

JILLIAN K. FARKAS

University of South Dakota | Department of Biology
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EDUCATION

- May 2015–Present University of South Dakota: Master of Science in Biology
Advisor: Dr. Jacob L. Kerby
Title: Effects of Agricultural Runoff on Fish in the Prairie Pothole Region
- 2009–2013 Hope College: Bachelor of Arts in Biology, minor in Environmental Science

RELEVANT EXPERIENCE

Master's Student: Biology Department, University of South Dakota

May 2015–present

Researching the effects of agricultural effluent (i.e., neonicotinoids, heavy metals, excess sediment) on water quality, fish diversity, and invertebrate diversity in Prairie Pothole Wetlands. Conducted fish surveys during two field seasons. Sampled and identified benthic invertebrates. Measured water quality variables including pH, turbidity, conductivity, temperature, and dissolved oxygen. Currently facilitating communication between farmers and researchers to encourage partnership, cooperation, and transparency. Presently conducting laboratory experiments in partnership with USGS in Yankton, SD to determine the effects of a clothianidin and selenium-exposed diet on survival and behavior. Additional skills include conducting quantitative PCR analysis to determine presence and quantitation of amphibian chytrid fungus and ranaviruses.

Student Assistant: Michigan Department of Natural Resources

June 2013–May 2015

Member of Michigan's Wildlife Action Plan revision team. Co-lead the development of a competitive grant proposal. Coordinated with partners on projects and grants. Developed various documents, reports, and other materials while gaining critical thinking skills in wildlife planning. Assisted with database maintenance, verified accuracy of datasets and resolved inconsistencies. Participated in wildlife surveys and monitoring activities, including: rare fish sampling using seines, backpack electrofishing, deer aging, Mitchell's satyr and Poweshiek skipperling meander surveys, visual encounter surveys of eastern massasaugas, and surveys of rare mussels with an aquascope.

Lead Volunteer Box Turtle Research Assistant: Michigan State University

May–Nov. 2014

Assisted with data collection through radio telemetry to: determine the population status of eastern box turtles at the study site; evaluate habitat use and movement patterns; identify overwintering and nesting locations; and evaluate the effects of prescribed fire on the box turtle population.

Biology Lab Technician: Hope College, Department of Biology

Fall 2009–2012

Performed advanced maintenance of biology labs and various other tasks as requested by the department. Tasks included organizing lab equipment, creating chemical solutions, providing all the required technical support to enable the lab to function effectively while adhering to correct procedures, and health and safety guidelines.

Costa Rica Semester Abroad: Council on International Education Exchange

Spring 2012

Studied tropical ecology and conservation while exploring issues of tropical diversity, community ecology, and human impact in the tropics. Performed independent research on the effect of ethanol intoxication in the butterfly *Morpho peleides* on its ability to escape predators.

Undergraduate Field Researcher: Hope College, Department of Biology

Summer 2011

Studied the effect of predation on the life history strategies of a nestbox-using population of eastern bluebirds (*Sialia sialis*). Determined presence of absence of ectoparasites. Banded birds with United States Geological Survey bands when appropriate. Mist netted throughout the season. Communicated scientific findings via presentation and written report.

Undergraduate Field Researcher: Hope College, Department of Biology

Fall 2010

Identified various species of *Lepomis*, obtained measurements, anchor tagged fish, computed aspects of the species composition in multiple ponds, such as species richness, effects of predation on *Lepomis* size, and other variables using SYSTAT for data analysis.

TEACHING EXPERIENCE**Teaching Assistant: University of South Dakota, Department of Biology**

Fall 2016 Biology 104L: Foundations of Biology Lab for Educators
 Biology 419L: Plant Biology Lab

Fall 2015 Biology 151L: General Biology I Lab for Majors

Instructing Assistant: Michigan Colleges Foundation Third 90 Network

Spring 2013 Worked with urban high school students in west Michigan to give them hands-on field and lab experience. Investigated bird communities in the context of bird migration, and compared characteristics, including stress level, of migrant and resident birds.

