

CURRICULUM VITAE – September 2023

Clifford N. Dahm, Professor Emeritus

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Research Interests:

Ecosystem studies, stream and river restoration, wildfire and water quality, science and policy, aquatic ecology, ecohydrology, stream water/ground water interactions, microbial ecology, biogeochemistry, geomicrobiology

Educational History:

Ph.D. Oregon State University, Corvallis, OR

Major – Oceanography/Aquatic Ecology, Minor - Chemistry 1980

Dissertation Title: Studies on the Distribution and Fates of Dissolved Organic Carbon

Advisors: P. Kilho Park and William H. Quinn (deceased)

M.A. Oregon State University, Corvallis, OR

Major - Chemical Oceanography, Minor - Statistics 1974

Dissertation Title: A Study of Nutrient Dynamics in the Atlantic Ocean

Advisor: P. Kilho Park

B.S. Boise State University, Boise, ID, Summa Cum Laude

Major - Chemistry, Minors - Mathematics & Literature 1972

Detailed Educational History:

I successfully completed my undergraduate university studies at Boise State University, leading to a bachelor's degree in chemistry in 1972. I completed my Master's and Ph.D. degrees at Oregon State University in chemical oceanography (1974) and oceanography/aquatic ecology (1980). I have specialized professional experience in the biological and physical sciences plus related disciplines. I have conceptualized, planned, and conducted scientific studies in unexplored areas of science, acted as an expert technical consultant in multiple biological and environmental investigations for large organizations, and developed and integrated short- and long-range, technically complex and extensive scientific programs of research. My professional experience also includes advising and collaborating with other recognized senior technical experts and developing and coordinating major interdisciplinary projects that impact regional, national, and international scientific objectives. I have directly influenced scientific and technical policies, standards, procedures, and instructions. I

have provided leadership and direction for many multidisciplinary scientific programs and projects. I also have been actively engaged in resolving critical problems resulting from the complexities of multidisciplinary scientific studies. This includes serving as the principal contact with Federal agencies, state and local government organizations, and other stakeholder groups that directly affects the success of major interdisciplinary scientific programs.

Relevant Experience:

I have performed multiple duties during my tenure at the University of New Mexico. This includes assessing the validity and applicability of proposed research projects by reviewing proposals on a regular basis (five or more per year on average). In addition, I regularly serve on national review panels where I review 10-15 proposals per panel. I regularly provide innovative visions for new programs, prepare proposals to support these programs, and implement these programs after funding with successful results. An excellent example is the Integrative Graduate Education Research Traineeship (IGERT) program that I directed at the University of New Mexico with support from the National Science Foundation (NSF). This interdisciplinary (aquatic ecology, hydrology, and geochemistry) and interinstitutional (with the University of Alabama) project ran from 1999-2009 and produced 25 successful doctoral projects and degrees with numerous high-quality publications and successful scientific careers.

My research has regularly involved developing background papers on major resource issues and emerging problems. These research questions have been regional, national and international in scope. I have directed research studies as a lead scientist for more than 20 major research studies. I have participated in research projects totaling ~\$32.6M, and I have served as the principal investigator or co-principal investigator on projects totaling ~\$18.8M during my career. I also have participated in many informational meetings, workshops, and conferences for ecosystem restoration and water management programs. The Invited and Plenary Presentations section of my CV highlight my involvement as an invited or plenary speaker on the topics of ecosystem studies, ecosystem restoration and water management.

