

JAVAN M. BAUDER, Ph.D.

Assistant Unit Leader
Arizona Cooperative Fish and Wildlife Research Unit
United States Geological Survey
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EDUCATION

Postdoctoral Scholar, Pennsylvania Cooperative Fish and Wildlife Research Unit, The Pennsylvania State University, University Park, Pennsylvania. 2021.

Population genetic structure of white-tailed deer in Ohio

Advisors: Dr. W. David Walter

Postdoctoral Research Associate, Illinois Natural History Survey, Prairie Research Institute, University of Illinois Champaign-Urbana. 2018-2021.

Rigorous estimation methods for adaptive management and decision support

Advisors: Dr. Kirk Stodola, Dr. Thomas Benson, and Dr. Maximilian Allen

Ph.D., Environmental Conservation, University of Massachusetts, Amherst, Massachusetts. 2012-2018.

Dissertation: *Population Viability and Connectivity of the Federally Threatened Eastern Indigo Snake (*Drymarchon couperi*) in Central Peninsular Florida.*

Advisor: Dr. Kevin McGarigal

M.S., Biology. Idaho State University, Pocatello, Idaho. 2007-2010.

Thesis: *Movements and Habitat Selection of Prairie Rattlesnakes (*Crotalus v. viridis*) Across a Mountainous Landscape in a Designated Wilderness Area.*

Advisor: Dr. Charles R. Peterson.

B.S., Wildlife Resources, Minor in Biology. University of Idaho, Moscow, Idaho. 2003-2007.
Graduated Summa Cum Laude

PUBLICATIONS

Peer-Reviewed Articles (*undergraduate student, graduate student*):

Chandler, H.C., C.L. Jenkins, and **J.M. Bauder**. 2022. Accounting for geographic variation in habitat associations during habitat suitability and connectivity modeling: A case study with the imperiled eastern indigo snake. *Ecological Applications* e2504. <https://doi.org/10.1002/eap.2504>

Bauder, J.M., N.M. Roberts, D. Ruid, B. Kohn, and M.L. Allen. 2021. Lower survival of nuisance American black bears (*Ursus americanus*) is not due to translocation. *Animal Conservation* 24:820-831. <https://doi.org/10.1111/acv.12684>

Bauder, J.M., C. Anderson, H.L. Gibbs, M. Tonkovich, and D.W. Walter. 2021. Landscape features fail to explain spatial genetic structure in white-tailed deer in Ohio, USA. *Journal of Wildlife Management* 85:1669-1684. <https://doi.org/10.1002/jwmg.22120>.

Bauder, J.M., M.L. Allen, T.J. Benson, C.A. Miller, and K.W. Stodola. 2021. An approach for using multiple indices for monitoring long-term trends of mesopredators at broad spatial scales. *Biodiversity and Conservation* 30:3529-3547. <https://doi.org/10.1007/s10531-021-02259-8>

Allen, M.L., **A. Cervantes**, A. Avrin, L. Whipple, M.J. Farmer, and **J.M. Bauder**. 2021. A review of grey fox ecology highlights the limitations of current knowledge for conservation. *Journal of Threatened Taxa* 13:19079-19092. <https://doi.org/10.11609/jott.7102.13.8.19079-19092>.

Bauder, J.M., W.E. Peterman, S.F. Spear, C.L. Jenkins., A.R. Whiteley, and K. McGarigal. 2021. Multi-scale assessment of functional connectivity: Landscape genetics of eastern indigo snakes in an anthropogenically fragmented landscape central Florida. *Molecular Ecology* 30:3422-3438. <https://doi.org/10.1111/mec.15979>.

Bauder, J.M., **A. Cervantes**, A. Avrin, L. Whipple, M.J. Farmer, C.A. Miller, T.J. Benson, K.W. Stodola, and M.L. Allen. 2021. Mismatching spatial scales limits the utility of citizen science data for estimating wildlife-habitat relationships. *Ecological Research* 36:97-96. <https://doi.org/10.1111/1440-1703.12173>

Clifford, B.J., **J.M. Bauder**, and M.N. Marchand. 2020. Tree removal at basking sites improves thermal habitat quality for an imperiled timber rattlesnake population at the northern edge of its range. *Northeastern Naturalist* 27:746-762. <https://www.eaglehill.us/NENAonline/articles/NENA-27-4/21-Clifford.shtml>.

