

# David A. Schumann

Postdoctoral Research Associate

## PROFESSIONAL ADDRESS

Department of Wildlife, Fisheries, and Aquaculture

Mississippi State University

Mississippi State, MS 39762

Phone: (xxx) xxx-xxxx

Website: <https://daschumann.github.io>

## EDUCATION

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May 2017	Ph.D. – South Dakota State University Wildlife and Fisheries Sciences Dissertation: <i>Measuring aquatic organism responses to stream restoration: does the field of dreams really exist?</i>
Dec. 2012	M.S. – University of Nebraska at Kearney Biology Thesis: <i>Experimental repatriation of Plains Topminnow, Fundulus sciadicus, for species conservation and evaluation of potential limits to persistence in Nebraska</i>
Dec. 2009	B.S. – University of Wisconsin-Stevens Point Fisheries and Water Resources

## PROFESSIONAL EXPERIENCE

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2017-present	Postdoctoral Research Associate Department of Wildlife, Fisheries, and Aquaculture Mississippi State University
2013-2017	Graduate Research Assistant Department of Natural Resource Management South Dakota State University
2014-2015	Graduate Teaching Assistant Department of Natural Resource Management South Dakota State University
2011-2012	Curator of Ichthyology Collection Department of Biology University of Nebraska at Kearney
2011-2012	Entomology Technician Nebraska Ecological Services U.S. Fish and Wildlife Service
2012	Graduate Teaching Assistant Department of Biology

University of Nebraska at Kearney

2010-2012 Graduate Research Assistant  
Department of Biology  
University of Nebraska at Kearney

2009 Fisheries Intern  
Northern Aquaculture Demonstration Facility  
University of Wisconsin – Stevens Point

### TEACHING EXPERIENCE

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Summer 2018	WFA 4990: Aquatic Sampling Techniques ( <i>Instructor</i> ) Mississippi State University *Course submitted & approved, but not offered due to low enrollment
Spring 2018	WFA 4133: Fisheries Science ( <i>Guest Lecturer and Lab Instructor</i> ) Mississippi State University
Fall 2017	WFA 4313: Fisheries Management ( <i>Guest Lecturer and Lab Instructor</i> ) Mississippi State University
Fall 2015	WL 367: Ichthyology ( <i>Instructor and Lab Coordinator</i> ) South Dakota State University Mean IDEA Score = 3.8
Spring 2015	WL 230: Wildlife and Fisheries Techniques ( <i>Co-Instructor</i> ) South Dakota State University Mean IDEA Score = 4.6
Fall 2014	BIOL 872: Freshwater Biology ( <i>Guest Lecturer</i> ) University of Nebraska at Kearney  WL 527: Limnology of Lakes and Streams ( <i>Guest Lecturer</i> ) South Dakota State University
Spring 2014	WL 230: Wildlife and Fisheries Techniques ( <i>Co-Instructor</i> ) South Dakota State University Mean IDEA Score = 4.5 WL 529: Fish Ecology ( <i>Guest Lecturer</i> ) South Dakota State University
Fall 2013	WL 367: Ichthyology ( <i>Lab Instructor and Guest Lecturer</i> ) South Dakota State University  BIOL 884: Freshwater Management Techniques ( <i>Guest Lecturer</i> ) University of Nebraska at Kearney

WL 723: Fisheries Ecology and Management (*Guest Lecturer*)  
South Dakota State University

Spring 2012 BIOL 103: General Biology (*Lab Instructor*)  
University of Nebraska at Kearney

#### UNDERGRADUATE STUDENT MENTEES

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2018-present	Ashley Shannon, Mississippi State University Research: <i>Debunking angler lore: can the Farmer's Almanac really forecast catch rates?</i>
2014-2017	Jenna Haag, South Dakota State University Research: <i>Unequal ranging abilities of prairie fishes: vertical barriers</i>
2015-2016	Joshua Hoekwater, South Dakota State University Research: <i>Improving surgical techniques used to implant PIT tags into small-bodied fishes with cyanoacrylate sutures</i>
2015-2016	Crystal Garcia, South Dakota State University Research: <i>Seasonality, floods and droughts structure larval fish assemblages in prairie streams</i>
2015-2016	Paige Ellensohn, South Dakota State University Research: <i>Unequal ranging abilities of prairie fishes: horizontal barriers</i>
2015	Miranda Huang, Whitman College Research: <i>Habitat partitioning of crayfish common to eastern South Dakota</i>
2013-2015	Morgan Kauth, South Dakota State University Research: <i>Effectiveness of single-pass backpack electrofishing in Great Plains streams</i>

