

David A. Schumann

Ph.D. Candidate (ABD)

PROFESSIONAL ADDRESS

Department of Natural Resource Management
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EDUCATION

- South Dakota State University, Ph.D. Candidate ABD (Wildlife and Fisheries Sciences)
 - Ph.D. Dissertation: Integrating landscape and local perspectives of aquatic communities to understand restoration effectiveness along the stream mosaic
- University of Nebraska at Kearney, M.S. (Biology), 2012
 - M.S. Thesis: Experimental repatriation of Plains Topminnow, *Fundulus sciadicus*, for species conservation and evaluation of potential limits to persistence in Nebraska
- University of Wisconsin-Stevens Point, B.S. (Water Resources-Fisheries Management), 2009

TEACHING EXPERIENCE

- South Dakota State University—Ichthyology (WL 367), Lecture and Lab Coordinator, Fall 2015, Mean IDEA Score = 3.8
- South Dakota State University—Wildlife and Fisheries Techniques (WL 230), Spring 2014 & 2015, Mean IDEA Score = 4.6
- South Dakota State University—Ichthyology Lab (WL 367), Fall 2013
- University of Nebraska at Kearney—General Biology Lab (BIOL 103), Spring 2012
- Invited lectures:
 - University of Nebraska at Kearney—Freshwater Management Techniques (BIOL 884)
 - University of Nebraska at Kearney—Freshwater Biology (BIOL 872)
 - South Dakota State University—Advanced Fisheries Management (WL 792)
 - South Dakota State University—Ichthyology (WL 367)
 - South Dakota State University—Limnology of Lakes and Streams (WL 527)
 - South Dakota State University—Fish Ecology (WL 529)

UNDERGRADUATE STUDENT MENTEES

- Haag, Jenna. 2014-2017. “Unequal ranging abilities of prairie fishes: Vertical barriers,” University of Georgia (M.S.)
- Hoekwater, Joshua. 2015-2017. “Improving surgical techniques for implanting PIT tags into small-bodied fishes using cyanoacrylate sutures,” MN Pollution Control Agency

- Garcia, Crystal. 2015-2016. "Seasonality, floods and droughts structure larval fish assemblages in prairie streams," USGS, California
- Ellensohn, Paige. 2015-2016. "Unequal ranging abilities of prairie fishes: Horizontal barriers part II," Bowling Green University (M.S.)
- Huang, Miranda. 2015. "Habitat use of two crayfish species common to eastern South Dakota," Whitman College (B.S.)
- Redmond, Jordon. 2013-2015. "Unequal ranging abilities of prairie fishes: Horizontal barriers part I," Hatchery Technician, Wisconsin
- Kauth, Morgan. 2013-2015. "Effectiveness of single pass backpack electrofishing in low-order prairie streams to estimate species abundance and richness," Montana State University (M.S.)
- Schwoerer, Jacob. 2013-2014. "Spatial dynamics of fish assemblage structure in intermittent streams with introduced habitat complexity," University of Missouri (M.S.)

PROFESSIONAL EXPERIENCE

- Graduate Research Assistant—Department of Natural Resource Management, South Dakota State University, 2013-present.
- Graduate Teaching Assistant—Department of Natural Resource Management, South Dakota State University, 2013 & 2015.
- Curator of Ichthyology Collection—University of Nebraska at Kearney, 2011-2012.
- Fisheries Volunteer—Fisheries Division, Nebraska Game and Parks Commission, 2010-2012.
- Fisheries Volunteer—Department of Biology, University of Nebraska at Kearney, 2010–2012.
- Entomology Volunteer—Nebraska Ecological Services, U.S. Fish and Wildlife Service, 2010-2012.
- Graduate Teaching Assistant in Biology—Department of Biology, University of Nebraska at Kearney, 2011.
- Graduate Research Assistant in Biology—Department of Biology, University of Nebraska at Kearney, 2010–2012.
- UWSP-Northern Aquaculture Demonstration Facility Internship—College of Natural Resources, University of Wisconsin-Stevens Point, 2009.

RESEARCH PUBLICATIONS (undergraduate co-authors underlined) - 8

Garcia, C., **D.A. Schumann**, J. Howell, B.D.S. Graeb, and K.N. Bertrand. *In press*. Seasonality, floods and droughts structure larval fish assemblages in prairie rivers. *Ecology of Freshwater Fish*

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.