Bauder, J.M., K.W. Stodola, T.J. Benson, C.A. Miller, and M.L. Allen. 2020. Raccoon pelt price and trapper harvest relationships are temporally inconsistent. *Journal of Wildlife Management* 84:1601-1610. <https://doi.org/10.1002/jwmg.21928>

Bauder, J.M., M.L. Allen, A.A. Ahlers, T.J. Benson, C.A. Miller, and K.W. Stodola. 2020. Identifying and controlling for variation in canid harvest data. *Journal of Wildlife Management* 84:1234-1245. <https://doi.org/10.1002/jwmg.21919>

Bauder, J.M., N.M. Roberts, D. Ruid, B. Kohn, and M.L. Allen. 2020. Nuisance black bear translocation indicates increased effectiveness by translocation distance and landscape context. *Wildlife Research* 47:426-435. <https://www.publish.csiro.au/wr/WR19161> *Editor's choice for July 2020 issue.*

Zeller, K.A., D.W. Wattles, **J.M. Bauder**, and S. DeStefano. 2020. Forecasting seasonal connectivity in a developing landscape. *Land* 9:233. <https://doi.org/10.3390/land9070233>

Bauder, J.M., D.R. Breininger, M.R. Bolt, M.L. Legare, C.L. Jenkins, B.B. Rothermel, and K. McGarigal. 2020. Movement barriers, habitat heterogeneity or both? Testing hypothesized effects of landscape features on home range sizes in eastern indigo snakes. *Journal of Zoology* 311:204-216. <https://doi.org/10.1111/jzo.12777>

Allen, M.L., N.M. Roberts, and **J.M. Bauder**. 2020. Catch-per-unit-effort metrics and their value as indices for wildlife abundance. *PLoS One* 15:e0233444. <https://doi.org/10.1371/journal.pone.0233444>

- Folt, B., **J. Bauder**, S. Spear, D. Stevenson, M. Hoffman, J. Oaks, D. Steen, C. Jenkins, and C. Guyer. 2019. Taxonomic and conservation implications of population genetic admixture, mitochondrial discordance, and male-biased dispersal of a large endangered snake, *Drymarchon couperi*. *PLoS One* 14:e0214439. <https://doi.org/10.1371/journal.pone.0214439>
- Bauder, J.M.**, D.R. Breininger, M.R. Bolt, M.L. Legare, C.L. Jenkins, B.B. Rothermel, and K. McGarigal. 2018. Multi-level, multi-scale habitat selection by a wide-ranging federally threatened snake. *Landscape Ecology* 33:743-763. <https://doi.org/10.1007/s10980-018-0631-2>
- Castellón, T.D., B.B. Rothermel, and **J.M. Bauder**. 2018. Seasonal movement patterns of gopher tortoises occupying scrub and mesic flatwoods habitats in south-central Florida. *Herpetologica* 74:8-21. <https://doi.org/10.1655/Herpetologica-D-17-00030.1>
- Bauder, J.M.**, D.J. Stevenson, C. Sutherland, and C.L. Jenkins. 2017. Occupancy of potential overwintering habitat on protected lands by two imperiled snake species in the Coastal Plain of the southeastern United States. *Journal of Herpetology* 51:73-88. <https://doi.org/10.1670/15-064>
- Bauder, J.M.**, D.R. Breininger, M.R. Bolt, M.L. Legare, C.L. Jenkins, B.B. Rothermel, and K. McGarigal. 2016. Seasonal variation in eastern indigo snake (*Drymarchon couperi*) movement patterns and space use in peninsular Florida at multiple temporal scales. *Herpetologica* 72:214-226. <https://doi.org/10.1655/Herpetologica-D-15-00039.1>
- Bauder, J. M.**, D.R. Breininger, M.R. Bolt, M.L. Legare, C.L. Jenkins, B.B. Rothermel, and K. McGarigal. 2016. The influence of sex and season on conspecific spatial overlap in a large, actively-foraging colubrid snake. *PLoS One* 11:e0160033. <https://doi.org/10.1371/journal.pone.0160033>
- Bauder, J.M.**, H. Akenson, and C.R. Peterson. 2015. Movement patterns of prairie rattlesnakes (*Crotalus v. viridis*) across a mountainous landscape in a designated wilderness area. *Journal of Herpetology* 49:377-387. <https://doi.org/10.1670/13-153>
- Bauder, J.M.**, J.N. Macey, K.M. Stohlgren, A. Day, F. Snow, A. Safer, R. Redmond, J.M. Waters, M. Wallace, Sr., and D.J. Stevenson. 2015. Factors influencing the display of multiple defensive behaviors in eastern indigo snakes (*Drymarchon couperi*). *Herpetological Conservation and Biology* 10:559-571. http://www.herpconbio.org/Volume_10/Issue_2/Bauder_etal_2015.pdf
- Bauder, J.M.**, D.R. Breininger, M.R. Bolt, M.L. Legare, C.L. Jenkins, and K. McGarigal. 2015. The role of the bandwidth matrix in influencing kernel home range estimates for snakes using VHF telemetry data. *Wildlife Research* 42:437-453. <https://doi.org/10.1071/WR14233>
- Bauder, J.M.**, C. Castellano, J.B. Jensen, and C.L. Jenkins. 2014. Comparison of movements, body weight, and habitat selection between translocated and resident gopher tortoises. *Journal of Wildlife Management* 78:1444-1455. <https://doi.org/10.1002/jwmg.790>
- Bauder, J.M.**, and P. Barnhart. 2014. Factors affecting the accuracy and precision of triangulated radio telemetry locations of eastern indigo snakes (*Drymarchon couperi*). *Herpetological Review* 45:590-597. <https://ssarherps.org/herpetological-review-pdfs/>

