Mevin B. Hooten

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Experience:

UNIVERSITY OF TEXAS at AUSTIN, Austin, TX
- Professor 2021-
  - Department of Statistics and Data Sciences

COLORADO STATE UNIVERSITY, Fort Collins, CO
- Professor 2018-2021
  - Department of Fish, Wildlife, and Conservation Biology
  - Department of Statistics
- Associate Professor 2013-2018
  - Department of Fish, Wildlife, and Conservation Biology
  - Department of Statistics
- Assistant Professor 2010-2013
  - Department of Fish, Wildlife, and Conservation Biology
  - Department of Statistics
- Faculty Affiliate 2011-2021
  - Graduate Degree Program in Ecology
- Assistant Unit Leader 2010-2021
  - Colorado Cooperative Fish and Wildlife Research Unit

UTAH STATE UNIVERSITY, Logan, UT 2006-2010
- Assistant Professor of Statistics**,** Department of Mathematics and Statistics
- Adjunct Faculty, Department of Wildland Resources
- Faculty Associate, Ecology Center

Education:

UNIVERSITY OF MISSOURI, Columbia, MO 2006
- Ph.D. Statistics Advisor: Christopher K. Wikle
- Dissertation Topic: Hierarchical spatio-temporal models for ecological processes

UNIVERSITY OF MISSOURI, Columbia, MO 2001
- M.S. Forest Ecology Advisor: David R. Larsen
- Thesis Topic: Modeling the spatial distribution of ground flora

KANSAS STATE UNIVERSITY, Manhattan, KS 1999
- B.S. Natural Resource Management Advisor: Mark Morgan
- Minor in Wildlife Biology

Major Honors:

- Elected Fellow of the American Statistical Association (2017)
- Distinguished Achievement Award, American Statistical Association, ENVR Section (2022)
- Early Investigator Award, American Statistical Association, ENVR Section (2014)

Books:

Hooten, M.B. and T.J. Hefley. (2019). Bringing Bayesian Models to Life. Chapman & Hall/CRC.

Hooten, M.B., D.S. Johnson, B.T. McClintock, and J. Morales. (2017). Animal Movement: Statistical Models for Telemetry Data. Chapman & Hall/CRC.

Hobbs, N.T. and M.B. Hooten. (2015). Bayesian Models: A Statistical Primer for Ecologists. Princeton University Press.

Selected Publications: (students and post-docs underlined)

McDevitt-Gales, T., A.T. Degaetano, S. Elmendorf, J.R. Foster, H.S Ginsberg, M.B. Hooten, S. LaDeau, K.M. McClure, S. Paull, E. Posthumus, I. Rochlin, and D. Grear. (In Press). Partly Cloudy with a Chance of Mosquitoes: Developing a macroecological approach to forecasting mosquito populations and phenology under changing climates. *Ecosphere.*

Schwob, M.R., M.B. Hooten, and V. Narasimhan. (In Press). Composite dyadic models for spatio-temporal data. *Biometrics*.

Hui, F., Q. Vu, and M.B. Hooten. (In Press). Spatial confounding in joint species distribution models. *Methods in Ecology and Evolution*.

Wikle, C.K., M.B. Hooten, W. Kleiber, and D.W. Nychka. (In Press). Spatial statistics: Climate and the environment. *Spatial Statistics*.

Valentine, G.P., X. Lu, C.A. Dolloff, C.N. Roghair, J.M. Rash, M.B. Hooten, and Y. Kanno. (In Press). Landscape influences on thermal sensitivity and predicted spatial variability among brook trout streams in the Southeastern USA. *River Research and Applications*.

Van Ee, J.J., C.A. Hagen, D.C. Pavlacky Jr., D.A. Haukos, A.J. Lawrence, A.M. Tanner, B.A. Grisham, K.A. Fricke, L.G. Rossi, G.G. Beauprez, K.E. Kuklinski, R. Martin, M.D. Koslovsky, T.B. Rintz, and M.B. Hooten. (In Press). Melded integrated population models. *Journal of Agricultural, Biological, and Environmental Statistics*.

Lu, X., Y. Kanno, G. Valentine, M. Kulp, and M.B. Hooten. (In Press). Regularized latent trajectory models for spatio-temporal population dynamics. *Journal of Agricultural, Biological and Environmental Statistics*.

Valle, D., N. Attias, J.A. Cullen, M.B. Hooten, A. Giroux, L. Gustavo, R. Oliveira-Santos, A.L.J. Desbiez, and R.J. Fletcher. (In Press). Bridging the gap between movement data and connectivity analysis using the Time-Explicit Habitat Selection (TEHS) model. *Movement Ecology*.

Lu, X., Y. Kanno, G. Valentine, G. Rash, and M.B. Hooten. (2024). Using multi-scale spatial models of dendritic ecosystems to infer abundance of a stream salmonid. *Journal of Applied Ecology*, **61**: 1703-1715.

Neitlich, P.N., W. Wright, E. Di Meglio, A.E. Shiel, C.J. Hampton-Miller, and M.B. Hooten. (2024). Mixed trends in heavy metal-enriched fugitive dust on National Park Service lands along the Red Dog Mine haul road, Alaska, 2006-2017. *PLoS One*, **19**: e0297777.