PUBLICATIONS IN REVIEW (undergraduate co-authors underlined) - 5
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- Schumann, D.A.**, W.W. Hoback, K.D. Koupal, C.W. Schoenebeck, and S. Schainost. *In review*. Experimental repatriation to conserve the imperiled plains topminnow, *Fundulus sciadicus*, in Nebraska. *North American Journal of Fisheries Management*
- Schumann, D.A.**, C.S. Uphoff, and C.W. Schoenebeck. *In review*. Turnover rates 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*
- Pfrimmer, J., **D.A. Schumann**, L. Gigliotti, J.D. Stafford, and K.N. Bertrand. *In review*. Motivations for enrollment into the Conservation Reserve Enhancement Program in the James River Basin of South Dakota. *Human Dimensions of Wildlife*

Kauth, M.J., **D.A. Schumann**, K.N. Bertrand, and W.W. Hoback. *In review*. Effectiveness of single-pass backpack electrofishing in low-order prairie streams to estimate species abundance and assemblage structure. *Prairie Naturalist*

Schumann, D.A., K.N. Bertrand, M.D. Wagner, B.D.S. Graeb, and E. Prenosil. *In review*. Laboratory experiments to describe the feasibility of surgically implanted PIT tags in small-bodied warmwater fishes. *Fisheries Management and Ecology*

MANUSCRIPTS IN PREPARATION (undergraduate co-authors underlined) - 3
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Haag, J.M., P.C. Ellensohn, J.D. Redmond, **D.A. Schumann**, and K.N. Bertrand. *In prep*. Unequal ranges abilities of prairie fishes and consequent threats to the stream ecosystem: Impacts of lost connectivity in lotic networks.

Schumann, D.A., E. Peterson, C. Kaiser, J.A. Lorenzen, A. Rosburg, S. Ronnigen, D. Lucchesi, and S.R. Chipps. *In prep*. Effects of hypoxia and other environmental factors on zooplankton and benthic invertebrate assemblage structure in a small Midwestern impoundment.

Schumann, D.A., K.N. Bertrand, J. Pfrimmer, and J.D. Stafford. *In prep*. Assessment of the aquatic resources in response to largescale grassland management practices in South Dakota.

EXTRAMURAL GRANTS AWARDED – SUM \$6,299

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. \$1,000.00

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. \$4,724.00

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. \$575.00

SUBMITTED EXTRAMURAL GRANTS – SUM \$894,475

Bertrand, K.N., **D.A. Schumann**, C. Pasbrig, B.D.S. Graeb, M. Gonda, and J. Gonzalez. 2016. 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. \$893,625.00

Schumann, D.A., and K.N. Bertrand. 2015. 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. \$850.00

PUBLISHED REPORTS - 7

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.

Stafford, J.D., K.N. Bertrand, **D.A. Schumann**, and J. Pfrimmer. 2016. Evaluation of the James River Conservation Reserve Enhancement Program in South Dakota. South Dakota Game, Fish & Parks, State Wildlife Grant, Project T-59-R1, Annual Performance Report, Pierre.

Stafford, J.D., K.N. Bertrand, **D.A. Schumann**, and J. Pfrimmer. 2015. Evaluation of the James River Conservation Reserve Enhancement Program in South Dakota. South Dakota Game, Fish & Parks, State Wildlife Grant, Project T-59-R1, Annual Performance Report, Pierre.

Stafford, J.D., K.N. Bertrand, **D.A. Schumann**, and J. Pfrimmer. 2014. Evaluation of the James River Conservation Reserve Enhancement Program in South Dakota. South Dakota Game, Fish & Parks, State Wildlife Grant, Project T-59-R1, Annual Performance Report, Pierre.

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.

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.

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.

POPULAR ARTICLES (undergraduate co-authors underlined) – 2
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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

Schumann, D.A. and K.D. Koupal. 2012. Plains topminnow in Nebraska. Central Loess Hills Newsletter 4(1):2.

INVITED PRESENTATIONS (undergraduate co-authors underlined) - 5

Schumann, D.A., J.D. Pfrimmer, K.N. Bertrand, and J.D. Stafford. 2016. Conservation fields of dreams? Oral presentation, South Dakota Wildlife Federation, Brookings, SD.

