

**Joanna Blair Whittier**  
**CURRICULUM VITAE**

**EDUCATION:**

- Ph.D. Wildlife and Fisheries Ecology, Oklahoma State University, 2001
- M.S. Zoology (Wildlife Toxicology), Oklahoma State University, 1997
- B.S. Ecology and Systematic Biology, California Polytechnic University, 1992

**RESEARCH INTERESTS:**

Landscape Ecology, Species Conservation, GIS Applications, Population Dynamics, Wildlife Toxicology

**EMPLOYMENT:**

- 2010-present Assistant Research Professor, School of Natural Resources, University of Missouri, Columbia, MO.
- 2010-2013 Adjunct Assistant Research Professor, Division of Biology, Kansas State University, Manhattan, KS.
- 2004-2010 Assistant Research Professor, Division of Biology, Kansas State University, Manhattan, KS.
- 2004 Research Associate, Division of Biology, Kansas State University, Manhattan, KS.
- 2003 Wildlife Biologist, National Park Service, Southern Colorado Plateau Inventory and Monitoring Network, Flagstaff, AZ.
- 2001-2003 Fish and Wildlife Biologist, U.S. Fish and Wildlife Service, Ecological Services, Pierre, SD.
- 2000-2001 Research Technician, South Dakota Cooperative Fish and Wildlife Research Unit, South Dakota State University, Brookings, SD.
- 1997-2000 Graduate Research Assistant, Oklahoma Cooperative Fish and Wildlife Research Unit, Zoology Department, Oklahoma State University, Stillwater, OK.
- 1994-1997 Graduate Research Assistant/Teaching Assistant, Zoology Department, Oklahoma State University, Stillwater, OK.

**JOB-RELATED HONORS AND AWARDS**

- 2020 Outstanding Graduate Student Advisor, School of Natural Resources, Univ of Missouri
- 2003 On-the-Spot Award, National Park Service
- 2002 STAR Award, U.S. Fish and Wildlife Service
- 2002 STAR Peer Award, U.S. Fish and Wildlife Service
- 1998 Outstanding MS Student at Oklahoma State University, Department of Zoology
- 1996 Best student paper at South Central Chapter Society of Environmental Toxicology and Chemistry Meeting, Stillwater, OK
- 1991 Exemplary Employee – US Forest Service

**STUDENT AWARDS**

- 2021 Duan, Shengwu - Best Postdoctoral Poster Award, School of Natural Resources Research Day

## GRADUATE STUDENT COMMITTEES

### University of Missouri

Brett Leach, M.S., School of Natural Resources, in progress  
Hadley Boehm, Ph.D., School of Natural Resources, in progress  
Nick Sievert, Ph.D., School of Natural Resources, in progress  
Mike Burfield, Ph.D., School of Natural Resources, in progress  
Jacob Gaskill, Ph.D., School of Natural Resources, completed 2021  
Dane Smith, M.S., School of Natural Resources, completed 2020  
Ela Carpenter, Ph.D., School of Natural Resources, completed 2019  
Kayla Key, Ph.D., School of Natural Resources, completed 2019  
Landon Pierce, Ph.D., School of Natural Resources, completed 2019  
Brian Hidden, M.S., Fish & Wildlife Department, completed 2016  
Ethan Kleekamp, M.S., Fish & Wildlife Department, completed 2016  
Jacob Schwoerer, M.S., Fish & Wildlife Department, completed 2016  
Bridget Whitehead, M.S., Statistics Department, completed 2016  
Nick Sievert, M.S., Fish & Wildlife Department, completed 2015

### Kansas State University

Amanda Goldberg, M.S., completed 2012  
Rachel Pigg, Ph.D., completed 2014

## PUBLICATIONS

### *Book chapters*

Dauwalter, D.C., S. Vail-Muse, T. Thompson, **J.B. Whittier**, K. Johnson, and M. Bean. 2019. Partnering on multi-species aquatic assessments to inform efficient conservation delivery. Pages 11 - 32 *in* D.C. Dauwalter, T.W. Birdsong, and G.P. Garrett, editors. Multispecies and watershed approaches to freshwater fish conservation. American Fisheries Society, Symposium 91. Bethesda, Maryland.

Sievert, N., **J. Whittier**, and C.P. Paukert. 2019. Influence of the parameterization of a freshwater conservation prioritization project on species representation and location of priority areas. Pages 85 – 108 *in* D.C. Dauwalter, T.W. Birdsong, and G.P. Garrett, editors. Multispecies and watershed approaches to freshwater fish conservation. American Fisheries Society, Symposium 91. Bethesda, Maryland.

### *Peer-reviewed*

Sievert, N., C. Paukert, **J. Whittier**, W. Daniel, D. Infante, and J. Stewart. *In Press*. Projected stream fish community risk to climate impacts in the Northeastern and Midwestern United States. Environmental Research.

Midway, S.R., N.A. Sievert, A.J. Lynch, **J.B. Whittier**, and K.L. Pope. 2022. Asking Nicely: Best Practices for Requesting Data. Ecological Informatics 70:101729.  
DOI:[10.1016/j.ecoinf.2022.101729](https://doi.org/10.1016/j.ecoinf.2022.101729)

Sievert, N., C.P. Paukert, and **J.B. Whittier**. 2020. Incorporating established conservation networks into freshwater conservation planning results in more workable prioritizations. Frontiers in Environmental Science. DOI:[10.3389/fenvs.2020.515081](https://doi.org/10.3389/fenvs.2020.515081).

