

CURRICULUM VITA (March 2018)

NAME: William John Matthews

PRESENT POSITION: Professor Emeritus, Department of Biology,
University of Oklahoma

MAILING ADDRESS: Department of Zoology, 730 Van Vleet Oval,
University of Oklahoma, Norman, OK 73019

EMAIL ADDRESS: wmatthews@ou.edu

PERSONAL DATA: Nationality: U.S. Citizen
Born: 11 November 1946
Marital Status: Married to Dr. Edie Marsh-Matthews

EDUCATION: B.S.E., Biology, Arkansas State University,
1968.
M.S., Biology, Arkansas State University,
1973.
Ph.D., Zoology, University of Oklahoma, 1977.
Dissertation: Influence of Physico-chemical
Factors on Habitat Selection by Red Shiners,
Notropis lutrensis (Pisces: Cyprinidae).

PREVIOUS PROFESSIONAL EXPERIENCE:

2016 (November) to Present: Professor Emeritus, Department of
Biology, University of Oklahoma.

1992-2016 Professor, Department of Zoology/Biology,
University of Oklahoma.

2003-2011. Chair, Department of Zoology, University of
Oklahoma.

1999. Interim Director of Programs, University of
Oklahoma Biological Station.

1997-1998. Interim Director of Research, University of
Oklahoma Biological Station.

1986-1992. Associate Professor, Biological Station and
Department of Zoology, University of Oklahoma.

1979-1985. Assistant Professor, Biological Station and
Department of Zoology, University of Oklahoma.

1977-1979. Assistant Professor of Biology, Roanoke College,
Salem, Virginia.

1974-1977. Teaching Assistant and Associate, Department of
Zoology and Biological Station, University of
Oklahoma.

1970-1974. Instructor in Biology, Chemistry and Physical
Science, Warren County, Missouri, R-III School
District.

1968-1970 Officer, U.S. Army, Ft. Bliss, Texas, and 25th
Infantry Division, Republic of Vietnam

COURSES TAUGHT:

Ichthyology, Principles of Ecology, Fish Ecology, Stream Ecology, Aquatic Biology, Vertebrate Morphogenesis, Fishes of the Midwest, Larval Fish Ecology, Stream Fish Ecology; Senior Capstone Seminar; Seminars in: Resource Use in Aquatic Environments, Stream Ecology, Fish Ecology, Larval Fish Ecology, Fish Faunas of North America, Analysis of Fish Community Structure.

RESEARCH INTERESTS:

Structure of fish assemblages, with emphasis on long-term changes and the role of the environment.

Functional roles and effects of fishes in stream ecosystems.

Zoogeography, distributional ecology and systematics of North American freshwater fishes.

Ecology of fishes in reservoir-river systems.

PROFESSIONAL SOCIETIES:

American Association for the Advancement of Science
American Fisheries Society
American Society of Ichthyologists and Herpetologists
Beta Beta Beta
Ecological Society of America
Phi Sigma
Sigma Xi
Southwestern Association of Naturalists

SERVICE:

Executive Committee, American Society of Ichthyologists and Herpetologists (2017-2018); Co-chair of Finance Committee
Prior Past-President (2015) American Society of Ichthyologists and Herpetologists
Immediate Past-President (2014) American Society of Ichthyologists and Herpetologists.
President (2013) American Society of Ichthyologists and Herpetologists, and Chair of the Executive Committee.
President Elect (2012), American Society of Ichthyologists and Herpetologists.
Chair, Department of Zoology, University of Oklahoma, 2003-2011.

Member, College of Arts and Sciences PHSc space committee
2011.

Member, OU Health Insurance Committee, 2007-2008.

Member, College of Arts and Sciences Instructional
Technology Committee, 2004-2007.

Local Co-chair, Annual Meeting of the American Society of
Ichthyologists and Herpetologists, Norman, OK, May
2004.

Local Chair, 50th Anniversary Meeting of the Southwestern
Associations of Naturalists, Norman, OK, April 2003.

President, Southwestern Association of Naturalists, 1995-
1997 (and Life Member of Board of Governors).

Committee A (elected departmental governance committee),
Department of Zoology, University of Oklahoma, 1994-
1996.

Editorial Board, American Society of Ichthyologists and
Herpetologists (1994-1996).

Editor for Ecology and Ethology, Copeia. American Society
of Ichthyologists and Herpetologists. (1990-January
1994).

President-Elect, Southwestern Association of Naturalists,
1993-1995.

Associate Editor, Transactions of the American Fisheries
Society. (1990-1991).

Curator of Fishes, Oklahoma Museum of Natural History, and
Sam Noble Museum, University of Oklahoma. (1980-2003).

Board of Governors, American Society of Ichthyologists and
Herpetologists. (1985-1990, 1993-1998, and 2002-2006).

Board of Governors, Southwestern Association of Naturalists.
(1984-1988 and 1990-1994).

Ichthyology Editor, The Southwestern Naturalist.
(1982-1983).

Lower Vertebrates Editor, The Southwestern Naturalist.
(1980-1982).

Associate Editor and Editorial Board, Early Life History
Section, American Fisheries Society. (1988).

Regional Representative, Early Life History Section,
American Fisheries Society. (1984-1985).

Long Range Planning and Finance Committee, American Society
of Ichthyologists and Herpetologists. (1984-1987).

Standing Committee on Special Publications, American Society
of Ichthyologists and Herpetologists. (1993 et seq.).

Endowment Committee, American Society of Ichthyologists and
Herpetologists. (1993-1994).

Co-organizer of symposium, "Community and Evolutionary
Ecology of North American Stream Fishes". Annual
meeting, American Society of Ichthyologists and
Herpetologists, June 1985, Knoxville, TN.

Graduate Studies Committee, Zoology Department, University
of Oklahoma. (1988-1990).

Graduate Selections Committee, Zoology Department,
University of Oklahoma. (1982-1985; 1987-1988; 1991-
1992; 1994-95; 1998-2000).

Aquatic Ecologist Search Committee Chairman (Biological
Station) 1990-1991 and 1991-1992.

Ecologist Search Committee Chairman (Department of Zoology,
1993-94)

Search Committee Chair, Director of Research, Biological
Station, 1997-98.

Stoye Award Committee. ASIH annual meetings. (1990, 1992,
1993, 1997).

Wilks Award Committee, SWAN Annual Meeting. (1990, 1994,
1995).

Non-Game Program - Fishes Technical Committee, Oklahoma
Department of Wildlife Conservation. (1985-present).

Courses and Educational Materials Committee, Early Life
History Section, American Fisheries Society. (1983).

Publications Committee, Stovall Museum. (1981-2003).

Resources and Planning Committee, Roanoke College.
(1978-1979).

Marshall County Environmental Committee, Marshall County,
Oklahoma. (1979-1981).

Local Co-Chairman, Great Plains Limnology Conference.
(1982, 1988).

Meeting Evaluation Committee, American Fisheries Society.
(1982).

Assistant Chairman - Local Committee, Annual Meeting,
American Society of Ichthyologists and Herpetologists.
(1984).

Membership Committee Chairman, Southwestern Association of
Naturalists. (1984-1986).

ADMINISTRATIVE EXPERIENCE:

President, American Society of Ichthyologists and Herpetologists,
2013.

Chair, Department of Zoology, University of Oklahoma, 2003-2011.

Assistant Chair, Department of Zoology, University of Oklahoma,
2002-2003.

Interim Director of Programs, University of Oklahoma Biological
Station, January-December 1999.

Interim Director of Research, University of Oklahoma Biological
Station, October 1997-December 1998.

Committee "A", Department of Zoology, 1994-1996.

Commanding Officer, Headquarters Company, 25th Infantry Division Support Command, South Vietnam, 1969-70.

AWARDS AND HONORS:

Oklahoma Chapter, American Fisheries Society, "Lifetime Achievement Award", March 2018.

Joseph S. Nelson Lifetime Achievement Award in Ichthyology, American Society of Ichthyologists and Herpetologists. 2015.

Joe Hogan Lifetime Achievement Award, Arkansas Chapter, American Fisheries Society. 2010.

George M. Sutton Conservation Award, Southwestern Association of Naturalists, 2001. (Best conservation paper in Southwestern Naturalist).

Donald W. Tinkle Research Excellence Award, Southwestern Association of Naturalists, 1996.
Best professional paper, American Fisheries Society, Oklahoma-Arkansas chapters, 1993.

"Fisheries Worker of the Year", Oklahoma Chapter of American Fisheries Society, 1993.

"Outstanding Young Educator", Warren County (Missouri) R-III School District, 1972.