As the lead scientist for the CALFED Bay-Delta Science Program and Delta Science Program/Delta Stewardship Council from 2008-2012 and 2015-2017, I reviewed research proposals on a regular basis and created innovative visions for new science and policy that was implemented within the organizations with successful results. I also routinely wrote documents that served as policy or formal guidelines for these programs. This was done independently and normally without review by a supervisor, manager or senior employee. I also regularly gave oral presentations and briefings to the Delta Stewardship Council, the Delta Independent Science Board (DISB), heads of agencies and organizations, and congressional and legislative staffers. I also regularly led and participated in briefings, meetings, and conferences involving intergovernmental or interagency teams as a central part of my job. I also oversaw development of briefing papers on major resource issues and emerging problems related to regional goals in the California Delta. I provided objective and timely comprehensive information, options and alternatives to facilitate decision-making on major budget, policy, legislative, and technical issues to the Delta Stewardship Council. I also served as a communication link between the Delta Stewardship Council and the DISB. I performed these tasks as a regular part of my job, independently and usually without review by my supervisor. Finally, I developed successful cooperative relationships with representatives of Federal, State of California

and local government agencies, non-governmental organizations, and private industry as a central part of my job.

I also performed duties at the National Science Foundation (NSF) from 1994-1996 while serving as a program director in the Division of Environmental Biology. My duties included running review panels, regularly reviewing research proposals, making funding decisions for proposals that totaled ~\$16 million annually, writing program announcements that served as formal guidelines for research competitions at the NSF, and leading and conducting briefings, meetings, and conferences involving intergovernmental or interagency programs or funding initiatives. The NSF or interagency programs for which I was the program director or co-program director included Ecosystem Studies, Terrestrial Ecology and Global Change, and Environmental Geochemistry and Biogeochemistry. I chaired or co-chaired eight national proposal review panels during my two years at NSF. I also participated in briefings, meetings, and conferences to discuss significant and potentially controversial issues with senior government officials, members of the academic community, committees of the National Academy of Sciences, and representatives of scientific societies. I also regularly presented information on scientific programs available through the NSF at national meetings, conferences and workshops.

Finally, I have written many more than 10 synthesis papers in my career on the topics of ecosystem studies, ecosystem restoration, and water management. Please see my detailed list of publications in the Scholarly Achievements section of my CV for details on these papers. These articles have been both journal articles and book chapters. During my career I have also had broad and extensive experience in oral communications. This includes giving presentations at technical conferences, serving as a panel member in multiple scientific and technical conferences and giving oral presentations or briefings to high-level resource managers or officials. I have also organized special sessions or workshops for more than 10 national or international meetings. I have 34 publications that have been cited more than 100 times according to Google Scholar. Please see my full list of publications in the Articles in Refereed Journals section and Articles Appearing as Chapters in Edited Books and Volumes section of my CV under Scholarly Achievements. I also have served as a lead science advisor for the Kissimmee River Restoration Project in south Florida (1992-2002), the largest river restoration project at that time in the United States carried out by the South Florida Water Management District (SFWMD). I also was an advisor on setting flows and levels for rivers and springs for the Southwest Florida Water Management District (SWFWMD) from 2002-2012. I currently serve on the scientific committee for the Catalan Water Research Institute (ICRA). I also was a member of the international working group on intermittent river ecosystems (Intermittent River Biodiversity Analysis and Synthesis – IRBAS), and I was a member of the science advisory board for GLOBAQUA, a major European Union project looking at the impact of multiple stressors on rivers. Please see the Employment History section of my CV for detailed information on the dates in which I serve or have served in various positions.

Employment History - Principal Positions:

University of New Mexico (1984 – Present)

Emeritus Professor of Biology, 2015-present, University of New Mexico, Albuquerque, NM.

Professor of Biology, 1998-2015, University of New Mexico, Albuquerque, NM.

Associate Professor of Biology, 1990-1998, University of New Mexico, Albuquerque, NM.

Assistant Professor of Biology, 1984-1990, University of New Mexico, Albuquerque, NM.

CALFED and Delta Science Program (2008 – 2012 and 2015 – 2017)

Lead Scientist, 2015-2017, Delta Science Program/Delta Stewardship Council, Sacramento, CA.

Lead Scientist, 2010-2012, Delta Science Program/Delta Stewardship Council, Sacramento, CA.

Lead Scientist, 2008-2010, CALFED Bay-Delta Science Program, Sacramento, CA.