Hooten, M.B., M.R. Schwob, and D.S. Johnson. (2024). Geostatistical capture-recapture models. *Spatial Statistics*, **59**: 100817.

Eisaguirre, J.M., P.J. Williams, and M.B. Hooten. (2024). Rayleigh step-selection functions and connections to continuous-time mechanistic movement models. *Movement Ecology*, **12**: 14.

Valentine, G.P., X. Lu, E. Childress, C.A. Dolloff, N.P. Hitt, M.A. Kulp, B.H. Letcher, K.C. Pregler, J.M. Rash, M.B. Hooten, and Y. Kanno. (2024). Spatial asynchrony and cross-scale climate interactions in populations of a coldwater stream fish. *Global Change Biology*, **30**: e17029.

Lu, X., M.B. Hooten, A.M. Raiho, D.K. Swanson, C.A. Roland, and S.E. Stehn. (2023). Latent trajectory models for spatio-temporal dynamics in Alaskan ecosystems. *Biometrics,* **79**: 3664-3675.

Van Ee, J., C. Hagen, D. Pavlacky, K. Fricke, M. Koslovsky, and M.B. Hooten. (2023). Melding wildlife surveys to improve conservation inference. *Biometrics*, **79**: 3941-3953.

Schwob, M.R., M.B. Hooten, T. McDevitt-Gales. (2023). Dynamic population models with temporal preferential sampling to infer phenology. *Journal of Agricultural, Biological, and Environmental Statistics*, **28**: 774-791.

Lepak, J.M., B.M. Johnson, M.B. Hooten, B.A. Wolff, and A.G. Hansen. (2023). Predicting sport fish mercury contamination in heavily managed reservoirs: Implications for human and ecological health. *PLoS One,* **18**: e0285890.

Williams, P.J., X. Lu, H.R. Scharf, and M.B. Hooten. (2023). Embracing asymmetry in nature: How to account for skewness in ecological data. *Ecological Informatics,* **75**: 102185.

Hooten, M.B., M.R. Schwob, D.S. Johnson, and J.S. Ivan. (2023). Multistage hierarchical capture-recapture models. *Environmetrics*, **34**: e2799.

Eisaguirre, J.M., P.J. Williams, X. Lu, M.L. Kissling, P.A. Schuette, B.P. Weitzman, W.S. Beatty, G.G. Esslinger, J.N. Womble, and M.B. Hooten. (2023). Informing management of recovering predators and their prey with ecological diffusion models. *Frontiers in Ecology and the Environment*, **21**: 479-488

Leach, C.B., B.P. Weitzman, J. Bodkin, D. Esler, G.G. Esslinger, K.A. Kloecker, D. Monson, J.N. Womble, and M.B. Hooten. (2023). Revealing the extent of sea otter impacts on bivalve prey through multi-trophic monitoring and mechanistic models. *Journal of Animal Ecology*, **92**: 1230-1243.

Scharf, H.R., A. Raiho, S. Pugh, C.A. Roland, D.K. Swanson, S.E. Stehn, and M.B. Hooten. (2022). Multivariate Bayesian clustering using covariate-informed components with application to boreal vegetation sensitivity. *Biometrics,* **78**: 1427-1440.

Wright, W.J., P.N. Neitlich, A.E. Shiel, and M.B. Hooten. (2022). Mechanistic spatial models for heavy metal pollution. *Environmetrics*, **33**: e2760.

Wenger, S.J., E. Stowe, K. Gido, M. Freeman, Y. Kanno, N. Franssen, J.D. Olden, L. Poff, A. Walters, P. Bumpers, M. Mims, M.B. Hooten, and X. Lu. (2022). Simple statistical models can be sufficient for testing hypotheses with population time series data. *Ecology and Evolution*, **12**: e9339.

Okasaki, C., M.B. Hooten, and A.M. Berdahl. (2022). Source reconstruction for spatio-temporal physical statistical models. *Spatial Statistics*, **52**: 100707.

Lu, X., M.B. Hooten, A. Kaplan, J.N. Womble, and M.R. Bower. (2022). Improving wildlife

population inference from aerial imagery data through entity resolution. *Journal of Agricultural, Biological, and Environmental Statistics*, **27**: 364-381.

Scharf, H.R., X. Lu, P.J. Williams, and M.B. Hooten. (2022). Constructing flexible, identifiable, and interpretable statistical models for binary data. *International Statistical Review,* **90**: 328-345.

Van Ee, J.J., J.S. Ivan, and M.B. Hooten. (2022). Community confounding in joint species distribution models. *Scientific Reports*, **12**: 12235.

Schafer, T.L.J., C.K. Wikle, and M.B. Hooten. (2022). Bayesian inverse reinforcement learning for collective animal movement. *Annals of Applied Statistics*, **16**: 999-1013.

Zimmerman, S., C. Aldridge, S. Oyler-McCance, and M.B. Hooten. (2022). Scale-dependent influence of the sagebrush community on genetic connectivity of the sagebrush obligate Gunnison sage-grouse. *Molecular Ecology*, **31**: 3267-3285.

Johnson, D.S., B.M. Brost, and M.B. Hooten. (2022). Greater than the sum of its parts: Computationally flexible Bayesian hierarchical modeling. *Journal of Agricultural, Biological, and Environmental Statistics*, **27**: 382-400.