Bronze Star Medal and Army Commendation Medal, 25th Infantry Division, US Army, Vietnam, 1970.

EXTRAMURAL GRANTS AND AWARDS:

Matthews, W. J. and E. Marsh-Matthews (Co-PIs). 2017-2018 Survey of fishes Oka' Yanahli Preserve, TNC, Blue River, Oklahoma. \$2,400.

Nairn, R.W.(PI), R. Knox and W.J. Matthews (Co-PIs). Passive treatment of contaminated mine waters: Design, construction and evaluation of the Southeast Commerce Project. October 2, 2014 to July 31, 2017. \$1,570,477. Oklahoma Department of Environmental Quality.

Matthews, W. J. (PI) and E. Marsh-Matthews (Co-PI). Survey of Clear Boggy, Muddy Boggy, Kiamichi and Little River drainages in Oklahoma to determine current distribution and status of fish species of greatest conservation need and

potential change in fish communities. January 1, 2014 - June 30, 2016 . \$85,600. Oklahoma Department of Wildlife Conservation, State Wildlife Grant.

Marsh-Matthews, E. (PI) and W. J. Matthews (Co-PI). Historic and current habitat use by Arkansas River Shiner in the South Canadian River in central Oklahoma as affected by river flow: predictions for habitat under future climate scenarios. U. S. Fish and Wildlife Service, GPLCC, 8/1/2012-9/30/2013, \$97,473.

Marsh-Matthews, E. (PI), and W. J. Matthews (Co-PI). Comparison of the Fish Assemblages of the Crutch Creek Drainage Basin, Oklahoma. U.S. Department of Defense, Air Force, July 31, 2009 - December 31, 2011, \$63,054.

US Environmental Protection Agency. 2004-2010. Design, construction and evaluation of a passive treatment system for contaminated mine water. \$2,982,000. B. Nairn, PI; W. Matthews and others, Co-PIs. (Matthews' portion of the award is \$198,252 for evaluation of effects on fishes).

National Science Foundation. 2003-2004. Dissertation research: Fish effects in stream ecosystems-a mechanistic approach. \$6,980 (DEB-0308729). Dissertation improvement grant for Chad Hargrave.

US Army Engineers. 1999-2004. Development of protocols for assessing watershed assimilative capacity for chemical stressors in support of appropriate ecosystemmanagement/restoration practices: Determination of aquatic and sediment eco-effects. (On Lake Texoma). \$910,000. G. D. Schnell, PI; W. J. Matthews, Co-PI.

Oklahoma Water Resources Board. 2002-2003. Sorting and identification of fish. \$ 6,000. W. J. Matthews, PI; E. Marsh-Matthews, Co-PI.

USDA Forest Service. 1999-2000. Assessment of movement of leopard darters in Oklahoma streams. \$ 40,000. E. Marsh-Matthews, PI; W. J. Matthews, Co-PI.

Oklahoma Department of Environmental Quality. 1999-2003. Identify, enumerate and determine biomass of fish samples. Not to exceed \$ 10,000 per year. W. J. Matthews, PI; E. Marsh-Matthews, Co-PI.

US Environmental Protection Agency. 1994-1998. Long-term variation in fish assemblages of warm-water streams: natural

- variance and approaches to detecting variation. \$ 221,238.
W. J. Matthews, PI; Edie Marsh-Matthews, Co-PI.
- US Environmental Protection Agency. 1993-1996. Potential establishment of red shiner minnows and consequences to native fish faunas in upland streams of eastern North America as related to climate change. \$ 295,879. W. J. Matthews, PI; F. P. Gelwick, Co-PI.
- USDA Forest Service. 1994-1996. Spatial distribution and size of stream habitat patches: consequences to stream fishes. \$ 43,000. W. J. Matthews, PI, M. L. Warren and D. G. Lonzarich, Co-PIs.
- Oklahoma Department of Wildlife Conservation. 1994-1996. Habitat requirements of the Arkansas River shiner, Notropis girardi. \$ 31,900. W. J. Matthews, PI.
- USDA Forest Service. 1993-1995. Analysis of food habits of fish in Ouachita National Forest stream ecosystems, and effects of clearcutting. \$ 29,000. W. J. Matthews, PI; M. L. Warren, Co-PI.
- U.S. Fish and Wildlife Service. 1993. Ichthyological inventory of Wichita Mountains Wildlife Reserve, Oklahoma, and genetics of Micropterus basses. \$ 3,400. W. J. Matthews, PI.
- National Science Foundation. 1987-1991. Effects of algae-grazing fishes on biotic communities and ecosystem processes in north temperate streams. \$213,000. W. J. Matthews, P.I.
- National Science Foundation. 1991-1993. Aquatic ecology research park for the University of Oklahoma Biological Station. \$ 21,700. W. J. Matthews, P.I., S. Golladay and L. G. Hill, Co-PIs.
- USDA Forest Service. 1989-1992. Fish community composition and biomass as related to physical stream environment, seasons, and forest management in the Ouachita Mountains of Southwestern Arkansas. \$36,018. W. J. Matthews, P.I.
- Oklahoma Department of Wildlife Conservation. 1988-1991. Survey of the status of game and forage fishes of the upper Red River drainage in Oklahoma. \$99,578. W. J. Matthews, P.I.
- North Texas Municipal Water District. 1988-1991. Effects of water transfer from Lake Texoma to Lake Lavon upon the biota and chemistry of the reservoirs and of Sister Grove Creek. \$326,656. L. G. Hill, P.I., W. J. Matthews, Co-PI.

- North Texas Municipal Water District. 1991-1992. Post-pumping evaluation of water transfer from Lake Texoma to Lake Lavon. \$ 180,000. L. G. Hill, P.I., W. J. Matthews and S. Golladay, Co-PIs.
- Bass Research Foundation. 1985-1989. Potential interactions of striped bass and black bass in reservoir environments. \$158,000. W. J. Matthews, PI; L. G. Hill, Co-PI.
- National Science Foundation. 1985-1987. Predators and algae-grazing minnows in north temperate streams: Does the kind of predator matter? \$10,948. W. J. Matthews, PI; R. Cashner, A. J. Stewart, M.E. Power, Co-PIs.
- National Science Foundation. 1985-1986. Community and evolutionary ecology of North American stream fishes: A symposium. \$28,440. W.J. Matthews, PI; D.C. Heins, Co-PI.
- National Science Foundation. 1985. Dissertation improvement award for Bret C. Harvey. \$3,683. W. J. Matthews, PI.
- National Science Foundation. 1983-1985. Multi-level effects of an algae-grazing minnow on north temperate streams. \$60,000. W. J. Matthews, PI; M. E. Power, A. J. Stewart, Co-PIs.
- National Science Foundation. 1981-1984. Physicochemical tolerance and selectivity of freshwater fish as related to their zoogeographic ranges and local distributions. \$71,000. W. J. Matthews, PI; L. G. Hill, Co-PI.
- Waterways Experiment Station, U.S. Army Corps of Engineers. 1984-1985. Cypress Bayou (Texas) fisheries study. \$14,328. W. J. Matthews, PI.
- National Science Foundation. 1985-1986. Research facility enhancement at the University of Oklahoma Biological Station. \$204,000. L. G. Hill, PI; S. T. Threlkeld, A. J. Stewart, and W. J. Matthews, Co-PIs.
- National Science Foundation. 1985. Purchase of an elemental analysis system for the University of Oklahoma Biological Station. \$45,000. A. J. Stewart, PI, S. T. Threlkeld, W. J. Matthews, Co-PIs.
- U.S. Fish and Wildlife Service. 1983. Predator-prey interactions, distribution, and population structure of striped bass and forage fishes in Lake Texoma

- (Oklahoma-Texas). \$25,051. W. J. Matthews, PI; L. G. Hill, Co-PI.
- Wood Foundation (Dallas, Texas). 1983. Ecology of striped bass in Lake Texoma. \$5,000. W. J. Matthews, PI.
- U.S. Fish and Wildlife Service. 1982. Evaluation of the thermal niche hypothesis for striped bass in reservoir environments. \$18,000. W. J. Matthews, PI; L. G. Hill, Co-PI.
Oklahoma Water Resources Research Institute. 1980-1982.
- Biota of Oklahoma springs-biological monitoring of groundwater quality. \$9,750. W. J. Matthews, PI.
- Environmental Protection Agency. 1981-1982. Clean lakes phase I evaluation of Lake Frances, Oklahoma. \$71,998. S. T. Threlkeld, PI; W. J. Matthews and L. G. Hill, Co-PIs.
- U.S. Fish and Wildlife Service. 1981-1982. Preliminary monitoring of interactions among striped bass, forage fish species, and zooplankton in Lake Texoma, Oklahoma-Texas. \$15,000. W. J. Matthews, PI; L. G. Hill, Co-PI.
- Raney Fund for Ichthyology, American Society of Ichthyologists and Herpetologists, 1978. Geographic variation of Notropis lutrensis. \$1,430.

