

CURRICULUM VITA (December 2005)

NAME: William John Matthews

PRESENT POSITION: Professor and Chair, Department of Zoology,
University of Oklahoma

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

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PERSONAL DATA: Nationality: U.S. Citizen
Telephone: 1-405-325-6200

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: (Ichthyology, Ecology,
Limnology), University of Oklahoma, 1977.
Dissertation: Influence of Physico-chemical
Factors on Habitat Selection by Red Shiners,
Notropis lutrensis (Pisces: Cyprinidae).

PREVIOUS PROFESSIONAL EXPERIENCE:

Jan-Dec 1999. Interim Director of Programs, University of
Oklahoma Biological Station.

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

1979-1992. Assistant Professor and Associate 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; 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
North American Benthological Society
Oklahoma Academy of Science
Phi Sigma
Sigma Xi
Southeastern Fishes Council
Southwestern Association of Naturalists

SERVICE:

Member, College of Arts and Sciences Instructional Technology Committee, 2004-2006.
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, University of Oklahoma. (1980-Present).
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:

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

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.

President of the Southwestern Association of Naturalists, two years.

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

AWARDS AND HONORS:

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", (lifetime achievement award), Oklahoma Chapter of American Fisheries Society, 1993.

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

EXTRAMURAL GRANTS AND AWARDS:

US Environmental Protection Agency. 2004-2007. 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 Assessment 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. Crutch Creek studies.

GRADUATE STUDENTS:

- Bret C. Harvey. Ph.D. 1987. Larval stream fish mortality and multi-trophic level interactions among stream fishes. Now Research Biologist, USDA Forest Service, Acada, CA.
- Jan J. Hoover. Ph.D. 1988. Trophic ecology in an assemblage of Ozark stream fishes. Now 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 teaching science in Parker, Arizona, High School.
- Matthew Winston. Ph.D. 1993. Spatial distribution of morphological characteristics in stream fishes.
- Christopher M. Taylor. Ph.D. 1994. Density compensation, interactive segregation and behavioral interactions in a guild of benthic Ozark fishes. Now Associate Professor in Biology Department, Mississippi State University.
- Mark Pyron. Ph.D. 1994. Mate choice in fishes. Now Assistant 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 Assistant Professor 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 Assistant 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.
- Keith Gido. Ph.D. 1999. Ecology of detritivorous fishes in

reservoirs. Now Assistant Professor, Kansas State University.

Jacob Schaefer. Ph.D. 1999. Modeling movements of small stream fishes. Now Assistant Professor, Southern Illinois University at Edwardsville.

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 Post-doctoral research associate University of Oklahoma Biological Station.

Rachael Remington. PhD student at U. Oklahoma.

David Gillette. PhD student at U. Oklahoma.

Jeff Wesner. PhD student at U. Oklahoma.

Courtney Franssen. MS student at U. Oklahoma.

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. 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:

Matthews, W. J. and E. Marsh-Matthews. Temporal changes in replicated experimental stream fish assemblages: Predictable or not? Submitted to Freshwater Biology. In revision, December 2005.

Matthews, W. J. and E. Marsh-Matthews. Persistence of fish species associations in pools of a small stream of the southern Great Plains. *Copeia*. Accepted with revision, December 2005.

Ross, S. T. and W. J. Matthews. 200X. Ecology and evolution of North American freshwater fish assemblages. Invited chapter in: R. L. Mayden and B. M. Burr (eds.), *North American Freshwater Fishes: Evolution, Ecology, and Behavior*. Academic Press. Accepted for publication.

Gelwick, F. P. and W. J. Matthews. 200X. 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. In 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. Wolfinbarger. 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 (*Camptostoma*) 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* Vol 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 genome into stream populations of northern largemouth bass in Oklahoma. *Transactions of the American Fisheries Society* 124:550-562.
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