Kim, S., M.B. Hooten, T.L. Darden, and Y. Kanno. (2022). Linking male reproductive success to effort within and among nests in a co-breeding stream fish. Ethology, **128**: 489-498.

Raiho, A., H.R. Scharf, C.A. Roland, D.K. Swanson, S.E. Stehn, and M.B. Hooten. (In Press). Searching for refuge: A framework for identifying site factors conferring resistance to climate-driven vegetation change. *Diversity and Distributions,* **28**: 793-809.

Leach, C.B., P.J. Williams, J.M. Eisaguirre, J.N. Womble, M.R. Bower, and M.B. Hooten. (2022). Recursive Bayesian computation facilitates adaptive optimal design in ecological studies. *Ecology*, **103**: e03573.

Feuka, A.B., M.G. Nafus, A.A. Yackel Adams, L.L. Bailey, and M.B. Hooten. (2022). Endogenous and exogenous mechanisms affecting invasive reptile movement at multiple scales. *Movement Ecology*, **10**: 2.

Raiho, A., E.F. Nicklen, A. Foster, C.A. Roland, and M.B. Hooten. (2021). Bridging implementation gaps to connect large ecological datasets to complex models. *Ecology and Evolution,* **11**: 18271-18287.

Lepak, J.M., A.G. Hansen, M.B. Hooten, D. Brauch, and E.M. Vigil. (2021). Rapid proliferation of the parasitic copepod *Salmincola californiensis* on kokanee salmon in a large Colorado reservoir. *Journal of Fish Diseases*, **45**: 89-98.

Eisaguirre, J.M., P.J. Williams, X. Lu, M.L. Kissling, W.W. Beatty, G.G. Esslinger, J.N. Womble, and M.B. Hooten. (In Press). Diffusion modeling reveals effects of multiple release sites and human activity on a recolonizing apex predator. *Movement Ecology*, **9**: 34.

Banks, D.L. and M.B. Hooten. (2021). Statistical challenges in agent-based modeling. *The American Statistician*, **75**: 235-242.

Williamson, M.A., B.G. Dickson, M.B. Hooten, R.A. Graves, M.N. Lubell, and M.W. Schwartz. (2021). Accounting for incomplete reporting improves inference about private land conservation. *Conservation Biology*, **35**: 1174-1185.

Hooten, M.B., D.S. Johnson, and B.M. Brost. (2021). Making recursive Bayesian inference accessible. *The American Statistician,* **75***:* 185-194.

McCaslin, H.M., A.B. Feuka, and M.B. Hooten. (2021). Hierarchical computing for hierarchical models in ecology. *Methods in Ecology and Evolution*, **12**: 245-254.

Lasky, J.R., M.B. Hooten, and P.B. Adler. (2020). What processes must we understand to forecast regional scale population dynamics? *Proceedings of the Royal Society, Series B*, **287**: 20202219.

Leach, C., J.A. Hoeting, K. Pepin, A. Eiras, M.B. Hooten, and C. Webb. (2020). Linking mosquito surveillance to dengue fever through Bayesian mechanistic modeling. *PLoS Neglected Tropical Diseases,* **14***: e0008868*.

Hooten, M.B., C.K. Wikle, and M.R. Schwob. (2020). Statistical implementations of agent-based demographic models. *International Statistical Review*, **88**: 441-461.

Brost, B.M., M.B. Hooten, and R.J. Small. (2020). Model-based clustering reveals patterns in central place use of a marine top predator. *Ecosphere*, **11**: e03123.

Hooten, M.B., X. Lu, M.J. Garlick, and J.A. Powell. (2020). Animal movement models with mechanistic selection functions. *Spatial Statistics*, **37**: 100406.

Lu, X., P.J. Williams, M.B. Hooten, J.A. Powell, J.N. Womble, and M.R. Bower. (2020). Nonlinear reaction-diffusion process models improve inference for population dynamics. *Environmetrics,* **31**: e2604.

Hooten, M.B., S. Pugh, and C.A. Roland. (2020). Geary's contiguity ratio (Geary's c). *Wiley StatsRef: Statistics Reference Online*.

Christianson, K.R., B.M. Johnson, and M.B. Hooten. (2020). Compound effects of water clarity, inflow, wind, and climate warming on mountain lake thermal regimes. *Aquatic Sciences,* **82**: 6.

Tipton, J.R., M.B. Hooten, C. Nolan, R.K. Booth, and J. McLachlan. (2019). Predicting paleoclimate from compositional data using multivariate Gaussian process inverse prediction. *Annals of Applied Statistics*, **13**: 2363-2388.

Gerber, B.D., M.B. Hooten, C.P. Peck, M.B. Rice, J.H. Gammonley, A.D. Apa, and A.J. Davis. (2019). Extreme site fidelity as an optimal strategy in an unpredictable and homogeneous environment. *Functional Ecology,* **33**: 1695-1707.

Williams, P.J., W.L. Kendall, and M.B. Hooten. (2019). Selecting ecological models using multi-objective optimization. *Ecological Modelling*, **404**: 21-26.