Enge, K.M., D.J. Stevenson, M.J. Elliott, and **J.M. Bauder**. 2013. The Historical and current distribution of the eastern indigo snake (*Drymarchon couperi*). *Herpetological Conservation and Biology* 8:288-307. http://www.herpconbio.org/Volume_8/Issue_2/Enge_et_al_2013.pdf

Currently Submitted Manuscripts:

Hayes Hursh, S., J.M. Bauder, M. Fidino, and D. Drake. An urban cast of characters: landscape use and cover influencing mammal occupancy in an American midwestern city. Submitted to *Landscape and Urban Planning* on April 14, 2021.

Bauder, J.M., M.L. Allen, A.A. Ahlers, T.J. Benson, C.A. Miller, and K.W. Stodola. Long-term data reveal equivocal evidence for intraguild suppression among sympatric canids. Submitted to *Biodiversity and Conservation* November 4, 2021.

Bauder, J.M., K.W. Stodola, T.J. Benson, C.A. Miller, and M.L. Allen. Modeling 18 years of community science data reveals extensive bobcat recolonization in Illinois, USA. Submitted to *Landscape Ecology* on November 11, 2021.

Castellon, T.D., A.C. Deyle, A.L. Farmer, **J.M. Bauder**, E.A. Roznik, and S.A. Johnson. Effects of translocation on gopher frog survival and movement. Submitted revised manuscript to *Herpetologica* on January 10, 2022.

Teal, C.N., D.J. Schill, S.B. Fogelson, C.M. Roberts, K. Fitzsimmons, **J.M. Bauder**, W. Stewart, and S.A. Bonar. The effects of estradiol-17 β on the survival, growth, and sex reversal of green sunfish *Lepomis cyanellus*. Submitted to *Aquaculture* on January 21, 2022.

Manuscripts in Preparation (full-text available upon request):

Bauder, J.M., H.C. Chandler, M. Elmore, and C.L. Jenkins. Using habitat suitability models and resistance kernels to estimate empirical habitat-based conservation units for an imperiled species. To be submitted to *Landscape Ecology*.

Allen, M.L., L.M. Elbroch, **J.M. Bauder**, and H.U. Wittmer. Understanding caching behavior by an apex carnivore informs optimal foraging theory. To be submitted to *Behavioral Ecology and Sociobiology*.

Bolt, M.R., **J.M. Bauder**, D.R. Breining, C.L. Jenkins, and B.B. Rothermel. Eastern indigo snake shelter site selection in Peninsular Florida and implications for habitat conservation. To be submitted to *Amphibian and Reptile Conservation*.

Peer-Reviewed Book Chapters:

Bauder, J.M., H. Akenson, and C.R. Peterson. 2017. Factors influencing the movement patterns of prairie rattlesnakes (*Crotalus v. viridis*) across a mountainous landscape in a designated wilderness area. Pages 154-167 in M.J. Dreslik, W.K. Hayes, S.J. Beaupre, and S.P. Mackessy, editors. *Biology of the Rattlesnakes Vol. II*. ECO Herpetological Publishing and Distribution, Rodeo, New Mexico, USA.

Jenkins, C.L., **J.M. Bauder**, and C.R. Peterson. 2017. Population level consequences of microgeographic variation in Great Basin rattlesnake reproduction and survival. Pages 143-153 in M.J. Dreslik, W.K. Hayes, S.J. Beaupre, and S.P. Mackessy, editors. *Biology of the*

Rattlesnakes Vol. II. ECO Herpetological Publishing and Distribution, Rodeo, New Mexico, USA.

Unpublished Reports (available upon request):

Chandler, H.C. and **J.M. Bauder**. 2020. A range-wide habitat suitability and connectivity model for eastern indigo snakes (*Drymarchon couperi*). Final report to the U.S. Fish and Wildlife Service.

Bauder, J.M., A.G. Stengle, M. Jones, M. Marchand, D. Blodgett, B. Hess, B. Clifford, and C.L. Jenkins. 2018. Population demographics, monitoring, and population genetics of timber rattlesnakes in New England. Final report submitted to the Wildlife Management Institute.