Oregon State University (1973 – 1974 and 1976 - 1984)

Research Assistant Professor, 1984, Oregon State University, Corvallis, OR, Researcher and lecturer in aquatic ecology.

Research Associate, 1980-1984, Oregon State University, Corvallis, OR, Postdoctoral researcher in aquatic ecology.

Graduate Research Assistant, 1976-1980, Oregon State University, Corvallis, OR.

Graduate Research Assistant, 1973-1974, Oregon State University, Corvallis, OR.

Texas A&M University (1974 – 1976)

Research Assistant, 1974-1976, Texas A&M University, College Station, TX; lead chemist on R/V Melville and R/V Knorr cruises in Antarctic Ocean in 1975 and 1976 - International Southern Ocean Studies (ISOS).

Employment History - Concurrent Temporary or Visiting Appointments, Consultantships, and Advisory Boards:

Project Advisory Board Member, 2019 - present, Idaho NSF Experimental Program to Stimulate Competitive Research (EPSCoR), Moscow, Idaho.

Science Advisory Board Member, 2014 – 2019, GLOBAQUA, European Union Project on the impacts of multiple stressors on river ecosystems, University of Barcelona, Barcelona, Catalonia, Spain.

Intermittent River Biodiversity Analysis and Synthesis (IRBAS) Work Group Participant, 2012 – 2016, CESAB, Aix en Provence, France.

External Advisory Board Member, 2010 – 2019, Montana NSF Experimental Program to Stimulate Competitive Research (EPSCoR), Missoula, Montana.

Consultant to The Nature Conservancy on the ecohydrology of the Gila River and the possible impacts of flow alteration from implementation of the Arizona Water Settlement Act of 2004, 2013-2014.

Scientific Committee Member, 2009 – present, Institut Catala de Recerca de l'Aigua (ICRA), Catalan Institute for Water Research, Girona, Catalonia, Spain.

Advisory Team Member, 2008 – 2012, From Genes to Ecosystems (NSF IGERT Award) at Northern Arizona University, Flagstaff, Arizona.

Advisory Team Member, 2004 – 2012, H.J. Andrews Long-Term Ecological Research (LTER) Program, Corvallis, Oregon.

Consultant, 2002 - 2012, Southwest Florida Water Management District (SWFWMD) on setting minimum flows and levels for rivers and springs in the Tampa Bay, Florida area; climate variability, the Atlantic Multidecadal Oscillation (AMO), and river flow variability in Florida.

Director, 2002-2003, Sevilleta Long-Term Ecological Research (LTER) Program, Sevilleta National Wildlife Refuge, New Mexico.

Director, 1999 – 2009, Freshwater Sciences Interdisciplinary Doctoral Program (NSF IGERT Award) at the University of New Mexico (Inter-institutional program with the Center for Freshwater Studies at the University of Alabama).

Consultant, 1997, Provost of the State University of New York at Buffalo on the establishment of an Institute of Environmental Studies.

Consultant, 1997, Abt and Associates, expert assistant evaluating the Research Training Grants (RTG) at the universities of Washington, Wisconsin, Montana, and Notre Dame for the National Science Foundation.

Consultant, 1992 - 2002, South Florida Water Management District on the restoration of the Kissimmee River, Florida.

Program Director, 1994-1996, National Science Foundation, Directorate for Biological Sciences, Division of Environmental Biology, Arlington, Virginia.

Scientific Advisory Board, Mount St. Helens Volcanic National Monument, 1989-1992.