Nolan, C., J. Tipton, R.K. Booth, M.B. Hooten, and S.T. Jackson. (2019). Comparing and improving methods for reconstructing peatland water table depth from testate amoebae. *The Holocene*, **29**: 1350-1361.

Hooten, M.B., J.M. Ver Hoef, and E.M. Hanks. (2019). Simultaneous autoregressive (SAR) model. *Wiley StatsRef: Statistics Reference Online*.

Scharf, H.R., M.B. Hooten, R.R. Wilson, G.M. Durner, T.C. Atwood. (2019). Accounting for phenology in the analysis of animal movement. *Biometrics*, **75**: 810-820.

Christianson, K.R., B.M. Johnson, M.B. Hooten, and J.J. Roberts. (2019). Estimating lake-climate responses from sparse data: an application to high elevation lakes. *Limnology and Oceanography,* **64**: 1371-1385.

Peterson, E.E., E.M. Hanks, M.B. Hooten, J.M. Ver Hoef, and M.-J. Fortin. (2019). Spatially structured statistical network models for landscape genetics. *Ecological Monographs*, **89**: e01355.

Williams, P.J., M.B. Hooten, G.G. Esslinger, J.N. Womble, J. Bodkin, and M.R. Bower. (2019). The rise of an apex predator following deglaciation. *Diversity and Distributions*, **25**: 895-908.

Ketz, A.C., T.L. Johnson, M.B. Hooten, and N.T. Hobbs. (2019). A hierarchical Bayesian approach for handling missing classification data. *Ecology and Evolution*, **9**: 3130-3140.

Hooten, M.B., H.J. Scharf, and J.M. Morales. (2019). Running on empty: Recharge dynamics from animal movement data. *Ecology Letters*, **22**: 377-389.

Dietze, M., A. Fox, L. Beck-Johnson, J.L. Betancourt, M.B. Hooten, C. Jarnevitch, T. Kiett, M. Kenney, C. Laney, L. Larsen, H. Loescher, C. Lunch, B. Pijanowski, J. Randerson, E. Reid, A. Tredennick, R. Vargas, K. Weathers, and E. White. (2018). Iterative near-term ecological forecasting: Needs, opportunities, and challenges. *Proceedings of the National Academy of Sciences,* **115**: 1424-1432

Scharf, H., M.B. Hooten, D.S. Johnson, and J. Durban. (2018). Process convolution approaches for modeling interacting trajectories. *Environmetrics*, **29**: e2487.

Buderman, F.E., M.B. Hooten, M. Alldredge, E.M. Hanks, and J.S. Ivan. (2018). Time-varying predatory behavior is primary predictor of fine-scale movement of wildland-urban cougars. *Movement Ecology*, **6**: 22.

Gerber, B.D., M.B. Hooten, C.P. Peck, M.B. Rice, J.H. Gammonley, A.D. Apa, and A.J. Davis. (2018). Accounting for location uncertainty in azimuthal telemetry data improves ecological inference. *Movement Ecology*, **6**: 14.

Conn, P.B., D.S. Johnson, P.J. Williams, S.R. Melin, and M.B. Hooten. (2018). A guide to Bayesian model checking for ecologists. *Ecological Monographs*, **88**: 526-542.

Hooten, M.B., H.R. Scharf, T.J. Hefley, A. Pearse, and M. Weegman. (2018). Animal movement models for migratory individuals and groups. *Methods in Ecology and Evolution,* **9**: 1692-1705.

Pejchar, L., T. Gallo, M.B. Hooten, and G. Daily. (2018). Predicting effects of large-scale reforestation on native and exotic birds. *Diversity and Distributions*, **24**: 811-819.

Ver Hoef, J.M., E.M. Hanks, and M.B. Hooten. (2018). On the relationship between conditional (CAR) and simultaneous (SAR) autoregressive models. *Spatial Statistics*, **25**: 68-85.

Ketz, A.C., T.L. Johnson, R.J. Monello, J. Mack, J.L. George, B.R. Kraft, M.A. Wild, M.B. Hooten, and N.T. Hobbs. (2018). Estimating abundance of an open population with an N-mixture model using auxiliary data on animal movements. *Ecological Applications*, **28**: 816-825.

Williams, P.J., M.B. Hooten, J.N. Womble, G.G. Esslinger, and M.R. Bower. (2018). Monitoring dynamic spatio-temporal ecological processes optimally. *Ecology*, **99**: 524-535.

Ver Hoef, J.M., E.E. Peterson, M.B. Hooten, E.M. Hanks, and M-J. Fortin. (2018). Spatial autoregressive models for statistical inference from ecological Data. *Ecological Monographs*, **88**: 36-59.

Itter, M.S., A.O. Finley, M.B. Hooten, P.E. Higuera, J.R. Marlon, R. Kelly, and J.S. McLachlan. (2018). A model-based approach to wildland fire reconstruction using sediment charcoal records. *Environmetrics*, **28**: e2450.

Buderman, F.M., M.B. Hooten, J.S. Ivan, and T.M. Shenk. (2018). Large-scale movement behavior in a reintroduced predator population. *Ecography*, **41**: 126-139.

Williams, P.J., M.B. Hooten, J.N. Womble, and M.R. Bower. (2017). Estimating occupancy and abundance using aerial images with imperfect detection. *Methods in Ecology and Evolution*, **8**: 1679-1689.