#### PROFESSIONAL WORKSHOPS

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1. Colvin, M.E., and D.A. Schumann. 2018. Structured decision making and developing conservation planning tools to mobilize State Wildlife Action Plans. Nebraska Game and Parks Commission, Heritage Program. Lincoln, Nebraska.

#### PEER-REVIEWED PUBLICATIONS (undergraduate and graduate co-authors underlined) - 12

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1. Schumann, D.A., J.M. Haag, P.C. Ellensohn, J.D. Redmond, and K.N.B. Graeb. In press. Movement of prairie fishes in a fragmented riverscape: ecosystem processes risk being ratcheted downstream. *Aquatic Conservation: Marine and Freshwater Ecosystems*

2. Schumann, D.A., C.S. Uphoff, C.W. Schoenebeck, and K.N.B. Graeb. 2018. Incorporation of carbon and nitrogen isotopes in age-0 Walleye (*Sander vitreus*) tissues following a laboratory diet switch experiment. *Canadian Journal of Fisheries and Aquatic Sciences* 75:497-505.
3. Garcia, C., D.A. Schumann, J. Howell, B.D.S. Graeb, K.N. Bertrand, and R.A. Klumb. 2018. Seasonality, floods and droughts structure larval fish assemblages in prairie rivers. *Ecology of Freshwater Fish* 27:389-397.
4. Schumann, D.A., W.W. Hoback, K.D. Koupal, C.W. Schoenebeck, S.C. Schainost, and T.L. Wilson. 2017. Experimental analysis of reintroduction strategies to conserve the vulnerable Plains Topminnow *Fundulus sciadicus* in Nebraska. *Endangered Species Research* 34:349-355.
5. Pfrimmer, J., L. Gigliotti, J.D. Stafford, D.A. Schumann, and K.N. Bertrand. 2017. Motivations for enrollment into the Conservation Reserve Enhancement Program in the James River Basin of South Dakota. *Human Dimensions of Wildlife* 22(4):382-389.
6. Schumann, D.A., D. Deslauriers, M.D. Wagner, K.N. Bertrand, and B.D.S. Graeb. 2017. Surgical implantation of passive integrated transponder (PIT) tags: a powerful tool for small-bodied sturgeon. *Transactions of the American Fisheries Society* 146(2):230-239.
7. Schumann, D.A., C.W. Schoenebeck, K.D. Koupal, and W.W. Hoback. 2016. Dynamics of fish assemblage structure and single-species persistence: valuable insight into interspecific interactions of a poorly understood species. *The American Midland Naturalist* 176(2):186-198.
8. Schumann, D.A., W.W. Hoback, and K.D. Koupal. 2015. Complex interactions between native and invasive species: investigating the differential displacement of two topminnows native to Nebraska. *Aquatic Invasions* 10(3):339-349.
9. Schumann, D.A., K.D. Koupal, S. Schainost, W.W. Hoback, and C.W. Schoenebeck. 2015. Spatial dynamics and large-scale dispersal patterns of plains topminnow *Fundulus sciadicus*: implications for species conservation. *Journal of Freshwater Ecology* 30(2):311-322.
10. Schumann, D.A., K.D. Koupal, W.W. Hoback, and C.W. Schoenebeck. 2013. Evaluation of sprayed fluorescent pigment marks as a method to mass mark fish species. *The Open Journal of Fish Science* 6:41-47.
11. Schumann, D.A., C.A. Pasbrig, K.D. Koupal, and W.W. Hoback. 2012. Culture of plains topminnow, *Fundulus sciadicus*, in a pond constructed for species conservation. *North American Journal of Aquaculture* 74:360-364.
12. Schumann, D.A., M.C. Cavallaro, and W.W. Hoback. 2012. Size selective predation of fish by *Hydrophilis triangularis* (Coleoptera: Hydrophilidae) and *Lethocerus americanus* (Hemiptera: Belostomatidae). *Journal of the Kansas Entomological Society* 85(2):155-159.

