W. K., Hall, R. O., El-Sabaawi, R., Griffiths, N. A., Martí, E., McDowell, W. H., Peterson, S. D., Rantala, H. M., Riis, T., Simon, K. S., Tank, J. L., Thomas, S. A., von Schiller, D. and Webster, J. R. 2017. Drivers of nitrogen transfer in stream food webs across continents. *Ecology*. 98:044-3055. doi:10.1002/ecy.2009
- Tromboni, F., and W. K. Dodds. 2017. Relationships Between Land Use and Stream Nutrient Concentrations in a Highly Urbanized Tropical Region of Brazil: Thresholds and Riparian Zones. *Environmental Management* 60:30-40.
- Tromboni, F., W. K. Dodds, V. Neres-Lima, E. Zandonà, and T. P. Moulton. 2017. Heterogeneity and scaling of photosynthesis, respiration, and nitrogen uptake in three Atlantic Rainforest streams. *Ecosphere* 8:e01959
- Siders, A. C., D. M. Larson, J. Rüegg, and W. K. Dodds. 2017. Probing whole-stream metabolism: influence of spatial heterogeneity on rate estimates. *Freshwater Biology* 62:711-723.
- Cunha, D. G. F., W. K. Dodds, and L. P. Sabogal-Paz. 2016. Land use influence on raw surface water quality and treatment costs for drinking supply in São Paulo State (Brazil). *Ecological Engineering* 94:516-524 <http://dx.doi.org/10.1016/j.ecoleng.2016.06.063>
- Dodds, W.K. and V. H. Smith. 2016. Nitrogen, Phosphorus, and Eutrophication in Streams. *Inland Waters* 6:155-164

- Larson, D., W. K. Dodds, M. Whiles, T. Thompson, and J. Fulgoni. 2016. Patch-burn grazing and riparian fencing disturbed headwater streams: a replicated, multi-year, whole-catchment experiment. *Journal of Applied Ecology* 53: 1543-1553 doi: 10.1111/1365-2664.12692
- Martin, E. D., K. B. Gido, N. Bello, W. K. Dodds, and A. Veach. 2016. Increasing fish taxonomic and functional richness affects ecosystem properties of small headwater prairie streams. *Freshwater Biology* 61: 887-898
- Pisani, O., W. K. Dodds, R. Jaffe. 2016. Characterizing organic matter inputs to sediments of small, intermittent, prairie streams: a molecular marker and stable isotope approach. *Aquatic Sciences*, 78(2), 343-354. DOI: 10.1007/s00027-015-0435-2
- Rüegg, J., W. Dodds, M. Daniels, K. Sheehan, C. Baker, W. Bowden, K. Farrell, M. Flinn, T. Harms, J. Jones, L. Koenig, J. Kominoski, W. McDowell, S. Parker, A. Rosemond, M. Trentman, M. Whiles, and W. Wollheim. 2016. Baseflow physical characteristics differ at multiple spatial scales in stream networks across diverse biomes. *Landscape Ecology* 31:119-136
- Song, C., W. K. Dodds, M. T. Trentman, J. Rüegg, and F. Ballantyne. 2016. Methods of approximation influence aquatic ecosystem metabolism estimates. *Limnology and Oceanography: Methods*, n/a-n/a. doi:10.1002/lom3.10112
- Veach, A.M., J.C. Stegen, S. P. Brown, W. K. Dodds, and A. Jumpponen. 2016. Spatiotemporal and successional dynamics of microbial biofilm communities in a grassland stream ecosystem. *Molecular Ecology* 25: 4674-4688
- Costigan, K. H., M. D. Daniels, and W. K. Dodds. 2015. Fundamental spatial and temporal disconnections in the hydrology of an intermittent prairie headwater network. *Journal of Hydrology* 522:305-316
- Dodds, W. K., K. Gido, M. R. Whiles, M. D. Daniels, and B. P. Grudzinski. 2015. The Stream Biome Gradient Concept: Controlling factors of lotic systems across broad biogeographic Scales. *Freshwater Science* 34:1- 19 DOI: 10.1086/679756
- Jackson, K. E., M. R. Whiles, W. K. Dodds, J. D. Reeve, J. M. Vandermyde, and H. M. Rantala. 2015. Patch-burn grazing effects on the ecological integrity of tallgrass prairie streams. *Journal of Environmental Quality* 44:1148-1159 doi:10.2134/jeq2014.10.0437
- Rantala, H. M., A. M. Nelson, J. N. Fulgoni, M. R. Whiles, R. O. Hall, Jr., W. K. Dodds, P. Verburg, A. D. Huryn, C. M. Pringle, S. S. Kilham, K. R. Lips, C. Colon-Gaud, A. T. Rugenski, S. D. Peterson, K. Fritz, K. E. McLeran, and S. Connelly. 2015. Long-term changes in structure and function of a tropical headwater stream following a disease-driven amphibian decline. *Freshwater Biology* 60:575-589
- Rüegg, J., J.J. Eichmiller, N. Mladenov, and W.K. Dodds. 2015. Dissolved organic carbon concentration and flux in prairie streams: spatial and temporal patterns and processes from long-term data. *Biogeochemistry* 3: 393-408
- Rüegg, J, J. D. Brant, D. M. Larson, M. T. Trentman, and W. K. Dodds. 2015. A portable, modular, self-contained recirculating chamber to measure benthic processes under controlled water velocity. *Freshwater Science*. 34:831-844
- Trentman, M. T., W. K. Dodds, J. S. Fencl, K. Gerber, J. Guarneri, S. Hitchman, Z. Peterson, J. Rüegg. 2015. Quantifying ambient nutrient uptake and functional relationships of uptake versus concentration in streams: a comparison of stable isotope, pulse, and plateau approaches. *Biogeochemistry* 125:75-79
- Veach, A. M., W. K. Dodds, and A. Jumpponen. 2015. Woody plant encroachment, and its removal, impact bacterial and fungal communities across stream and terrestrial habitats in a tallgrass prairie ecosystem. *FEMS Microbiology Ecology* 10.1093/femsec/fiv109
- Veach, A. M., W. K. Dodds, and A. Skibbe. 2015. Fire and Grazing Influences on Rates of Riparian Woody Plant Expansion along Grassland Streams: Errata (vol 9, e106922, 2014). *PLoS ONE* 10

