

Steven C. Blumenshine

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RESEARCH AND ACADEMIC POSITIONS:

- Professor of Biology - California State University - Fresno** Aug 2011-Pres
Teaching: *General Ecology, Aquatic Ecology, Biometry (Graduate), Ichthyology*
Research: *Focus on watersheds & surface water nutrients, communities, and ecosystems*
- U.S. Fulbright Scholar** (Bangkok, Thailand) – Chulalongkorn University – Aquatic Resources Research Institute July-Dec 2006
- Associate Professor of Biology - California State University - Fresno** Fall 2005-Present
- Assistant Professor of Biology - California State University - Fresno** Fall 2001-Spr 2005
- Visiting Research Scientist – Biology Dept., Chiang Mai University, Thailand** 7/03, 7/04, 6/05
-*Spatial and Temporal Variation in Water Quality and Aquatic Biota of the Mae Ping River*
- Visiting Research Scientist - Lake Kinneret Limnological Laboratory, Tiberias, Israel** July 2000
-*Relationships between filter feeding fishes and water quality*
-*Relative importance of vertebrate vs. invertebrate predation in pelagic foodwebs*
- Assistant Professor of Biological Sciences - Arkansas State University** 1999-2001
-*Investigation of Sources of Trout Mortality in the White River System: An Evaluation of Blue Heron Trout Predation in Bull Shoals and Norfolk Tailwaters* (AR Game and Fish)
-*Linkages Between Watershed Dynamics and Habitat Limitation of an Endemic Fish Species in Little Red River (AR) Headwaters* (USGS)
-*Species associations and influences of land use on Etheostoma moorei (Yellowcheek Darter), a USFWS 'Species of Concern'* (USFWS)
- Assistant Research Scientist - University of Maryland Center for Environmental Science** 1997-1999
Sponsor: Dr. W. Michael Kemp
-*Ecosystem models of the Chesapeake Bay Relating Nutrient Loadings, Environmental Conditions, and Living Resources* - Chesapeake Bay Ecosystem Modeling Program (EPA)
-*Scaling Trophic Interactions in Pelagic Estuarine Ecosystems* - Multiscale Experimental Ecosystem Res. Center, Exploratory Res Center Program (EPA)
- Graduate Research Assistant - University of Notre Dame** (PI: Dr. David Lodge) 1992-1997
Research Project: *Whole-Lake Manipulations of Food Webs and Nutrients: Benthic Community Responses and Benthic-Pelagic Coupling* (NSF)
- Cornell University / Wood Hole Oceanographic Institution Summer Workshop (Invited)** 1995
Organizers: Dr. Hal Caswell, Dr. Don DeAngelis, Dr. Andrew Solow, Dr. John Steele
Research Topic: *Food Web Structure and Dynamics in Marine, Terrestrial and Freshwater Environments* (Supported by: WHOI, NSF, ONR, and Cornell University)

EDUCATION:

- Ph.D. University of Notre Dame - Biological Sciences (Advisor: Dr. David Lodge)** 1992-1997
Dissertation Title: *'Responses of Benthic Macroinvertebrates to Whole Lake Manipulations of Fish and Nutrient Loading Rates'*
- M.S. George Mason University - Environmental Biology (Advisor: Dr. R.C. Jones)** 1989-1992
Thesis Title: *'Spatial and Temporal Variation in the Diet of White Perch (Morone americana) in a Tidal Freshwater Embayment'*
- B.S. University of Wisconsin-Madison - Zoology and Environmental Studies** 1983-1987

GRANTS AND AWARDS:

- California Dept. of Fish & Game: *Recreation Impact Study; San Joaquin River Restoration*. Lead PI, Dr. Mark Somma, Poli. Sci. CSU-Fresno. (\$161,000; 2010-2012)
- California Dept. of Fish & Game: *Fish Hatchery Grant Public Education*. Lead PI, Dr. Mark Somma, Poli. Sci. CSU-Fresno. (\$9,999; 2010-2012)
- CSU-Fresno Office of Institutional Research, Assessment and Planning: *Assessment of Effectiveness of a Cross-Departmental Prerequisite and its Role in Curricular Revision*. \$3,300; 2008-2009.
- CALFED-CA Dept. of Water Resources: *Upper San Joaquin Watershed Assessment* (Subcontract via Sierra Resource Conservation District; Co-PIs, Drs. John Suen, Zhi Wang, CSU-Fresno Dept. of Earth & Envir. Sci. \$94,200; 2008-2009).
- CALFED-CA Dept. of Water Resources: *Fresno River Watershed Assessment* (Subcontract via Madera Co.; Co-PI, Dr. Zhi Wang, CSU-Fresno Dept. of Earth & Envir. Sci. \$189,000; 2008-2010).
- U.S. Fulbright Scholar Grant: *Assessing Sources and Implications of Water Quality Impairment in the Gulf of Thailand and its Major Tributaries* (In collaboration with the Aquatic Resources Research Institute of Chulalongkorn University, Bangkok, Thailand) 2006.
- U.S. Fish and Wildlife Service – Aquatic Nuisance Species (\$30,000; 2005-2006) *Predictions of Year-Class Strength for the Chinese mitten crab, Eriocheir sinensis* (Lead PI-Dr. B. Tsukimura)
- U.S. Bureau of Reclamation – (\$24,437; 2005) *Monitoring of [Se] in Water and Macroinvertebrates at Kesterson Reservoir* (with California Water Institute)
- CSU-Fresno Provost Award/Legislative Award (\$5,000; 2005-2006) *Invasive species research: Statistical and simulation modeling of factors affecting juvenile Chinese mitten crab mortality and implications for predicting ecological and economic harm by adults*
- California Agricultural Technology Institute-Agricultural Research Initiative (\$68,050; 2004-2005). *Variation in Shorebird and Waterfowl Food Resource Production in Flooded Agricultural Fields*
- NSF/SUNY-Buffalo (\$1,500): Fellowship to attend the workshop: *Teaching Case Studies in Science*
- CSU-Fresno CSM Faculty Merit Award (\$1,400, 2003-2004)
- CSU-Fresno CSM Faculty Minigrant. (\$2,000; 2003) *Relationships among Agricultural Land Management, Waterfowl Habitat, and Avian Botulism*
- University Study Abroad Consortium: International Development Award (\$1,500; 2003)
- Madera County / CA State Water Resources Control Board (Subcontractor; \$134,600; 2002-2003) *Fresno River Surface Water Ambient Monitoring Program*. (Collaborators: Mary McClanahan, CWI; Dr. Zhi Wang, Dept. Earth & Envir. Sci.; Dr. Alice Wright, Biology)
- U.S. Fish and Wildlife Service-Sport Fish Restoration Act (\$2,500; 2002). *A bioenergetic and food web analysis of factors limiting brown trout growth in the Little Red River, AR tailwaters: potential management options?* (Co-PI: Dr. Ron Johnson, Ark. State Univ.)
- CSU-Fresno Provost Award/Legislative Award (\$5,000; 2002-2003) *Initiation of research in the U.S. Forest Service's Kings River Experimental Watershed*.
- California Water Institute & U.S. Forest Service (\$115,996; 2002-2004) *Baseline study of spatial and temporal variation of stream ecosystems within the USDA Forest Service Kings River Experimental Watershed (KREW) and establishment of an interdisciplinary collaborative framework*
- CSU-Fresno CSM Instructional Equipment Grant (\$7,324; 2002). Equipment for Ecology Courses
- CSU-Fresno New College for Instructional Innovation Grant (\$2,500; 2002). *Infusing student directed and active learning into General Ecology Laboratories*
- Faculty Performance Award. CSU-Fresno College of Science & Mathematics (CSM)(\$1,500; 2002)
- CSU-Fresno Service-Learning Faculty Development Grant (\$700; 2001)
- ASU Scholarly Activity Initiative Fund (\$7,445): (Declined) *Direct and Indirect Effects of Apex Predator Management Strategies on a Coolwater Stream Food Web*
- U.S. Fish and Wildlife Service (\$15,000; 2001) *Biology and Ecology of an Endemic Darter(Etheostoma moorei) in Spatially Dynamic Habitats: Consequences for Candidate Status*
- Arkansas Water Resources Center (USGS)(\$53,234): 2001-2002. *Linkages Between Watershed Dynamics and Habitat Limitation of an Endemic Species in Little Red River Headwaters* (Co-PI: Dr. Robyn Hannigan, Dept. of Chemistry, ASU)