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**PUBLICATIONS IN REVIEW** (undergraduate and graduate co-authors underlined) - **FIVE**


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1. Schumann, D.A., and M.E. Colvin. In review. A Bayesian belief network to assess extinction risk and prioritize conservation among diverse and understudied aquatic taxa.
2. Schumann, D.A., K.N. Bertrand, M.D. Wagner, B.D.S. Graeb, E. Prenosil, and J. Hoekwater. In review. Using phylogenetic regression to assess the suitability of passive integrated transponder (PIT) for diverse small-bodied fishes.
3. Schumann, D.A., K.N. Bertrand, J. Pfrimmer, J.D. Stafford, and S.R. Chipps. In review. The response of aquatic ecosystems to grassland conservation: can streams of dreams exist in a degraded riverscape?
4. Kauth, M.J., D.A. Schumann, K.N. Bertrand, and W.W. Hoback. In review. Effectiveness of single-pass backpack electrofishing to sample fish in small prairie streams.
5. Wagner, M.D., B.J. Smith, and D.A. Schumann. In review. Gear effectiveness and size selectivity for five species of madtoms in Mississippi rivers.

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**PUBLICATIONS NEAR COMPLETION** (undergraduate and graduate co-authors underlined) - **FOUR**


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1. Deslauriers, D., D.A. Schumann, D.J. Debkowski, A.K. Carlson, L.B. Heironimus, B.J. Smith, J.D. Grote, C.K. Kaiser, M.D. Wagner, S.C. Sindelar, J. Kienz, and S.R. Chipps. In prep. Estimating the standard metabolic rate of diverse fishes using metabolic theory: applications for bioenergetics models.
2. Schumann, D.A., M.E. Colvin, and L.E. Miranda. In prep. Occupancy of four gar species (Lepisosteiformes: Lepisosteidae) in river-floodplain habitats: Evidence for competitive exclusion and habitat mediated co-existence.
3. Schumann, D.A., and M.E. Colvin. In prep. An interactive online platform to investigate and assess biodiversity data, species distributions, and patterns of assemblage structure.
4. Huang, M., D.A. Schumann, and M.E. Colvin. In prep. Population demographics, hierarchical co-occurrence patterns, and habitat preferences of two crayfish species in restored prairie streams.

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**POPULAR ARTICLES** (undergraduate and graduate co-authors underlined) – **TWO**


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1. Schumann, D.A., C.D. Hill, C. Kaiser, B.D.S. Graeb, and D.W. Willis. In press. Remember the pumpkinseed: Using high density smallmouth bass to our advantage in northern ponds. Pond Boss
2. Schumann, D.A., and K.D. Koupal. 2012. Plains topminnow in Nebraska. Central Loess Hills Newsletter 4(1):2.

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**EXTRAMURAL GRANTS AWARDED – SUM \$124,355**


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1. Colvin, M.E., D.A. Schumann, S. Miranda, and J.B. Davis. 2018. Evaluating the fish assemblage and fisheries of Bluff Lake and integrating fishery objectives with Paddlefish

- and bird management objectives to evaluate water level management decisions. Noxubee National Wildlife Refuge. (\$115,056)
2. Schumann, D.A., and M.E. Colvin. 2018. Evaluating Southern Brook Lamprey movement and biology. Mississippi State University, College of Forest Resources Undergraduate Research Scholars Program. (\$3,000)
  3. Schumann, D.A. 2015. Microhabitat affinities of sensitive prairie fishes in South Dakota: towards precision stream restoration and management. South Dakota State University, Department of Natural Resource Management. (\$1,000)
  4. Schumann, D.A. 2015. Fish distribution, relative abundance, and habitat associations in never sampled James River Watersheds. South Dakota Department of Game, Fish and Parks, Wildlife Division. (\$4,724)
  5. Schumann, D.A., and W.W. Hoback. 2012. Long-term alterations to the fish community at a small Nebraska stream. University of Nebraska at Kearney, Biology Department. (\$575)