Professional Recognition, Honors, Et Cetera:

- Award of Excellence from the Society for Freshwater Science (SFS) announced May 2015; top research honor given annually by the society; award and plenary presentation given at the annual meeting in Sacramento, California in May 2016.
- Plenary Lecture, 5th Water Research Horizon Conference, Berlin, Germany, 2014.
- Plenary Lecture, Fourth International Symposium on Riverine Landscapes, Yueyang/Wuhan, China, 2013.
- Plenary Lecture, Within Our Reach Conference 2012 (Willamette River Initiative), Corvallis, Oregon, 2012.
- Plenary Lecture, National EPSCoR Meeting, Coeur d' Alene, Idaho, 2011.
- Plenary Lecture, Utton Center of the UNM Law School and the US Bureau of Reclamation, Albuquerque, New Mexico, 2011.
- Plenary Speaker, River Conservation, BBVA Foundation, Madrid, Spain, 2011.
- Plenary Speaker, SCARCE Conference, Girona, Catalonia, Spain, 2010.
- Plenary Lecture, Association of Ecosystem Research Centers, Washington, DC, 2010.

- Plenary Speaker, 6th Biennial Delta Science Conference, Sacramento, California, 2010.
- Plenary Lecture, Ecology and Civil Engineering Society of Japan, Sapporo, Japan, 2010.
- Plenary Lecture, Joint meeting of the North American Benthological Society and American Society of Limnology and Oceanography, Santa Fe, New Mexico, 2010 (with Professor Stuart Bunn).
- Plenary Speaker, Freshwater Inflows: 2010 and Beyond, Corpus Christi, Texas, 2010.
- Plenary Lecture, New Mexico Academy of Sciences Annual Plenary Lecture, Albuquerque, New Mexico, 2009.
- Plenary Speaker, State of the Estuary Biennial Meeting, Oakland, California, 2009.
- Plenary Lecture, Australian Rivers Institute Special Lecture at Brisbane City Hall, Brisbane, Queensland, Australia, 2009.
- Plenary Speaker, 2009 Georgia Water Resources Conference, Athens, Georgia, 2009.
- Plenary Speaker, Climate Change and the Intermountain West: Downscaling the Future, Logan, Utah, 2009.
- Plenary Speaker, Ecosystem Based Management: The Chesapeake and Other Systems, Baltimore, Maryland, 2009.
- Plenary Speaker, 5th Biennial CALFED Science Conference, Sacramento, California, 2008.
- Plenary Speaker, Third International Symposium on Riverine Landscapes (TISORL), Couran Cove, Queensland, Australia, 2007.
- 52nd Annual Research Lecturer – University of New Mexico - 2007. This is the highest honor for research given to one member of the University of New Mexico faculty annually.
- Member of the Science Steering Group (SSG) for the Global Water Budget Program of the U.S. Global Change Research Program – 2004 to 2008.
- Committee of Visitors Panel Member for Review of the NSF Biocomplexity and the Environment Program – National Science Foundation, Ballston, Virginia 2004.
- Plenary Speaker, Symposium for European Freshwater Sciences 3 (SEFS3), Edinburgh, Scotland 2003.

- External advisor for the Subsurface Microbiology IGERT Program (Oregon State University and Portland State University) 2003 to 2007.
- Advisor and Reviewer for the Semi-Arid Hydrology and Riparian Areas (SAHRA) NSF Science and Technology Center 2003 to 2007.
- Outstanding Researcher Award 2001, New Mexico Riparian Council.
- Scope Workshop Participant, “To Assess the Role of Soil and Sediment Biodiversity in the Functioning of Critical Transition Zones” Corvallis, Oregon 1999.
- Scope Workshop Participant, “Biodiversity Above and Below the Surface of Soils and Sediments” Lunteren, Netherlands 1998.
- EAWAG Workshop on Riparian Ecology, Kastanienbaum, Switzerland, 1996, Group Leader on Nutrient Dynamics.
- Director’s Award for Program Management Excellence, National Science Foundation 1996 (Citation for program direction in Ecosystem Studies, Terrestrial Ecology and Global Change, Water and Watersheds, and Environmental Geochemistry and Biogeochemistry).
- Dahlem Konferenzen Participant, "Organic Acids in Aquatic Ecosystems" Berlin, Federal Republic of Germany 1989.
- University of New Mexico Presidential Lecturer in Biology 1988-90.
- Cruise and Diving Scientist, Atlantis II/ALVIN, Archaeobacteria Program, Northeast Pacific Ocean 1987 and 1988.