PANELS OR WORKSHOPS:

- 1984 Invited participant, "Assesment of Funding Needs of Field Biological Research Stations". National Science Foundation sponsored workshop, Kellogg Biological Station, Michigan.
- 1987 Invited participant, "Factors Controlling Community Structure and Function in Tropical Versus Temperate Streams". National Science Foundation workshop, 25-28 April 1987, Flathead Lake, Montana.
- 1990 Invited participant, "Global Climate Change and Freshwater Ecosystems". Environmental Protection Agency workshop, 10-12 January, Washington, D.C.
- 1990-1993 National peer-review panel, Environmental Protection Agency. Surface Water Component of the Environmental Monitoring and Assesment Program (EMAP).

- 1990 Invited panel member, conference on "Biological Monitoring of Freshwater Ecosystems", sponsored by Societas Internationalis Limnologia and U.S. EPA, 29 Nov - 1 Dec, Purdue University.
- 1991 Invited review panel, "Glen Canyon Environmental Studies and Endangered Species Investigations", Center for Environmental Studies, Arizona State University.
- 1991 Invited member, Advisory Panel for U. S. Geological Survey (USGS) National Water-Quality Assessment Program (NAWQA).
- 1992 Invited Participant, National Research Council advisory workshop on ecological monitoring for the Colorado River-Glen Canyon Dam system, Irvine, CA, 5 - 7 October.
- 1993 USDA external review team to evaluate Department of Wildlife and Fisheries, Mississippi State University.
- 1994 Invited participant, Regional Working Group "Great Plains", for "Regional Assessment of Freshwater Ecosystems and Climate Change in North America. June, 1994, Boulder Colorado; October 1994, Leesburg, Virginia. Organized by American Society of Limnology and Oceanography, and North American Benthological Society.
- 1997 Invited member of "Panel of Experts", The Nature Conservancy, Shortgrass Prairie Working Group, Loveland, Colorado, October 1997.
- 1999 Central Mixed-Grass Prairie Technical Team, The Nature Conservancy.
- 1999-2003 Lower Basin Recovery Implementation Plan Scientific Workgroup (for recovery recommendations for endangered fishes in Colorado River in Arizona, Nevada and California)). US Fish and Wildlife Service Region 2, Albuquerque, NM.

CONSULTING EXPERIENCE:

- 1975 "Fishes" in Survey of the Fauna of Proposed Grasslands National Park (Oklahoma-Kansas). For Oklahoma Biological Survey.
- 1976 "Fishes" in Vertebrates in the Vicinity of Tulsa, Oklahoma. For Oklahoma Biological Survey.
- 1977 Environmental impact assessment (fishes section) for the Grand River Dam Authority. Coal-fired power plant near Chouteau, Oklahoma. For TECHRAD, Oklahoma City, OK.
- 1978 Member, Upper Roanoke River Basin Control panel, for U.S. Army Corps of Engineers, Wilmington (NC) District.
- 1980 Reviewer: Maryland Power Plant Site Planning Program.
- 1984 Field assessment of habitat use and foods with respect to minimum flow requirements, Cypress River (Texas) drainage basin. For Waterways Experiment Station, U.S. Army Corps of Engineers, Vicksburg, Mississippi.
- 1985 Consultant to U.S. Fish and Wildlife Service regarding minimum stream flows for fish in upper Verde River, Arizona.
- 1987 Field assessment of warm-water fishery potential in Crutch Creek and Soldier Creek, Oklahoma City, Oklahoma. For Institute of Applied Sciences, North Texas State University.
- 1989 Consultant to Shell Oil Company. Fish community structure in Louisiana streams.
- 1990 Field assessment of fish distribution and abundance, Little River Wildlife Refuge, McCurtain Co., Oklahoma. For Oklahoma Natural Heritage Inventory.
- 1991 Assessment of stream fish community structure, Tallgrass Prairie Reserve, Osage County, Oklahoma. For The Nature Conservancy and Oklahoma Natural Heritage Inventory.
- 1992 Assessment of stream fish community structure, Ft. Chaffee (Arkansas) Military Reservation. For the Oklahoma Biological Survey.

- 1993 Reviewer: Upper Colorado River Fish Studies, U.S. Fish and Wildlife Service, Grand Junction, Colorado.
- 1995 Reviewer: Reports to Glen Canyon-Colorado River Environmental Studies panel, Arizona State University.
- 1996 Consultant to Oklahoma Department of Wildlife Conservation on Red River Chloride Control Project
- 1998 Consultant to Nebraska Parks and Wildlife-- fish ecology in the Sandhills Region. With E. Marsh-Matthews.
- 2003 Advising to Tinker Air Force Base, Environmental Monitoring section, re. Crutcho Creek studies.
- 2016-2017 Advising to USDA Forest Service
- 2017 Advising and leading fish survey of the Oka' Yanahli Preserve (Blue River, Oklahoma) for The Nature Conservancy

GRADUATE STUDENTS:

Bret C. Harvey. Ph.D. 1987. Larval stream fish mortality and multi-trophic level interactions among stream fishes. Now Senior Research Biologist, USDA Forest Service, Acada, CA.

Jan J. Hoover. Ph.D. 1988. Trophic ecology in an assemblage of Ozark stream fishes. Now senior staff scientist, Waterways Experiment Station, Corps of Engineers, Vicksburg, Mississippi.

W. David Partridge. M.S. 1991. Grazer-induced export of algae, invertebrates and nutrients in streams. Now Research Biologist with Arizona Game and Fish Department.

Matthew Winston. Ph.D. 1993. Spatial distribution of morphological characteristics in stream fishes. Retired.

Christopher M. Taylor. Ph.D. 1994. Density compensation, interactive segregation and behavioral interactions in a guild of benthic Ozark fishes. Now Professor at Pan American University, Texas.

Mark Pyron. Ph.D. 1994. Mate choice in fishes. Now Professor, Ball State University.

Kirsten Work. Ph.D. 1997. Interactions of environmental factors with abundance and distribution of the introduced zooplankter Daphnia lumholtzi. (Committee co-chair with Moshe Gophen). Now Professor and Department Chair at Stetson University, Florida.

Philip Lienesch. Ph.D. 1997. Interactions of fishes and the introduced Daphnia lumholtzi in Lake Texoma. (Committee co-chair with Moshe Gophen). Now Associate Professor, Western Kentucky University.

Karl Polivka. MS. 1997. Effects of microhabitat variables on habitat selection by Notropis girardi. Completed PhD at University of Chicago, 2002; now Research Scientist at Pacific Northwest Research Station, USDA Forest Service.

Keith Gido. Ph.D. 1999. Ecology of detritivorous fishes in reservoirs. Now Professor, Kansas State University.

Jacob Schaefer. Ph.D. 1999. Modeling movements of small stream fishes. Now Associate Professor, University of Southern Mississippi.

Chad Hargrave. MS. 2000. PhD 2005. MS Project: "Spatial and temporal variation in fishes of the upper Red River basin in Oklahoma". PhD Project: "Effects of fish in stream ecosystems". Now Associate Professor and Department Chair at Sam Houston State University, Huntsville, Texas.

David Gillette. PhD 2007. "Trophic Spatial Ecology of Invertivorous Stream Fishes", Now Associate Professor, University of North Carolina-Ashville.

Gregory A. Smith, PhD 2007 (co-chaired with Mark Lomolino), "Structure and Assembly of Avian Communities Associate with Black-Tailed Prairie Dog Ecosystems", Now field station manager for Miami University, Ohio.

Courtney M. Franssen Tobler, MS, 2007. "The Effects of Heavy Metal Mine Drainage on Population Dynamics, Reproduction, and Condition of *Gambusia affinis*", currently at Kansas State University with spouse who is a faculty member.

Rachael Remington. PhD. 2008. "Ecology and Evolution of Turbid-Water Adaptations in Fishes". Now instructor at University of Canberra, Australia.

Jeff Wesner. PhD. 2010. "Trophic connections between stream and terrestrial food webs. Now Associate Professor in Biology Department, University of South Dakota.

Zachary Zbinden. MS. 2016. "Beta diversity in streams fish communities of the Muddy Boggy River drainage". Now PhD student at University of Arkansas.