#### **SUBMITTED EXTRAMURAL GRANTS**

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1. Schumann, D.A., M.E. Colvin, and K.O. Evans. 2018 (In review). Integrating conservation planning tools to develop a transparent conservation blueprint for aquatic species in the southeastern United States. U.S. Fish and Wildlife Service Region 4 Science Applications. (\$85,950)
2. Bertrand, K.N., D.A. Schumann, C.A. Pasbrig, B.D.S. Graeb, M. Gonda, and J. Gonzalez. 2017 (Not awarded). Stream habitat for nongame prairie fishes: evaluating watershed restoration and network connectivity for Topeka Shiner (*Notropis topeka*) genetic structure, microhabitat use, and home range size. Great Plains Landscape Conservation Cooperative. (\$893,625)
3. Schumann, D.A., and M.E. Colvin. 2018 (Not awarded). Utilizing passive integrated transponder (PIT) tag technology to improve studies of young lamprey ecology. The North American Native Fishes Association Conservation Research Grant. (\$900).
4. Schumann, D.A., and K.N. Bertrand. 2015 (Not awarded). The effect of decreased turbidity in the Missouri River on piscivorous Pallid Sturgeon foraging and prey selection, American Society of Ichthyologists and Herpetologists – Howard McCarley Student Research Award. (\$850)

#### **TECHNICAL REPORTS - SEVEN**

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1. Schumann, D.A., and M.E. Colvin. 2018. Multi-objective conservation planning: prototyping a strategic decision framework for aquatic species conservation (Phase 1). Gulf Coastal Plains and Ozarks Landscape Conservation Cooperative, Annual Report, Columbia, Missouri.
2. Wagner, M.D., and D.A. Schumann. 2017. Status survey and comparisons of detection probability for multiple gears for Piebald Madtom (*Noturus gladiator*). U.S. Fish and Wildlife Service, Grant Award MS-E-E16AP00186, Annual Report, Jackson.

3. Schumann, D.A., and K.N. Bertrand. 2016. Fish distribution, relative abundance, and habitat associations in never sampled James River watersheds. South Dakota Game, Fish and Parks, Wildlife Diversity Small Grants Program, Final Report, Pierre.
4. Stafford, J.D., K.N. Bertrand, D.A. Schumann, and J. Pfrimmer. 2017. Evaluation of the James River Conservation Reserve Enhancement Program in South Dakota. South Dakota Game, Fish & Parks, State Wildlife Grant, Project T-59-R1, Final Report, Pierre.
5. Koupal, K.D., D.A. Schumann, and W.W. Hoback. 2013. Reintroductions of plains topminnow, *Fundulus sciadicus*, for species conservation in Nebraska. Nebraska Game and Parks Commission, State Wildlife Grant, Project T2-8-R-2, Final Report, Lincoln.
6. Koupal, K.D., D.A. Schumann, and W.W. Hoback. 2012. Reintroductions of plains topminnow, *Fundulus sciadicus*, for species conservation in Nebraska. Nebraska Game and Parks Commission, State Wildlife Grant, Project T2-8-R-1, Final Report, Lincoln.
7. Schumann, D.A. 2009. Effect of starvation prior to slaughter on commercial rainbow trout yield and quality. University of Wisconsin-Stevens Point, Northern Aquaculture Demonstration Facility, Final Report, Stevens Point.

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**INVITED PRESENTATIONS** (undergraduate and graduate student co-authors underlined) - **NINE**

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1. Schumann, D.A., and M.E. Colvin. 2018. A Bayesian belief network to identify taxa in need of conservation attention in Aquatic Ecosystems *in* Novel and Emerging Technologies in Species Identification and Conservation. The 148<sup>th</sup> Annual Meeting of the American Fisheries Society, Atlantic City, New Jersey.
2. Colvin, M.E., and D.A. Schumann. 2018. Decision making process and tools for aquatic systems. Management Action Team Meeting, Weeks Bay Reserve Tonsmeire Resource Center, Fairhope, Alabama.
3. Schumann, D.A. 2018. Generating “actionable intelligence” to inform fisheries conservation and decision making. Department of Wildlife, Fisheries, and Aquaculture Conservation Lecture Series, Starkville, Mississippi.
4. Schumann, D.A. 2017. Oh, the places you’ll go! The people and places on my way into the fisheries profession. Mississippi State University Student Subunit of the American Fisheries Society, Starkville, Mississippi.
5. Schumann, D.A., J.D. Pfrimmer, K.N. Bertrand, and J.D. Stafford. 2016. Conservation fields of dreams? South Dakota Wildlife Federation, Brookings, South Dakota.
6. Haag, J.M., P.C. Ellensohn, J.D. Redmond, D.A. Schumann, and K.N. Bertrand. 2016. Unequal ranging abilities of prairie fishes and consequent threats to the stream ecosystem: Impacts of lost connectivity in lotic networks *in* Managing Riverscapes: Conservation Tools to Assess and Improve Stream Fisheries. The 146<sup>th</sup> Annual Meeting of the American Fisheries Society, Kansas City, Missouri.
7. Schumann, D.A., K.N. Bertrand, J.D. Pfrimmer, and J.D. Stafford. 2016. The riverscape: A transformative ecological paradigm used to understand conservation outcomes *in*