Hefley, T.J., B.M. Brost, and M.B. Hooten. (2017). Bias correction of bounded location errors in presence-only data. *Methods in Ecology and Evolution,* **8**: 1566-1573.

Steger, C., B. Butt, and M.B. Hooten. (2017). Safari Science: Assessing the reliability of citizen science data for wildlife surveys. *Journal of Applied Ecology*, **54**: 2053-2062.

Hooten, M.B., R. King, and R. Langrock. (2017). Guest editor's introduction to the special issue on "Animal Movement Modeling." *Journal of Agricultural, Biological, and Environmental Statistics*, **22**: 224-231.

Hanks, E.M., D.S. Johnson, and M.B. Hooten. (2017). Reflected stochastic differential equation models for constrained animal movement. *Journal of Agricultural, Biological, and Environmental Statistics*, **22**: 353-372.

Scharf, H., M.B. Hooten, and D.S. Johnson. (2017). Imputation approaches for animal movement modeling. *Journal of Agricultural, Biological, and Environmental Statistics*, **22**: 335-352.

Hefley, T.J., M.B. Hooten, R.E. Russell, D.P. Walsh, and J. Powell. (2017). When mechanism matters: forecasting the spread of disease using ecological diffusion. *Ecology Letters*, **20**: 640–650.

Pepin, K.M., S.L. Kay, B. Golas, S.S. Shriner, A.T. Gilbert, R.S. Miller, A.L. Graham, S. Riley, P.C. Cross, M.D. Samuel, M.B. Hooten, J.A. Hoeting, J.O. Lloyd-Smith, C.T. Webb, and M.B. Buhnerkempe. (2017). Inferring infection hazard in wildlife populations by linking data across individual and population scales. *Ecology Letters,* **20**: 275–292.

Roberts, J.J., K.D. Fausch, M.B. Hooten, and D.P. Peterson. (2017). Nonnative trout invasions combined with climate change threaten persistence of isolated cutthroat trout populations in the southern Rocky Mountains. *North American Journal of Fisheries Management*, **37**: 314-325.

Meredith, C.S., P. Budy, M.B. Hooten, and M.O. Prates. (2017). Assessing abiotic conditions influencing the longitudinal distribution of exotic brown trout (*Salmo trutta*) in a mountain stream: a spatially-explicit modeling approach. *Biological Invasions*, **19**: 503-519.

Hooten, M.B. and D.S. Johnson. (2017). Basis function models for animal movement. *Journal of the American Statistical Association*, **112**: 578-589.

Tredennick, A.T., M.B. Hooten, and P.B. Adler. (2017). Do we need demographic data to forecast the state of plant populations? *Methods in Ecology and Evolution*, **8**: 541-551.

Hefley, T.J., M.B. Hooten, E.M. Hanks, R.E. Russell, and D.P. Walsh. (2017). Dynamic spatio-temporal models for spatial data. *Spatial Statistics*, **20**: 206-220.

Hefley, T.J., K.M. Broms, B.M. Brost, F.E. Buderman, S.L. Kay, H.R. Scharf, J.R. Tipton, P.J. Williams, and M.B. Hooten. (2017). The basis function approach to modeling autocorrelation in ecological data. *Ecology*, **98**: 632-646.

Williams, P.J., M.B. Hooten, J.N. Womble, G.G. Esslinger, M.R. Bower, and T.J. Hefley. (2017). An integrated data model to estimate spatio-temporal occupancy, abundance, and colonization dynamics. *Ecology*, **98**: 328-336

Small, R.J., B.M. Brost, M.B. Hooten, M. Castellote, and J. Mondragon. (2017). Potential for spatial displacement of Cook Inlet beluga whales by anthropogenic noise in critical habitat. *Endangered Species Research*, **32**: 43-57.

Hefley, T.J., M.B. Hooten, E.M. Hanks, R.E. Russell, and D.P. Walsh. (2017). The Bayesian group lasso for confounded spatial data. *Journal of Agricultural, Biological and Environmental Statistics*, **22**: 42-59.

Tipton, J., M.B. Hooten, and S. Goring. (2017). Reconstruction of spatio-temporal temperature from sparse historical records using robust probabilistic principal component regression. *Advances in Statistical Climatology, Meteorology and Oceanography*, **3**: 1-16.

Brost, B.M., M.B. Hooten, and R.J. Small. (2017). Leveraging constraints and biotelemetry data to pinpoint repetitively used spatial features. *Ecology*, **98**: 12-20.

Arab, A., M.B. Hooten, and C.K. Wikle (2017). Hierarchical Spatial Models. *In: Encyclopedia of Geographical Information Science, Second Edition*. Springer.

Davis, A.J., M.B. Hooten, R.S. Miller, M. Farnsworth, J. Lewis, K.M. Moxcey, and K.M. Pepin. (2016). Inferring invasive species abundance using removal data from management actions. *Ecological Applications*, **26**: 2339–2346.

Northrup, J.M., C.R. Anderson, M.B. Hooten, and G. Wittemyer. (2016). Movement reveals scale-dependence in habitat selection of a large ungulate. *Ecological Applications*, **26**: 2746-2757.