Instructing Assistant: Hope College, Department of Biology

Fall 2012 Biology 104: Organisms and Environments; Professor Anna Bonnema

Fall 2011 General Education Math and Science 204: Regional Flora and Fauna;
 Dr. Kathy Winnett-Murray

GRANTS RECEIVED

∞ Survival and behavior of fathead minnows (*Pimephales promeleas*) exposed to selenium and imidacloprid. University of South Dakota: Research and Creative Activity Grant (\$750); November 2016.

- ∞ Investigating the effect of genotoxicity of fathead minnows (*Pimephales promeleas*) exposed to the neonicotinoid, Imidacloprid. University of South Dakota: Research and Creative Activity Grant (\$500); February 2016.
- ∞ Eastern massasauga conservation: through refined modeling, habitat management and snake fungal disease detection. USFWS Competitive State Wildlife Grant (\$743,253); July 2014. *Michigan Department of Natural Resources – Wildlife Division, co-author.*

PUBLICATIONS

- Farkas, J.K.** and D.R. Davis (*In press*) Geographic distribution: USA, Michigan, Mecosta Co.: *Ambystoma laterale* (Blue-spotted salamander). *Herpetological Review*.
- Marhanka E.C., J.L. Watters, N.A. Huron, S.L. McMillin, C.C. Winfrey, D.J. Curtis, D.R. Davis, **J.K. Farkas**, J.L. Kerby, and C.D. Siler (*In review*). Detection of high prevalence of *Batrachochytrium dendrobatidis* in amphibians from southern Oklahoma, USA. *Herpetological Review*.
- Watters, J.L., R.L. Flanagan, D.R. Davis, **J.K. Farkas**, J.L. Kerby, M.J. Labonte, M.L. Penrod, C.D. Siler. 2016. Screening natural history collections for historical presence of *Batrachochytrium dendrobatidis* in anurans from Oklahoma, USA. *Herpetological Review*, 47:214–220.
- Derosier, A.L., S. Hanshue, K.E. Wehrly, **J.K. Farkas**, and M.J. Nichols. 2015. Michigan’s Wildlife Action Plan. Michigan Department of Natural Resources, Lansing, MI. http://www.michigan.gov/dnr/0,1607,7-153-10370_30909---,00.html
- Farkas, J.K.** 2014. Threatened and Endangered Species Feature: The Cautious Copperbelly Water Snake. Wildlife Viewing Bulletin. Michigan Department of Natural Resources, Lansing, Michigan. <http://content.govdelivery.com/accounts/MIDNR/bulletins/cd9101>
- Frawley, B. J. and **J.K. Farkas**. 2014. 2013 Michigan Wolf Hunter Survey. Wildlife Division Report 3590. Michigan Department of Natural Resources, Lansing, Michigan. http://www.michigan.gov/documents/dnr/2013_wolf_hunter_survey_471015_7.pdf
- Derosier, A.L. and **J.K. Farkas**. 2014. Michigan’s Wildlife Action Plan – State Wildlife Grants Funding in Action Project Summaries 2011–2012. Michigan Department of Natural Resources. Lansing, Michigan. http://www.michigan.gov/documents/dnr/wap_biannual_report_491465_7.pdf

INVITED PRESENTATIONS

- Farkas, J.K.**, D.R. Davis, B.L. Henry, J.S. Wesner, and J.L. Kerby. The Effects of Agriculture on Wetlands in the Prairie Pothole Region. Sierra Club - Living River Group; Vermillion, SD; October 18, 2016

PRESENTATIONS

- Farkas, J.K.**, D.R. Davis, B.L. Henry, J.S. Wesner, and J.L. Kerby. The Effect of Agricultural Runoff on Fish in the Prairie Pothole Region. North American Congress of Conservation Biology; Madison, WI; July 20, 2016
- Farkas, J.K.**, D.R. Davis, B.L. Henry, J.S. Wesner, and J.L. Kerby. The Effect of Agricultural Runoff on Fish in the Prairie Pothole Region., Joint Meeting of Ichthyologists and Herpetologists; New Orleans, LA; July 8, 2016
- Farkas, J.K.**, D.R. Davis, B.L. Henry, J.S. Wesner, and J.L. Kerby. The Effect of Agricultural Runoff on Fish in the Prairie Pothole Region. University of South Dakota IdeaFest; Vermillion, SD; April 13, 2016

Farkas, J.K., D.R. Davis, B.L. Henry, J.S. Wesner, and J.L. Kerby. The Effect of Agricultural Runoff on Fish in the Prairie Pothole Region. Missouri River Institute Symposium; Vermillion, SD; April 7, 2016.