- Cunha, D.G.F., W.K. Dodds, and Md.C. Calijuri. 2014. Trends in nutrient and sediment retention in Great Plains reservoirs (USA) *Environmental Monitoring and Assessment*. 186:1143-115510.1007/s10661-013-3445-3
- Dodds, W. K., S.M. Collins, S.K. Hamilton, J. L. Tank, S. Johnson, J. R. Webster, K. S. Simon, M. R. Whiles, H. M. Rantala, W. H. McDowell, S.D. Peterson, T. Riis, C. L. Crenshaw, S. A. Thomas, P. B. Kristensen, B. M. Cheever, A. S. Flecker, N.A. Griffiths, T. Crowl, E. J. Rosi-Marshall, R. El-Sabaawi, E. Martí. 2014. You are not always what we think you eat: selective assimilation across multiple whole-stream isotopic tracer studies. *Ecology* 95:2757–2767
- Goring, S., K. C. Weathers, W. K. Dodds, P. A. Soranno, L. C. Sweet, K. S. Cheruvilil, J. S. Kominoski, J. Rüegg, A. M. Thorn, and R. M. Utz. 2014. Improving the culture of interdisciplinary collaboration in ecology by expanding measures of success. *Frontiers in Ecology and the Environment* 12(1):39–47
- LINX collaborators: W. K. Dodds, J. R. Webster, C. L. Crenshaw, A. M. Helton, J. M. O'Brien, E. Martí, A. E. Hershey, J. L. Tank, A. J. Burgin, N. B. Grimm, S. K. Hamilton, D. J. Sobota, G. C. Poole, J. J. Beaulieu, L. T. Johnson, L. R. Ashkenas, R. O. Hall, Jr., S. L. Johnson, W. M. Wollheim, W. B. Bowden, 2014 The Lotic Intersite Nitrogen Experiments: an example of successful ecological research collaboration. *Freshwater Science* 33:700-710
- Riis, T., W. K. Dodds, P. B. Kristensen, and A. J. Baisner. 2014. Correction: Nitrogen cycling and dynamics in a macrophyte-rich stream as determined by a N-15-NH₄⁺ release. *Freshwater Biology* 59:886-887
- Smith, V. H., W. K. Dodds, K. E. Havens, D. R. Engstrom, H. W. Paerl, B. Moss and G. E. Likens. 2014. Comment: Cultural eutrophication of natural lakes in the United States is real and widespread. *Limnology and Oceanography* 59:2217-2225
- Veach, A.M., W. K. Dodds, and A. Skibbee. 2014 Fire and grazing influences on rates of riparian woody plant expansion along grassland streams PLOS ONE 10.1371/journal.pone.0030527
- Ding, Y., Y. Yamashita, W.K. Dodds, and R. Jaffé. 2013. Dissolved black carbon in grassland streams: Is there an effect of recent fire history? *Chemosphere* 90:2557–2562
- Dodds, W. K., J. S. Perkin, and J. E. Gerken. 2013. Human impact on freshwater ecosystem services: A global perspective. dx.doi.org/10.1021/es4021052 *Environmental Science and Technology* 47: 9061–9068
- Dodds, W. K., A. M. Veach, C. M. Ruffing, D. M. Larson, J. L. Fisher, and K. H. Costigan. 2013. Abiotic controls and temporal variability of river metabolism: multi-year analyses of Mississippi and Chattahoochee River Stations *Freshwater Science* 2(4):1073–1087
- Larson, D.M., W.K. Dodds, K.E. Jackson, M.R. Whiles, and K.R. Winders. 2013. Ecosystem characteristics of remnant, headwater tallgrass prairie streams. *Journal of Environmental Quality* 42:239-249
- Larson, D.M., B. P. Grudzinski, W. K. Dodds, M. D. Daniels, A. Skibbe, and A. Joern. 2013. Blazing and grazing: influences of fire and bison on tallgrass prairie stream water quality. *Freshwater Science* 32:779-791
- Reisinger, A.J., J.M. Blair, C.W. Rice and W.K. Dodds. 2013. Woody vegetation removal stimulates riparian and benthic denitrification in tallgrass prairie. *Ecosystems*. 16:545-560
- Riley, A. J. and W. K. Dodds. 2013. Whole-stream metabolism: strategies for measurement and modeling diel trends of dissolved oxygen. *Freshwater Science* 32:56-69
- Whiles, M.R., R.O. Hall, Jr., W.K. Dodds, P. Verburg, A.D. Huryn, C.M. Pringle, K.R. Lips, S.S. Kilham, C. Colón-Gaud, A.T. Rugenski, S. Peterson, and S. Connelly. 2013. Disease-driven amphibian declines alter ecosystem functioning in tropical streams. *Ecosystems* 16:146–157

- Dodds, W.K., C.T. Robinson, E.E. Gaiser, G.J.A. Hansen, H. Powell, J.M. Smith, N.B. Morse, S.L. Johnson, S.V. Gregory, T. Bell, T.K. Kratz, and W.H. McDowell. 2012. Surprises and insights from long-term aquatic datasets and experiments. *BioScience* 62:709-721
- Jaffé, R., Y. Yamashita, N. Maie, W. T. Cooper, T. Dittmar, W. K. Dodds, J.B. Jones, T. Myoshi, J. R. Ortiz-Zayas, D. C. Podgorski, and A. Watanabe. 2012. Dissolved organic matter in headwater streams: Compositional variability across climatic regions. *Geochimica et Cosmochimica Acta* 95:94-108
- Riis, T., W.K. Dodds, P.B. Kristensen, and A.J. Baisner. 2012. Nitrogen cycling and dynamics in a macrophyte-rich stream as determined by a $^{15}\text{N-NH}_4^+$ release. *Freshwater Biology* 57:1579-1591
- Riley, A.J. and W.K. Dodds. 2012. Riparian woody expansion and subsequent restoration influences prairie stream metabolism. *Freshwater Biology* 57:1138-1150.
- Suplee, M.W., V. Watson, W.K. Dodds, and C. Shirley. 2012. Response of algal biomass to large scale nutrient controls in the Clark Fork River, Montana, U.S.A. *Journal of the American Water Resources Association* 48:1008-1021.
- Beaulieu, J.K., 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. 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*. 108:214-219.
- Cunha, D.G.F., W.K. Dodds, and Md.C. Calijuri. 2011. Defining nutrient and biochemical oxygen demand baselines for tropical rivers and streams in São Paulo State (Brazil): a comparison between reference and impacted sites. *Environmental Management* 48:945–956
- Findlay, S., P. Mulholland, S. Hamilton, J. Tank, M. Bernot, A. Burgin, C. Crenshaw, C. Dahm, W. Dodds, N. Grimm, W. McDowell, J. Potter, and D. Sobota. 2011. Cross-stream comparison of substrate-specific denitrification potential. *Biogeochemistry* 104: 381-392
- Helton, A., 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, Jr., 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. 2011. Thinking outside the channel: Modeling nitrogen cycling in networked river ecosystems. *Frontiers in Ecology and Environment* 9:229–238
- Kohler, T.J., J.N. Murdock, K.B. Gido, and W.K. Dodds. 2011. Nutrient loading and grazing by the minnow *Phoxinus erythrogaster* shift periphyton abundance and stoichiometry in experimental streams *Freshwater Biology* 56:1133–1146.
- Murdock, J.N., W.K. Dodds, K.B. Gido, and M.R. Whiles. 2011. Dynamic influences of nutrients and grazing fish on benthic algae during recovery from flood. *Journal of the North American Benthological Society* 30:331–345
- Reisinger A., D. Presuma, K. Gido, and W.K. Dodds. 2011. Direct and indirect effects of central stoneroller (*Campostoma anomalum*) on mesocosm recovery following a flood: can macroconsumers affect denitrification? *Journal of the North American Benthological Society* 30:840-852
- Bernot, M.J., D.J. Sobota, R.O. Hall Jr., 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.

- Dodds, W.K., W.H. Clements, K. Gido, R.H. Hilderbrand, and R.S. King. 2010. Thresholds, breakpoints, and nonlinearity in freshwaters as related to management. *Journal of the North American Benthological Society* 29:988-997
- Gido, K.B., K.N. Bertrand, J.N. Murdock, W.K. Dodds, and M.R. Whiles. 2010. Disturbance-mediated effects of fishes on stream ecosystem processes: concepts and results from highly variable prairie streams. *American Fisheries Society Symposium* 73:593-617
- Gido, K.B., W.K. Dodds, and M.E. Eberle. 2010. Retrospective analysis of fish community change during a half-century of land-use and streamflow changes. *Journal of the North American Benthological Society* 29:970-987
- Graham D.W., C. Linacre, W.K. Dodds, J.M. O'Brien, E. Banner, I.M. Head, M.S. Smith, R.K. Yang, and C.W. Knapp. 2010. Correlations between in situ denitrification activity and nir-gene abundances in pristine and impacted prairie streams. *Environmental Pollution* 158:3225-3229
- Murdock, J.N., W.K. Dodds, J.A. Reffner, and D.L. Wetzel. 2010. Measuring cellular scale nutrient distribution in algal biofilms with synchrotron confocal infrared microspectroscopy. *Spectroscopy* 25:32-41
- Murdock, J.M., K.B. Gido, W.K. Dodds, K.N. Bertrand, and M.R. Whiles. 2010. Consumer return chronology alters recovery trajectory of stream ecosystem structure and function following drought. *Ecology* 91:1048-1062
- O'Brien, J.M., and W.K. Dodds. 2010. Saturation of NO₃⁻ uptake in prairie streams as a function of acute and chronic nitrogen exposure. *Journal of North American Benthological Society* 29(2):627-635
- Banner, E., A. Stahl, and W.K. Dodds. 2009. Stream discharge and riparian land use influence in-stream concentrations and loads of phosphorus from Central Plains watersheds. *Environmental Management* 44:552-565
- Bertrand, K.N., K.B. Gido, W.K. Dodds, J.N. Murdock, and M.R. Whiles. 2009. Disturbance frequency and functional identity mediate ecosystem processes in prairie streams. *Oikos* 118:917-933
- Dodds, W.K., W. Bouska, J.L. Eitzmann, T.J. Pilger, K.L. Pitts, A.J. Riley, J.T. Schloesser, and D.J. Thronbrugh. 2009. Eutrophication of U.S. freshwaters: Analysis of potential economic damages. *Environmental Science and Technology* 43:12-19
- Evans-White, M.A., W.K. Dodds, D.G. Huggins, and D.S. Baker. 2009. Threshold patterns in aquatic biodiversity across water quality gradients in Central Plains streams and rivers. *Journal of the North American Benthological Society* 28:855-868
- Hall, R.O., Jr., J.L. Tank, D.J. Sobota, 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.L. 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. Niederlehner, 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* 54:663-665
- Knapp, C.W., W.K. Dodds, K.C. Wilson, J.M. O'Brien, and D.W. Graham. 2009. Spatial heterogeneity of denitrification genes in a highly homogenous urban stream. *Environmental Science and Technology* 43:4273-4279
- Mulholland, P.J., R.O. Hall, Jr., D.J. Sobota, W.K. Dodds, S.E.G. 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, S.L. 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.L. Crenshaw, A.M. Helton, L.T. Johnson, B.R. Niederlehner, 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