Bauder, J.M. and C.L. Jenkins. 2015. Studying the effects of non-natural landscapes on eastern indigo snake (*Drymarchon couperi*) ecology in central and southern peninsular Florida: A final report submitted to the U. S. Fish and Wildlife Service. Submitted to the U.S. Fish and Wildlife Service office in Jackson, Mississippi.

Spear, S., **J.M. Bauder**, D. Blodgett, C.L. Jenkins, and K.V. Briggs. 2013. The ecology of timber rattlesnakes (*Crotalus horridus*) in Vermont: Final report submitted to the Vermont Department of Fish and Wildlife. Submitted to the Vermont Department of Fish and Wildlife, Rutland, Vermont.

Bauder, J.M., C.L. Jenkins, and D.J. Stevenson. 2013. Factors influencing occupancy and detection rates of eastern indigo snakes (*Drymarchon couperi*) in the Altamaha River Drainage of Southeast Georgia. Report to the Georgia Department of Natural Resources, Nongame Conservation Section, Social Circle, Georgia.

Bauder, J.M., C.L. Jenkins, and D.J. Stevenson. 2013. A comparison of home range size, habitat selection, and body weight between translocated and resident gopher tortoises (*Gopherus polyphemus*) at the Orianne Indigo Snake Preserve and Yuchi Wildlife Management Area, Georgia: a final report to the Georgia Department of Natural Resources. Report to the Georgia Department of Natural Resources, Nongame Conservation Section, Social Circle, Georgia.

SOFTWARE EXPERIENCE

Advanced knowledge of R, R Studio, and diverse packages used for landscape and population genetics (adeget, pegas, hierfstat, ResistanceGA), spatial analyses (raster, sp, maptools, rgdal), wildlife movement and habitat selection (ks, smoothie, adehabitatHR), multi-level modeling (unmarked, RMark, lme4, nlme, glmmTMB, brms), and model optimization (bbml, optim). Experienced using genetic clustering (STRUCTURE and GENELAND) and parentage (COLONY) software. Proficient knowledge of fitting Bayesian models (including state-space and occupancy models) using JAGS and the R packages R2jags and jagsUI. Introductory knowledge of NIMBLE. Advanced knowledge of ArcGIS 10.x, Microsoft Word, Excel, and Power Point. Experienced with using MARK and PRESENCE. Working knowledge of VORTEX. Introductory knowledge of NETICA.

GRANTS

“Bald Eagle Population Estimation”

- **J.M. Bauder**. Arizona Game and Fish Department, 2022, \$64,000

“Population Ecology of the Federally Threatened Narrow-Headed Gartersnake in New Mexico”

- **J.M. Bauder.** U.S. Fish and Wildlife Service, 2021, \$127,940

“Rigorous Estimation Methods for Adaptive Management and Decision Support”

- Stodola, K.W., M.L. Allen, **J.M. Bauder**, and T.J. Benson. Illinois Department of Natural Resources and U.S. Fish and Wildlife Service, 2020, \$85,000

“Creating an Empirical Species Distribution and Connectivity Model for Eastern Indigo Snakes in Georgia and Florida”

- **Bauder, J.M.**, The Oriante Society, 2020, \$10,513

“Effects of Forest Management on an Imperiled Timber Rattlesnake Population at the Northern Edge of its Range”

- **Bauder, J.M.**, New Hampshire Fish and Game Department, 2019, \$995

“Evaluating Survival and Spatial Ecology of Timber Rattlesnakes in New Hampshire”

- **Bauder, J.M.**, New Hampshire Fish and Game Department, 2018, \$975

“The Landscape Genetics of Eastern Indigo Snakes (*Drymarchon couperi*) in Central Florida: Examining the Effects of Landscape Composition and Fragmentation on Population Structure and Connectivity”

- **Bauder, J.M.**, Society for the Study of Amphibians and Reptiles, 2014, \$500
- **Bauder, J.M.**, Herpetologists’ League, 2014, \$1,000
- **Bauder, J.M.**, The Explorers Club, 2014, \$500

“The Effects of Habitat Fragmentation on Eastern Indigo Snake (*Drymarchon couperi*) Spatial Ecology in Central and Southern Peninsular Florida:”

- **Bauder, J.M.**, and C.L. Jenkins. United States Fish and Wildlife Service, 2012-2014, \$45,000
- **Bauder, J.M.**, and C.L. Jenkins. United States Fish and Wildlife Service, 2011-2013, \$35,000
- **Bauder, J.M.**, and C.L. Jenkins. United States Fish and Wildlife Service, 2010-2011, \$50,000

“A Comparison of Home Range Size, Habitat Use, and Body Condition between Translocated and Resident Gopher Tortoises (*Gopherus polyphemus*) at the Oriante Indigo Snake Preserve and Yuchi Wildlife Management Area, Georgia:”

- Castellano, C.M., D.J. Stevenson, **J.M. Bauder**, J. Jensen, and C.L. Jenkins. Georgia Department of Natural Resources, 2012-2013, \$10,650.