Farkas, J.K. Effects of Dietary Exposure of Neonicotinoids on Genotoxicity and Behavior of Fathead Minnows. Department Seminar, Department of Biology, University of South Dakota, Vermillion, SD; February 22, 2016.

Farkas, J.K. Modeling Biological Diseases. University of South Dakota, Department of Biology, BIOL 424/524: Disease Ecology; Vermillion, SD; March 29, 2016.

Farkas, J.K. Wetlands: An Introduction and Review of Current Issues. University of South Dakota, Department of Biology, BIOL 412/512: Freshwater Ecology; Vermillion, SD; December 2015.

Farkas, J.K., N. Erber, E. Heinz, and I. Slette. 2011. Analysis of Green Roof Runoff: Implications for Design and Construction. Macatawa Area Coordinating Council (MACC), Herrick District Library; Holland, MI; December 6, 2011.

COAUTHORED PRESENTATIONS

Davis, D.R., B.L. Henry, **J.K. Farkas**, J.W. Warmbold, M.S. Schwarz, J.S. Wesner, J.L. Kerby. Evaluation of agricultural tile drain exposure and effects on wetland communities. South Dakota Game, Fish and Parks Region 3 Meeting; Brookings, SD; December 2015.

Flanagan, R.L., J.L. Watters, D.R. Davis, **J.K. Farkas**, M.L. Penrod, M.J. Labonte, C.D. Siler. Preliminary screening of natural history collections for historical presence of amphibian infectious disease in Oklahoma. Society for the Study of Amphibians and Reptiles Meeting; Lawrence, KS; July 2015.

OUTREACH

October 2016 Acorn Academy Co-op Outreach: Insect Metamorphosis; Vermillion, SD
 April 2016 FrogWatch USA Outreach Event, Earth Week Festival; Vermillion, SD
 June 2015 FrogWatch USA Volunteer Training; Oglala Lakota College; Kyle, SD
 August 2013 Saginaw Bay Waterfowl Festival, Michigan Department of Natural Resources; Bay City, MI

SERVICE

2016–present Vice President of Women in Science Technology Engineering and Math; University of South Dakota
 2016–present Co-lead, Communications and Outreach Subcommittee, Bsal Task Force
 2016–present Student Travel Award Coordinator for American Society of Ichthyologists and Herpetologists
 2015–present Manuscript Review: *Herpetological Review* (2016), *Biology Letters* (2015)

UNDERGRADUATES SUPERVISED

October 2015–present *Christian D. Pollema*: The Impact of Selenium Exposed Prey on Fathead Minnow (*Pimephales promelas*) Behavior and Reproduction. University of South Dakota (U. Discover Scholar).

HONORS, AWARDS, AND SCHOLARSHIPS

- 2013 Sigma Xi Researcher Award
2016 Raymond D. Dillon Travel Award, Department of Biology, University of South Dakota
2009–2011 Co-Chair of Environmental Issues Group, Hope College
2011 Outdoor Discovery Center Macatawa Greenway Watershed Festival Organizer,
 Holland, MI
2011–2013 Hope College: Academic Honors

MEMBERSHIPS IN PROFESSIONAL SOCIETIES

- 2015–present Society for the Study of Amphibians and Reptiles (SSAR)
2016–present American Society of Ichthyologists and Herpetologists (ASIH)
2016–present Society of Conservation Biology (SCB)
2015–present Midwest Partners in Amphibian and Reptile Conservation (MWPARC)

REFERENCES

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