- Whittier, J.**, J. Westhoff, and C. Paukert. 2020. Use of multiple temperature logger models can alter conclusions. *Water* 12(3):668. DOI [10.3390/w12030668](https://doi.org/10.3390/w12030668).
- Stambaugh, M.C., R.P. Guyette, E.D. Stroh, M.A. Struckhoff, and **J.B. Whittier**. 2018. Future changes in southcentral U.S. wildfire probability due to climate change. *Climate Change* 147(3-4):617-631. DOI [10.1007/s10584-018-2156-8](https://doi.org/10.1007/s10584-018-2156-8).
- Whitney, J.E., **J. Whittier**, C. Paukert, J. Olden, and A. Strecker. 2017. Forecasted range shifts of arid-land fishes in response to climate change. *Reviews in Fish Biology and Fisheries* 27(2):463-479. DOI [10.1007/s11160-017-9479-9](https://doi.org/10.1007/s11160-017-9479-9).
- Whitney, J., **J. Whittier**, and C. Paukert. 2017. Environmental niche models for riverine desert fishes and their similarity according to phylogeny and functionality. *Ecosphere* 8(1):e01659. DOI [10.1002/ecs2.1658](https://doi.org/10.1002/ecs2.1658).
- Wagner, T., S. Midway, **J. Whittier**, J. DeWeber, and C. Paukert. 2017. Annual changes in seasonal river water temperatures in the eastern and western United States. *Water* 9(2):90; DOI [10.3390/w9020090](https://doi.org/10.3390/w9020090).
- Whittier, J.**, N. Sievert, A. Loftus, J.M. Defilippi, R.M. Krogman, J. Ojala, T. Litts, J. Kopaska, and N. Eiden. 2016. Leveraging big data for big databases to answer big questions. *Fisheries* 41:417-419.
- Guyette, R.P., F.R. Thompson, **J.B. Whittier**, M.C. Stambaugh, and D.C. Dey. 2014. Future fire probability modeling with climate change data and physical chemistry. *Forest Science* 60:862-870.
- Deweber, T., Y. Tsang, D., Kruger, **J. Whittier**, D. Infante, T. Wagner, and G. Whelan. 2014. Importance of understanding landscape biases in USGS gage locations: implications and solutions for managers. *Fisheries* 39:155-163.
- Strecker, A.L., J.D. Olden, **J.B. Whittier**, and C.P. Paukert. 2011. Defining conservation priorities for freshwater fishes according to taxonomic, functional, and phylogenetic diversity. *Ecological Applications* 21:3002-3013.
- Jeffress, M.R., C.P. Paukert, **J.B. Whittier**, B.K. Sandercock, and P.S. Gibson. 2011. Scale-dependent factors affecting North American river otter distribution in the Midwest. *American Midland Naturalist* 166:177-193.
- Paukert, C.P., K.L. Pitts, **J.B. Whittier**, and J.D. Olden. 2011. Development and assessment of a landscape-scale ecological threat index for the Lower Colorado River Basin. *Ecological Indicators* 11:304–310.
- Pool, T.K., J.D. Olden, **J.B. Whittier**, and C.P. Paukert. 2010. Environmental drivers of fish functional diversity and composition in the Lower Colorado River Basin. *Canadian Journal of Fisheries and Aquatic Sciences*. 67:1791-1807.
- Whittier, J.B.**, and D.M. Leslie, Jr. 2009. Survival and movement of chicks of the Least Tern (*Sterna antillarum*) on an alkaline flat. *Southwestern Naturalist* 54:176-181.
- Whittier, J.B.**, C.P. Paukert, and K. Gido. 2006. Development of an aquatic GAP for the Lower Colorado River Basin. Gap Analysis Bulletin No. 14 USGS/BRD/Gap Analysis Program. Moscow, Idaho. Pages 65-68.
- Whittier, J.B.**, D.M. Leslie, Jr., and R.A. Van Den Bussche. 2006. Genetic variation among subspecies of Least Tern (*Sterna antillarum*): implications for conservation. *Waterbirds* 29:176-184. [https://doi.org/10.1675/1524-4695\(2006\)29\[176:GVASOL\]2.0.CO;2](https://doi.org/10.1675/1524-4695(2006)29[176:GVASOL]2.0.CO;2)
- Whittier, J.B.**, and D.M. Leslie, Jr. 2005. Efficacy of using radio transmitters to monitor Least

Tern chicks. *Wilson Bulletin* 117(1):85-91.

Thomas, L., **J. Whittier**, N. Tancreto, J. Atkins, M. Miller, and A. Cully. 2003. Vital signs monitoring plan for the Southern Colorado Plateau Network: Phase I report. National Park Service, Southern Colorado Plateau Network, Flagstaff, AZ.

**Whittier, J.B.**, B.R. Winton, and D.M. Leslie, Jr. 1999. Common Nighthawk found nesting in alkaline flat habitat. *Bulletin of the Oklahoma Ornithological Society* 32:29-31.

**Whittier, J.B.**, and K. McBee. 1999. Use of flow cytometry to detect genetic damage in mallards dosed with mutagens. *Environmental Toxicology and Chemistry* 18:1557-1563.

### *Technical*

**Whittier, J.B.** 2021. SWAT modeling manual for Missouri Department of Conservation Priority Watersheds. Submitted to Missouri Department of Conservation.

**Duan, S.**, J. Whittier, and C. Elliott. 2021. Missouri National Recreational River Decision Support System, User's Manual. Submitted to USGS, Columbia Environmental Research Center on behalf of NPS, Missouri National Recreational River.

Ross, J.A., D.M. Infante, **J. Whittier**, A.R. Cooper, and K. Herreman. 2021. Characterizing the current condition of stream fish habitats throughout the US portion of the Mississippi River Basin based on responses of target fish species to a diverse set of current landscape-scale disturbances. Final report submitted to the U.S. Fish & Wildlife Service in support of the Eastern Tallgrass Prairie and Big Rivers LCC.

**Whittier, J.**, and B. Landwer. 2020. Evaluating information needs to develop comprehensive biocriteria for Missouri stream fish communities. Final report submitted to Missouri Department of Conservation.

**Whittier, J.**, J. Westhoff, B. Whitehead, and D. Lobb. 2018. Development of stream temperature models for selected Missouri streams. Final report submitted to Missouri Department of Conservation.

Birdsong, T.W., D.C. Dauwalter, G.P. Garrett, B.J. Labay, M. Bean, J. Broska, J. Graham, S. Magnelia, K.B. Mayes, M. McGarrity, K.M. Johnson, S. Robertson, T. Thompson, S. Vail-Muse, and **J.B. Whittier**. 2018. Native fish conservation areas of the southwestern USA: Facilitating landscape-scale conservation of aquatic habitats and freshwater fishes. Report submitted to the Great Plains Landscape Conservation Cooperative and Southern Rockies Landscape Conservation Cooperative.

Daniel, W., N. Sievert, D. Infante, **J. Whittier**, J. Stewart, C. Paukert, and K. Herreman. 2016. A decision support mapper for conserving stream fish habitats of the Northeast Climate Science Center region. Final report submitted to the US Geological Survey, Northeast Climate Science Center, Amherst, MA.

**Whittier, J.**, J. Schneiderman, and N. Murray. 2016. Predicting occurrence of Missouri bats in mines based on habitat associations. Final report submitted to the Missouri Department of Conservation, MO.

**Whittier, J.**, C. Paukert, and N. Sievert. 2015. Conservation Assessment for Native Fish in the Colorado River Basin. *Desert Fish Habitat Partnership Newsletter*.

**Whittier, J.**, and N. Sievert. 2014. Conservation assessment for native fish in the Colorado River Basin. Report submitted to the Western Association of Fish and Wildlife Agencies and Western Native Trout Initiative.