Scholarly Achievements:

1. Articles in Refereed Journals:

Larson, L.G., S.M. Bashevkin, M.A. Christman, J.L. Conrad, C.N. Dahm, and J. Thompson. 2022. Ecosystem services and disservices of Bay-Delta primary producers: how plants and algae affect ecosystems and respond to management of the estuary and its watershed. *San Francisco Estuary and Watershed Science* 20 (4): Article 1.

Thompson, V.F., D.L. Marshall, R.J. Bixby, and C.N. Dahm. 2021 Factors influencing the distribution of submerged aquatic macrophytes in Jemez Mountain streams, northern New Mexico, USA. *The Southwestern Naturalist* 66(2): 150-156.

Reale, J.K., T.P. Archdeacon, D.J. Van Horn, E.J. Gonzales, R.K. Dudley, T.F. Turner, and C.N. Dahm. 2021. Differential effects of a catastrophic wildfire on downstream fish assemblages in an aridland river. *Aquatic Ecology* 55:483-500.

Frus, R.J., L.J. Crossey, C.N. Dahm, K.E. Karlstrom, and L. Crowley. 2020. Influence of desert springs and habitat of endangered Zuni Bluehead Sucker (*Catostomus discobolus yarrow*). *Environmental and Engineering Geoscience* 26(3): 313-329.

Summers, B.M., D.J. Van Horn, R. Gonzalez-Pinzon, R.J. Bixby, M.R. Grace, L.R. Sherson, L.J. Crossey, M.C. Stone, R.R. Parmenter, T.S. Compton, and C.N. Dahm. 2020. Long-term data reveal highly-variable metabolism and transitions in trophic status in a montane stream. *Freshwater Science* DOI: 10.1086/708659.

Wise, J.L., D.J. Van Horn, A.F. Diefendorf, P.J. Regier, T.V. Lowell, and C.N. Dahm. 2019. Dissolved organic matter dynamics in storm water runoff in a dryland urban region. *Journal of Arid Environments* 165:55-63.

Zeglin, L.H., C.L. Crenshaw, C.N. Dahm, R.W. Sheibley, and C.D. Takacs-Vesbach. 2019. Watershed hydrology and salinity, but not nutrient chemistry, are associated with arid-land stream microbial diversity. *Freshwater Science* 38:77-91.

Thompson, V.F., D.L. Marshall, J.K. Reale, and C.N. Dahm. 2019. The effects of a catastrophic forest fire on the biomass of submerged stream macrophytes. *Aquatic Botany* 152:36-42.

Marshall, J.C., V. Acuna, D.C. Allen, N. Bonada, A.J. Boulton, S.M. Carlson, C.N. Dahm, T. Datry, C. Leigh, P. Negus, J.S. Richardson, S. Sabater, R.J. Stevenson, A.L. Steward, R. Stubbington, K. Tockner, and R. Vander Vorste. 2019. Protecting US temporary waterways. *Science* 361:856-857.

De la Fuente, M., N. Bonada, L. Beche, C.N. Dahm, P.K. Mendez, K. Tockner, U. Uehlinger, and V. Acuna. 2018. Evolutionary responses of aquatic invertebrates to two contrasting flow regimes. *Hydrobiologia* 808:353-370.

Datry, T., A.J. Boulton, N. Bonada, K. Fritz, C. Leigh, E. Sauquet, K. Tockner, B. Hugueny, and C.N. Dahm. 2018. Flow intermittence and ecosystem services in rivers of the Anthropocene. *Journal of Applied Ecology* 55:353-364.

Thibault, J.R., J.R. Cleverly, and C.N. Dahm. 2017. Long-term water table monitoring of Rio Grande riparian ecosystems for restoration potential amid hydroclimatic challenges. *Environmental Management* 60:1101-1115.