POSTDOCTORAL RESEARCH ASSOCIATES SUPPORTED BY EXTRAMURAL FUNDS:

Barbara E. Taylor. 1981-1982. Environmental Protection Agency Clean Lakes Program (Lake Francis, Oklahoma). (0.5 FTE).

Marsha Stock. 1988-1989. National Science Foundation.

Thomas Gardner. 1989-1990. National Science Foundation.

Michael R. Meador. 1988-1990. North Texas Municipal Water District.

Mark Schorr. 1990-1993. North Texas Municipal Water District.

David Lonzarich. 1994-1995. USDA Forest Service.

Frances P. Gelwick. 1993-1995. US Environmental Protection Agency.

Keith Gido. 1999-2001. US Corps of Engineers.

Jacob Schaefer. 1999-2000. USDA Forest Service.

Michael Eggleton. 2001-2003. US Corps of Engineers.

BOOKS:

Matthews, W. J., and E. Marsh-Matthews. 2017. Stream Fish Community Dynamics: A Critical Synthesis. Johns Hopkins University Press. Baltimore, MD.

Matthews, W. J. 1998. Patterns in Freshwater Fish Ecology. Chapman and Hall, New York, NY. 757 pages. Second printing, May 1998, Kluwer Academic Press.

Matthews, W. J. and D. C. Heins. Editors. 1987. Community and Evolutionary Ecology of North American Stream Fishes. University of Oklahoma Press. 310 pp.

PEER-REVIEWED PUBLICATIONS:

- Zbinden, Z. D. and W. J. Matthews. 2017. Beta diversity of stream fish assemblages: partitioning variation between spatial and environmental factors. *Freshwater Biology* DOI: 10.1111/fwb.12960 (May 2017).
- Matthews, W. J. and E. Marsh-Matthews. 2016. Dynamics of an upland stream fish community over forty years: trajectories and support for the loose equilibrium concept. *Ecology* 97:706-719.
- Matthews, W. J., T. Turner, and M. Osborne (2016) Breakdown of a Hybrid Swarm between Two Darters (Percidae), *Etheostoma radiosum* and *Etheostoma spectabile*, with Loss of One Parental Species. *Copeia* 104:873-878.
- Matthews, W. J. 2015. Basic biology, good field notes, and synthesizing across your career. *Copeia* 103:495-501.
- Matthews, W. J. and E. Marsh-Matthews. 2015. Comparison of historical and recent fish distribution patterns in Oklahoma and Western Arkansas. *Copeia* 103:170-180.
- Matthews, W. J., E. Marsh-Matthews, G. L. Adams and S. R. Adams. 2014. Two catastrophic floods: similarities and differences in effects on an Ozark stream fish community. *Copeia* 2014: 682-693.
- Ross, S. T. and W. J. Matthews. 2014. Evolution and ecology of North American freshwater fish assemblages. Chapter 1, Pages 1-49 in: *North American Freshwater Fishes*, Volume 1. Johns Hopkins Press.
- Matthews, W. J. 2014. Red Shiner, *Cyprinella lutrensis* (Baird and Girard 1853). Pp. 146-147 in: *Kansas Fishes*, M. E. Eberle, D. Edds and Kansas Fish Committee (editors). University Press of Kansas, Lawrence, KS.
- Matthews, W. J. 2014. Foreward. Pp. IX-XI. In: *Kansas Fishes*, M. E. Eberle, D. Edds and Kansas Fish Committee (editors). University Press of Kansas, Lawrence, KS.
- Marsh-Matthews, E., J. Thompson, W. J. Matthews, A. Geheber, N. R. Franssen, J. Barkstedt. 2013. Differential survival of two minnow species under sunfish predation: implications for reinvasion of a species into its native range. *Freshwater Biology* 58:1745-1754 (with cover illustration for journal issue).
- Matthews, W. J., E. Marsh-Matthews, R. C. Cashner, and F. Gelwick. 2013. Disturbance and trajectory of change in a stream fish community over four decades. *Oecologia* 173:955-969, with supplementary materials. Published online 31 March 2013. DOI 10.1007/s00442-013-2646-3.

Gillette DP, Fortner AM, Franssen NR, Cartwright S, Tobler CM, Wesner JS, Reneau PC, Reneau FH, Schlupp I, Marsh-Matthews EC, Matthews WJ, Broughton RE, Lee CW. 2012. Patterns of change over time in darter (Teleostei: Percidae) assemblages of the Arkansas River basin, northeastern Oklahoma, USA. *Ecography* 35:1-10.

Matthews, W. J., W. L. Shelton, and E. Marsh-Matthews. 2012. First year growth of longnose gar (*Lepisosteus osseus*) from zygote to autumn juvenile. *Southwestern Naturalist* 57:335-337.

Matthews W.J. and E. Marsh-Matthews. 2011. An invasive fish species within its native range: community effects and population dynamics of *Gambusia affinis* in the central United States. *Freshwater Biology* 56:2609-2619.

Marsh-Matthews E., W. J. Matthews, and N. R. Franssen. 2011. Can a highly invasive species re-invade its native habitat? The paradox of the red shiner. *Biological Invasions* 13:2911-2924.

Cashner, R. C., W. J. Matthews, E. Marsh-Matthews, P. J. Unmack, and F. M. Cashner. 2010. Recognition and redescription of a distinctive stoneroller from the southern Interior Highlands *Copeia* 2010:300-311.

Matthews, W. J. 2010. Community ecology of stream fishes: Two decades later. Invited plenary chapter in: K. Gido and D. Jackson, editors, *Community Ecology of Stream Fishes*. American Fisheries Society Symposium 73:3-19

Marsh-Matthews, E., and W. J. Matthews. 2010. Proximate and residual effects of exposure to simulated drought on prairie stream fishes. In: K. Gido and D. Jackson, editors, *Community Ecology of Stream Fishes*. American Fisheries Society Symposium 73:461-486.

Matthews, W. J., C. C. Vaughn, K. B. Gido, and E. Marsh-Matthews. 2010. Southern Plains Rivers pp. 118-135, in: *Field Guide to Rivers of North America*, A. C. Benke and C.E. Cushing, Editors. Academic Press, Burlington, MA.

Bergey, E. A., W. J. Matthews, and J. E. Fry. 2008. Springs in time: fish fauna and habitat changes in springs over a 20-year interval. *Aquatic Conservation: Marine and Freshwater Ecosystems* 18:829-838.

Matthews, W. J., and E. Marsh-Matthews. 2007. Extirpation of Red Shiner in direct tributaries of Lake Texoma (Oklahoma-Texas): A cautionary case history from a fragmented river-reservoir system. *Transactions of the American Fisheries Society*. 136:1041-1062.

Matthews, W. J. and E. Marsh-Matthews. 2006. Temporal changes in replicated experimental stream fish assemblages: Predictable or not? *Freshwater Biology* 51:1605-1622.

Matthews, W. J. and E. Marsh-Matthews. 2006. Persistence of fish species associations in pools of a small stream of the southern Great Plains. *Copeia* 2006:696-710.