- Managing Riverscapes: Conservation Tools to Assess and Improve Stream Fisheries. The 146<sup>th</sup> Annual Meeting of the American Fisheries Society, Kansas City, Missouri.
8. Schumann, D.A., J.D. Pfrimmer, J.D. Stafford, K.N. Bertrand, and L. Gigliotti. 2015. Learning from the Conservation Reserve Enhancement Program in South Dakota: Where do we go from here? Izaak Walton League of America, Watertown, South Dakota.
  9. Schumann, D.A. 2017. Integrating winter percussion into a band program: Great benefits with some challenges. South Dakota In-Service Music Conference, Brookings, South Dakota.

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**CONTRIBUTED PRESENTATIONS** (undergraduate and graduate student co-authors underlined) - 39

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1. Schumann, D.A., M.E. Colvin, K.D. Koupal, and C. Wessel. 2018. A structured decision making approach to support a developing State Wildlife Action Plan: Conservation of Plains Topminnow in Nebraska. The 148<sup>th</sup> Annual Meeting of the American Fisheries Society, Atlantic City, New Jersey.
2. Richardson, B. C. Aldridge, D.A. Schumann, and M.E. Colvin. 2018. Assessing the viability of passive integrated transponder (PIT) tags for ecological studies of lamprey ammocoetes. The 148<sup>th</sup> Annual Meeting of the American Fisheries Society, Atlantic City, New Jersey.
3. Shannon, A.N., D.A. Schumann, and M.E. Colvin. 2018. Debunking angler lore: can the Farmer's Almanac really forecast catch rates? Mississippi State University Undergraduate Research Symposium, Mississippi State, Mississippi.
4. Schumann, D.A., and M.E. Colvin. 2018. A Bayesian belief network to prioritize conservation need among diverse aquatic taxa in a speciose and understudied region. Mississippi Chapter of the American Fisheries Society annual meeting, Oxford, Mississippi.
5. Wagner, M.D., D.A. Schumann, B. Smith. 2018. Gear effectiveness and size selectivity for five species of madtoms. Mississippi Chapter of the American Fisheries Society annual meeting, Oxford, Mississippi.
6. Shannon, A.N., D.A. Schumann, and M.E. Colvin. 2018. Debunking angler lore: can the Farmer's Almanac really forecast catch rates? Mississippi Chapter of the American Fisheries Society annual meeting, Oxford, Mississippi.
7. Wagner, M.D., B. Smith, and Schumann, D.A. 2017. Recent *Noturus* conservation work in Mississippi. Southeastern Fishes Council Annual Meeting, Chattanooga, Tennessee.
8. Schumann, D.A., K.N. Bertrand, J.D. Pfrimmer, and J.D. Stafford. 2017. Measuring ecosystem responses to stream restoration: do *streams of dreams* really exist? The 147<sup>th</sup> Annual Meeting of the American Fisheries Society, Tampa, Florida.
9. Schumann, D.A., D. Deslauriers, K.N. Bertrand, M.D. Wagner, B.D.S. Graeb, E. Prenosil, and J. Hoekwater. 2017. Responses of small-bodied fishes to surgically implanted passive integrated transponder (PIT) tags. The 147<sup>th</sup> Annual Meeting of the American Fisheries Society, Tampa, Florida.