- Johnson, L.T., J.L. Tank, and W.K. Dodds. 2009. The influence of land use on stream biofilm nutrient limitation across eight North American ecoregions. *Canadian Journal of Fisheries and Aquatic Sciences* 66:1081–1094
- Wilson, K.C., and W.K. Dodds. 2009. Centimeter-scale stream substratum heterogeneity and metabolic rates. *Hydrobiologia* 623:53-62
- Dodds, W.K., J.J. Beaulieu, J.J. Eichmiller, J.R. Fischer, N.R. Franssen, D.A. Gudder, A.S. Makinster, M.J. McCarthy, J.N. Murdock, J.M. O'Brien, J.L. Tank and R.W. Sheibley. 2008. Nitrogen cycling and metabolism in the thalweg of a prairie river. *Journal of Geophysical Research Biogeosciences* 113, G04029
- Dodds, W.K. and R.M. Oakes. 2008. Headwater influences on downstream water quality. *Environmental Management* 41:367-377
- Dodds, W.K., K.C. Wilson, R.L. Rehmeier, G.L. Knight, S. Wiggam, J.A. Falke, H.J. Dalglish and K.N. Bertrand. 2008. Benefits of ecosystem goods and services associated with restored lands compared to native lands. *BioScience* 58:837-845
- 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. Findlay, S.V. Gregory, N.B. Grimm, S.L. Johnson, W.H. McDowell, J.L. Meyer, H.M. Valett, J.R. Webster, C. Arango, J.J. Beaulieu, M.J. Bernot, A.J. Burgin, C. Crenshaw, L. Johnson, B.R. Niederlehner, J.M. O'Brien, J.D. Potter, R.W. Sheibley, D.J. Sobota, and S.M. Thomas. 2008. Stream denitrification across biomes and its response to anthropogenic nitrogen loading. *Nature* 452:202-207
- Murdock, J.N., W.K. Dodds, and D.L. Wetzel. 2008. Subcellular chemical imaging of localized benthic algal nutritional content via HgCdTe array FT-IR. *Vibrational Spectroscopy* 48:179-188.
- O'Brien, J.M., and W.K. Dodds. 2008. Ammonium uptake and mineralization in prairie streams: chamber incubation and short-term nutrient addition experiments. *Freshwater Biology* 53:102-112
- Williamson, C.E., W. Dodds, T.K. Kratz, and M. Palmer. 2008. Lakes and streams as sentinels of environmental change in terrestrial and atmospheric processes. *Frontiers in Ecology and the Environment* 6:247-254
- Dodds, W.K. and J.J. Cole. 2007. Expanding the concept of trophic state in aquatic ecosystems: It's not just the autotrophs. *Aquatic Sciences* 69:427-439
- Dodds, W.K. 2007. Trophic state, eutrophication, and nutrient criteria in streams. *Trends in Ecology and Evolution* 22:670-676
- O'Brien, J.M., W.K. Dodds, K.C. Wilson, J.N. Murdock, and J. Eichmiller. 2007. The saturation of N cycling in Central Plains streams: ¹⁵N experiments across a broad gradient of nitrate concentrations. *Biogeochemistry* 84:31-49
- Murdock, J.N., and W.K. Dodds. 2007. Linking benthic algal biomass to stream substratum topography. *Journal of Phycology* 43:449-460
- Dodds, W.K. 2006. Nutrients and the "Dead Zone": Ecological stoichiometry and depressed dissolved oxygen in the northern Gulf of Mexico. *Frontiers in Ecology and the Environment* 4:211-217
- Dodds, W.K., and J.A. Nelson. 2006. Redefining the community: a species approach. *Oikos* 112:464-472
- Dodds, W.K. and R.M. Oakes. 2006. Controls on nutrients across a prairie stream watershed: Land use and riparian cover effects. *Environmental Management* 37:634-646
- Dodds, W.K., V.H. Smith, and K. Lohman. 2006. Erratum: Nitrogen and phosphorus relationships to benthic algal biomass in temperate streams. *Canadian Journal of Fisheries and Aquatic Sciences* 63:1190-1191

- Dodds, W.K., E. Carney, and R.T. Angelo. 2006. Determining ecoregional reference conditions for nutrients, Secchi depth, and chlorophyll *a* in Kansas lakes and reservoirs. *Lake and Reservoir Management* 22:151-159
- Bernot, R.J., W.K. Dodds, M.C. Quist, and C.S. Guy. 2006. Temperature and kairomone induced life history plasticity in coexisting *Daphnia*. *Aquatic Ecology* 40:361-372
- Dodds, W.K. 2006. Eutrophication and trophic state in rivers and streams. *Limnology and Oceanography* 51:671-680
- Bernot, M.J., and W.K. Dodds. 2005. Nitrogen retention, removal, and saturation in lotic ecosystems. *Ecosystems* 8:442-453
- Fritz, K.M., and W.K. Dodds. 2005. Harshness: Characterization of intermittent stream habitat over space and time. *Marine and Freshwater Research* 56:13-23
- 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* 3:174-182
- Dodds, W.K. 2005. The commons, game theory, and aspects of human nature that may allow conservation of global resources. *Environmental Values* 14:411-426
- Bernot, R.J., W.K. Dodds, M.C. Quist, and C.S. Guy. 2004. Larval fish-induced phenotypic plasticity of coexisting *Daphnia*: an enclosure experiment. *Freshwater Biology* 49:87-97
- Dodds, W.K., K. Gido, M. Whiles, K. Fritz, and W. Mathews. 2004. Life on the edge: ecology of Great Plains prairie streams. *BioScience* 54:202-216
- Dodds, W.K., and M.R. Whiles. 2004. Factors related to quality and quantity of suspended particles in rivers: general continent-scale patterns in the United States. *Environmental Management* 33:355-367
- Hwang, S.-C., C.-S. Lin, I.-M. Chen, L.-Y. Liu, and W.K. Dodds. 2004. Removal of multiple nitrogenous wastes by *Aspergillus niger* in a continuous fixed-slab reactor. *Journal of Biotechnology* 93:131-138
- Dodds W.K., E. Martí, 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
- Bernot, R.J., W.K. Dodds, M.C. Quist, and C.S. Guy. 2004. Spatial and temporal variability of zooplankton in a Great Plains reservoir. *Hydrobiologia* 525:101-112
- Fritz, K.M. and W.K. Dodds. 2004. Resistance and resilience of macroinvertebrate assemblages to drying and flood in a tallgrass prairie stream system. *Hydrobiologia* 527:99-112
- Dodds, W.K., and R.M. Oakes. 2004. A technique for establishing reference nutrient concentrations across watersheds impacted by humans. *Limnology and Oceanography Methods* 2:333-341
- Bernot, M.J., W.K. Dodds, W.S. Gardner, M.J. McCarthy, D. Sobolev, and J.L. Tank. 2003. Comparing denitrification estimates for a Texas estuary by using acetylene inhibition and membrane inlet mass spectrometry. *Applied and Environmental Microbiology* 69:5950-5956
- Dodds, W.K. 2003. The misuse of inorganic N and soluble reactive P to indicate nutrient status of surface waters. *Journal of the North American Benthological Society* 22:171-181
- Dodds, W.K. 2003. The role of periphyton in phosphorus retention in shallow freshwater aquatic systems. *Journal of Phycology* 39:830-849
- Evans-White, M.A., W.K. Dodds, and M.R. Whiles. 2003. Ecosystem significance of crayfishes and stonerollers in a prairie stream: functional differences between co-occurring omnivores. *Journal of the North American Benthological Society* 22:423-441