- Whittier, J.**, \*L. Pierce, J. Olden, and J. Hogg. 2014. Conservation Planning for Fishes in the Upper Colorado River Basin Final Report, USGS, Aquatic Gap Analysis Program.
- Healy, B., E. Omana, M. Trammell, \*J. Spurgeon, C. Paukert, **J. Whittier**, D. Speas, P. Sponholtz. 2011. Humpback chub translocation efforts in Grand Canyon: 2010 Update. Grand Canyon Adaptive Management Working Group, Phoenix, AZ. 4 February 2011.
- Whittier, J.B.**, C.P. Paukert, J. Olden, \*K. Pitts, and A. Strecker. 2011. Lower Colorado River Basin Aquatic Gap Analysis Project: Final Report. Research Work Orders 43, 44, 50.
- Paukert, C.P., **J.B. Whittier**, A. Strecker, and J. Olden. 2009. Development and validation of models to assess the threat to freshwater fishes from environmental change and invasive species. Annual Report, USGS, Aquatic Gap Analysis Program.
- Whittier, J.B.**, and C.P. Paukert. 2009. Lower Colorado River Basin Aquatic Gap Analysis Project: Annual Progress Report. Research Work Order 50.
- Whittier, J.B.**, and C.P. Paukert. 2009. Analysis of movement of relocated humpback chub in Shinumo Creek. Preliminary Report. National Park Service, Service, Grand Canyon National Park.

### *Datasets*

- Sievert, N.A., C.P. Paukert, and **J.B. Whittier**. 2019, Data supporting a framework to incorporate established conservation networks into freshwater conservation planning: U.S. Geological Survey data release, <https://doi.org/10.5066/F7DF6Q34>
- Stambaugh, M.C., R.P. Guyette, E.D. Stroh, and M.A. Struckhoff and **J.B. Whittier**. 2018. Future changes in southcentral U.S. wildfire probability due to climate change – Data. U.S. Geological Survey data release, <https://www.doi.org/10.5066/F7PK0F4V>.
- Whittier, J.B.**, D. Infante, K. Herrman. 2018. FishTail: A decision support mapper for conserving stream fish habitats extended to the Mississippi Basin: Climate models for streams in the Mississippi River Basin. U.S. Geological Survey data release, [link to data](#).
- Paukert, C. D. Infante, **J. Whittier**, J. Stewart, and T. Wagner. FishTail: A Tool to Inform Conservation of Stream Fish Habitats in the Northeast. USGS data release, [link to data](#).
- Whittier, J.B.**, and N. Sievert. 2014. Conservation Assessment for Native Fish in the Upper Colorado River Basin. USGS data release, [link to data](#).
- Whittier, J. C.** Paukert, J. Olden, A. Strecker, and K. Pitts. 2013. Lower Colorado River Basin Catchment Conservation Ranks. U.S. Geological Survey data release, [link to data](#).

### **GRANTS AWARDED**

- Whittier, J.B.**, M. Combes, and B. Landwer. 2021. Development of Comprehensive Biocriteria for Missouri Stream Fish Communities. MDC Research Science Division. Missouri Department of Conservation \$195,392.
- Whittier, J.B.** 2020. Modeling Water Quality and In-stream Biological Endpoints of Agricultural Conservation in the Mississippi River Basin. NRCS \$428,984.
- Whittier, J.B.** 2019. Development of a decision support tool to guide management of the Missouri National Recreation River. USGS \$86,097.

- Whittier, J.**, B. Landwer, and C. Dunn. 2018. Evaluating Information Needs to Develop Comprehensive Biocriteria for Missouri Stream Fish Communities. Missouri Department of Conservation \$92,842. (10/2019 – 6/2020).
- Whittier, J.** 2017. Linking in-stream flow and temperature data with associated climate models for streams in the Mississippi River Basin. US Fish and Wildlife Service \$18,002. (8/2017 – 3/2019).
- Whittier, J.**, and D. Thornhill. 2017. Guidance to managers for evaluating Priority Geographies and Watershed success: the influence of best management practices on stream biota. Missouri Department of Conservation \$202,447. (10/2017 – 6/2020).
- Whittier, J.B.** 2016. Natural Resource Condition Assessments: Buffalo National River and Hot Springs National Park, Arkansas. National Park Service \$241,239. (9/2016 – 12/2019).
- Whittier, J.B.** 2015. Prioritize exploration of mines for presence of wintering bats. Missouri Department of Conservation \$10,250. (6/1/2015 – 6/30/2016).
- Whittier, J.B.**, and N. Sievert. 2014. Proposal to develop potential conservation priority areas for streams in the Upper Colorado River Basin. Western Native Trout Initiative and Association of Fish and Wildlife Agencies. \$20,000. (6/2014 – 11/2014).
- Paukert, C., **J. Whittier**, and A. Rosenburger. 2013. Development of reference reaches for Missouri Streams. Missouri Department of Natural Resources. \$199,985 (2013 – 2016).
- Whittier, J.B.**, C.P. Paukert, D. Lobb, S. Hostetler, and B. Pijanowski. 2012. Development of stream temperature models for selected Missouri streams. Missouri Department of Conservation. \$215,744 (2012 – 2017).
- Whittier, J.**, C. Paukert, A. Polebitski, Y. Yang, K. Nislow, R. Palmer, C. Brown, T. Hitt, B. Letcher, J. Stewart, J. McKenna, D. Infante, and K. Wehrly. 2012. Developing stream temperature and flow models: identification of gaps in the distribution and availability of stream temperature and flow data. Northeast Climate Science Center and Great Rivers Cooperative Ecosystem Studies Unit. \$12,500 (2012 – 2013).
- Paukert, C.P., **J.B. Whittier**, J. Millspaugh, and R. Gitzen. 2010. Evaluation of humpback chub translocations and native fish community restoration in Grand Canyon tributaries. National Park Service, Grand Canyon National Park \$90,510 (2010 – 2013).
- Paukert, C., J. Kershner, D. Infante, S. Hostetler, **J. Whittier**, L. Johnson, L. Wang, T. Wagner, P. Ferreri, J. Olden, P. Jacobson, D. Pereira, and G. Whelan. 2009. Managing the nations fish habitat at multiple spatial scales in a rapidly changing climate. U.S. Geological Survey, National Climate Change and Wildlife Science Center. \$2,618,531 (\$636,862 to MU; 2009 – 2012).
- Paukert, C.P., **J.B. Whittier**, and J.D. Olden. 2009. Conservation planning for fishes in the Upper Colorado River Basin. U.S. Geological Survey, National Biological Information Infrastructure \$779,585 (\$542,780 to MU; 2009 – 2013).
- Paukert, C.P., and **J.B. Whittier**. 2009. Evaluation of the success of humpback chub translocations in Shinumo Creek. National Park Service, Grand Canyon National Park \$17,684 (2009 – 2010).
- Paukert, C.P., J.D. Olden, and **J.B. Whittier**. 2008. Development and validation of models to assess the threat to freshwater fishes from environmental change and invasive species. U.S. Geological Survey, Status and Trends Program \$369,993 (2009 – 2011).