“Monitoring Eastern Indigo Snake (*Drymarchon couperi*) Occupancy in the Lower Altamaha River Drainage:”

- **Bauder, J.M.**, D.J. Stevenson, and C.L. Jenkins. Riverbanks Zoo and Garden, Conservation Support Fund, 2012, \$1,059
- **Bauder, J.M.**, D.J. Stevenson, and C.L. Jenkins. Riverbanks Zoo and Garden, Conservation Support Fund, 2011, \$5,027
- **Bauder, J.M.**, D.J. Stevenson, and C.L. Jenkins. Georgia Department of Natural Resources, 2011-2013, \$30,000
- **Bauder, J.M.**, D.J. Stevenson, and C.L. Jenkins. Georgia Department of Natural Resources, 2010-2011, \$15,000
- **Bauder, J.M.**, D.J. Stevenson, and C.L. Jenkins. Riverbanks Zoo and Garden, Conservation Support Fund, 2010, \$1,000

“Gopher Tortoise Monitoring on The Orianna Indigo Snake Preserve:”

- Stevenson, D.J., H.L. Hall, **J.M. Bauder**, and C.L. Jenkins. Savannah Presbytery M. K. Pentecost Ecology Fund Grant, 2010, \$5,000.

“Movement and Habitat Selection of Prairie Rattlesnakes in a Mountainous Landscape in Central Idaho:”

- **Bauder, J.M.** National Geographic Society, Young Explorers Grant, 2008, \$5,000
- **Bauder, J.M.**, and C.R. Peterson. The DeVlieg Foundation and Idaho State University, DeVlieg-Taylor Ranch Graduate Research Assistantship, 2007-2009, \$37,000
- **Bauder, J.M.** Sigma Xi Scientific Research Society, Sigma Xi Grant-In-Aid, 2007, \$1,000
- **Bauder, J.M.** University of Idaho, Dissemination Grant, 2006, \$750
- **Bauder, J.M.** College of Natural Resources, University of Idaho, DeVlieg Undergraduate Research Scholarship, 2006, \$5,000
- **Bauder, J.M.** College of Natural Resources, University of Idaho, Berklund Undergraduate Research Grant, 2006, \$2,000
- **Bauder, J.M.** American Museum of Natural History, Theodore Roosevelt Memorial Grant, 2005, \$1,968
- **Bauder, J.M.** The Explorers Club, Youth Activity Fund Grant, 2005, \$975
- **Bauder, J.M.** Dept. of Fish and Wildlife Resources, University of Idaho, Fund For Excellence Award, 2005, \$1,000

“Amphibian Use and Colonization of Anthropogenic Wetlands” and “Genetic Comparison of Coastal and Idaho Populations of Rough-skinned Newt:”

- **Bauder, J.M.** College of Natural Resources, University of Idaho, Berklund Undergraduate Research Grant, 2004, \$1,700

FELLOWSHIPS, and AWARDS

Fellowships:

- Department of Environmental Conservation Graduate Fellowship, 2016-2017, \$9,500

Awards:

- Honorable Mention in graduate student presentation for the Society for the Study of Amphibians and Reptiles’ Seibert Award for Ecology, 2009, Joint Meetings of Ichthyologists and Herpetologists, Portland, Oregon.
- Outstanding Senior in Wildlife Resources, 2007, Department of Fish and Wildlife Resources, University of Idaho
- First Prize for Student Presentation, 2005, Wildlife Society Western Student Conclave, Lubbock, Texas.

TEACHING EXPERIENCE

Courses:

- **Snakes of Idaho (BIOL 1199)**, *Guest Lecturer*, Fall 2021 – Delivered a 50 minute lecture on the spatial and habitat ecology of Prairie Rattlesnakes in central Idaho.
- **Statistical Methods in Ecology (NRES 593)**, *Guest Lecturer*, Fall 2020 – Delivered a 70 minute lecture on multivariate statistical methods. Developed and delivered two 30-minute

presentations introducing R (installing packages, importing and exporting data, basic coding) and plotting in R using base plotting functions and ggplot2.