- Tank, J. and W.K. Dodds. 2003. Responses of heterotrophic and autotrophic biofilms to nutrients in ten streams. *Freshwater Biology* 48:1031-1049
- 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. Martí, 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 perspective. *Freshwater Biology* 48:1329–1352
- Dodds, W.K., and B.J.F. Biggs. 2002. Water velocity attenuation by stream periphyton and macrophytes in relation to growth form and architecture. *Journal of the North American Benthological Society* 21:2-15
- Dodds, W.K., A.J. López, W.B. Bowden, S. Gregory, N.B. Grimm, S.K. Hamilton, A.E. Hershey, E. Martí, W.B. McDowell, J.L. Meyer, D. Morrall, P.J. Mulholland, B.J. Peterson, J.L. Tank, H.M. Valett, J.R. Webster, and W. Wollheim. 2002. N uptake as a function of concentration in streams. *Journal of the North American Benthological Society* 21:206-220
- Dodds, W.K., V.H. Smith, and K. Lohman. 2002 Nitrogen and phosphorus relationships to benthic algal biomass in temperate streams. *Canadian Journal of Fisheries and Aquatic Science* 59: 865–874
- Findlay, S., J. Tank, S. Dye, H.M. Valett, P. Mulholland, W.H. McDowell, S. Johnson, S.K. Hamilton, J. Edmonds, W.K. Dodds, W.B. Bowden. 2002. A cross-system comparison of bacterial and fungal biomass in detritus pools of headwater streams. *Microbial Ecology* 43:55-66
- Kemp, M.J., and W.K. Dodds. 2002. Comparisons of nitrification and denitrification in pristine and agriculturally influenced streams. *Ecological Applications* 12:998-1009
- Kemp, M.J., and W.K. Dodds. 2002. The influence of ammonium, nitrate, and dissolved oxygen concentration on uptake, nitrification, and denitrification rates associated with prairie stream substrata. *Limnology and Oceanography* 47:1380-1393
- Whiles, M.R., and W.K. Dodds. 2002. Relationships between stream size, suspended particles, and filter-feeding macroinvertebrates in a Great Plains drainage network. *Journal of Environmental Quality* 31:1589-1600
- Fritz, K.M. and W.K. Dodds. 2002. Macroinvertebrate assemblage structure across a tallgrass prairie stream landscape. *Archiv Für Hydrobiologie* 154:79-102
- Mulholland, P.J., J.L. Tank, J.R. Webster, W.B. Bowden, W.K. Dodds, S.V. Gregory, N.B. Grimm, S.K. Hamilton, S.L. Johnson, E. Martí, W.H. McDowell, J. Merriam, J.L. Meyer, B.J. Peterson, H.M. Valett, and W.M. Wollheim. 2002. Can uptake length in streams be determined by nutrient addition experiments? Results from an inter-biome comparison study. *Journal of the North American Benthological Society* 21:544-560
- Kemp, M.J., and W.K. Dodds. 2001. Spatial and temporal patterns of nitrogen in prairie streams. *Biogeochemistry* 53:125-141
- 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.B. McDowell, W.K. Dodds, S.K. Hamilton, S. Gregory, D.J. D'Angelo. 2001. Control of nitrogen export from watersheds by headwater streams. *Science* 292:86-90
- Kemp, M.J., and W.K. Dodds. 2001. Centimeter-scale patterns in dissolved oxygen and nitrification rates in a prairie stream *Journal of the North American Benthological Society* 20:347-357
- Evans-White, M., W.K. Dodds, L. Gray, and K.M. Fritz. 2001. A comparison of the trophic ecology of crayfish (*Orconectes nais* (Faxon) and *Orconectes neglectus* (Faxon)) and central stonerollers (*Compostoma anomalum* (Rafinesque)): omnivory in a tallgrass prairie stream. *Hydrobiologia* 462:131-144

- Mulholland, P.J., C.S. Fellows, J.L. Tank, N.B. Grimm, J.R. Webster, S.K. Hamilton, E. Marti, L. Ashkenas, W.B. Bowden, W.K. Dodds, W.H. McDowell, M.J. Paul, B.J. Peterson, and J.R. Webster. 2001. Inter-biome comparison of factors controlling stream metabolism. *Freshwater Biology* 46:1503-1517
- Dodds, W.K., and E. Welch. 2000. Establishing nutrient criteria in streams. *Journal of the North American Benthological Society* 19:186-196
- Dodds, W.K., M.A. Evans-White, N. Gerlanc, L. Gray, D.A. Gudder, M.J. Kemp, A.L. López, D. Stagliano, E. Strauss, J.L. Tank, M.R. Whiles, and W. Wollheim. 2000. Quantification of the nitrogen cycle in a prairie stream. *Ecosystems* 3:574-589
- Fritz, K.M., W.K. Dodds, and J. Pontius. 1999. The effects of bison crossings on the macroinvertebrate community in a tallgrass prairie stream. *American Midland Naturalist* 141:253-265
- Dodds, W.K., B.J.F. Biggs, and R.L. Lowe. 1999. Photosynthesis-irradiance patterns in benthic algae: Variations as a function of assemblage thickness and community structure. *Journal of Phycology* 35:42-53
- Banks, M.K., C. Clennan, W. Dodds, and C. Rice. 1999. Variations in microbial activity due to fluctuations in soil water content at the water table interface. *Journal of Environmental Science and Health* 34:479-505
- Dodds, W.K. and J. Brock. 1998. A portable chamber for *in situ* determination of benthic metabolism. *Freshwater Biology* 39:49-59
- Dodds, W.K., J.R. Jones, and E.B. Welch. 1998. Suggested classification for stream trophic state: distributions of temperate stream types by chlorophyll, total N and P. *Water Research* 32:1455-1462
- Bott, T.L., J.T. Brock, A. Batturp, P. Chambers, W.K. Dodds, K. Himbeault, J.R. Lawrence, D. Planas, E. Snyder, and G.M. Wolfaardt. 1997. An evaluation of techniques for measuring periphyton metabolism in chambers. *Canadian Journal of Fisheries and Aquatic Science* 54:715-725
- Dodds, W.K. 1997. Interspecific interactions: constructing a general, neutral model for interaction type. *Oikos* 78:377-383
- Dodds, W.K. 1997. Distribution of runoff and rivers related to vegetative characteristics, latitude, and slope: a global perspective. *Journal of the North American Benthological Society* 16:162-168
- Dodds, W.K., V.H. Smith, and B. Zander. 1997. Developing nutrient targets to control benthic chlorophyll levels in streams: A case study of the Clark Fork River. *Water Research* 31:1738-1750
- Strauss, E.A. and W.K. Dodds. 1997. Influence of protozoa and nutrient availability on nitrification rates in subsurface sediments. *Microbial Ecology* 34:155-165
- Dodds, W.K., M.K. Banks, C.S. Clennan, C.W. Rice, D. Sotomayor, E.A. Strauss, and W. Yu. 1996. Biological properties of soil and subsurface sediments under abandoned pasture and cropland. *Soil Biology & Biochemistry* 28:837-846
- Dodds, W.K., C. Randel, and C. Edler. 1996. Microcosms for aquifer research: Application to colonization of various sized particles by groundwater microorganisms. *Groundwater* 34:756-759
- Edler, C. and W.K. Dodds. 1996. The ecology of a subterranean isopod *Caecidotea tridentata*. *Freshwater Biology* 249-259
- Dodds, W.K., J.M. Blair, G.M. Henebry, J.K. Koelliker, R. Ramundo, and C.M. Tate. 1996. Nitrogen transport from tallgrass prairie watersheds. *Journal of Environmental Quality* 25:973-981