- Paukert, C.P., and **J.B. Whittier**. 2006. Development of conservation priorities to protect biodiversity of fishes in the Lower Colorado River Basin. USGS, National Biological Information Infrastructure. \$314,703 (2006 – 2009).
- Whittier, J.B.** 2005. Assessment of butterfly diversity at Tallgrass Prairie National Preserve. National Park Service. \$15,000 (2009 – 2010).
- Paukert, C.P. and **J. Whittier**. 2005. Modeling fish species occurrences in the Verde River Basin. USGS, National Biological Information Infrastructure. \$104,322 (2005 – 2006).
- Paukert, C.P. and **J.B. Whittier**. 2005. Determining the influence of current and historic flow variation on native fish species occurrences in the Verde River Basin. US Geological Survey, National Biological Information Infrastructure. \$30,001 (2005 – 2006).
- Whittier, J.B.** 1997. Development of an avian genotoxicity test using non-lethal techniques. Sigma Xi Grants-in-Aid. \$600 (1997).
- Whittier, J.B.** 1996. Travel Grant - Society of Environmental Toxicology and Chemistry. \$300 (2006).
- McBee, K. and **J.B. Whittier**. 1996. Development of an avian model of environmental genotoxicity. University Center for Water Research, Oklahoma State University. \$24,963 (1996 – 1998).

#### **UNIVERSITY SERVICE AND ACTIVITIES**

- Member, Policy Committee, College of Agriculture, Food, and Natural Resources, University of Missouri. 8/2019-8/2020.
- Chair of Policy Committee, School of Natural Resources, University of Missouri. 8/2019-8/2020.
- Policy Committee, School of Natural Resources, University of Missouri. 8/2020 – 8/2022.
- Non-Tenure Track Faculty Campus Standing Committee, Representative for College of Agriculture, Food, and Natural Resources, University of Missouri. 8/2017 – 8/2020.
- School of Natural Resources Research Day, University of Missouri, Poster Judge 2018.
- GIS workshop sponsored by Wildlife and Fisheries Graduate Student Organization, School of Natural Resources, University of Missouri. Spring 2017.
- Faculty mentor for CV Docs, a MU Graduate Student Association event, Spring 2017, Winter 2017, Spring 2018, University of Missouri
- Volunteer educator at South Farm Showcase 2012, 2013, University of Missouri
- Co-organizer of Department Seminars 2011 – 2012, University of Missouri
- Konza Visitors Day 2004, 2006, Kansas State University
- Department Seminar Committee 1995 – 96, 1998 – 99, Oklahoma State University
- Lunch-Time Seminar Committee 1996 – 98, Oklahoma State University
- Graduate Student Association University Representative 1998 – 99, Oklahoma State University
- Graduate Student Representative to Zoology Department 1997 – 98, Oklahoma State University

#### **PROFESSIONAL SOCIETY SERVICE**

Chair, (3-year term), Resource Policy Committee, American Fisheries Society, 2020 – 2023  
 Vice-Chair (3-year term), Resource Policy Committee, American Fisheries Society, 2018 – 2020

Secretary (3-year term), Equal Opportunities Section, American Fisheries Society, 2016 – 2019  
Standing Member (1-year term), Resource Policy Committee, American Fisheries Society, 2017 – present  
Continuing Education Committee for the Missouri Chapter of the American Fisheries Society, 2015 – present  
Bylaw Revision Committee for the Northcentral Division of the American Fisheries Society (1-year term), 2016 – 2017  
Immediate Past-President (2-year term), Fisheries Information and Technology Section, American Fisheries Society, 2013 – 2015  
President (2-year term), Fisheries Information and Technology Section, American Fisheries Society, 2011 – 2013  
Governing Board (2-year term), American Fisheries Society, 2011 – 2013  
Appointed Member of the Electronic Services Advisory Board (2-year term), American Fisheries Society, 2011 – 2013  
Management Committee (1-year term), American Fisheries Society, 2011 – 2012  
President-Elect (2-year term), Fisheries Information and Technology Section, American Fisheries Society, 2009 – 2011  
Advertising Committee, Western Division American Fisheries Society Meeting, 2009  
Webpage Editor, AZ/NM American Fisheries Society, 2008 – 2010  
Publicity Committee, Kansas Natural Resources Conference, 2008 – 2010  
Webpage Editor, Kansas Chapter of the American Fisheries Society, 2005 – 2010  
Listserve Manager, Kansas Chapter of the American Fisheries Society, 2005 – 2010

### **INVITED WORKSHOPS**

Invited team member for a workshop on developing new paradigms to aid Aquatic GAP programs at the National Center for Ecological Analysis and Synthesis, Santa Barbara, CA, 2008.  
Invited team member, Vital Sign Monitoring, National Park Service, Flagstaff, AZ, 2006.

### **COLLABORATIVE WORK/SERVICE**

Invited reviewer for the National Park Service - San Francisco Bay Area Network: species monitoring, data analysis and reporting, and data management plans. 2008-2009.  
Desert Fishes Habitat Partnership - Ad Hoc Committee member for outreach  
Desert Fishes Habitat Partnership - Member at-large

### **SYNERGISTIC ACTIVITIES**

Summer 2008: Mentored an undergraduate through the National Science Foundation, Research Experiences for Undergraduates

### **TRAINING/WORKSHOPS**

- Tidyverse for R, Midwest Fish and Wildlife Conference, Des Moines, IA, February 2022
- Python, Statistics Department, University of Missouri, Columbia, MO, February 2020
- Uncomfortable Conversations: Engaging Diverse Communities, American Fisheries Society Meeting, Reno, NV, October 2019



- Soil and Water Assessment Tool – Introduction and Advanced workshops, Auburn, AL, February 2019
- Uncomfortable Conversations: Addressing Unintentional Bias in the Fisheries Profession, American Fisheries Society Meeting, Tampa, Florida, August 2017
- Bayesian Hierarchical Modeling, Univ of Missouri, Columbia, Missouri, June 2015
- Spatial Statistical Modeling on Stream Networks, USFS, Boise, Idaho, May 2013
- Information-Theoretic Approaches to Empirical Science, American Fisheries Society Meeting, Ottawa, Ontario, Canada, August 2008
- NHD Plus, Denver, CO, February 2006
- Endangered Species Recovery Planning, National Conservation Training Center, Shepardstown, WV, June 17-21, 2002
- National Federal Program Activities Workshop, Scottsdale, AZ, May 6-10, 2002
- Ecological Services Basic Training, National Conservation Training Center, Shepardstown, WV, April 15-19, 2002
- GIS Activity Logging System Design (Advanced), National Conservation Training Center, Shepardstown, WV, March 20-21, 2002
- GIS Activity Logging System Design, National Conservation Training Center, Shepardstown, WV, March 18-19, 2002
- Northwest National Fire Plan Consultation Training, Missoula, MT, December 11-12, 2001
- Listing and Candidate Conservation Workshop, San Diego, CA, December 4-6, 2001
- Interagency Consultation for Endangered Species, Portland, OR, July 23-27, 2001