- Matthews, W. J., K. B. Gido, G. P. Garrett, F. P. Gelwick, J. Stewart, and J. Schaefer. Modular experimental riffle-pool stream system. 2006. *Transactions of the American Fisheries Society* 135:1559-1566.
- Franssen, C. M., M. A. Brooks, R. W. Parham, K. G. Sutherland, and W. J. Matthews. 2006. Small-bodied fishes of Tar Creek and other small streams in Ottawa County, Oklahoma. *Proceedings of the Oklahoma Academy of Science* 86:9-16.
- Gelwick, F. P. and W. J. Matthews. 2006. Trophic relations of stream fishes (Chapter 26) in: F. R. Hauer and G. A. Lamberti (eds.), *Methods in Stream Ecology*, Second Edition. Academic Press, New York.
- Brown, A. V. and W. J. Matthews. 2006. Stream ecosystems of the central United States. Invited chapter in: C.E. Cushing, K. Cummins and G. W. Minshall (eds), *River and Stream Ecosystems*. Reprinted as Second Edition. Elsevier Press.
- Matthews, W. J., C. C. Vaughn, K. B. Gido and E. Marsh-Matthews. Southern Plains Rivers. 2005. "Southern Plains Rivers" Chapter 7 (Pp 283-325) in: A. C. Benke and C. E. Cushing, eds. *Rivers of North America*, Academic Press, New York.
- Eggleton, M. A., R. Ramirez, C. W. Hargrave, K.B. Gido, J. R. Masoner, G. D. Schnell and W. J. Matthews. 2005. Predictability of littoral-zone fish communities through otogeny in Lake Texoma, Oklahoma-Texas, USA. *Environmental Biology of Fishes* 73:21-36.
- Hargrave, C. H., K. G. Sutherland, E. Marsh-Matthews and W. J. Matthews. 2005. Multiple interacting factors affect pH in museum storage solutions. *Collection Forum* 19:23-31.
- Dodds, W. K., K. Gido, M. R. Whiles, K. M. Fritz, and W. J. Matthews. 2004. Life on the edge: Ecology of prairie streams. *BioScience* 54:207-218.
- Matthews, W. J., K. B. Gido and F. P. Gelwick. 2004. Fish assemblages of reservoirs, illustrated by Lake Texoma (Oklahoma-Texas, USA) as a representative system. *North American Journal of Lake Management* 20:219-239.
- Eggleton, M. A., K. B. Gido, G. D. Schnell and W. J. Matthews. 2004. Assessment of stress in aquatic communities of Lake Texoma, Oklahoma-Texas, USA. *Ecology and Hydrobiology* 4:103-117.
- Matthews, W. J., A. M. Miller, M. Warren, Jr., D. Cobb, J. G. Stewart, B. Crump, and F. P. Gelwick. 2004. Context-specific trophic and functional ecology of fishes of small streams of the Ouachita National Forest. Pp 221-230 in: J. M. Guildin, Ed. *Ouachita and Ozark Mountains symposium: Ecosystem management research*. Gen. Tech. Report SRS-74, Asheville, NC, USDA Forest Service, Southern Research Station.
- Matthews, W. J. and E. Marsh-Matthews. 2003. Effects of drought on fish across axes of space, time, and ecological complexity. *Freshwater Biology* 48:1232-1253.

- Schaefer, J. F., E. Marsh-Matthews, D. E. Spooner, K. B. Gido, and W. J. Matthews. 2003. Effects of barriers and thermal refugia on local movements of the threatened leopard darter (*Percina pantherina*). *Environmental Biology of Fishes* 66:391-400.
- Minckley, W. L., J. E. Deacon, T. E. Dowling, P. W. Hedrick, P. C. Marsh, W. J. Matthews and G. Mueller. 2003. A conservation plan for lower Colorado River native fishes. *BioScience* 55:219-234.
- Marsh-Matthews, E. and W. J. Matthews. 2002. Temporal stability of minnow species co-occurrence in streams of the central United States. *Transactions of the Kansas Academy of Science* 105:162-177.
- Edds, D. R., W. J. Matthews and F. P. Gelwick. 2002. Resource use by large catfishes in a reservoir: is there evidence for interactive segregation and innate differences? *Journal of Fish Biology* 60:739-750.
- Gido, K. B., C. W. Hargrave, W. J. Matthews, G. D. Schnell, D. W. Pogue, and G. Sewell. 2002. Structure of littoral-zone fish assemblages along physical and chemical gradients in a southern reservoir: local versus systemwide effects. *Environmental Biology of Fishes* 63:253-263.
- Marsh-Matthews, E., W. J. Matthews, K. B. Gido and R. L. Marsh. 2002. Reproduction by young-of-year red shiner (*Cyprinella lutrensis*) and its implications for invasion success. *Southwestern Naturalist* 47:605-610.
- Matthews, W. J., K. B. Gido and E. Marsh-Matthews. 2001. Density-dependent overwinter survival and growth of red shiners from a southwestern river. *Transactions of the American Fisheries Society* 130:478-488.
- Gido, K. B. and W. J. Matthews. 2001. Ecosystem effects of water column minnows in experimental streams. *Oecologia* 126:247-253.
- Lienesch, P. W. and W. J. Matthews. 2000. Daily fish and zooplankton abundances in the littoral zone of Lake Texoma, Oklahoma-Texas, in relation to abiotic variables. *Environmental Biology of Fishes* 59:271-283.
- Marsh-Matthews, E. and W. J. Matthews. 2000. Spatial variation in relative abundance of a widespread, numerically dominant fish species and its effect on fish assemblage structure. *Oecologia* 125:283-292.
- Gido, K. B. and W. J. Matthews. 2000. Dynamics of the offshore fish assemblage in a Southwestern reservoir (Lake Texoma, Oklahoma-Texas). *Copeia* 2000:917-930.
- Gido, K. B., W. J. Matthews and W. C. Wolfenbarger. 2000. Long-term variation in fish assemblages of an artificial reservoir: stability in an unpredictable environment. *Ecological Applications* 10:1517-1529.

Marsh-Matthews, E. and W. J. Matthews. 2000. Aquatic, terrestrial, and "global" landscape factors: Which most influence local stream fish assemblages?. *Ecology of Freshwater Fish* 9:9-21.

Stewart, J. G., F. P. Gelwick, W. J. Matthews and C. M. Taylor. 1999. An annotated checklist of the fishes of the Tallgrass Prairie Preserve, Osage County, Oklahoma. *Proceedings of the Oklahoma Academy of Science* 79:13-17.

Gido, K. B., J. F. Schaefer, K. Work, P. W. Lienesch, E. Marsh-Matthews and W. J. Matthews. 1999. Effects of red shiner (*Cyprinella lutrensis*) on Red River pupfish (*Cyprinodon rubrofluviatilis*). *Southwestern Naturalist* 44:287-295.

Matthews, W. J. and H. W. Robison. 1998. Influence of drainage connectivity, drainage area, and regional species richness on fishes of the Interior Highlands in Arkansas. *American Midland Naturalist*. 139:1-19.

Hubbs, C., E. Marsh-Matthews, W. J. Matthews, and A. A. Anderson. 1997. Changes in fish assemblages in East Texas streams from 1953 to 1986. *Texas Academy of Science*. 49(Supplement--Invited Symposium):67-84.

Gelwick, F. P., M. S. Stock and W. J. Matthews. 1997. Effects of fish, water depth, and predation risk on patch dynamics in a north-temperate river ecosystem. *Oikos* 80:382-398.

Gelwick, F. P. and W. J. Matthews. 1997. Effects of algivorous minnows (*Campostoma*) on spatial and temporal heterogeneity of stream periphyton. *Oecologia* 112:386-392.

Covich, A. P., S. C. Fritz, P. J. Lamb, R. D. Marzolf, W. J. Matthews, K. A. Poiani, E. E. Prepas, M. B. Richman and T. C. Winter. 1997. Potential effects of climate change on aquatic ecosystems of the Great Plains of North America. *Hydrological Processes* 11:993-1021.

Matthews, W. J., M. Schorr and M. R. Meador. 1996. Effects of experimentally enhanced flows on fishes of a small Texas (USA) stream: assessing the impact of interbasin transfer. *Freshwater Biology* 35:349-362.

Taylor, C. M., M. R. Winston and W. J. Matthews. 1996. Temporal variation in tributary and mainstem assemblages in a Great Plains stream system. *Copeia* 1996:280-289.

Gelwick, F. P. and W. J. Matthews. 1996. Trophic relations of stream fishes, pp. 475-492 in: F. R. Hauer and G. A. Lamberti (eds.), *Methods in Stream Ecology*, Academic Press, New York.

Brown, A. V. and W. J. Matthews. 1995. Stream ecosystems of the central United States. Invited chapter in: C.E. Cushing, K. Cummins and G. W. Minshall (eds), *River and Stream Ecosystems*. Elsevier Press.

Gelwick, F. P., E. R. Gilliland and W. J. Matthews. 1995. Introgression of the Florida largemouth bass genotype into stream populations of northern largemouth bass in Oklahoma. *Transactions of the American Fisheries Society* 124:550-562.