- Dodds, W.K., R.E. Hutson, A.C. Eichen, M.E. Evans, D.A. Gudder, K.M. Fritz, and L. Gray. 1996. The relationship of floods, drying, flow and light to primary production and periphyton biomass in a prairie stream. *Hydrobiologia* 133:151-159
- Dodds, W.K., and G.M. Henebry. 1996. The effect of density dependence on community structure. *Ecological Modeling* 63:33-42
- Dodds, W.K. 1995. Availability, uptake and regeneration of phosphate in mesocosms with varied levels of P deficiency. *Hydrobiologia* 297:1-9
- Dodds, W.K., and G.M. Henebry. 1995. Stimulation of responses of community structure to species interactions driven by phenotypic change. *Ecological Modeling* 79:85-94
- Dodds, W.K., D.A. Gudder, and D. Mollenhauer. 1995. The ecology of *Nostoc*. *Journal of Phycology* 31:2-18
- Zhou, Y. and W.K. Dodds. 1995. Kinetics of size-fractionated and dissolved alkaline phosphatase in a farm pond. *Archiv Für Hydrobiologie* 134:93-102
- Yu, W., W.K. Dodds, M.K. Banks, J. Skalsky, and E.A. Strauss. 1995. Optimal staining and sample storage times for enumeration of total and active bacteria in soil using two epifluorescent dyes. *Applied and Environmental Microbiology* 61:3367-3372
- Strauss, E.A., W.K. Dodds, and C.C. Edler. 1994. The impact of nutrient pulses on trophic interactions in a farm pond. *Journal of Freshwater Ecology* 3:217-228
- Dodds, W.K. 1993. What controls levels of dissolved phosphate and ammonium in surface waters? *Aquatic Science* 55:132-142
- Eichen, A.C., W.K. Dodds, C.M. Tate, and C. Edler. 1993. Microbial decomposition of elm and oak leaves in a Karst aquifer. *Applied and Environmental Microbiology* 59:3592-3596
- Dodds, W.K., E.A. Strauss, and R. Lehmann. 1993. Nutrient dilution and removal bioassays to estimate phytoplankton response to nutrient control. *Archiv Für Hydrobiologie* 128:467-481
- Dodds, W.K. 1992. A modified fiber-optic light microprobe to measure spherically integrated photosynthetic photon flux density: Characterization of periphyton photosynthesis-irradiance patterns. *Limnology and Oceanography* 37:871-878
- Dodds, W.K., and C. Randel. 1992. Field assessment of the effects of nutrient removal on phytoplankton productivity and biomass. *Journal of Freshwater Ecology* 7:284-292
- Dodds, W.K., and D.A. Gudder. 1992. The ecology of *Cladophora*. *Journal of Phycology* 28:415-427
- Edler, C. and W.K. Dodds. 1992. Characterization of a groundwater community dominated by *Caecidotea tridentata* (Isopoda). *Proceedings of the First International Conference on Groundwater Ecology* 91-99
- Kangatharlingham, N., W.K. Dodds, J.C. Priscu, and H.W. Paerl. 1991. Nitrogenase activity, photosynthesis, and the degree of heterocyst aggregation in the cyanobacterium *Anabaena flos-aquae*. *Journal of Phycology* 27:680-686
- Dodds, W.K., J.C. Priscu, and B.K. Ellis. 1991. Seasonal uptake and regeneration of inorganic nitrogen and phosphorus in a large oligotrophic lake: size-fractionation and antibiotic treatment. *Journal of Plankton Research* 13:1339-1358
- Dodds, W.K. 1991. Micro-environmental characteristics of filamentous algal communities in flowing freshwaters. *Freshwater Biology* 25:199-209
- Dodds, W.K. 1991. Community interactions between the filamentous alga *Cladophora glomerata* (L.) Kuetzing, its epiphytes, and epiphyte grazers. *Oecologia* 85:572-580
- Dodds, W.K., B.K. Ellis, and J.C. Priscu. 1991. Zooplankton induced decrease in inorganic phosphorus uptake by phytoplankton in an oligotrophic lake. *Hydrobiologia* 211:253-259

- Dodds, W.K. and J.C. Priscu. 1991. Ammonium stimulation of dark carbon fixation as an indicator of nitrogen deficiency in phytoplankton: potential errors caused by ammonium-oxidizing bacteria. *Journal of Phycology* 27:79-82
- Dodds, W.K. 1991. Factors associated with dominance of the filamentous green alga *Cladophora glomerata*. *Water Research* 25:1325-1332
- Dodds, W.K. 1990. Hydrodynamic constraints on evolution of chemically mediated interactions between aquatic organisms in unidirectional flows. *Journal of Chemical Ecology* 16:1417-1430
- Dodds, W.K., and R.W. Castenholz. 1990. Sulfide and pH effects on variable fluorescence of photosystem II in two strains of the cyanobacterium *Oscillatoria amphigranulata*. *Photosynthesis Research* 24:265-271
- Dodds, W.K., and J.C. Priscu. 1990. A comparison of methods for assessment of nutrient deficiency of phytoplankton in a large oligotrophic lake. *Canadian Journal of Fisheries and Aquatic Science* 47:2328-2338
- Dodds, W.K., and J.C. Priscu. 1990. Development and application of a technique for estimating nutrient deficiency in soft sediments. *Hydrobiologia* 203:93-97
- Dodds, W.K., and J.C. Priscu. 1990. Mesocosm studies on the influence of phosphate enrichment on ammonium and nitrate flux in an oligotrophic lake. *Hydrobiologia* 206:235-243
- Dodds, W.K. 1989. Photosynthesis of two morphologies of *Nostoc parmelioides* (Cyanobacteria) as related to current velocities and diffusion patterns. *Journal of Phycology* 25:258-262
- Dodds, W.K. 1989. Microscale vertical profiles of N₂ fixation, photosynthesis, O₂, chlorophyll *a*, and light in a cyanobacterial assemblage. *Applied and Environmental Microbiology* 55:882-886
- Dodds, W.K., and J.L. Marra. 1989. Behaviors of the midge, *Cricotopus* (Diptera:Chironomidae) related to mutualism with *Nostoc parmelioides* (Cyanobacteria). *Aquatic Insects* 11:201-208
- Dodds, W.K., and J.C. Priscu. 1989. Ammonium, nitrate, phosphate, and inorganic carbon uptake in an oligotrophic lake: seasonal variations among light response variables. *Journal of Phycology* 25:699-705
- Dodds, W.K., K. Johnson, and J.C. Priscu. 1989. Simultaneous nitrogen and phosphorus deficiency in natural phytoplankton assemblages: theory, empirical evidence, and implications for lake management. *Lake and Reservoir Management* 5:21-26
- Dodds, W.K., and R.W. Castenholz. 1988. The nitrogen budget of an oligotrophic cold water pond. *Arch. Hydrobiol. Suppl.* 4:343-362
- Dodds, W.K. and R.W. Castenholz. 1988. The biological effects of nitrate fertilization and water replacement in an oligotrophic cold water pond. *Hydrobiologia* 162:141-146
- Dodds, W.K. 1988. Community structure and selection for positive or negative species interactions. *Oikos* 53:387-390
- Dodds, W.K., and J.C. Priscu. 1988. An inexpensive, simple device for sampling large volumes of lake water from discrete depths. *Freshwater Biology* 20:113-115
- Dodds, W.K., and R.D. Jones. 1987. Potential rates of nitrification and denitrification in an oligotrophic freshwater sediment system. *Microbial Ecology* 14:91-100
- Dodds, W.K., and R.W. Castenholz. 1987. Effects of grazing and light on the growth of *Nostoc pruniforme*. *British Phycology Journal* 23:219-227