#### **TEACHING EXPERIENCE:**

##### *Instructor of Record*

2015: Undergraduate Research, University of Missouri

2012: GIS applications for ecological research, University of Missouri

2010: GIS applications for fish and wildlife research, University of Missouri

2009: GIS applications for ecological research, Kansas State University

##### *Guest Lecturer*

2013: Wildlife Manag. and Planning, University of Missouri (MU), FW 4650

2011 – 2014: Undergraduate Colloquium, MU

2010, 2011: Ecosystem Management, MU

2010: Wildlife Research and Management Techniques, MU

#### **SYMPOSIUMS ORGANIZED**

Dolph, C., J. Hubbell, and **J. Whittier**. 2021. State of the science on measures of faunal community health in response to multi-scale stressors. Midwest Fish and Wildlife Conference. Des Moines, IA.

**Joanna Whittier**, and Jeff Fore. Symposium Co-Chairs. 2019. Landscape-scale dataset and assessments to advance freshwater and marine conservation planning and delivery. Southern Division of the American Fisheries Society, Little Rock, AR.

- Craig P. Paukert, Abigail J. Lynch, Michelle D. Staudinger, and **Joanna Whittier**, Symposium Co-Chairs. 2016. Documented and Documenting the Effects of Climate Change on Inland Fish and Fisheries. American Fisheries Society, Kansas City, MO.
- Julie M. Defilippi, Jennifer M. Bayer and **Joanna Whittier**, Symposium Co-Chairs. 2015. Managing Data to Meet Shrinking Budgets and Growing Needs. American Fisheries Society, Portland, OR.
- Kristen Bouska, **Joanna Whittier**, Nicholas Sievert and Craig P. Paukert, Symposium Co-Chairs. 2015. Warm-Water Fishes in a Warming World: Impacts of Climate Change on Populations, Distributions, and Habitat. American Fisheries Society, Portland, OR.
- Tom Lang, **Joanna Whittier**, and Julie Defilippi. 2014. Gaining Better Understanding of Resources and Resource Users Through the Application of Emerging Technologies. 144<sup>th</sup> American Fisheries Society meeting, Quebec City, Quebec, Canada.

## PRESENTATIONS

\* Graduate student

\*\* Undergraduate student

### *Invited Presentation*

1. Infante, D., J. Ross, **J. Whittier**, and A. Cooper. 2020. Conserving stream fish habitats throughout the Mississippi River Basin: Information to support landscape-scale planning. American Fisheries Society Annual Meeting, Virtual. September.
2. **Whittier, J.B.** and D. Thornhill. 2019. The influence of best management practices on stream biota. 6<sup>th</sup> Biennial Symposium of the International Society for River Science, Vienna, Austria. 12 Sept 2019.
3. \*Ross, J., D.M. Infante, **J. Whittier**, J. Stewart, A. Cooper, W. Daniel, \*N. Sievert, and K. Herreman. FishTail: Assessing condition of stream fish habitat throughout the Mississippi River Basin, USA. 6<sup>th</sup> Biennial Symposium of the International Society for River Science, Vienna, Austria. 12 Sept 2019
4. Dauwalter, D.C., S.L. Vail-Muse, T.R. Thompson, **J.B. Whittier**, K.M. Johnson, M.G. Bean. 2019. Partnering on Multi-Species Aquatic Assessments to Inform Efficient Conservation Delivery. American Fisheries Society Annual Meeting, Reno, NV. September.
5. **Whittier, J.**, A. Strecker, \*N. Sievert, J. Olden, and D. Dauwalter. 2018. General framework for conducting multispecies aquatic conservation assessments for large river basins. 4<sup>th</sup> Mississippi-Yangtze River Basins Symposium, Chongqing, China. 17 October.
6. **Whittier, J.** 2018. Landscape level conservation planning for stream biota. Chinese Academy of Sciences, Institute for Hydrobiology, Wuhan, China.
7. Croxton, A., Z. Penney, **J. Whittier**, N. Pérez-Pérez, and C. Lewis. 2018. The Equal Opportunities Section of the AFS: A hidden resource. American Fisheries Society Annual Meeting, Atlantic City, NJ. 22 August.
8. **Whittier, J.**, P. Hays, B. Alexander, S. Todd, C. Bitting, S. Hodges, B. Kenner, and N. Athearn. 2018. Collaborative approach to assess the current condition of priority natural resources in two National Parks. Midwest Fish and Wildlife Conference, Milwaukee, WI. January.

9. \*Sievert, N., C. Paukert, and **J. Whittier**. 2017. Establishing freshwater conservation priorities with consideration of existing conservation networks. American Fisheries Society Annual Meeting, Tampa, FL. 23 August.
10. **Whittier, J.**, C. Paukert, J. Olden, A. Strecker, and \*K. Pitts. 2012. Assessment of predicted changes in landuse and climate on fish habitat conditions in the arid southwest United States. American Fisheries Society Annual Meeting, St. Paul, MN. 22 August.
11. **Whittier, J.**, C. Paukert, D. Infante, E. Varela-Acevedo, B. Pijanowski, S. Hostetler, L. Wang, L. Johnson, and T. Wagner. 2010. Assessing how the nation's fish habitats respond to climate and land use changes: A multi-scale approach. Midwest Fish and Wildlife Conference, Minneapolis, MN.
12. Paukert, C. and **J. Whittier**. 2008. Effects of invasive species on inland freshwater fisheries. 5<sup>th</sup> World Fisheries Congress, Yokohama, Japan.