- Matthews, W. J. 1995. Geographic variation in nuptial colors of red shiner (Cyprinella lutrensis; Cyprinidae) within the United States. *Southwestern Naturalist* 40:5-10.
- Cashner, R. C., F. P. Gelwick and W. J. Matthews. 1994. Spatial and temporal variation in the distribution of fishes in the LaBranche wetlands area of the Lake Pontchartrain estuary, Louisiana. *Northeast Gulf Science* 13:107-120.
- Matthews, W. J., B. C. Harvey and M. E. Power. 1994. Spatial and temporal patterns in the fish assemblages of individual pools in a midwestern stream (U.S.A.). *Environmental Biology of Fishes* 39:381-397.
- Gelwick, F. P. and W. J. Matthews. 1993. Artificial streams for studies of fish ecology. *Journal of the North American Benthological Society*. 12:343-347.
- Vaughn, C. C., F. P. Gelwick, and W. J. Matthews. 1993. Effects of algivorous minnows on production of grazing stream invertebrates. *Oikos* 66:119-128.
- Gelwick, F. P. and W. J. Matthews. 1992. Effects of an algivorous minnow on temperate stream ecosystem properties. *Ecology*. 73:1630-1645.
- Douglas, M. E. and Matthews, W. J. 1992. Does morphology predict ecology?: Hypothesis testing within a freshwater stream fish assemblage. *Oikos* 65:213-224.
- Hughes, R. M., S. A. Heiskarky, W. J. Matthews, C. O. Yoder. 1993. Use of ecoregions in biomonitoring. Invited chapter, in S. Loeb and A. Spacie (eds.) *Biological Monitoring of Freshwater Ecosystems*, Lewis Press, Boca Raton, FL.
- Taylor, C. M., M. R. Winston and W. J. Matthews. 1992. Species-environment relationships in a Great Plains river system. *Ecography* 16:16-23.
- Matthews, W. J., D. J. Hough, and H. W. Robison. 1992. Similarities in fish distribution and water quality patterns in streams of Arkansas: congruence of multivariate analyses. *Copeia*. 1992:296-305.
- Matthews, W. J., F. P. Gelwick, and J. J. Hoover. 1992. Food and habitat use by juveniles of species of Micropterus and Morone in a southwestern reservoir. *Transactions of the American Fisheries Society* 121:54-66.
- Meador, M. R. and W. J. Matthews. 1992. Spatial and temporal patterns in fish assemblage structure of an intermittent Texas stream. *American Midland Naturalist*. 127:106-114.
- Jester, D. B., A. A. Echelle, W. J. Matthews, J. Pigg, C. M. Scott and K. D. Collins. 1992. The fishes of Oklahoma, their gross habitats, and the tolerance of degradation in water quality and habitat. *Proceedings of the Oklahoma Academy of Science* 72:7-19.

- Gelwick, F. P. and W. J. Matthews. 1990. Temporal and spatial patterns in littoral-zone fish assemblages of a reservoir (Lake Texoma, Oklahoma-Texas), U.S.A.). *Environmental Biology of Fishes*. 27:107-120.
- Matthews, W. J. 1990. Spatial and temporal variation in the fishes of riffle habitats in the upper Roanoke River system, Virginia. *American Midland Naturalist*. 124:31-45.
- Matthews, W. J. and F. P. Gelwick. 1990. Fishes of Crutcho Creek and the North Canadian River near Oklahoma City: Urbanization and temporal variability. *Southwestern Naturalist* 35:403-410.
- Matthews, W. J. and E. G. Zimmerman. 1990. Potential effects of global warming on native fishes of the southern Great Plains and the Southwest. *Fisheries* 15:26-32.
- Matthews, W. J., F. P. Gelwick, and T. J. Gardner. 1990. A simple, replicated system of recirculating experimental streams. *Journal of Freshwater Ecology* 5:437-443.
- Matthews, W. J., L. G. Hill, D. R. Edds, and F. P. Gelwick. 1989. Influence of water quality and season on habitat use by striped bass in a large southwestern reservoir. *Transactions of the American Fisheries Society*. 118:243-250.
- Mayden, R. L. and W. J. Matthews. 1989. Zoogeographic implications of Luxilus cardinalis and Etheostoma radiosum in the Washita River system, Oklahoma. *Southwestern Naturalist*. 34:415-416.
- Matthews, W. J. and H. W. Robison. 1988. The distribution of the fishes of Arkansas: A multivariate analysis. *Copeia*. 1988:358-374.
- Matthews, W. J. 1988. North American prairie streams as systems for ecological study. *Journal of the North American Benthological Society*. 7:387-409.
- Matthews, W. J. and F. P. Gelwick. 1988. Variation and systematics of Etheostoma radiosum, the orangebelly darter (Pisces: Percidae). *Copeia*. 1988:543-554.
- Power, M. E., A. J. Stewart and W. J. Matthews. 1988. Grazer control of algae in an Ozark mountain stream: effects of short-term exclusion. *Ecology*. 69:1894-1898.
- Matthews, W. J., R. C. Cashner, and F. P. Gelwick. 1988. Stability and persistence of fish faunas and assemblages in three midwestern streams. *Copeia*. 1988:947-957.
- Harvey, B. C., R. C. Cashner, and W. J. Matthews. 1988. Differential effects of largemouth and smallmouth bass on habitat use by stoneroller minnows in stream pools. *Journal of Fish Biology*. 33:481-488.
- Matthews, W. J. and L. G. Hill. 1988. Physical and chemical profiles in Lake Texoma (Oklahoma-Texas) in summer 1982 and 1983. *Proceedings of Oklahoma Academy of Science* 68:33-38.

- Cashner, R. C. and W. J. Matthews. 1988. Taxonomic changes in the Oklahoma fish fauna, 1973-1988. *Proceedings of the Oklahoma Academy of Science* 68:1-7.
- Matthews, W. J., L. G. Hill, D. R. Edds, J. J. Hoover and T. G. Heger. 1988. Trophic ecology of striped bass, Morone saxatilis, in an inland reservoir (Lake Texoma, USA). *Journal of Fish Biology*. 33:273-288
- Power, M. E., C. E. Cushing, P. Harper, F. R. Hauer, W. J. Matthews, P. B. Moyle, B. Statzner, R. J. Stout, and I. R. Wais de Badgen. Biotic and abiotic controls in river and stream communities. 1988. *Journal of the North American Benthological Society* 7:456-479.
- Matthews, W. J. 1987. Geographic variation of Cyprinella lutrensis (Pisces: Cyprinidae) in the United States, with notes on Cyprinella lepida. *Copeia*. 1987:616-637.
- Matthews, W. J. 1987. Physicochemical tolerance and selectivity of stream fishes as related to their geographic ranges and local distributions. Pp. 111-120, in: W. J. Matthews and D. C. Heins (eds.). *Community and Evolutionary Ecology of North American Stream Fishes*. University of Oklahoma Press, Norman, OK.
- Heins, D. C. and W. J. Matthews. 1987. Historical perspectives on the study of community and evolutionary ecology of North American stream fishes. Pp. 3-7, in: W. J. Matthews and D. C. Heins (eds.). *Community and Evolutionary Ecology of North American Stream Fishes*. University of Oklahoma Press, Norman, OK.
- Matthews, W. J., A. J. Stewart, and M. E. Power. 1987. Grazing fishes as components of North American stream ecosystems. Pp. 128-135, in: W. J. Matthews and D. C. Heins (eds.). *Community and Evolutionary Ecology of North American Stream Fishes*. University of Oklahoma Press, Norman, OK.
- Matthews, W. J. 1986. Fish faunal structure in an Ozark stream: stability, persistence, and a catastrophic flood. *Copeia*. 1986:388-397.
- Matthews, W. J. 1986. Fish faunal "breaks" and stream order in the eastern and central United States. *Environmental Biology of Fishes*. 17:81-92.
- Matthews, W. J., M. E. Power, and A. J. Stewart. 1986. Depth distribution of Campostoma grazing scars in an Ozark stream. *Environmental Biology of Fishes*. 17:291-297.
- Matthews, W. J. 1986. Geographic variation in thermal tolerance of a widespread minnow (Notropis lutrensis) of the North American midwest. *Journal of Fish Biology*. 27:407-417.
- Matthews, W. J., F. P. Gelwick, and Bret C. Harvey. 1986. Etheostoma radiosum (Orangebelly darter) in the Washita River system in Oklahoma. *Proceedings of the Oklahoma Academy of Science*. 66:39-40.