Book Chapters:

- Dodds, W. K., A. J. Burgin, A. M. Marcarelli, and E. A. Strauss. 2017. Nitrogen Transformations. , G. A Lamberti and F. R. Hauer (eds). *Methods in Stream Ecology 3rd ed: Volume 2: Ecosystem Function*:173-196
- Gray, L., G.L. Macpherson, J.K. Koelliker, and W.K. Dodds. 1998. Hydrology and aquatic chemistry. In Knapp, A. K., J. M. Briggs, D. C. Hartnett and S. L. Collins (eds.), *Grassland Dynamics: Long-term Ecological Research in Tallgrass Prairie*. Oxford Press, pp 159-176
- Gray, L.J., and W.K. Dodds. 1998. Structure and dynamics of aquatic communities. In Knapp, A. K., J. M. Briggs, D. C. Hartnett and S. L. Collins (eds.), *Grassland Dynamics: Long-term Ecological Research in Tallgrass Prairie*. Oxford Press, pp. 177-189

Reviews, Reports and Popular Articles:

- Dodds, W. K. 2013. Pure headwaters in the Flint Hills. *Symphony in the Flint Hills Field Journal*, Volume V, 2013: Fort Riley
- Dodds, W.K. 2007. Review of D. P. Batzer and R. R. Sharitz (eds.) *Ecology of Freshwater and Estuarine Wetlands*, University of California Press. *The Quarterly Review of Biology* 82:431
- Dodds, W.K. 2000. Review of Gary E. Dillard, *Common Freshwater Algae of the United States*. *Journal of Phycology* 36:622
- Dodds, W.K. 2000. Review of Stoermer and Smol (Eds.) *The Diatoms: Applications for the Environmental and Earth Sciences*, Ecological Engineering.
- Buck, S., G. Denton, W. Dodds, J. Fisher, D. Flemer, D. Hart, A. Parker, S. Porter, S. Rector, A. Steinman, J. Stevenson, J. Stoner, D. Tillman, S. Wang, V. Watson, E. Welch. 2000. *Nutrient Criteria Technical Guidance Manual, Rivers and Streams*. United States Environmental Protection Agency. EPA-822-B-00-002.
- Pimentel, D. and W. Dodds. 1999. Human resource use, population growth, and environmental destruction. *Bulletin of the Ecological Society of America* 80:88-91
- Dodds, W.K. 1996. Assessment of blue-green algal toxins in Kansas. Report no. G2020-02, Kansas Water Resources Research Institute, contribution no. 320. U.S. Department of the Interior Geological Survey.
- Meyer, J., T. Crocker, D. D'Angelo, W. Dodds, S. Findlay, M. Oswood, D. Repert and D. Toetz. 1993. *Stream research in the LTER network*. LTER publication No. 15

Research Grants Funded:

- 2017-2022 RII Track-1: Microbiomes of Aquatic, Plant and Soil Systems across Kansas. National Science Foundation. \$2,656,194 to KSU (Lead PI KSU).
- 2015-2020 *Collaborative Research: Hierarchical Functioning of River Macrosystems in Temperate Steppes - From Continental to Hydrogeomorphic Patch Scales*. National Science Foundation, \$371,669 to KSU (Co-PI project, lead PI KSU)
- 2014-2017 *Linking primary and secondary production in streams across different biomes* Science without Borders. Brazil Institute of International Education. through Escola de Engenharia de São Carlos. Universidade de São Paulo ~\$55,000 (co-PI)

- 2014-2020 *ILTER: Long-Term Research on Grassland Dynamics- Assessing Mechanisms of Sensitivity and Resilience to Global Change* National Science Foundation, \$6,700,000 (co-PI)
- 2013-2014 *Doctoral Dissertation Research: The Impact of Historical Logging Activities on Mountain Stream Ecogeomorphology (Claire Ruffing)*. National Science Foundation. \$15,972 (co-PI)
- 2011-2017 *Collaborative Research: Scale, Consumers and Lotic Ecosystem Rates (SCALER): Centimeters to Continents*. National Science Foundation, \$3,304,097 total, \$ 1,198,082 to KSU (National Project lead PI)
- 2008-2015 *Ecological integrity of prairie streams as influenced by patch-burn grazing and riparian protection*. Missouri Department of Conservation, \$281,512 to KSU (KSU-lead PI).
- 2011-2014 *MRI: Acquisition of a Hybrid GPU Computing Cluster High-End Applications in Science and Engineering*. National Science Foundation, \$700,000 (co-PI)
- 2009-2013 *Collaborative Research: EPSCoR R 11 Track 2 Oklahoma & Kansas: A cyberCommons for Ecological Forecasting*. National Science Foundation EPSCoR Program, \$1,608,168 to KSU (KSU-lead PI, Kansas co-PI)
- 2008-2014 *Konza Prairie LTER VI: Grassland dynamics and long-term trajectories of change*. National Science Foundation, \$5,640,000 (co-PI)
- 2006-2010 *Forecasting ecological change in the Central Plains*, National Science Foundation EPSCoR Program, \$3,373,478 to KSU (PI)
- 2005-2007 *Ecosystem thresholds and alternate states in Great Plains rivers and streams: cascading effects of anthropogenic hydrologic disturbance*. U.S. Environmental Protection Agency, \$299,566 (PI)
- 2004-2007 *Interactive effects of disturbance frequency and species composition on ecosystem functioning of intermittent streams: a test of future climate change scenarios*. National Science Foundation, \$320,000 (co-PI)
- 2004 *Funds for workshop on N transport*. LTER Network Office, \$9,264 (PI)
- 2003 *Funds for workshop on lotic denitrification*. LTER Network Office, \$2,400 (PI)
- 2003-2005 *Water quality and nitrogen loading in KS streams (Genomic approaches to study organismal response to global environmental change)*. National Science Foundation EPSCoR, subcontract- \$25,000 (PI).
- 2003-2005 *REU Site: Conservation of the tallgrass prairie ecosystem*. National Science Foundation, \$169,954 (co-PI)
- 2002-2005 *Development of aquatic GAP analysis in Kansas*. United States Department of the Interior, \$183,217 (co-PI)
- 2002-2008 *Konza Prairie LTER V: Long-term research on grassland dynamics and global change*. National Science Foundation, \$4,680,000 (co-PI)
- 2001-2006 *Nitrate uptake and retention in streams: mechanisms and effects of human disturbances from stream reaches to landscapes*. National Science Foundation. \$3,000,000 (co-PI)