- Arkansas Game and Fish Commission (\$24,400): 2000-2001. *Investigation of Sources of Trout Mortality in the White River System: An Evaluation of Blue Heron Trout Predation in Bull Shoals and Norfolk Tailwaters.* (Co-PI: Dr. James Bednarz, Ark. State Univ.)
- Middle East Faculty Research Grant (\$6,250) 2000: Arkansas State University. *Interactions Among Water Quality, Food Web Structure, and Nutrient Regeneration in Lake Kinneret, Israel* (Collaborator: Dr. David Hambright, Senior Scientist, Kinneret Limnological Laboratory)
- U.S. Fish and Wildlife Service (\$10,000): 1999-2000. *Current Status of Etheostoma moorei with Emphasis upon Population Distributions and Sizes* (Co-PI: Dr. George Harp, Ark. State Univ.)
- Selected Participant: 1999. American Society of Limnology and Oceanography (ASLO) Workshop Dissertation Initiative for the Advancement of Limnology and Oceanography (III), Bermuda BRS
- National Science Foundation Postdoctoral Fellowships in the Biosciences (\$80,000; *NOT FUNDED*) 1996 *Landscape influences on food web structure and productivity: implications for the relative importance of benthic and pelagic primary production in arctic lake food webs*
- National Science Foundation Doctoral Dissertation Improvement Grant (\$13,186): 1995-1997. *Carbon and Nitrogen Pathways in Lake Ecosystems: the Influence of Nutrients and Food Webs on Benthic-Pelagic Links*; co-authored with Y. Vadeboncoeur (U.N.D.) and D. Schindler (U.W.-Madison).
- Fellowship: NSF Graduate Research Training Program in Environmental Biology, 1997
- Navari Fellowship: Department of Biological Sciences, University of Notre Dame, 1996
- Selected Participant: NSF/WHOI - Cornell University Summer Workshop: 1995. *Food Web Structure and Dynamics in Marine, Terrestrial, and Freshwater Environments*

PEER REVIEWED PUBLICATIONS: (*Student Author)

- Blumenshine, S.C., B. Tsukimura, *A. Rice, and D. Rudnick. Environmental Factors Affecting the Dynamics of Chinese Mitten Crab Zoeae in the San Francisco Bay-Delta: A Tool for Predictions of Future Adult Migrations. In revision for Aquatic Invasions.
- *Moss, R.C., S.C. Blumenshine, J.P. Fleskes, and Julie Yee. 2009. Emergent Insect Production in Post-Harvest Agricultural Fields Flooded for Waterbird Habitat Mitigation. *Wetlands* 29:875-883.
- Blumenshine, S., A. Piumsonboon, *V. Gunbua, and N. Paphavasit. 2007. Factors affecting spatial and temporal variation in water quality and plankton: Case study in the Bangpakong River. *Thailand Journal of Science* 6(1):11-27.
- Johnson, R.L., S.C. Blumenshine, and S. Coughlin. 2006. Factors affecting Little Red River brown trout growth rates and potential benefits of forage base enhancement. *Environmental Biology of Fishes* 77:121-132.
- *Carl, T., and S.C. Blumenshine. 2005. Relationships among Vernal Pool Invertebrates and Habitat Morphology. *Bios* 76(3):145-152.
- *Hodgens, L.S., S.C. Blumenshine, and J.C. Bednarz. 2004. Trout predation by great blue herons in a tailwater fishery: a bioenergetics model application. *North American Journal of Fisheries Management* 24:63-75.
- Blumenshine, S.C., and K.D. Hambright. 2003. Top-down control in pelagic systems: a role for invertebrate predation. *Hydrobiologia* 491:347-356.
- Hambright, K.D., S.C. Blumenshine, and J. Shapiro. 2002. Can filter feeding fishes improve water quality in lakes? *Freshwater Biology* 47: 1173-1182.
- Frost, T.M., R.E. Ulanowicz, S.C. Blumenshine, T.F.H. Allen, F. Taub, and J.H. Rodgers, Jr. 2001. Scaling Issues in Experimental Ecology: Freshwater Ecosystems. *In: Scaling Relations in Experimental Ecology*, R.H. Gardner, W.M. Kemp, V. Kennedy, and J.E. Petersen (eds.). Columbia University Press, New York.
- Blumenshine, S.C., D.M. Lodge, and J.R. Hodgson. 2000. Gradient of fish predation alters body size distributions of lake benthos. *Ecology* 81:374-386.
- Neubert, M., S. Blumenshine, D. Duplisia, T. Jonsson, and B. Rashleigh. 2000. Body size, food web structure, and the cascade model's equiprobability assumption. *Oecologia* 123:241-251.