- **Advanced Quantitative Techniques for Ecology and Conservation (NRES 595)**, *Guest Lecturer*, Fall 2019 – Developed and delivered three guest lectures with a graded assignment on fitting mark-recapture models using RMark and occupancy and abundance models using unmarked. Delivered a guest lecture on maximum likelihood, information-theoretic criteria, and model selection.
- **Quantitative Sciences Group**, *Group Member and Teaching Assistant*, Dept. of Environmental Conservation, Spring 2017 – Participated in weekly consultations with graduate students to assist in study design and data analysis and interpretation. Developed tutorials with R Markdown on model averaging and multi-model inference and accounting for residual spatial autocorrelation (available upon request).
- **Analysis of Environmental Data (ECO 634)**, *Teaching Assistant*, Fall 2015 & 2016 – Assisted with weekly R-based labs and graded lecture and lab take-home assignments and the critical review of a scientific paper assignment.
- **Applied Biostatistics (ECO 697)**, *Primary Lab Instructor*, Spring 2016 – Developed and taught weekly R-based labs and assignments illustrating the use of general and generalized linear models including t-tests, analyses of variance, and linear, logistic, Poisson, and zero-inflated regression models. Graded lab assignments. Developed and delivered two 30-minute lectures on collinearity and multi-model inference.

Graduate Student Committees:

- Kaitlyn Gahl (M.S.), *Committee Member*, Spring 2021 to present – University of Arizona
- Christopher Jenney (Ph.D.), *Committee Member*, Spring 2021 to present – University of Arizona
- Miguel Garcia (Ph.D.), *Committee Member*, Fall 2021 to present – University of Arizona

Workshops:

- **Radio Telemetry and Home Range Analyses**, Two Parts. 2011. Southeast Chapter of Partners in Amphibian and Reptile Conservation Annual Meeting, Lake Tiak O'Khata, Mississippi.
- **Eastern Indigo Snake Training Workshop**. 2010. Herpetology Laboratory, Archbold Biological Station, Lake Placid, Florida.

PRESENTATIONS

Invited:

Bauder, J.M. 2021. A Tour of Wildlife Projects Across Diverse Landscapes. University of Arizona Fish and Wildlife Society Bi-Weekly Meeting, University of Arizona, Tucson.

Bauder, J.M. 2021. Individual-Based Approaches for Landscape-Scale Conservation: Examples from the Federally Threatened Eastern Indigo Snake. Departmental Seminar, Department of Ecology, Evolution, and Natural Resources, Rutgers University, New Brunswick, New Jersey.

Bauder, J.M. 2020. Modeling Species-Landscape Relationships to Inform Collaborative Conservation. Research Seminar for the Arizona Cooperative Fish and Wildlife Research Unit, University of Arizona, Tucson.

Bauder, J.M. 2019. Over The Hills and Far Away: A Tour of Snake Ecology Across Diverse Landscapes. University of Illinois Student Chapter of the Wildlife Society Monthly Meeting, University of Illinois, Urbana/Champaign.

Bauder, J.M., M.L. Allen, T.J. Benson, C.A. Miller, and K.W. Stodola. 2019. Comparing Harvest- and Count-Based Indices Across Furbearer Species Reveals Contrasting Trends and Different Values for Monitoring Abundance. TWS Symposium: Innovative Approaches for Furbearer Research. 2019 Joint Conference of the American Fisheries Society and The Wildlife Society, Reno, Nevada.

Bauder, J.M. 2019. Individual-Based Approaches for Landscape-Scale Conservation: Examples from the Federally Threatened Eastern Indigo Snake. Departmental Seminar, Department of Natural Resources and Environmental Sciences, University of Illinois, Urbana/Champaign.

Contributed (Selected):

Bauder, J.M., N.M. Roberts, D. Ruid, B. Kohn, and M.L. Allen. 2021. Effects of Translocation on Survival of Nuisance American Black Bears. 2021 Annual Conference of The Wildlife Society, Virtual.

Bauder, J.M., K.W. Stodola, T.J. Benson, C.A. Miller, and M.L. Allen. 2021. Modeling Bobcat Recolonization of Illinois Using 18 Years of Archery Hunter Observations. 2021 Annual Conference of Illinois Chapter of The Wildlife Society.

Bauder, J.M., K.W. Stodola, T.J. Benson, C.A. Miller, and M.L. Allen. 2020. Multi-Scale Occupancy Models of Archery Hunter Observations Demonstrates Forest-Associated Colonization of Bobcats in Illinois. 2020 Annual Conference of The Wildlife Society.

Bauder, J.M., M.L. Allen, T.J. Benson, C.A. Miller, and K.W. Stodola. 2020. Comparing Harvest- and Count-Based Indices Across Mesopredator Species Reveals Contrasting Trends and Different Values for Monitoring Abundance. 2020 Midwest Fish and Wildlife Conference, Springfield, Illinois.

Bauder, J.M., N.M. Roberts, D. Ruid, B. Kohn, and M.L. Allen. 2019. Effectiveness of Translocation for Nuisance American Black Bears Varies by Sex and Age and Is Dependent on Distance and Habitat. 2019 Joint Conference of the American Fisheries Society and The Wildlife Society, Reno, Nevada.

Bauder, J.M., M.A. Allen, T.J. Benson, C.A. Miller, and K.W. Stodola. 2019. Trapper Harvest Trends for Three Canid Species in Illinois. 2019 Southeast/Midwest Joint Furbearer Meeting, Enid, Oklahoma.