### *Oral Presentations*

1. Dauwalter, D.C., S.L. Vail-Muse, T.R. Thompson, **J.B. Whittier**, K.M. Johnson, M.G. Bean. 2020. Partnering on Multi-Species Aquatic Assessments to Inform Efficient Conservation Delivery. American Fisheries Society Annual Meeting, Virtual. September.
2. **Whittier, J.**, and D. Thornhill. 2020. Assessment of water quality relative to current and potential placement of Best Management Practices. Missouri Natural Resource Conference, Tan-tar-a, MO.
3. \*Ross, J.D., D. Infante, **J. Whittier**, A. Cooper, J. Stewart, W. Daniel, and K. Herrmann. 2020. FishTail: Considering effects of human land use, dams, and excess nutrients on stream fish habitats throughout the Mississippi River Basin to aid in conservation. Southern Division American Fisheries Society. Pine Bluff, AR.
4. \*Ross, J., D. Infante, **J. Whittier**, J. Stewart, A. Cooper, W. Daniel, \*N. Sievert, and K. Herreman. 2019. Condition of stream fish habitats throughout the Mississippi River Basin. American Fisheries Society, Reno, NV.
5. \*Sievert, N., **J. Whittier**, and C. Paukert. 2018. Parameterization of Spatial Conservation Prioritization: Impacts on Stream Conservation Priorities. American Fisheries Society, Tampa, FL.
6. \*Sievert, N.A., Y. Tsang, W.M. Daniel, C.P. Paukert, D.M. Infante, **J. Whittier**, K. Herreman, and J. Stewart. 2016. Assessing climate impacts based on observed fish responses to stream temperature and flow metrics. American Fisheries Society, Kansas City, MO.
7. Daniel, W.M., \*N. Sievert, D.M. Infante, C. Paukert, J. Stewart, **J. Whittier**, K. Herreman, and Y. Tsang. 2016. FISHTAIL: A decision support mapper for conserving stream fishes and their habitats in the NE CSC region. Great Lakes Adaptation Forum, Ann Arbor, MI.
8. \*Sievert, N.A., Y. Tsang, W.M. Daniel, C. Paukert, D.M. Infante, **J. Whittier**, K. Herreman, J. Stewart, and T. Wagner. 2016. An assessment of potential changes in habitat classes due to climate change in the Northeast Climate Science Center region. Midwest Fish and Wildlife Conference, Grand Rapids, MI.
9. Daniel, W.M., \*N. Sievert, D.M. Infante, C. Paukert, J. Stewart, **J. Whittier**, T. Wagner, K. Herreman, and Y. Tsang. 2016. Current conservation status of stream fish habitat in

- the Midwest and northeastern United States. Midwest Fish and Wildlife Conference, Grand Rapids, MI.
10. \*Sievert, N.A., C.P. Paukert, and **J.B. Whittier**. 2015. Incorporating Existing Conservation Networks into Freshwater Conservation Planning. American Fisheries Society, Portland, OR.
  11. Austen, D., T. Litts, J.M. Defilippi, **J. Whittier**, and J.M. Bayer. 2015. Fisheries Data Exchange Standards Are Important to AFS, American Fisheries Society, Portland, OR.
  12. \*Sievert, N.A., C.P. Paukert, and **J.B. Whittier**. 2015. Prioritizing Stream Conservation in Missouri's Conservation Networks: Applications and Lessons for Landscape Scale Freshwater Conservation Planning. Midwest Fish and Wildlife Conference. Indianapolis, IN.
  13. Daniel, W.M., D.M. Infante, C. Paukert, J. Stewart, **J. Whittier**, T. Wagner, K. Herreman, Y. Tsang, and N. Sievert. 2014. A Decision Support Mapper for Conserving Stream Fish Habitats of the NE CSC Region: A Spatially-Explicit Web-Based Tool for Assessing Current Human Land Use, Fragmentation, Water Quality, and Future Climate Change. The National Workshop on Large Landscape Conservation. Washington D.C.
  14. \*Sievert, N., C. Paukert, and **J. Whittier**. 2014. Prioritizing stream conservation in Missouri's conservation networks: applications and lessons for landscape scale freshwater conservation planning. The National Workshop on Large Landscape Conservation. Washington D.C.
  15. \*Sievert, N. A., C. P. Paukert, and **J. B. Whittier**. 2014. Priority watersheds, conservation opportunity areas and the existing conservation network: Opportunities for stream fish conservation. Missouri Natural Resources Conference. Osage Beach, MO.
  16. \*Sievert, N. A., C. P. Paukert, and **J. B. Whittier**. 2014. A framework for evaluating aquatic biodiversity in existing conservation networks. Midwest Fish and Wildlife Conference. Kansas City, MO.
  17. \*Sievert, N., C. Paukert, and **J. Whittier**. 2013. Missouri's conservation networks: representation of stream fish species and relative conservation value. American Fisheries Society, Little Rock, AR.
  18. Guyette, R.P., F. Thompson, D.C. Dey, **J.B. Whittier**, and M.C. Stambaugh. 2013. Future and past fire variability in North American ecosystems calculated with the physical chemistry of climate. 9th North American Forest Ecology Workshop. Bloomington, IN. June 16 –20, 2013.
  19. \*Pierce, L.L., C. Paukert, and **J. Whittier**. 2012. A family-level evaluation of the drivers of fish invasions. Midwest Fisheries and Wildlife Conference, Wichita, KS.
  20. **Whittier, J.**, and C. Paukert. 2012. Assessment of predicted changes in landuse and climate on fish habitat conditions in the arid Southwest United States. American Fisheries Society, Minneapolis, MN.
  21. \*Pierce, L.L., C. Paukert, and **J. Whittier**. 2012. A taxonomic evaluation of the drivers of species invasions in the Upper Colorado River Basin. American Fisheries Society, Minneapolis, MN.
  22. **Whittier, J.**, C. Paukert, J. Olden, A. Strecker, and \*K. Pitts. 2012. Linking protected lands with streams of high biological conservation potential in arid systems: now and in the future. 6<sup>th</sup> World Fisheries Conference, Edinburgh, Scotland.