- 1999-2002 *Research experience for undergraduates in grassland ecology at Konza Prairie.* National Science Foundation, \$168,612 (PI)
- 1999-2001 *Acquisition of an isotope ratio mass spectrometer in the Kansas State University-University of Kansas-Creighton University Consortium.* National Science Foundation, \$169,400 (co-PI)
- 1999-2000 *Assessing the impact of exposure of periphyton to linear alkylbenzene sulfonate with microscale sensors at the Procter & Gamble experimental stream facility.* Procter and Gamble, \$6,000 (PI)
- 1999-2001 *Quality and quantity of suspended material in Kansas Rivers: Demonstrating the influence of management practices.* Kansas Department of Health and Environment, \$96,997 (co-PI)
- 1999-2003 *Stocking success and factors influencing survival and growth of stocked Walleyes.* Kansas Department of Wildlife and Parks, \$160,378 (co-PI)
- 1997 *Research in modeling metabolism of attached stream algae.* National Science Foundation, Division of International Programs, \$14,576 (PI)
- 1996-1999 *Nitrogen uptake, retention and cycling in stream ecosystems: An intersite N-15 tracer experiment.* National Science Foundation, \$1,389,335 (co-PI)
- 1996-2002 *Long-term ecological research in tallgrass prairie: the Konza Prairie LTER Program.* National Science Foundation. \$3,600,000 (co-PI)
- 1996-1999 *Research experience for undergraduates in grassland ecology at Konza Prairie Research Natural Area.* National Science Foundation. \$163,679 (co-PI)
- 1995-1996 *Assessment of blue-green algal toxins in Kansas.* U.S. Geological Survey, \$44,206 (PI)
- 1995 *LTER supplement,* National Science Foundation, \$36,236 (co-PI)
- 1994-1997 *Use of remotely sensed data on phenological activity and heterogeneity to detect changes in grassland species composition in response to stress.* U.S. Environmental Protection Agency. \$240,842 (co-PI)
- 1994-1995 *Estimation of effects of ultraviolet irradiance on periphyton primary production in streams.* National Science Foundation, \$49,935 (PI)
- 1993 *LTER equipment supplement: DOC Analyzer.* National Science Foundation, \$18,000 (co-PI)
- 1992-1995 *Biotic and abiotic factors controlling nitrogen flux in subsurface systems.* National Science Foundation, EPSCoR, \$594,965 (co-PI)
- 1992 *Density controls on ecological communities: Relationships between complexity and stability.* National Science Foundation, 30 service units on Cray YM-P Super Computer; 5 units on Connection Machine (PI)
- 1991-1992 *Nutrient Removal Bioassay Methods for Assessment of the Effects of Decreased Nutrient Loading on Phytoplankton Communities in Aquatic Ecosystems.* Soap and Detergent Association. \$28,202 (PI)
- 1991-1996 *Fire, grazing and climatic interactions in tallgrass prairie (Konza Prairie LTER program).* National Science Foundation, ~\$18,000/yr (co-PI)
- 1991 *Diatoms of ephemeral pools as air quality indicators.* National Park Service, Air Quality Division, \$2,500 (PI)

- 1987 *Grazing of epiphytes from Cladophora: Biological, physical and chemical interactions.* National Science Foundation Postdoctoral Fellowship, \$56,000 (PI)
- 1987 *Understanding the ecological relationship between Nostoc parmelioides and its mutualistic midge larva.* Whitehall Research Foundation, \$9,865 (PI)
- 1984 Sigma Xi Grants-in-Aid of Research. \$300
- 1982 Oregon Biomedical Research Fund. \$600

Invited Seminars:

- 2018 *The value of freshwaters.* National University of Mongolia, Ulaan Baatar, Mongolia
- 2017 *Being wrong in science and elsewhere.* University of Arkansas Fayetteville, AR
- 2017 *Being wrong in science and elsewhere.* Award of Excellence Talk, Society of Freshwater Science. Charlotte, NC
- 2017 *The freshwater biome concept.* Plenary talk. XVI Congresso Brasileiro de Limnologia
- 2016 *The world's worst problems.* Federal University of Bahia, Instituto de Biologia
The value of freshwater. Federal University of Roraima - UFRR, Department of Agronomy
Prairie Streams. Departamento de Ecologia, IBRAG, Universidade do Estado do Rio de Janeiro, Brasil
- 2015 *Nitrogen and Phosphorus in Streams.* University of Kansas. Val Smith Symposium
Freshwater Futures: Ecosystem Services, Multidisciplinary Approaches, and How Future Stream Ecologists Can Help Save The World. Society of Freshwater Science Annual Meeting
- 2014 *Battles and Skirmishes: Nutrient pollution in Freshwaters.* University of Georgia
Humanity's Footprint. NRES Seminar Series. Kansas State University
The Value of Water. Sigma Xi Kansas State University Chapter. University Distinguished Researcher lecture
Humanity's Footprint. University Sustainability Celebration. Kansas State University
Grassland streams and Konza. International Workshop on River Ecology in the Temperate Steppes of Mongolia and the North American Great Plains. University of Kansas
Battles and Skirmishes: Nutrient pollution in Freshwaters. University of Michigan
World's Worst Problems. Escola de Engenharia de São Carlos. Universidade de São Paulo
- 2013 *Understanding freshwaters in the anthropocene: long-term and large-scale approaches.* Keynote talk. Mississippi River Research Consortium 45th annual meeting. Lacrosse, WI
Teaching strategies. The New Faculty Institute. Kansas State University, Manhattan
Value of freshwater, Public talk, Weese Distinguished Lecture, University of Oklahoma, Norman
Understanding freshwaters in the anthropocene: long-term and large-scale approaches, Technical talk, Weese Distinguished Lecture, University of Oklahoma, Norman
Prairie Streams. Keynote talk, Annual Konza Docent Roundup, Manhattan, KS
The Kaw River Informational talk, Symphony on the Prairie. Fort Riley, KS
- 2012 *The unique characteristics of grassland streams.* North American Benthological Society, Louisville, Kentucky
Valuation of ecosystem goods and services in aquatic ecosystems. University of Nebraska, Lincoln
Valuation of ecosystem goods and services in aquatic ecosystems. Oregon State University, Corvallis

- Scale Consumers and Lotic Ecosystem Rates: a successful Macrosystems proposal.* NEON annual members meeting, Washington, DC
- 2011 *The worst problems in the world.* Kansas State University, Manhattan, Kansas
Valuation of ecosystem goods and services in aquatic ecosystems, Grand Valley State University, Allendale, Michigan
Global human impacts on freshwaters scaled by relative influence on ecosystem goods and services. Special Session: North American Benthological Society, Providence, Rhode Island
Grassland Streams. Grasslands in a Global Context, International Symposium. Kansas State University, Manhattan, Kansas
- 2010 Graduate Commencement Speaker. Kansas State University, Manhattan, Kansas
The worst problems in the world. University of California, Santa Cruz
Valuation of ecosystem goods and services in aquatic ecosystems. University of Arkansas, Fayetteville, Arkansas
Measuring stream metabolism. The University of Copenhagen, Copenhagen, Denmark
The ecology of prairie streams. University of Aarhus, Aarhus, Denmark
Nutrient Criteria in the Midwestern United States Iowa Water Conference
Thresholds, non-linearity and prediction in freshwater ecosystems. Iowa State University
Valuation of ecosystem goods and services in aquatic ecosystems. Oklahoma State University
Valuation of ecosystem goods and services in aquatic ecosystems. University of North Texas
- 2009 *Thresholds, non-linearity and prediction in freshwater ecosystems.* Ecology group, Eawag, Swiss Federal Institute of Aquatic Science and Technology, *Dübendorf* Switzerland
Prairie streams. Eawag, the Swiss Federal Institute of Aquatic Science and Technology, Kastanienbaum – Lucerne, Switzerland
Humanity's Footprint. Eawag, the Swiss Federal Institute of Aquatic Science and Technology, *Dübendorf* Switzerland
Properties of Water. Eidgenössische Technische Hochschule Zürich, Switzerland
Laws Theories and Patterns in Ecology. Centre d'Estudis Avangats de Blanes (C.S.I.C.), Spain
Thresholds, non-linearity and prediction in freshwater ecosystems. University of Barcelona, Spain
Valuation of ecosystem goods and services in aquatic ecosystems. Universidad de Girona, Girona Spain
- 2008 *Thresholds, non-linearity and prediction in freshwater ecosystems* NSF EPSCoR/ Water Dynamics/ Workshop. Keynote presentation. Burlington, VT
Ecology of prairie streams. Plenary talk. Great Plains Limnology Society. Lake Texoma, OK
STREON: Stream experimental and observational network. North American Benthological Society Annual Meeting, Salt Lake City, UT
STREON: Stream experimental and observational network. Consortium of Universities for the Advancement of Hydrologic Science (CUAHSI), Boulder, CO
- 2007 *Ecology of prairie streams.* Southwest Missouri State University, Springfield, MO.
Aquatic research on Konza Prairie. EPSCoR Reverse site visit, Washington, D.C
Ecological forecasting: building infrastructure for the Central Plains. Water & Society Seminar Series, Kansas State University, Manhattan, KS