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. Oral presentation, *in* Managing Riverscapes: Conservation Tools to Assess and Improve Stream Fisheries. The American Fisheries Society annual meeting, Kansas City, MO.

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. Oral presentation, *in* Managing Riverscapes: Conservation Tools to Assess and Improve Stream Fisheries. The American Fisheries Society annual meeting, Kansas City, MO.

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? Oral presentation, Izaak Walton League of America, Watertown, SD.

Schumann, D.A. 2017. Integrating winter percussion into a band program: Great benefits with some challenges. Oral presentation (guest clinician), South Dakota In-service Music Conference, Brookings, SD.

CONTRIBUTED PRESENTATIONS (undergraduate co-authors underlined) - 27
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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, MN.

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. Poster presentation, The Midwest Fish and Wildlife Conference, Lincoln, NE.

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 American Fisheries Society annual meeting, Kansas City, MO.

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. Poster presentation, Dakota Chapter of the American Fisheries Society annual meeting, Spearfish, SD.

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. Poster presentation, The Midwest Fish and Wildlife Conference, Grand Rapids, MI.

Schumann, D.A., K.N. Bertrand, J. Pfrimmer, and J.D. Stafford. 2015. Conservation islands or truly a field of dreams? Oral presentation, Nebraska Chapter of the American Fisheries Society Rivers and Streams Technical Committee Meeting, Gretna, NE.

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. Oral presentation, Dakota Chapter of the American Fisheries Society annual meeting, Bismarck, ND.

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. Poster presentation, Dakota Chapter of the American Fisheries Society annual meeting, Bismarck, ND.

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. Oral presentation, South Dakota Chapter of the Wildlife Society annual meeting, Oacoma, SD.

Fopma, S., M. Wagner, **D.A. Schumann,** and K.N. Bertrand. 2015. A comparison of tagging methods for Mountain Sucker, *Pantosteus jordani*. Oral presentation, Dakota Chapter of the American Fisheries Society annual meeting, Bismarck, ND.

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. Oral presentation, Southwestern Association of Naturalists annual meeting, Stillwater, OK.

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. Oral presentation, Dakota Chapter of the American Fisheries Society annual meeting, Chamberlain, SD.

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. Oral presentation, Dakota Chapter of the American Fisheries Society, Chamberlain, SD.

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. Poster presentation, Dakota Chapter of the American Fisheries Society annual meeting, Chamberlain, SD.

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. Poster presentation, Dakota Chapter of the American Fisheries Society annual meeting, Chamberlain, SD.

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). Oral presentation, South Dakota summer fisheries meeting, Chamberlain, SD.

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. Oral presentation, Nebraska Chapter of the American Fisheries Society annual meeting, Omaha, NE.

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 topminnow native to Nebraska (Actinopterygii: Fundulidae). Poster presentation, Nebraska Chapter of the American Fisheries Society annual meeting, Omaha, NE.

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). Poster presentation, North Central Branch Entomological Society of American meeting, Lincoln, NE.

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. Oral presentation, University of Nebraska at Kearney Student Research Day, Kearney, NE.

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, NE.

Schumann, D.A., K.D. Koupal, and W.W. Hoback. 2011. Seasonal dynamics of an invasive fish species: potential effects beyond an established range. Oral presentation, The Midwest Fish and Wildlife Conference, Des Moines, IA.

Koupal, K.D., **and D.A. Schumann**. 2011. Management of plains topminnow in Nebraska: attempted reintroductions for species conservation. Oral presentation, Nebraska Natural Legacy Project: First Annual Conference, Grand Island, NE.

Schumann, D.A. and W.W. Hoback. 2011. Giant water-bug, *Lethocerus americanus*, consumption of western mosquitofish, *Gambusia affinis*. Poster presentation, University of Nebraska at Kearney Student Research Day, Kearney, NE.

Schumann, D.A., and W.W. Hoback. 2011. Predation by the giant water-bug, *Lethocerus americanus*, on western mosquitofish, *Gambusia affinis*. Poster presentation, North Central Branch Entomological Society of America meeting, Minneapolis, MN.

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*. Poster Presentation, Nebraska Chapter of the American Fisheries Society annual meeting, Omaha, NE.