10. Schlafke, K., D.A. Schumann, K.N. Bertrand, and B.D.S Graeb. 2017. Identifying limiting stream conditions for intolerant prairie fishes. The 147<sup>th</sup> Annual Meeting of the American Fisheries Society, Tampa, Florida.
11. Jones, S.J.M., K.N. Bertrand, B.D.S. Graeb, C. Kaiser, and D.A. Schumann. 2017. Quantifying fish assemblages and population dynamics in the face of a changing landscape. The 147<sup>th</sup> Annual Meeting of the American Fisheries Society, Tampa, Florida.
12. Schoenebeck, C.W., D.A. Schumann, C.S. Uphoff, and K.N. Bertrand. 2017. Turnover rates of carbon and nitrogen isotopes in age-0 walleye tissues. Minnesota Chapter of the American Fisheries Society annual meeting, St. Cloud, Minnesota.
13. Jones, S.J.M., K.N. Bertrand, B.D.S. Graeb, and D.A. Schumann. 2017. Western South Dakota's dominant prairie streams fishes: an updated assessment and population dynamics. The Midwest Fish and Wildlife Conference, Lincoln, Nebraska.
14. Fopma, S., D.A. Schumann, M.D. Wagner, K.N. Bertrand, and B.D.S. Graeb. 2016. A comparison of tagging methods for Mountain Sucker. Poster presentation *in* Best Student Poster Presentation Symposium. The 146<sup>th</sup> Annual Meeting of the American Fisheries Society, Kansas City, Missouri.
15. Hoekwater, J., D.A. Schumann, and K.N. Bertrand. 2016. Improving surgical techniques for implanting passive integrated transponder (PIT) tags into small-bodied fishes using cyanoacrylate sutures. Dakota Chapter of the American Fisheries Society annual meeting, Spearfish, South Dakota.
16. Ellensohn, P.C., J.D. Redmond, D.A. Schumann, and K.N. Bertrand. 2016. Unequal swimming abilities of prairie fishes and consequent threats to the stream ecosystem: impacts of lost connectivity within lotic networks. The Midwest Fish and Wildlife Conference, Grand Rapids, Michigan.
17. Schumann, D.A., K.N. Bertrand, J. Pfrimmer, and J.D. Stafford. 2015. Conservation islands or truly a field of dreams? Nebraska Chapter of the American Fisheries Society Rivers and Streams Technical Committee Meeting, Gretna, Nebraska.
18. Schumann, D.A., M.D. Wagner, D. Deslauriers, E.J. Prenosil, and K.N. Bertrand. 2015. Physiological responses of small-bodied fishes to the surgical implantation of novel passive integrated transponder (PIT) tags. Dakota Chapter of the American Fisheries Society annual meeting, Bismarck, North Dakota.
19. Haag, J.M., D.A. Schumann, and K.N. Bertrand. 2015. Jumping abilities of multiple small-bodied Great Plains fishes: Impacts of lost connectivity within lotic networks. Dakota Chapter of the American Fisheries Society annual meeting, Bismarck, North Dakota.
20. Pfrimmer, J., L. Gigliotti, J.D. Stafford, D.A. Schumann, and K.N. Bertrand. 2015. Motivations for enrollment into the Conservation Reserve Enhancement Program in the James River Watershed, SD. South Dakota Chapter of the Wildlife Society annual meeting, Oacoma, South Dakota.