- Matthews, W. J. 1986. Diel differences in gill net and seine catches of fish in winter in a cove of Lake Texoma. *Texas Journal of Science*. 38:153-158.
- Matthews, W. J. 1985. Distribution of midwestern fishes on multivariate environmental gradients, with emphasis upon Notropis lutrensis. *American Midland Naturalist*. 113:225-237.
- Power, M. E., W. J. Matthews, and A. J. Stewart. 1985. Grazing minnows, piscivorous bass and stream algae: Dynamics of a strong interaction. *Ecology*. 66:1448-1456.
- Matthews, W. J. 1985. Critical current speeds and microhabitats of the benthic fishes Percina roanoka and Etheostoma flabellare. *Environmental Biology of Fishes*. 12:303-308.
- Ross, S. T., W. J. Matthews, and A. A. Echelle. 1985. Persistence of stream fish assemblages: Effects of environmental change. *American Naturalist*. 126:24-40.
- Matthews, W. J. 1985. Summer mortality of striped bass in reservoirs of the United States. *Transactions of the American Fisheries Society*. 114:62-66.
- Matthews, W. J., L. G. Hill, and S. Schellhaass. 1985. Depth distribution of striped bass and other fish in Lake Texoma (Oklahoma-Texas) during summer stratification. *Transactions of the American Fisheries Society*. 114:84-91.
- Matthews, W. J., J. J. Hoover and W. B. Milstead. 1985. Fishes of Oklahoma springs. *Southwestern Naturalist*. 30:23-32.
- Matthews, W. J. 1984. Influence of turbid inflows on vertical distribution of larval shad and freshwater drum. *Transactions of the American Fisheries Society*. 113:192-198.
- Kashuba, S. A. and W. J. Matthews. 1984. Physical condition of larval shad during spring-summer in a southwestern reservoir. *Transactions of the American Fisheries Society*. 113:199-204.
- Feminella, J. W. and W. J. Matthews. 1984. Intraspecific differences in thermal tolerance of Etheostoma spectabile (Agassiz) in constant versus fluctuating environments. *Journal of Fish Biology*. 25:455-461.
- Biehl, C. C. and W. J. Matthews. 1984. Small fish community structure in Ozark streams: Improvements in the statistical analysis of presence-absence data. *American Midland Naturalist*. 111:371-382.
- Power, M. E. and W. J. Matthews. 1983. Algae-grazing minnows (Campostoma anomalum), piscivorous bass (Micropterus spp.), and the distribution of attached algae in a small prairie-margin stream. *Oecologia*. 60:328-332.
- Matthews, W. J., R. E. Jenkins and J. T. Styron, Jr. 1982. Systematics of two forms of blacknose dace, Rhinichthys atratulus (Pisces, Cyprinidae), in a zone of syntopy with a review of the species group. *Copeia*. 1982:902-920.

Matthews, W. J., J. Bek and E. Surat. 1982. Comparative ecology of the darters Etheostoma podostemone, E. flabellare and Percina roanoka in the upper Roanoke River drainage, Virginia. *Copeia*. 1982:805-814.

Matthews, W. J. 1982. Small fishes of Ozark streams: Structured assembly patterns or random abundance of species? *American Midland Naturalist*. 107:42-54.

Surat, E., W. J. Matthews and J. Bek. 1982. Comparative ecology of Notropis albeolus, N. ardens and N. cerasinus (Cyprinidae) in the upper Roanoke River, Virginia. *American Midland Naturalist*. 107:13-24.

Matthews, W. J. and H. W. Robison. 1982. Addition of Etheostoma collettei (Percidae) to the fish fauna of Oklahoma and of the Red River drainage in Arkansas. *Southwestern Naturalist*. 27:215-216.

Matthews, W. J., E. Surat and L. G. Hill. 1982. Heat death of Etheostoma spectabile (orangethroat darter) in a natural environment as related to their critical thermal maximum. *Southwestern Naturalist*. 27:216-217.

Matthews, W. J. and R. McDaniel. 1981. New locality records for some Kansas fishes, with notes on the habitat of the Arkansas darter, Etheostoma cragini. *Transactions of the Kansas Academy of Science*. 84:219-222.

Hill, L. G., W. J. Matthews, M. A. Schene and K. Asbury. 1981. Notes on fishes of Grand River, Chouteau Creek, and Pryor Creek, Mayes County, Oklahoma. *Proceedings of the Oklahoma Academy of Science*. 61:76-77.

Matthews, W. J. and J. T. Styron, Jr. 1981. Comparative tolerance of headwater versus mainstream fishes for abrupt physicochemical change. *American Midland Naturalist*. 105:149-158.

Hill, L. G., G. D. Schnell and W. J. Matthews. 1981. Locomotor responses of striped bass, Morone saxatilis, to environmental gradients. *American Midland Naturalist*. 105:139-148.

Asbury, K., W. J. Matthews and L. G. Hill. 1981. Attraction of Notropis lutrensis (Cyprinidae) to water conditioned by the presence of conspecifics. *Southwestern Naturalist*. 25:525-528.

Matthews, W. J. and L. G. Hill. 1980. Habitat partitioning in the fish community of a southwestern river. *Southwestern Naturalist*. 25:51-66.

Matthews, W. J. 1980. Notropis lutrensis; Notropis prosperpinus; Notropis formosus. (Species accounts). In: Lee, D. S., C. R. Gilbert, C. H. Hocutt, R. E. Jenkins, D. E. McAllister and J. Stauffer, Jr., eds., *Atlas of Freshwater Fishes of North America*. North Carolina State Museum.

Hill, L. G. and W. J. Matthews. 1980. Temperature selection by the darters Etheostoma radiosum and E. spectabile. *American Midland Naturalist*. 104:412-415.

- Matthews, W. J. and L. G. Hill. 1979. Influence of physico-chemical factors on habitat selection by red shiners, Notropis lutrensis (Pisces: Cyprinidae). *Copeia*. 1979:70-81.
- Matthews, W. J. and L. G. Hill. 1979. Age-specific differences in the distribution of red shiners, Notropis lutrensis, over physicochemical ranges. *American Midland Naturalist*. 101:366-372.
- Matthews, W. J. and J. Maness. 1979. Critical thermal maxima, oxygen tolerances, and population fluctuations in southwestern stream fishes. *American Midland Naturalist*. 102:374-377.
- Matthews, W. J., W. D. Shepard and L. G. Hill. 1978. Aspects of the ecology of the dusky stripe shiner, Notropis pilsbryi, (Cypriniformes: Cyprinidae) in an Ozark stream. *American Midland Naturalist*. 100:247-252.
- Hill, L. G., W. J. Matthews, and G. D. Schnell. 1978. Locomotor responses of two cyprinodontid fishes to dissolved oxygen concentrations. *Southwestern Naturalist*. 23:397-400.
- Matthews, W. J. and L. G. Hill. 1978. Prey retention in the buccal cavity of largemouth bass (Micropterus salmoides). *Southwestern Naturalist*. 23:307-308.
- Matthews, W. J. and R. S. Matthews. 1978. Additions to the fish fauna of Piney Creek, Izard County, Arkansas. *Proceedings of the Arkansas Academy of Science*. 32:92.
- Matthews, W. J. and L. G. Hill. 1977. Tolerance of the red shiner, Notropis lutrensis (Cyprinidae) to environmental parameters. *Southwestern Naturalist*. 22:89-99.
- Matthews, W. J. 1977. Ingestion of sand by the dusky stripe shiner, Notropis pilsbryi Fowler. *Southwestern Naturalist*. 22:543-544.
- Harp, G. L. and W. J. Matthews. 1975. First Arkansas records of Lampetra spp. (Petromyzontidae). *Southwestern Naturalist*. 20:414-416.
- Matthews, W. J. and G. L. Harp. 1974. A preimpoundment ichthyofaunal survey of the Piney Creek watershed, Izard County, Arkansas. *Proceedings of the Arkansas Academy of Science*. 28:39-43.

PAPERS SUBMITTED:

Zbinden, Z., and W. J. Matthews. Beta diversity of stream fish assemblages: partitioning variation between spatial and environmental factors. Submitted to *Freshwater Biology*. Revision requested

OTHER PUBLICATIONS:

Matthews, W. J. 2001. Book review: Assessing the sustainability and biological integrity of water resources using fish communities, by Thomas P. Simon, editor. *Copeia* 2001:285-287.

Matthews, W. J. 1993. Book review: Biodiversity of the southeastern United States: Aquatic communities, by C. T. Hackney and S. M. Adams, eds. *Freshwater Biology*.

Matthews, W. J. 1991. Book review: Fishes of the central United States, by J. Tomelleri and M. E. Eberle. *Copeia* 1991:267-269.

Matthews, W. J. 1990. Fish community structure and stability in warmwater midwestern streams. In: M. Bain, ed., *Ecology and assessment of warmwater streams: Workshop synopsis*. U. S. Fish and Wildlife Service Biological Report 90:16-17.

Matthews, W. J. 1985. Book review: Vanishing fishes of North America, by R. D. Ono et al. *Transactions of the American Fisheries Society*. 114:156-157.

Adams, S. M., J. M. Dean, W. J. Matthews, W. D. Pearson, M. P. Sissenwine, J. R. Stauffer, Jr., and M. P. Weinstein. 1983. An evaluation of the 1982 annual (AFS) meeting. *Fisheries*. 8:14-15.

INVITED SEMINARS AND SYMPOSIA

Matthews, W. and E. Marsh-Matthews. Fish Communities of Environmentally Different Streams: Response to Drought, Tempo of Recovery, and “Loose Equilibrium” Invited paper at Drought Conference, American Fisheries Society, Kansas City (August 2016). Oral Presentation, Conference.