Lepak, J.M., M.B. Hooten, C.A. Eagles-Smith, M.A. Lutz, M.T. Tate, J.T. Ackerman, J.J. Willacker Jr., D.C. Evers, J. Davis, C.F. Pritz, J.G. Wiener. (2016). Assessing mercury concentrations in fish across western Canada and the United States: potential health risks to fish and humans. *Science of the Total Environment*, **571**: 342-354.

Scharf, H.R., M.B. Hooten, B.K. Fosdick, D.S. Johnson, J.M. London, and J.W. Durban. (2016). Dynamic social networks based on movement. *Annals of Applied Statistics*, **10**: 2182-2202. (ASA ENVR Student Paper Award, 2016).

Tredennick, A.T., M.B. Hooten, C.L. Aldridge, C.G. Homer, A. Kleinhesselink, and P.B. Adler. (2016). Forecasting climate change impacts on plant populations over large spatial extents. *Ecosphere*, **7**: e01525.

Hefley, T.J., M.B. Hooten, J.M. Drake, R.E. Russell, and D.P. Walsh. (2016). When can the cause of a population decline be determined? *Ecology Letters*, **19**: 1353-1362

Williams, P.J. and M.B. Hooten. (2016). Combining statistical inference and decisions in ecology. *Ecological Applications*, **26**: 1930-1942.

Ruiz-Gutierrez, V., M.B. Hooten, and E.H. Campbell Grant. (2016). Uncertainty in biological monitoring: a framework for data collection and analysis to account for multiple sources of sampling bias. *Methods in Ecology and Evolution*, **7**: 900-909.

Broms, K.M., M.B. Hooten, and R.M. Fitzpatrick. (2016). Model selection and assessment for multi-species occupancy models. *Ecology*, **97**: 194-207.

Hooten, M.B., F.E. Buderman, B.M. Brost, E.M. Hanks, and J.S. Ivan. (2016). Hierarchical animal movement models for population-level inference. *Environmetrics,* **27**: 322-333.

Hanks, E.M., M.B. Hooten, S.A. Knick, S.J. Oyler-McCance, J.A. Ficke, T.B. Cross, and M.K. Schwartz. (2016). Latent spatial models and sampling design for landscape genetics. *Annals of Applied Statistics*, **10**: 1041-1062.

Hefley, T.J. and M.B. Hooten. (2016). Hierarchical species distribution models. *Current Landscape Ecology Reports*: 1-11.

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Awards/ Honors:

- Distinguished Achievement Award 2022
  American Statistical Association, Section on Statistics and the Environment
- Superior Performance Award 2020
  U.S. Geological Survey
- Superior Performance Award 2019
  U.S. Geological Survey
- Wildlife Publication Award Shortlist for Authored Book 2019
  The Wildlife Society
  Publication: Hooten, M.B., D.S. Johnson, B.T. McClintock, and J.M. Morales. (2017). Animal Movement: Statistical Models for Telemetry Data. Chapman and Hall/CRC.
- Superior Performance Award 2018
  U.S. Geological Survey
- Wildlife Publication Award Shortlist for Authored Book 2018
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Publication: Hooten, M.B., D.S. Johnson, B.T. McClintock, and J.M. Morales. (2017). Animal Movement: Statistical Models for Telemetry Data. Chapman and Hall/CRC.

- Superior Performance Award 2017
  U.S. Geological Survey
- ASA Fellow 2017
  American Statistical Association
- President's Invited Lecture 2016
  The International Environmetrics Society Annual Meeting
- Superior Performance Award 2016
  U.S. Geological Survey
- Outstanding Publication of the Year Award 2015
  Colorado State University, Warner College of Natural Resources
  Publication: Hobbs, N.T. and M.B. Hooten (2015). Bayesian Models: A Statistical Primer for Ecologists. Princeton University Press.
- Excellence in Science Award, Cooperative Research Units 2015
  U.S. Geological Survey
- Superior Performance Award 2015
  U.S. Geological Survey
- Superior Performance Award 2014
  U.S. Geological Survey
- Young Investigator Award 2014
  American Statistical Association, ENVR Section
- Superior Performance Award 2013
  U.S. Geological Survey
- Superior Performance Award 2012
  U.S. Geological Survey
- Superior Performance Award 2011
  U.S. Geological Survey
- Researcher of the Year Award 2010
  USU-Department of Mathematics and Statistics
- Researcher of the Year Award 2009
  USU-Department of Mathematics and Statistics

Editorial Experience:

- Associate Editor: Biometrics (2020-)
- Associate Editor: Environmetrics (2014-)
- Associate Editor: Journal of Agricultural, Biological, and Environmental Statistics (2012-13, 2017-)
- Associate Editor: Annals of Applied Statistics (2011-2021)
- Guest Editor: Special Issue in Spatial Statistics (2023-24)
- Guest Editor: Special Issue in Journal of Agricultural, Biological, and Environmental Statistics (2016-17)
- Guest Editor: Special Issue in Journal of Agricultural, Biological, and Environmental Statistics (2013-14)
- Subject Matter Editor: Ecological Applications (2018)

Teaching Experience:

Workshops and Short Courses

- Building Capacity in Bayesian Modeling for Ecologists (NSF), 10 days 2024
- Building Capacity in Bayesian Modeling for Ecologists (NSF), 10 days 2023
- Animal Movement Modeling Workshop (EURING), 1/2 day 2023
- Building Capacity in Bayesian Modeling for Ecologists (NSF), 10 days 2022
- Bayesian Statistical Inference and Practice (CPW), 2 days 2020
- R Spatial Data and Analysis (CSU), 1 day 2020
- Animal Movement Modeling Workshop (US-IALE), 1 day 2019
- Statistical Decision Theory (ASA Alaska Chapter Meeting) 2019
- R Workshop (KSU), 1 day 2018
- Animal Movement Modeling Workshop (ISEC), 1 day 2018
- R Workshop (KSU), 1 day 2017
- Spatio-Temporal Statistical Models in Practice (WNAR, anticipated), 1/2 day 2017
- R Workshop for Wildlife Biologists (CSU-CCFWRU), 1 day 2017
- Building Capacity in Bayesian Modeling for Ecologists (NSF), 10 days 2016
- R Workshop for Wildlife Biologists (TWS-CMPS), 1 day 2016
- Bayesian Decision Theory and Model Selection (ISEC), 1 day 2016
- R Workshop (CSU-CCFWRU), 1 day 2015
- Building Capacity in Bayesian Modeling for Ecologists (NSF), 10 days 2015
- Parallel Computing for Ecologists and Evol. Biologists (CSU-CU), 1 day 2015
- Building Capacity in Bayesian Modeling for Ecologists (NSF), 10 days 2014
- R Workshop (CSU-CCFWRU), 1 day 2013
- Building Capacity in Bayesian Modeling for Ecologists (NSF), 10 days 2013
- Spatial Statistics using R Workshop (TWS), 1 day 2012
- R Workshop for Fisheries Biologists (AFS-Western), 1 day 2012
- Bayesian Models for Ecologists (USU - UCFWRU), 5 days 2012
- R Short Course (CSU-CCFWRU), 1 day 2011
- Bayesian Methods for Landscape Ecologists (US-IALE), 1 day 2009

The University of Texas at Austin, Dept. of SDS, Austin, TX. 2021-

- Statistical Modeling I (SDS 383C: Fall 2023, 2024)
- Bayesian Statistical Methods (SDS 384-7: Spring 2022, 2023, 2024)
- Elements of Statistics (SDS 320E: Fall 2022)

Colorado State University, Dept. of FWCB, Fort Collins, CO. 2011-20

- Hierarchical Models in Ecology (FW 680, Fall 2011; FW/STAT 673, Fall 2013, 2015, 2017, 2019)
- Fish, Wildlife, and Conservation Biology Graduate Faculty Seminar (FW 692, Spr. 2016)
- Readings on Bayesian Analysis of Ecological Models and Data (ECOL 592, Fall 2011)
- Independent Study, Wildlife Biology (FW 495, Fall 2014)
- Guest Lectures: STAT 501 (Fall 2011-2019), STAT 192 (Spring 2012-2015, Fall 2019), FW 696 (Fall 2018-2019)

Utah State University, Dept. of Mathematics and Statistics, Logan, UT. 2006-10

- Applied Spatial Statistics (STAT 5410/6410, Fall 2006 - 2010)
- Statistics for Scientists (STAT 3000, Spring 2007, 2009, Fall 2007, 2008)
- Scientific Statistical Modeling: Directed Readings (STAT 6950, Spring 2007)
- Bayesian Statistics (STAT 6740, Spring 2008, 2010)
- Linear Regression and Time-Series (STAT 5100, Fall 2009 - 2010)

University of Missouri, Statistics Dept., Columbia, MO. 2002-04

Graduate Instructor

- Statistical Methods for Agriculture Graduate Students (STAT 207)
- Probability and Statistics for Business Students (STAT 150)

Graduate Lecturer

- Data Analysis for Graduate Students in Statistics (STAT 414)

University of Missouri, Forestry Dept., Columbia, MO. 1999-01

Graduate Lecturer

- Biometrics
- Geographic Information Systems
- Photogrammetry
- Remote Sensing

Post-Doctoral Fellows (Current):

- Alex Barth, Post-doctoral Fellow (co-advised with J. Casey) 2024-2026
- Nikunj Goel, Post-doctoral Fellow 2023-2025
- Justin Van Ee, Post-doctoral Fellow 2023-2025
- Myungsoo Yoo, Post-doctoral Fellow 2024-2026

Post-Doctoral Fellows (Former):

- Clint Leach, Post-doctoral Fellow 2020-2024
- Xinyi Lu, Post-doctoral Fellow 2021-2023
- Ann Raiho, Post-doctoral Fellow 2019-2021
- Henry Scharf, Post-doctoral Fellow 2018-2019
- Perry Williams, Post-doctoral Fellow 2016-2018
- Brian Gerber, Post-doctoral Fellow 2016-2017
- John Tipton, Post-doctoral Fellow 2016-2017
- Kristin Broms, Post-doctoral Fellow 2013-2016
- Trevor Hefley, Post-doctoral Fellow 2015-2016
- Viviana Ruiz-Gutierrez, Post-doctoral Fellow 2013-2014
- Tabitha Graves, Smith Post-doctoral Fellow 2012-2014

Graduate Students (Current):

- Brendan Allison (UT-Austin, PhD-Biology), Com. Member.
- Brandon Carter (UT-Austin, PhD-Statistics), Com. Member.
- Michael Schwob (UT-Austin, PhD-Statistics), **Advisor**.