21. Fopma, S., M. Wagner, D.A. Schumann, and K.N. Bertrand. 2015. A comparison of tagging methods for Mountain Sucker, *Pantosteus jordani*. Dakota Chapter of the American Fisheries Society annual meeting, Bismarck, North Dakota.
22. Schumann, D.A., K.N. Bertrand, W.W. Hoback, and K.D. Koupal. 2014. Complex interactions between native and invasive species: multiple negative effects result in differential displacement of two topminnows native to Nebraska. Southwestern Association of Naturalists annual meeting, Stillwater, Oklahoma.
23. Schumann, D.A., K.N. Bertrand, J.D. Pfrimmer, and J.D. Stafford. 2014. Integrating landscape and local perspectives of aquatic communities to understand restoration effectiveness along the stream mosaic. Dakota Chapter of the American Fisheries Society annual meeting, Chamberlain, South Dakota.
24. Schumann, D.A., C.S. Uphoff, and C.W. Schoenebeck. 2014. Trophic fractionation and turnover rates of carbon and nitrogen isotopes in age-0 walleye tissues. Dakota Chapter of the American Fisheries Society, Chamberlain, South Dakota.
25. Redmond, J.D., E. Ipsen, D.A. Schumann, and K.N. Bertrand. 2014. Swimming and jumping abilities of small-bodied stream fishes: impacts of lost connectivity within lotic networks. Dakota Chapter of the American Fisheries Society annual meeting, Chamberlain, South Dakota.
26. Kauth, M.J., D.A. Schumann, and K.N. Bertrand. 2014. Effectiveness of single pass backpack electrofishing in low-order prairie streams to estimate species abundance and richness. Dakota Chapter of the American Fisheries Society annual meeting, Chamberlain, South Dakota.
27. Schumann, D.A., K.N. Bertrand, J.D. Pfrimmer, and J.D. Stafford. 2013. Response of aquatic resources to the James River Conservations Reserve Enhancement Program (CREP). South Dakota summer fisheries meeting, Chamberlain, South Dakota.
28. Schumann, D.A., K.D. Koupal, W.W. Hoback, C.W. Schoenebeck, and S. Schainost. 2013. Experimental repatriation to conserve the imperiled plains topminnow, *Fundulus sciadicus*, in Nebraska. Nebraska Chapter of the American Fisheries Society annual meeting, Omaha, Nebraska.
29. Schumann, D.A., W.W. Hoback, and K.D. Koupal. 2013. Complex interactions between native and invasive species: multiple negative effects result in differential displacement of two topminnows native to Nebraska (Actinopterygii: Fundulidae). Nebraska Chapter of the American Fisheries Society annual meeting, Omaha, Nebraska.
30. Schumann, D.A., M.C. Cavallaro, and W.W. Hoback. 2012. Size selective predation of fish by *Hydrophilis triangularis* (Coleoptera: Hydrophilidae) and *Lethocerus americanus* (Hemiptera: Belostomatidae). North Central Branch Entomological Society of American meeting, Lincoln, Nebraska.
31. Schumann, D.A., K.D. Koupal, C.W. Schoenebeck, and W.W. Hoback. 2012. Evaluation of sprayed fluorescent pigment as a method to mass mark fish. University of Nebraska at Kearney Student Research Day, Kearney, Nebraska.

32. Schumann, D.A., K.D. Koupal, W.W. Hoback, S. Schainost, and C.W. Schoenebeck. 2012. Movement patterns of plains topminnow, *Fundulus sciadicus*, in Nebraska lotic systems. Oral presentation. Nebraska Chapter of the American Fisheries Society annual meeting, Omaha, Nebraska.
33. Schumann, D.A., K.D. Koupal, and W.W. Hoback. 2011. Seasonal dynamics of an invasive fish species: potential effects beyond an established range. The Midwest Fish and Wildlife Conference, Des Moines, Iowa.
34. Koupal, K.D., and D.A. Schumann. 2011. Management of plains topminnow in Nebraska: attempted reintroductions for species conservation. Nebraska Natural Legacy Project: First Annual Conference, Grand Island, Nebraska.
35. Schumann, D.A., and W.W. Hoback. 2011. Giant water-bug, *Lethocerus americanus*, consumption of western mosquitofish, *Gambusia affinis*. University of Nebraska at Kearney Student Research Day, Kearney, Nebraska.
36. Schumann, D.A., and W.W. Hoback. 2011. Predation by the giant water-bug, *Lethocerus americanus*, on western mosquitofish, *Gambusia affinis* North Central Branch Entomological Society of America meeting, Minneapolis, Minnesota.
37. Schumann, D.A., W.W. Hoback, and K.D. Koupal. 2011. Aggressive behaviors of western mosquitofish, *Gambusia affinis*, and their effects on plains topminnow, *Fundulus sciadicus*. Nebraska Chapter of the American Fisheries Society annual meeting, Omaha, Nebraska.
38. Schumann, D.A., C.A. Pasbrig, K.D. Koupal, and W.W. Hoback. 2011. Captive breeding and reintroduction: a method to conserve plains topminnow in Nebraska. Great Plains Fisheries Workers Association annual meeting, Sidney, Nebraska.
39. Schumann, D.A., C.A. Pasbrig, W.W. Hoback, J.D. Haas, and K.D. Koupal. 2010. Current plains topminnow, *Fundulus sciadicus*, distribution in Nebraska and potential threats. The Midwest Fish and Wildlife Conference, Minneapolis, Minnesota.