23. **Whittier, J.**, C. Paukert, J. Olden, A. Strecker, and \*K. Pitts. 2011. Developing conservation priorities for native fish in the Lower Colorado River Basin. American Fisheries Society, Seattle, WA.
24. **Whittier, J.**, C. Paukert, J. Olden, \*K. Pitts, and A. Strecker. 2011. Application of conservation priorities for desert fish. Desert Fishes Habitat Partnership Annual Meeting, Utah.
25. **Whittier, J.**, C. Paukert, J. Olden, \*K. Pitts, and A. Strecker. 2011. Developing conservation priorities for native fish in the Lower Colorado River Basin. American Fisheries Society Annual Meeting, Seattle, WA.
26. **Whittier, J.**, A. Strecker, J. Olden, and C. Paukert. 2011. Priority watershed planning in the Colorado River basin: new tools and approaches. Rivers and Streams Committee of the Missouri Chapter of the American Fisheries Society, Jefferson City, MO.
27. Boyer, K., M.A. Andersen, S. Carman, D. Dauwalter, J. Soberg, and **J. Whittier**. 2010. When BAD is good: using best available data to strategically arrest declines of imperiled desert fishes and their habitats. American Fisheries Society Annual Meeting, Pittsburgh, PA.
28. Strecker, A.L., J.D. Olden, J.B. Whittier, and C.P. Paukert. 2010. Setting conservation priorities for native fishes in the Lower Colorado River Basin. Joint Meeting of the American Society of Limnology and Oceanography and the North American Benthological Society, Santa Fe, NM.
29. Kretschmann, A., S. Bonar, K. Young, **J. Whittier**, C. Paukert, and D.P. Guertin. 2009. Using Geographic Information Systems to delineate native fish and sport fish management areas in the Verde River watershed, Arizona. Western Division American Fisheries Society Annual Meeting, Albuquerque, NM.
30. \*Pool, T., J. Olden, **J. Whittier**, and C. Paukert. 2009. Riverscape patterns and environmental drivers of functional diversity and composition of fish communities in the Lower Colorado River Basin. Western Division American Fisheries Society Annual Meeting, Albuquerque, NM.
31. **Whittier, J.B.**, C. Paukert, and J. Olden. 2009. Modeling local and watershed drivers of native and non-native fishes in the Lower Colorado River Basin. Western Division American Fisheries Society Annual Meeting, Albuquerque, NM.
32. **Whittier, J.B.**, C. Paukert, and J. Olden. 2008. Spatial patterns in the distribution and conservation of imperiled fishes in the Lower Colorado River Basin. American Fisheries Society Annual Meeting, Ottawa, Ontario, Canada.
33. \*Pitts, K., C. Paukert, and **J. Whittier**. 2008. Assessing anthropogenic threats to fishes in the Lower Colorado River Basin. American Fisheries Society Annual Meeting, Ottawa, Ontario, Canada.
34. **Whittier, J.B.**, C. Paukert, and J. Olden. 2008. Spatial patterns in the distribution and conservation of imperiled fishes in the Lower Colorado River Basin. Western Division American Fisheries Society Annual Meeting, Portland, OR.
35. \*Pitts, K., C. Paukert, and **J. Whittier**. 2008. Risk to native fishes: influence of anthropogenic stressors. Western Division American Fisheries Society Annual Meeting, Portland, OR.

36. \*Pitts, K.L., C. Paukert, and **J. Whittier**. 2008. Evaluation of an ecological risk index in quantifying threats to fishes. Arizona/New Mexico TWS/AFS Joint Meeting Annual Meeting, Prescott, AZ.
37. \*Pitts, K.L., C. Paukert, and **J. Whittier**. 2008. Utility of an ecological risk index to assess threats to native fishes: insights from the Verde River Basin, Arizona. Kansas Natural Resources Conference, Wichita, KS.
38. \*Pitts, K.L., C. Paukert, and **J. Whittier**. 2008. Utility of an ecological risk index to assess threats to native fishes: insights from the Verde River Basin, Arizona. First Annual Midwest Student Fisheries Colloquium, Lincoln, NE.
39. **Whittier, J.B.**, C. Paukert, \*K. Pitts, and J. Olden. 2007. Lower Colorado River Aquatic GAP: Meeting the needs of stakeholders. National Gap Analysis Conference and Interagency Symposium, Asheville, NC.
40. \*Pitts, K.L., C.P. Paukert, and **J.B. Whittier**. 2007. Development and Assessment of an Ecological Risk Index for Fishes in the Verde River Basin, Arizona. Midwest Fish and Wildlife Conference, Madison, WI.
41. \*Pitts, K.L., C.P. Paukert, and **J.B. Whittier**. 2007. Hydrologic variability in the Lower Colorado River Basin: implications for fish conservation. American Fisheries Society Annual Meeting, San Francisco, CA.
42. **Whittier, J.B.**, C. Paukert, K. \*Pitts, and J. Olden. 2006. Uses and potential uses of data from the Lower Colorado River Basin Aquatic GAP at a local, regional, and national scale. Arizona/New Mexico TWS/AFS Joint Meeting, Flagstaff, AZ.
43. **Whittier, J.B.**, C. Paukert, and K. Gido. 2005. Development of an Aquatic GAP for the Lower Colorado River Basin. National Gap Analysis Conference and Interagency Symposium, Reno, NV.
44. **Whittier, J.B.**, C. Paukert, and K. Gido. 2005. Lower Colorado River Aquatic GAP Workshop. Arizona/New Mexico TWS/AFS Joint Meeting, Gallup, NM.
45. **Whittier, J.B.**, C. Paukert, and K. Gido. 2004. Progress toward a Lower Colorado River Aquatic GAP. Aquatic GAP Annual Meeting, New Orleans, LA.
46. **Whittier, J.B.** 2004. Long-term monitoring of anthropogenic impacts on reproduction of Interior Least Terns. Ecology and Evolutionary Biology Seminar Series, Kansas State University, Manhattan, KS.
47. **Whittier, J.B.** and D.M. Leslie, Jr. 2001. Genetic variation among subspecies of Least Tern (*Sterna antillarum*): implications for conservation. The Wildlife Society Meeting, Reno, NV.
48. **Whittier, J.B.** and D.M. Leslie, Jr. 2000. Pre-fledging survival of least tern chicks. Combined Meeting of the Wilson Ornithological Society and the Association of Field Ornithologists, Galveston, TX.
49. **Whittier, J.B.** and D.M. Leslie, Jr. 1999. Diel movements of Least Tern chicks. Oklahoma Academy of Sciences, Oklahoma City, OK.
50. **Whittier, J.B.** and D.M. Leslie, Jr. 1999. Survival and spatial movement of Least Tern chicks on an alkaline flat. Oklahoma Ornithological Society, Tulsa, OK.
51. **Whittier, J.B.** and D.M. Leslie, Jr. 1999. Nest success of least terns at Salt Plains National Wildlife Refuge. Oklahoma Academy of Sciences, Talequah, OK.

52. **Whittier, J.B.** and D.M. Leslie, Jr. 1998. Tough times for terns. Oklahoma Ornithological Society, Ada, OK.
53. **Whittier, J.B.**, D.M. Leslie, Jr., B.R. Winton, M.K. Koenen, and R. Utych. 1998. Anthropogenic impacts on nest success of Western Snowy Plovers (*Charadrius alexandrinus*) in North-central Oklahoma. American Ornithologists' Union, St. Louis, MO.
54. **Whittier, J.B.** 1997. Avian communities of the sky islands of Southern Arizona. Multivariate Applications in Community Ecology. Second Biennial Symposium, Stillwater, OK.
55. **Whittier, J.B.** and D.M. Leslie, Jr. 1997. Geographic variation in DNA of the least tern (*Sterna antillarum*). Oklahoma Ornithological Society, Stillwater, OK.
56. **Whittier, J.B.** and K. McBee. 1996. Detection of chromosome damage in birds using non-lethal assays. Society of Environmental Toxicology and Chemistry Meeting, Washington DC.
57. **Whittier, J.B.** and K. McBee. 1996. Genetic analysis of mallards (*Anas platyrhynchos*) exposed to Triethylenemelamine and Methyl Parathion. South Central Chapter Society of Environmental Toxicology and Chemistry Meeting, Stillwater, OK.
58. Van Den Bussche, R.A., **J.B. Whittier**, I.L. Brisbin, L. Bryan, M. Harris, J. Rodgers, and R.J. Baker. 1996. Analysis of genetic variation among populations of the endangered wood stork (*Mycteria Americana*). Southwestern Association of Naturalists Annual Meeting, McAllen, TX.
59. **Whittier, J.B.** and K. McBee. 1996. Development of an avian genotoxicity model using non-invasive techniques: flow cytometric analysis of blood. Southwestern Association of Naturalists Annual Meeting, McAllen, TX.