- It is not just phosphorus that controls trophic state in fresh waters.* US EPA Webcast.
- Ecological forecasting and aquatic resources.* Kansas Water Authority
- Ecological forecasting and aquatic resources.* Consortium for Environmental Stewardship and Sustainability
- Laws in ecology.* Southern Illinois University, Carbondale, IL
- Laws in ecology.* University of Florida, Gainesville, FL
- 2005 *Some things I was wrong about in stream ecology, and why they matter.* Fordham University, Fordham, NY
- Some things I was wrong about in stream ecology, and why they matter.* Stroud Water Research Center, Philadelphia, PA
- Nutrient criteria in streams.* Great Plains Center for Bioassessment. Lawrence, KS
- 2004 *Laws in ecology.* University of New Mexico. Albuquerque, NM
- Ecological stoichiometry in streams.* University of New Mexico. Albuquerque, NM
- 2003 *Nitrogen cycling rates and carbon and nitrogen stoichiometry in streams.* North American Benthological Society, Athens, GA
- Nitrogen in streams.* University of Oklahoma, Norman, OK
- 2002 *Nitrogen in streams.* Iowa State University, Ames, IA
- Nitrogen in streams.* Wichita State University, Wichita, KS
- 2001 *Catapult: Momentum of human impact on earth.* Division of Biology, Kansas State University. Manhattan, KS
- 1999 *Nitrogen cycling at Konza Prairie.* Institute of Ecosystem Studies, Millbrook, NY.
- Establishing nutrient criteria in streams.* North American Benthological Society, Duluth, MN
- Relative importance of N and P limitation of stream periphyton.* American Society of Limnology and Oceanography, Santa Fe, NM. (co-authors: Tank, J., Lohman, K. and Smith, V.)
- 1998 *Nitrogen cycling in some aquatic environments.* University of Montana, Missoula, MT
- Attenuation of flow in macrophytes and periphyton.* North American Benthological Society, Prince Edwards Island, Canada
- Asking Large-Scale Ecological Questions: Some Possible Approaches for Individuals.* University of Kansas, Lawrence, KS.
- 1997 *Microhabitat and aquatic microorganisms.* Monash University, Melbourne, Australia, National Institute of Water Quality and Atmospheric Research, Christchurch, New Zealand, Otago University, Dunedin, New Zealand
- Aquatic ecology on Konza Prairie.* Canterbury University, Christchurch, New Zealand, Otago University, Dunedin, New Zealand, National Institute of Water Quality and Atmospheric Research, Hamilton, New Zealand, University of New England, Armidale, Australia.
- 1996 *How good was water quality in native tallgrass prairie streams?* Kansas Water Environment Association, 51st Annual Conference, Hutchinson, KS
- 1994 *Mutualism in Communities and Ecosystems: Theory and Aquatic Examples.* Division of Biology, Kansas State University
- Water Quality and Extreme Flows on Pristine Tallgrass Prairie.* Water and the Future of Kansas Conference, Manhattan, KS
- 1992 *Nutrient Pollution and Surface Water Quality.* Water and the Future of Kansas Conference, Manhattan, KS

- Is Photosynthesis in Cyanobacterial Surface Blooms Limited by Flux of Atmospheric CO₂?*
American Society of Limnology and Oceanography, Santa Fe, NM
- 1991 *Mutualism and Aquatic Primary Producers*. Ecology Group, University of Nebraska, Lincoln, NE
- 1990 *Mutualism and Aquatic Primary Producers*. Department of Zoology, University of Oklahoma, Department of Zoology and Division of Biology, Kansas State University
Microenvironment and Microbial Processes. Institute of Arctic Biology, University of Alaska and College of St. Benedicts, MN.
- 1989 *Mutualism and Aquatic Primary Producers*. Department of Biology, Florida International University
Eutrophication in Flathead Lake. State Department of Health and Environmental Sciences, Helena, MT
- 1988 *Influence of PO₄³⁻ on ¹⁵NH₄⁺ and ¹⁵NO₃⁻ Fluxes in an Oligotrophic Lake: Results from Mesocosm Studies*. American Society of Limnology and Oceanography, San Francisco, CA
Microhabitat and Interrelationships between Current Velocity, Photosynthesis, O₂, Light and N₂ Fixation in a Benthic Cyanobacterium. American Society of Limnology and Oceanography, San Francisco, CA
Nutrient-Phytoplankton Interactions in Flathead Lake. Department of Fish and Wildlife and Parks, Kalispell, MT
Mutualism between Nostoc and Cricotopus. Department of Microbiology, Montana State University
- 1987 *Nitrogen and Phosphorus Physiology of Phytoplankton in Flathead Lake*. University of Montana Biological Station
The Nitrogen Budget and Community Interactions in a Cold Water Pool Dominated by a Nitrogen Fixing Cyanobacterium. Department of Botany, University of Washington
- 1985 *Grazing and Season Effects on Nostoc Growth*. Stream Team, Oregon State University
The Nitrogen Cycle of Mare's Egg Spring. Oregon Institute of Marine Biology

Selected Professional Activities and Service Contributions:

Professional Activities:

- Board of Directors. Society for Freshwater Science (2016-2019)
- Elections and Place Committee Society for Freshwater Science (2013-2016)
- Leader, Review Team for Environmental Protection Agency draft report: Connectivity of Streams and Wetlands to Downstream Waters- A Review and Synthesis of the Scientific Evidence (2012)
- Group Leader, STREON: Stream Research and Observational Network, National Ecological Observatory Network, (2007-2009)
- Member, STREON Working Group. Advisory board to NEON (2009 to present)
- Editorial Board, Freshwater Biology (2008-present)
- Associate Editor, Journal of Geophysical Research (2006-2008)
- Associate Editor, Journal of the North American Benthological Society (2004-2006)
- 2005 Annual Meeting Co-Chair, North American Benthological Society (2003-2005)
- Panelist, National Science Foundation- Ecosystems Program (2001, 2004)

Associate Editor, Journal of Phycology (1999-2003)
Chair, Intersociety and International Interactions Committee of the North American Benthological Society (1997)
Member, Intersociety and International Interactions Committee of the North American Benthological Society (1998-2001)
Member, Future Meetings Committee of the American Society of Limnology and Oceanography (1997-1999)
Chair, Council for Aquatic Sciences-Aquatic Sciences Meeting Committee (2005)
Member, Council for Aquatic Sciences-Aquatic Sciences Meeting Committee (1999-2002)
Member, North American Benthological Society- Elections and Meetings Committee (2000-2003)
Member, United States Environmental Protection Agency, Nutrient Criteria in Streams Work Group Region 7 (1999-present)
Member, Water and the Future of Kansas Conference Committee (1990-1997)

University Activities:

Chair, Konza LTER Aquatic and Hydrological Research Group (1990-present)
Chair, Division of Biology Seminar Committee (1992-2015)
Chair, Division of Biology Chris Edler Outstanding Research Award Committee (1995-present)
Chair, Konza Management Plan: Aquatic Subgroup (1999-2001)
Chair, Division of Biology Search Committees- Fisheries position (2001); Wildlife position (2002); Kansas Cooperative Unit and Division of Biology, Assistant Leader Fisheries Unit (2003) (member of 9 additional search committees)
Member, Division of Biology Undergraduate Curriculum Committee (1995-2002)
Member, Division of Biology Tenure and Promotions Committee (2002 -2008)
Member, Division of Biology BRIEF Committee (2002-present)
Member, Konza Education Advisory Committee (1999-present)
Member, Konza Prairie Advisory Committee (1994-present)
Member, Division of Biology Ecology and Evolutionary Biology Section, (1990-present)
Member, Division of Biology Microbiology and Immunology Section, (1990-present)
Treasurer, Sigma Xi, Kansas State University Chapter (1998-2000)