#### HONORS RECEIVED

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2018	<b>Early Career Professionals Travel Award</b> , American Fisheries Society
2017	<b>John E. Skinner Memorial Award</b> , American Fisheries Society <b>Instructor of the Year</b> , Minnesota Percussion Association
2016	<b>Teacher of the Year</b> ( <i>nominated</i> ), Department of Natural Resource Management <b>Instructor of the Year</b> ( <i>nominated</i> ), Minnesota Percussion Association
2015	<b>David W. Willis Fisheries Research Award</b> , Department of Natural Resource Management <b>Robert A. Klumb Memorial Scholarship</b> , Dakota Chapter of the American Fisheries Society <b>Joan Duffy Student Travel Award</b> , North Central Division of the American Fisheries Society

- 2014      **Best Student Paper**, Dakota Chapter of the American Fisheries Society  
**Best Student Poster**, Dakota Chapter of the American Fisheries Society
- 2013      **Distinguished Thesis Award**, University of Nebraska at Kearney, Midwest Association of Graduate Schools  
**Outstanding Fisheries Student Award**, Nebraska Chapter of the American Fisheries Society  
**Best Presentation Award**, Graduate Studies and Research Student Research Day, University of Nebraska at Kearney

### PROFESSIONAL SERVICE

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- 2017      Nebraska Nongame and Endangered Species Conservation Act: Invited to provide expert review of Nebraska's threatened and endangered species list
- 2014-2017      Education Section of the American Fisheries Society: Newsletter Committee Co-Chair
- 2016      Symposium Chair: "Managing Riverscapes: Conservation Tools to Assess and Improve Stream Fisheries" 146<sup>th</sup> Annual Meeting of the American Fisheries Society, Kansas City, Missouri.
- 2015      Education Section of the American Fisheries Society: Excellence in Fisheries Education Award Committee
- 2014-2015      South Dakota State University Student Subunit of the American Fisheries Society: Vice-President  
South Dakota State University SEEDS Chapter of the Ecological Society of America: Undergraduate Research Coordinator

**Peer-reviewed manuscripts for:** *Freshwater Biology*, *The American Midland Naturalist*, *Aquatic Ecology*, *The North American Journal of Fisheries Management*, *Fisheries*, *River Research and Applications*, *Aquatic Conservation: Marine and Freshwater Ecosystems*

### PROFESSIONAL AFFILIATIONS

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- 2006-present      American Fisheries Society  
Education Section (2013-present)  
Mississippi Chapter (2018-present)  
Dakota Chapter (2013-2017)  
South Dakota State University Student Subunit (2013-2017)  
Nebraska Chapter (2010-2014)  
Wisconsin Chapter (2008-2009)  
University of Wisconsin-Stevens Point Student Subunit (2006-2009)
- 2010-2016      Ecological Society of America

	Aquatic Ecology Section (2014-2016)
	South Dakota State University SEEDS Chapter (2013-2016)
2014-2016	Southwestern Association of Naturalists
2015	American Society of Ichthyologists and Herpetologists
2010-2012	University of Nebraska at Kearney Student Subunit of the Wildlife Society
2010-2012	Entomological Society of America
2010-2011	Great Plains Fisheries Workers Association

#### **TECHNOLOGY AND MECHANICAL SKILLS**

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Statistical, programming, graphical software: ArcGIS, SAS, R Studio, Primer, BUGS, MetaWin, SigmaPlot, Presence, MARK, MicroFish, Past, GPower, Netica

General software: Microsoft Office (Word, Excel, PowerPoint, Access), EndNote, Blackboard, WebAdvisor, Desire2Learn, CyberTracker, HoboWare Pro

Taxonomic expertise: Ichthyology, Aquatic entomology, Freshwater macroinvertebrates (mussels, crayfish), Aquatic macrophytes, Phycology

Maintenance and mechanical operation: Trailer operation and maintenance, boat operation, electrofishing equipment operation and electrical repair (i.e., boat, backpack, and tote barge), plumbing installation and maintenance