Mortensen, J.G., R. Gonzalez-Pinzon, C.N. Dahm, J.J. Wang, L.H. Zeglin, and D.J. Van Horn. 2016. Advancing the food-energy-water nexus: Closing nutrient loops in arid river corridors. *Environmental Science and Technology* 50:8485-8496.

Crossey, L.J., K.E. Karlstrom, B. Schmandt, R.R. Crow, D.R. Colman, B. Cron, C.D. Takacs-Vesbach, C.N. Dahm, D.E. Northup, D.R. Hilton, J.W. Ricketts, and A.R. Lowry. 2016. Continental smokers couple mantle degassing and distinctive microbiology within continents. *Earth and Planetary Science Letters* 435:22-30.

Dahm, C.N., A.E. Parker, A.E. Adelson, M.A. Christman, and B.A. Bergamaschi. 2016. Nutrient dynamics of the Delta: Effects on primary producers. *San Francisco Estuary and Watershed Science*, Volume 14, Issue 4, Article 4, 35 pgs.

Bixby, R.J., S.D. Cooper, R.E. Gresswell, L.E. Brown, C.N. Dahm, and K.A. Dwire. 2015. Fire effects on aquatic ecosystems: An assessment of the current state of the science. *Freshwater Science* 34:1340-1350.

Reale, J.K., D.J. Van Horn, K.E. Condon, and C.N. Dahm. 2015. The effects of catastrophic wildfire on water quality along a river continuum. *Freshwater Science* 34:1426-1442.

Luoma, S.N., C.N. Dahm, M. Healey, and J.N. Moore. 2015. Challenges facing the Sacramento-San Joaquin Delta: Complex, chaotic, or simply cantankerous? *San Francisco Estuary and Watershed Science*, Volume 13, Issue 3, Article 7, 25 pgs.

Yarnell, S.M., G.E. Petts, J.C. Schmidt, A.A. Whipple, E.E. Beller, C.N. Dahm, P. Goodwin, and J.H. Viers. 2015. Functional flows in modified riverscapes: Hydrographs, habitats and opportunities. *BioScience* 65:963-972.

Dahm, C.N., R.I. Candelaria-Ley, C.S. Reale, J.K. Reale, and D.J. Van Horn. 2015. Extreme water quality degradation following a catastrophic forest fire. *Freshwater Biology* DOI: 10.1111/fwb.12548.

Krause, S., J. Lewandowski, C.N. Dahm, and K. Tockner. 2015. Frontiers in real-time ecohydrology – a paradigm shift in understanding complex environmental systems. *Ecohydrology* DOI: 10.1002/eco.1646.

Cleverly, J., J.R. Thibault, S.B. Teet, P. Tashjian, L.E. Hipps, C.N. Dahm, and D. Eamus. 2015. Flooding regime impacts on radiation, evapotranspiration, and latent energy fluxes over groundwater-dependent riparian cottonwood and saltcedar forests. *Advances in Meteorology*, Article 935060 (14 pp.).

Sherson, L.R., D.J. Van Horn, J.D. Gomez-Velez, L.J. Crossey, and C.N. Dahm. 2015. Nutrient dynamics in an alpine headwater stream: use of continuous water quality sensors to examine responses to wildfire and precipitation events. *Hydrological Processes* DOI: 10.1002/hyp.10426.

Tornes, E., V. Acuna, C.N. Dahm, and S. Sabater. 2015. Flood disturbance effects on benthic diatom assemblage structure in a semiarid river network. *Journal of Phycology* 51:133-143.

Collins, S.L., J. Belnap, N.B. Grimm, J.A. Rudgers, C.N. Dahm, P. D'Odorico, M. Litvak, D.O. Natvig, D.C. Peters, W.T. Pockman, R.L. Sinsabaugh, and B.O. Wolf. 2014. A multiscale, hierarchical model of pulse dynamics in arid-land ecosystems. *Annual Review of Ecology, Evolution, and Systematics* 45:397-419.