Bauder, J.M., K.W. Stodola, T.J. Benson, C.A. Miller, and M.A. Allen. 2019. Understanding Trends in Furbearer Populations Using Multiple Data Sources. 55th Annual Meeting, Illinois Chapter of The Wildlife Society, Springfield, Illinois.

Bauder, J.M., D.R. Breininger, M.R. Bolt, M.L. Legare, C.L. Jenkins, B.B. Rothermel, and K. McGarigal. 2016. Multi-level, Multi-scale Habitat Selection by the Federally Threatened

Eastern Indigo Snake (*Drymarchon couperi*) in Peninsular Florida. Annual Meeting of the U.S. International Association for Landscape Ecology, Asheville, North Carolina.

Bauder, J.M., D.R. Breininger, M.R. Bolt, M.L. Legare, C.L. Jenkins, B.B. Rothermel, and K. McGarigal. 2016. Using the Utilization Distribution to Create a Multi-Scale Home Range Selection Function. Annual Meeting of the U.S. International Association for Landscape Ecology, Asheville, North Carolina.

Bauder, J.M., D.J. Stevenson, and C.L. Jenkins. 2013. Using Occupancy Rates of Potential Overwintering Habitat to Monitor Eastern Indigo Snakes (*Drymarchon couperi*) in Southern Georgia. Joint Meetings of Ichthyologists and Herpetologists, Albuquerque, New Mexico.

Bauder, J.M., and Z. Forsburg. 2012. The Impacts of Human-Modified Landscapes on Eastern Indigo Snakes: Preliminary Results and Future Goals. Lake Wales Ridge Working Group Meeting, January 2012, Winter Haven, Florida.

Bauder, J.M., H. Akenson, and C.R. Peterson. 2011. Does the Presence of Conspecifics Influence the Seasonal Migrations of Communally Denning Rattlesnakes? Biology of the Rattlesnakes 2011, Tucson, Arizona.

Bauder, J.M., H. Akenson, C.R. Peterson, and C.L. Jenkins. 2010. Using Time Series Segmentation to Identify Patterns in Snake Movements and Space Use. Southwest Partners in Amphibian and Reptile Conservation Annual Meeting, Ft. Collins, Colorado.

Bauder, J.M., H. Akenson, and C.R. Peterson. 2009. Over the Hills and Far Away: Prairie Rattlesnake Movements Across a Mountainous Landscape in a Wilderness Area. Joint Meetings of Ichthyologists and Herpetologists, Portland, Oregon.

Bauder, J.M., H. Akenson, and C.R. Peterson. 2009. Over the Hills and Far Away: Characterizing Prairie Rattlesnake Movements Across a Mountainous Landscape in a Wilderness Area. Fifth Snake Ecology Group Meeting, Donnelly, Idaho.

Bauder, J.M., E.O. Garton, and C.R. Peterson. 2008. Amphibian Colonization of Anthropogenic Wetlands in the Palouse Bioregion of Northern Idaho. Society for Northwestern Vertebrate Biology Annual Meeting, Missoula, Montana.

Bauder, J.M. and C.R. Peterson. 2007. Movement of Prairie Rattlesnakes in a Mountainous Landscape in Central Idaho. Idaho Chapter of The Wildlife Society Annual Meeting, Boise, Idaho.

WORKSHOPS/TRAINING COURSES ATTENDED

- Using NETICA to create Bayesian networks for ecological applications. 2019. Illinois Natural History Survey, University of Illinois Urbana-Champaign.
- Hierarchical Statistical Modeling with NIMBLE. 2019 Joint Conference of the American Fisheries Society and The Wildlife Society, Reno, Nevada.
- R For Landscape Ecologists. Workshop at the U.S. International Association for Landscape Ecology. 2012. Newport, Rhode Island.

- Intermediate Level Program MARK Workshop. 2011. Fort Collins, Colorado.
- Campbell Scientific, Inc. CR1000/Loggernet Training Course. 2009. Logan, Utah.

WORK EXPERIENCE

Assistant Unit Leader: Arizona Cooperative Fish and Wildlife Research Unit, University of Arizona, 104 Biological Sciences East Building, Tucson, Arizona (April 2021 to present). Developing and implementing research programs on terrestrial wildlife in Arizona to assist and inform wildlife management and conservation efforts. Provided technical assistance to state cooperators. Served on graduate student committees within the School of Environment and Natural Resources (SNRE) at the University of Arizona. Member of the Large Mammal Ecologist faculty search committee at SNRE.