- Lodge, D.M., S.C. Blumenshine, and Y. Vadeboncoeur. 1998. Insights and applications of large-scale, long-term ecological observations and experiments. Pages 203-235 in: Experimental Ecology: Issues and Perspectives. W.J. Resetarits, Jr., and J. Bernardo (eds.). Oxford University Press, New York.
- Blumenshine, S.C., Y. Vadeboncoeur, D.M. Lodge, K.L. Cottingham, and S.E. Knight. 1997. Benthic-pelagic links: responses of benthos to water-column nutrient enrichment. *Journal of the North American Benthological Society* 16:466-479.

PROFESSIONAL ACTIVITIES:

U.S. –Thailand Fulbright Review Panel

- Thai University Faculty Development Program (for PhD study in U.S.)

Proposal review:

- U.S. Fulbright Scholar Program: Southeast Asia (2009)
- National Science Foundation (1999)(NSF-DEB)
- American Society of Limnology and Oceanography – DIALOG IV (2001)
(Dissertation Initiative for the Advancement of Limnology and Oceanography)

Academic Book review:

- Water in the Jordan Valley: Technical Solution and Regional Cooperation*. K. David Hambright, F. Jamil Ragep, and Joseph Ginat (volume editors). 236pp, University of Oklahoma Press. (2004)

Manuscript review:

- Archiv für Hydrobiologie, Canadian Journal of Fisheries and Aquatic Sciences, Ecological Applications, Ecology, Freshwater Biology, Hydrobiologia, Lake & Reservoirs: Research and Management, Limnology and Oceanography, Transactions of the American Fisheries Society*

Invited panel member:

How to Get a Post-Doc

- Graduate Resources Comm. workshop 1999 Annual Meeting of the North American Benthological Society
- Developing a teaching program*

- Graduate Resources Comm. workshop 2000 Annual Meeting of the North American Benthological Society
- National Park Service Monitoring Program

CSU-FRESNO SERVICE:

- Biology Dept.: Vertebrate Ecologist Search Comm. (Chair)
- Biology Dept.: Budget, Space, Facilities Comm. (Chair), Curriculum Comm. (Chair)
- College of Science and Mathematics: International Activities Committee (Chair)
- College of Science and Mathematics: Vehicle Use Committee, Academic Policy Committee
- College of Science and Mathematics: Planning, drafting, and establishment of Fly Fishers for Conservation Scholarship
- University: Advising the WASC Review Team on Educational Effectiveness, invited presentations for the Smittkamp Honors College Faculty Research Symposia (2003 and 2004), serving on oversight and subcommittees of the Environmental Science Joint Degree Program, International Advisory Committee, 7 Revolutions Committee, Academic Senate Research Awards Committee, ProACT Committee.
- Advisor: John Muir Student Association; Fresno Unified School District (Advised JrH Science Project)

COMMUNITY SERVICE:

- Invited speaker (Glacier Charter HS, Oakhurst, CA)(2004)
- Judge: Fresno Unified Science Fair – Sr. Division (2001)
- Science Advisor & Field Trip: Three Rivers (CA) School District Summer Enrichment Program (2002)
- Millerton Area Watershed Coalition: Steering Committee Member (2002)
- Millerton Area Watershed Coalition: Assessment Committee Member (Invitation for Chair declined)(2002)
- Central Sierra Watershed Committee
- Chowchilla-Red Top Watershed Committee
- California Dept. Fish & Game: Sampling design advising (2002)
- Radio interview for KMPH Radio (2001)