Acuna, V., T. Datry, J. Marshall, D. Barcelo, C.N. Dahm, A. Ginebreda, G. McGregor, S. Sabater, K. Tockner, and M.A. Palmer. 2014. Why should we care about temporary waterways? *Science* 343:1080-1081.

Lopez-Doval, J.C., A. Ginebreda, T. Caquet, C.N. Dahm, M. Petrovic, D. Barcelo, and I. Munoz. 2013. Pollution in mediterranean-climate rivers. *Hydrobiologia* 719:427-450.

Hodgson, J.Y.S., A.K. Ward, and C.N. Dahm. 2013. An independently corroborated, diatom-inferred record of long-term drought cycles occurring over the last two millennia in New Mexico, USA. *Inland Waters*: 3:459-472.

Van Horn, D.J., C.S. White, E.A. Martinez, C. Hernandez, J.P. Merrill, R.R. Parmenter, and C.N. Dahm. 2012. Linkages between riparian characteristics, ungulate grazing, and geomorphology and nutrient cycling in montane grassland streams. *Rangeland Ecology and Management* 65:475-485.

Jones, J.A., I.F. Creed, K.L. Hatcher, R.J. Warren, M.B. Adams, M.H. Benson, E. Boose, W.A. Brown, J.L. Campbell, A. Covich, D.W. Clow, C.N. Dahm, K. Elder, C.R. Ford, N.B. Grimm, D.L. Henshaw, K.L. Larson, E.S. Miles, K.M. Miles, S.D. Sebestyen, A.T. Spargo, A.B. Stone, J.M. Vose, and M.W. Williams. 2012. Ecosystem processes and human influences regulate streamflow response to climate change at long-term ecological research sites. *BioScience* 62:390-404.

Van Horn, D.J., R.L. Sinsabaugh, C.D. Takacs-Vesbach, K.R. Mitchell, and C.N. Dahm. 2011. Response of heterotrophic stream biofilm communities to a gradient of resources. *Aquatic Microbial Ecology* 64:149-161.

Zeglin, L.H., C.N. Dahm, J.E. Barrett, M.N. Gooseff, S.K. Fitzpatrick, and C.D. Takacs-Vesbach. 2011. Bacterial community structure along moisture gradients in the parafluvial sediments of two ephemeral desert streams. *Microbial Ecology* 61:543-556.

Beaulieu, J.J., J.L. Tank, S.K. Hamilton, W.M. Wollheim, R.O. Hall, 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.T. 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 of the United States of America* 108:214-219.

Crenshaw, C.L., N.B. Grimm, L.H. Zeglin, R.W. Sheibley, C.N. Dahm, and A.D. Pershall. 2010. Dissolved inorganic nitrogen dynamics in the hyporheic zone of reference and human-altered southwestern U.S. streams. *Fundamental and Applied Limnology* 176:391-405.

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.J. Peterson, G.C. Poole, H.M. Valett, C.P. Arango, J.J. Beaulieu,

- A.J. Burgin, C.L. Crenshaw, A.M. Helton, L.T. 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.
- Mulholland, P.J., R.O. Hall, 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 N-15 addition experiments: Denitrification. *Limnology and Oceanography* 54:666-680.
- Hall, R.O., 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.L. Crenshaw, A.J. Burgin, M.J. Bernot, J.J. Beaulieu, and C.P. Arango. 2009. Nitrate removal in stream ecosystems measured by N-15 addition experiments: Total uptake. *Limnology and Oceanography* 54:653-665.
- Martinet, M.C., E.R. Vivoni, J.R. Cleverly, J.F. Schuetz, and C.N. Dahm. 2009. On groundwater fluctuations, evapotranspiration, and understory removal in riparian corridors. *Water Resources Research* 45:W05425, doi:10.1029/2008WR007152.
- 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.
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