Postdoctoral Scholar: Pennsylvania Cooperative Fish and Wildlife Research Unit, The Pennsylvania State University, 117 Forest Resources Building, University Park, Pennsylvania (February-April 2021). Conducted analyses to describe and quantify non-spatial and spatial genetic structure in White-Tailed Deer across Ohio using microsatellite data to inform the spread of chronic wasting disease. Modeled landscape genetic relationships between White-Tailed Deer gene flow and landscape features across Ohio using the REISTANCEGA R package. Trimmed, edited, and aligned White-Tailed Deer mitochondrial DNA sequences using GENEIOUS, estimated mtDNA haplotype frequencies, and conducted spatial analyses of haplotype frequencies. Assisted in developing a sampling design for further landscape genetic analyses of White-Tailed Deer in Ohio.

Postdoctoral Research Associate: Illinois Natural History Survey, 1816 South Oak St., MC 652, Champaign, Illinois (October 2018-January 2021). Conducted analyses of fur-bearer species collected by the Illinois Department of Natural Resources (IDNR) to estimate state-wide and regional trends in distribution and abundance. Used Bayesian state-space models to estimate trends in abundance indices of six furbearer species and evaluate the effects of Coyote on Red Fox and Gray Fox abundance. Developed a Bayesian multi-scale spatial dynamic occupancy model to model Bobcat recolonization across Illinois and estimate effects of landcover on population dynamics. Evaluated effects of translocation on mitigating human-Black Bear conflicts and estimated cause-specific mortality for translocation nuisance Black Bear using multi-state mark-recapture models. Developed a range-wide habitat and connectivity model for the federally threatened Eastern Indigo Snake. Prepared and delivered guest lectures in graduate-level statistics courses and co-led lab weekly meetings. Prepared quarterly and annual progress reports for IDNR and presented at state, regional, and national conferences. Co-wrote a popular article on raccoon trapping in Illinois for Outdoor Illinois.

Independent Researcher: (September 2018-present). Conducted additional survival and spatial analyses of Timber Rattlesnakes in New England. Survival analyses were conducted in R using RMark. Evaluated impacts of timber management on the thermal environment of potential basking sites and submitted a manuscript describing the results.

Independent Researcher: The Orianna Society, 11 Old Fruit Stand Lane, Tiger, Georgia (June 2017-January 2018). Conducted population analyses of Timber Rattlesnakes for the New England state wildlife agencies and assisted in the design of a standardized quantitative

population monitoring protocol. Used capture-recapture and count data models to estimate survival and abundance in R using the unmarked and RMARK packages. Conducted population viability analyses using the program VORTEX. Ran simulation experiments to identify optimal sampling designs for estimating and monitoring timber rattlesnake abundance using hierarchical models including single-season occupancy models, N-mixture abundance models, abundance models with temporary emigration, and multi-season Dail-Madsen abundance models. Wrote two-thirds of the final report, supervised the writing of one-third of the report, and acted as senior editor for the submitted report.

Assistant Conservation Scientist. The Orianne Society, 11 Old Fruit Stand Lane, Tiger, Georgia (March 2012-August 2013; *as Research Ecologist from May 2009-March 2012*). Designed and implemented projects studying the thermal ecology of Eastern Indigo Snakes, the spatial ecology and effects of habitat fragmentation on Eastern Indigo Snakes, the effects of translocation on Gopher Tortoises, and an Eastern Indigo Snake and Eastern Diamondback Rattlesnake occupancy monitoring program. Supervised budgets for the Conservation Science Program. Hired and supervised five full-time field technicians on multiple projects. Wrote and reviewed grant proposals and prepared annual reports. Assisted with study design, data analysis, and report preparation of studies examining Timber Rattlesnake spatial and population ecology, Western Rattlesnake population ecology, Eastern Diamondback Rattlesnake habitat ecology, and Gopher Tortoise population monitoring.

Red List Focal Point. IUCN Species Survival Commission (September 2010-August 2012). Reviewed and coordinated species assessment for all species of vipers. Assisted with preparation of the global Viper Conservation Action Plan.

PROFESIONAL ACTIVITY

Affiliations & Membership:

- The Wildlife Society (2019-present)
- IUCN Species Survival Commission Viper Specialist Group (2009-2013)

Journal Reviewer:

Journal of Wildlife Management (2022, 2017), PeerJ (2022), PLoS One (2021), Wildlife Biology (2021 & 2019), Landscape Ecology (2021 & 2019), Canadian Journal of Zoology (2021), Molecular Ecology Resources (2021), Animal Conservation (2021), Animals (2021), Herpetological Conservation and Biology (2020, 2016), Scientific Reports (2020), Canadian Wildlife Biology and Management (2020), Chelonian Conservation and Biology (2020), American Midland Naturalist (2020), Herpetology Journal (2020), Molecular Ecology (2019), Journal of the Arkansas Academy of Science (2019), Methods in Ecology and Evolution (2018), Copeia (2016), Herpetology Notes (2016)