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. Oral presentation, Great Plains Fisheries Workers Association annual meeting, Sidney, NE.

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. Poster presentation, The Midwest Fish and Wildlife Conference, Minneapolis, MN.

HONORS RECEIVED

- Teacher of the Year Award (nominated), Department of Natural Resource Management, South Dakota State University, 2016.
- Instructor of the Year Award (nominated), Minnesota Percussion Association, Minneapolis, 2016 and 2017.
- David W. Willis Fisheries Research Award, Department of Natural Resource Management, South Dakota State University, 2015.

- Robert A. Klumb Memorial Scholarship, Dakota Chapter of the American Fisheries Society, 2015.
- Joan Duffy Student Travel Award, North Central Division of the American Fisheries Society, 2015.
- Best Student Paper Award, Dakota Chapter of the American Fisheries Society, 2014.
- Best Student Poster Award, Dakota Chapter of the American Fisheries Society, 2014.
- Distinguished Thesis Award, University of Nebraska at Kearney, Midwest Association of Graduate Schools, 2013.
- Outstanding Fisheries Student Award, Nebraska Chapter of the American Fisheries Society, 2013.
- First Place—Graduate Studies and Research, Poster presentation, University of Nebraska at Kearney Student Research Day, 2011.

PROFESSIONAL SERVICE

- American Fisheries Society (2008-present)
 - Symposia Chair (2016) - Managing riverscapes: Conservation tools to assess and improve stream fisheries
- Education Section of the American Fisheries Society (2013-present)
 - Involvement: Newsletter Committee (2014-present) & Excellence in Fisheries Education Award Committee (2015)
- Dakota Chapter of the American Fisheries Society (2014-present)
- Nebraska Chapter of the American Fisheries Society (2010-2014)
- South Dakota State University Student Subunit of the American Fisheries Society (2013-present)
 - Involvement: Vice-President (2014)
- American Society of Ichthyologists and Herpetologists (2015)
- Ecological Society of America (2009-2015)
 - Involvement: Aquatic Ecology Section member
- South Dakota State University SEEDS Chapter of the Ecological Society of America (2013-present)
 - Involvement: Research Coordinator (2014)
- Southwestern Association of Naturalists (2014 & 2016)
- University of Nebraska at Kearney Student Subunit of the Wildlife Society (2010-2012)
- Great Plains Fisheries Workers Association (2010-2011)
- Entomological Society of America (2010-2012)
- Wisconsin Chapter of the American Fisheries Society (2008-2009)
- University of Wisconsin-Stevens Point Student Subunit of the American Fisheries Society (2006-2009)

- Peer-reviewed manuscripts for *Freshwater Biology*, *The American Midland Naturalist*, and *Aquatic Ecology*

HONOR SOCIETIES

- Sigma Xi – National Scientific Honor Society

PROFESSIONAL DEVELOPMENT

- Vahrenberg, D. 2016. Imaging technologies in fisheries: Side scan sonar in management and research. Kansas City, MO.
- MacKenzie, D. 2016. MARK program workshop. Brookings, SD.
- Rawding, D. 2015. Bayesian I: Introduction to bayesian inference using Gibbs sampling (BUGS) for fish biologists. Portland, OR
- Papes, M. 2014. Spatial modeling in the life sciences. Southwestern Association of Naturalists workshop. Stillwater, OK.
- MacKenzie, D. 2014. Modeling patterns and dynamics of species occurrence workshop. Brookings, SD.
- 17th Annual Rainwater Basin Joint Venture Informational Seminar. 2012. Hastings, NE.
- Royle, A., and R. Chandler. 2012. “Unmarked”, an R package for fitting hierarchical models of species abundance and occurrence. USGS. Seminar.
- Perkins, J.S., and K.B. Gido. 2011. Stream fragmentation thresholds for a reproductive guild of Great Plains fishes. Great Plains Landscape Conservation Cooperative. Online seminar series.
- Dorazio, R.M. 2011. Estimating the geographic distribution of a species using presence-only records. USGS. Online seminar series
- Species introductions and re-introductions symposium. 2010. Presented at Mississippi State University online.
- Treehaven field station research techniques course. 2008. University of Wisconsin-Stevens Point field station, Tomahawk, WI.

COMPUTER AND TECHNOLOGY SKILLS

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

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

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