Matthews, W. J. and E. Marsh-Matthews. “Fish in Altered Waters: Species Associations in Oklahoma Streams Before and After the Era of Large Dam-Building”. Invited paper for “Fish out of Water” Symposium, American Society of Ichthyologists and Herpetologists Annual Meeting, Albuquerque, NM, 10-15 July 2013.

“Four decades of fish community dynamics in an upland and a prairie stream—floods, droughts, and time”. Invited seminar, February 2012. Department of Zoology, University of Oklahoma.

“Fishes of a small stream: 40 years of floods, droughts, and where did the red shiners go?” : Invited seminar: University of New Mexico, October 2011.

“Community ecology of stream fishes: Two decades later”, Invited plenary presentation to open symposium on “Stream Fish Community Ecology”. American Fisheries Society, Ottawa, Canada, August 2008.

“Fish Assemblage Stability in a Prairie-Margin Stream: Do Droughts Matter?” Invited presentation in symposium on “Stream Fish Community Ecology”. American Fisheries Society, Ottawa, Canada, August 2008. Presented by Edie Marsh-Matthews, with W. Matthews as co-author.

“Effects of Lake Texoma on fishes of direct tributary creeks and the effects of a major flood”. Invited seminars: Department of Biology, Austin College, January 2008; Department of Biology, Sam Houston State University, January 2009.

"Effects of Lake Texoma (OK-TX) and Tuttle Creek Reservoir (KS) on fishes in the reservoirs and their tributary streams". W. Matthews, K. Gido, and E. Marsh-Matthews. Invited paper in symposium "The Influence of Dams on River Fisheries", American Fisheries Society, Anchorage, Alaska, September 2005.

"Half a century of changes in the fishes of a small Great Plains stream: Brier Creek, Oklahoma". W. Matthews and E. Marsh-Matthews. Invited paper in symposium "Ecology and Management of North American Prairie Streams", American Fisheries Society, Anchorage, Alaska, September 2005.

"Habitat from headwaters to large rivers: Do the fish really care?", seminar: Department of Biology, Kansas State University, April 2004.

"Habitat from headwaters to large rivers: Do the fish really care?" W. Matthews and E. Marsh-Matthews. Invited paper in "Headwaters to the Sea", Fifth Bennett Symposium, University of Southern Mississippi, September 2003.

Invited plenary paper, "Southern Plains Rivers", Meeting of the Oklahoma-Texas Aquatic Research Group, OU Biological Station, October 2003.

Seminar: "Why are stream fish where they are, and what do they do there?" Department of Zoology, University of Oklahoma, March 2002; Langston University, Oklahoma, October 2002.

Invited plenary paper, "Effects of drought on fish population and community ecology", at International Symposium on Effects of Drought in Aquatic Systems, Albury, Australia, February 10-14, 2001. W. J. Matthews and E. Marsh-Matthews.

Invited paper, USDA Forest Service Symposium: Ecosystem studies in the Ouachita and Ozark National Forests. October 28, 1999, Hot Springs, Arkansas. "Context-specific trophic and functional roles of fishes in streams of the Ouachita National Forest", W. J. Matthews and M. Warren, Jr.

Invited symposium paper: E. Marsh-Matthews (presenter) and W. J. Matthews. "Aquatic, terrestrial and "global" landscape factors: Which most influence local stream fish assemblages?". In: Ecology of Stream Fish: State of the Art and Future Prospects. Luarch, Spain, April 16, 1998.

Seminar: Three decades of change in Midwestern stream fish assemblages: catastrophic vs. gradual changes. Colorado State University, January 1996; Oklahoma State University, February 1997; University of Oklahoma, November 1996, University of Toronto, 1999, Southeast Missouri State University, 1999.

Symposium on use of long-term data to protect imperiled fishes or aquatic communities of the southeastern United States. Invited paper, "Detection of long-term changes, local-regional phenomena, and hotspots of biodiversity" (with E. C. Marsh-Matthews and H. W. Robison). American Fisheries Society annual meeting, Tampa, FL, 30 September 1995.

Seminar: Effects of timber harvest on stream fish assemblages in Ouachita National Forest, Arkansas: "diffuse causality"?. Botany-Microbiology Department, University of Oklahoma, April 1995.

Seminars: Effects of algae-grazing minnows on ecosystem processes in midwestern streams. Texas A & M University, Department of Fisheries and Wildlife. 27 October 1989; Illinois Natural History Survey, Champaign-Urbana, Illinois. 16 April 1990; Memphis State University, 9 April 1990; Southwest Texas State University, San Marcos, TX, 26 March 1990; University of Oklahoma, 6 December 1990; University of Kansas, 25 March 1992; Arizona State University, 27 April 1993.

Symposium on Use of Experimental Streams in Ecological Research. Invited paper, "Experimental streams in fish ecology". North American Benthological Society, May 1992.

Symposium on Experimental Analysis of Stream Fish Habitat, American Fisheries Society. Invited paper, "Fish community structure in timber-harvested and non-harvested watersheds in the Ouachita Mountains (Arkansas): Experimental manipulation on a large scale". 12 September 1991.

Visiting Scholars Program, University of Nebraska-Lincoln. Public lecture "Effects of algae-grazing fishes on temperate stream ecosystems", and teaching classes/conducting research workshops. 29 January - 1 February 1991.

U.S. Fish and Wildlife Service, Southeast Stream Ecology Workshop. Invited address: "Fish community structure and stability in warm-water midwestern streams". 25 October 1988, Eufaula, Alabama.

Seminar: Distribution of the fishes of Arkansas: A multivariate analysis. University of Oklahoma, Department of Zoology. 10 February 1987; University of Arkansas, Department of Zoology. 2 December 1987; Arkansas State University, Division of Biological Sciences. 3 November 1987.

Symposium on Introduced Fishes, American Society of Ichthyologists and Herpetologists. Invited paper: Interactions among introduced striped bass and native black bass species in Lake Texoma. 23 June 1987, Albany, NY.

Second Bass Research Foundation Symposium. Invited paper: Ecological interactions between striped bass and black bass in reservoirs. 23 July 1987, Chattanooga, TN.

Keynote Address: "Upland versus prairie streams: How different are they?". Prairie Streams Workshop, University of Oklahoma Biological Station, 1 May 1987.

University of New Orleans, Department of Biological Sciences. Seminar: Stability of fish assemblages in streams of the midwest. February 1987.

Savannah River Ecology Laboratory, Aiken, SC. Seminar: Stability of fish assemblages in streams of the midwest. February 1986.

First Annual Symposium, Bass Research Foundation. Invited paper: Potential interaction between striped bass and black bass in reservoir environments. May 1986, Lake Texoma, Oklahoma.

University of Tulsa, Faculty of Biological Sciences Colloquium. Seminar: Stability of stream fish assemblages in the midwest, and some "other ideas" on community organization. 3 December 1985.

University of Oklahoma, Department of Zoology. Seminar: Stability, scale, and organization in stream fish assemblages. 30 October 1985.

University of Arkansas, Zoology Department. Seminar: Grazing minnows, predators, and multi-level interactions in midwestern streams. 12 April 1985.

University of California at Davis, Institute of Ecology. Seminar: Fishes in severe environments: "crunches", survival and success in the American midwest. 26 January 1984.

University of California at Davis, Institute of Ecology. Seminar: Fish community structure in an Ozark stream across time and despite a catastrophic flood. 27 January 1984.

Oklahoma State University. Seminar: "Crunches", survival and success of fish in the American midwest. 10 February 1984.

University of Southern Mississippi, Ecology Group. Seminar: Interactions of predators, herbivorous fishes, and algae in a prairie-margin stream. 10 October 1983.

University of Southern Mississippi, Biology Department. Seminar: Tolerance and selectivity of fishes as related to zoogeography and local distributions. 11 October 1983.

University of Missouri, School of Forestry, Fisheries and Wildlife. Seminar: Time scale, environmental events, and fish community ecology. 28 June 1983.

Murray State University, Biology Department. Seminar: Ecology of the fishes of Lake Texoma, Oklahoma-Texas. February 1982.

Southeastern Oklahoma State University, Wildlife Society. Seminar: Ecology of the fishes of Lake Texoma. April 1982.

Striped Bass Symposium, American Fisheries Society. Invited Paper: Evidence for the effects of temperature on striped bass in southern reservoirs. 24 September 1982.

Symposium on Darter Biology and Behavior, American Society of Ichthyologists and Herpetologists. Invited Paper: Ecology of *Etheostoma podostemone*, *E. flabellare* and *Percina roanoka* in the upper Roanoke River, Virginia. 15 June 1982.