#### *Recent Posters*

1. **Whittier, J.B.**, J. Westhoff, B. Whitehead, and D. Lobb. 2019. Providing a landscape-level approach to estimate change in stream temperature relative to water withdrawals. American Fisheries Society Annual Meeting, Reno, NV.
2. **Whittier, J.B.**, J. Westhoff, B. Whitehead, and D. Lobb. 2019. Relationship between water temperature and flow in Missouri streams based on landscape-scale factors. Missouri Natural Resource Conference. Tan-tar-a, MO
3. Ross, J., D. Infante, W. Daniel, N. Sievert\*, K. Hermann, and **J. Whittier**. 2018. Development of a decision support mapper to inform conservation of stream fish habitats throughout the Mississippi River Basin, American Fisheries Society Annual Meeting. Atlantic City, NJ.
4. \*Whitehead, B, **J. Whittier**, D. Lobb, J. Westhoff, and C. Paukert. 2017. Relationship between water temperatures and flow rates for Missouri streams. Midwest Fish and Wildlife Conference. Lincoln, NE.
5. **Whittier, J.**, J. Westhoff, D. Lobb, and C. Paukert. 2017. Role of discharge in moderating temperature in Missouri streams. Missouri Natural Resource Conference. Tan-tar-a, MO.

6. \*Whitehead, B, **J. Whittier**, D. Lobb, J. Westhoff, and C. Paukert. 2017. Observed and predicted patterns of water temperature in Ozark Highlands streams. Missouri Natural Resource Conference. Tan-tar-a, MO.
7. **Whittier, J.**, J. Westhoff, and C. Paukert. 2016. A comparison of accuracy and precision among temperature loggers at typical stream temperatures. Missouri Natural Resource Conference. Tan-tar-a, MO.
8. \*\*Rasco, J.D., and **J.B. Whittier**. 2016. Relationship between water temperature and flow rates for Missouri streams. Missouri Natural Resource Conference. Tan-tar-a, MO.
9. Westhoff, J.T., **J.B. Whittier**, and C. Paukert. 2016. Thermal patterns in Missouri Coldwater streams. Missouri Natural Resource Conference. Tan-tar-a, MO.
10. **Whittier, J.** and \*N. Sievert. 2015. Conservation assessment for native fish in the Upper Colorado River Basin. Portland, OR.
11. \*\*Dolan, M., **J. Whittier**, J. Westhoff, and \*\*T. Schepker. 2014. A comparison of precision among temperature loggers at typical stream temperatures. 144<sup>th</sup> American Fisheries Society Meeting, Quebec City, Quebec, Canada.
12. \*Spurgeon, J., C. Paukert, and **J. Whittier**. 2010. 71<sup>st</sup> Midwest Fish and Wildlife Conference, Minneapolis, MN.
13. **Whittier, J.B.**, C. Paukert, \*K. Pitts, and J. Olden. 2008. Development and classification of watershed boundaries to aid conservation efforts in the Lower Colorado River Basin. Western Division American Fisheries Society Annual Meeting, Portland, OR.
14. \*Pitts, K.L., C. Paukert, and **J. Whittier**. 2008. Alteration of flow regime and its influence on fish assemblages within the Lower Colorado River Basin. Arizona/New Mexico Joint Annual Meeting, Prescott, AZ.
15. **Whittier, J.B.**, C. Paukert, \*K. Pitts, and J. Olden. 2008. Development and classification of watershed boundaries to aid conservation efforts in the Lower Colorado River Basin. Arizona/New Mexico TWS/AFS Joint Meeting, Prescott, AZ.
16. **Whittier, J.B.**, C. Paukert, \*K. Pitts, and J. Olden. 2007. Lower Colorado River Basin Aquatic GAP project - progress update. Arizona/New Mexico TWS/AFS Joint Meeting. Albuquerque, NM.
17. **Whittier, J.B.**, C. Paukert, and K. Gido. 2006. Development of an Aquatic GAP for the Lower Colorado River Basin. Arizona/New Mexico TWS/AFS Joint Meeting. Gallup, NM.

#### *Invited Workshop Instructor*

- GIS Techniques in Natural Resources Management, American Fisheries Society, Southern Division Annual Meeting – 2020
- International Training Course for Fisheries – GIS for Fisheries Research and Management, World Fishery Congress, Yokohama, Japan. October 2008.

#### *Workshops Taught*

- GIS Techniques for Natural Resources Management, Southern Division, American Fisheries Society, Little Rock, AR, Feb 2020.
- Beginning GIS for Fisheries Biologists, American Fisheries Society, Annual Meetings – 2005-2011, 2014, 2017.



- Advanced GIS for Fisheries Biologists, American Fisheries Society, Annual Meetings – 2005, 2007, 2009, 2010, 2011, 2017.
- Beginning GIS for Fisheries Biologists, Iowa Chapter of the American Fisheries Society, Annual Meeting, Ames, IA. June 2014.
- Advanced GIS for Fisheries Biologists, Iowa Chapter of the American Fisheries Society, Annual Meeting, Ames, IA. June 2014.
- Beginning GIS for Fisheries Biologists, Western Division of the American Fisheries Society, Annual Meeting, Portland, OR. May 2008.
- Advanced GIS for Fisheries Biologists, Arizona/New Mexico TWS/AFS Joint Meeting, Albuquerque, NM. February 2007.
- Beginning GIS for Fisheries Biologists, Kansas Chapter of the American Fisheries Society, Annual Meeting, Hays, KS. February 2006.

### **PROFESSIONAL SOCIETY MEMBERSHIPS**

American Fisheries Society (AFS)

Fisheries Information and Technology Section of the AFS

Northcentral Division of the AFS

International Section of the AFS

Missouri Chapter of the AFS

Education Section of the AFS

Equal Opportunity Section of the AFS

### **MANUSCRIPT REVIEWS**

Guest-Editor, Northeastern Naturalist

Journal of Wildlife Management

Wildlife Society Bulletin

North American Journal of Fisheries Management

Journal of Field Ornithology

Landscape Ecology

AFS Books

Science of the Total Environment

Sustainability

AUK

Fisheries

Waterbirds

National Park Service

Global Ecology and Biogeography

Case Studies in the Environment

USGS FSP reviews

Water

### **Additional References**

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