Graduate Students (Graduated):

- Wilson Wright (CSU, PhD-Statistics), **Co-Advisor** (w/ Dan Cooley). 2024
- Justin Van Ee (CSU, PhD-Statistics), **Co-Advisor** (w/ Matt Koslovsky). 2023
- George Valentine (CSU, MS-Ecology), **Co-Advisor** (w/ Yoichiro Kanno). 2023
- Xinyi Lu (CSU, PhD-Statistics), **Advisor**. 2021
- David Clancy (CSU, MS-Statistics), **Advisor**. 2019
- Henry Scharf (CSU, PhD-Statistics), **Advisor**. 2017
- Frances Buderman (CSU, PhD-Wildlife), **Advisor**. 2017
- Brian Brost (CSU, PhD-Ecology), **Advisor**. 2016
- John Tipton (CSU, PhD-Statistics), **Co-Advisor** (w/ Jean Opsomer). 2016
- Perry Williams (CSU, MS-Statistics), **Advisor**. 2015
- Shannon Kay (CSU, MS-Statistics), **Advisor**. 2015
- Alison Cartwright (CSU, MS-Statistics), **Co-Advisor** (w/ Jean Opsomer). 2013
- Ephraim M. Hanks (CSU, PhD-Statistics), **Advisor.** 2013
- Beth Ross (USU, PhD-Wildland Resources), **Co-Advisor** (w/ Dave Koons). 2013
- Martha Garlick (USU, PhD-App. Math), **Co-Advisor** (w/ Jim Powell). 2012
- Beth Ross (USU, MS-Statistics), **Advisor.** 2012
- Xiao Xiao (USU, MS-Statistics), **Advisor.** 2011
- Glenda Yenni (USU, MS-Statistics), **Advisor.** 2011
- Jess Anderson (USU, MS-Statistics), **Advisor.** 2011
- Mark Schmelter (USU, MS-Statistics), **Advisor.** 2011
- Ephraim M. Hanks (USU, MS-Statistics), **Advisor.** 2010

- Amanda R. Cangelosi (USU, MS-Statistics), **Advisor.** 2008
- Darl D. Flake (USU, MS-Statistics), **Advisor.** 2008
- Hanna McCaslin (CSU, PhD-Ecology), Com. Member. 2023
- Connie Okasaki (UW, PhD-Ecology), Com. Member. 2023
- Andrew Manderson (Univ. of Cambridge, PhD-Statistics), Ext. Examiner 2022
- Lachlan Griffin (QUT, MS-Statistics), Ext. Examiner 2021
- Abigail Feuka (CSU, MS-Wildlife Biology), Com. Member. 2021
- Toryn Schafer (MU, PhD-Statistics), Com. Member. 2020
- Francisco Peralta (Univ. of Cape Town, PhD-Statistical Ecology), External Examiner. 2020
- Ghulam Samad (CSU, PhD-Ecology), Com. Member. 2020
- Clint Leach (CSU, PhD-Biology), Com. Member. 2019
- Kyle Christianson (CSU, PhD-FWCB), Com. Member. 2019
- Shawna Zimmerman (CSU, PhD-Ecology), Com. Member. 2018
- Richard Glennie (Univ. of St. Andrews, Statistics), External Examiner. 2018
- Clint Leach (CSU, MS-Statistics), Com. Member. 2017
- Alison Ketz (CSU, PhD-Ecology), Com. Member. 2017
- Yang Liu (UBC, PhD-Statistics), External Examiner. 2017
- Zachary Weller (CSU, PhD-Statistics), Com. Member. 2017
- Katy Warner (CSU, PhD-FWCB), Com. Member. 2016
- Perry Williams (CSU, PhD-FWCB), Com. Member. 2015
- Brian Gerber (CSU, PhD-FWCB), Com. Member. 2015
- Kevin Blecha (CSU, MS-Ecology), Com. Member. 2015
- Joe Northrup (CSU, PhD-Wildlife), Com. Member. 2015
- Christian Roy (Univ. Laval, Canada, PhD-Ecology), External Examiner. 2015
- Shane Siers (CSU, PhD-Ecology), Com. Member. 2014
- Xiao Xiao (USU, PhD-Biology), Com. Member. 2014
- Ann Raiho (CSU, MS-Ecology), Com. Member. 2014
- Eric Gardunio (CSU, MS-FWCB), Com. Member. 2014
- Glenda Yenni (USU, PhD-Biology), Com. Member. 2013
- Aldo Compagnoni (USU, PhD-Wildland Resources), Com. Member. 2013
- Mark Schmelter (USU, PhD-Engineering), Com. Member 2013
- Christy Meredith (USU, PhD-Wildland Resources), Com. Member. 2012
- Andrew Rayburn (USU, PhD-Wildland Resources), Com. Member. 2011
- John Lowry (USU, PhD-Wildland Resources), Com. Member. 2010
- Peter Sherick (USU, MS-Statistics), Com. Member. 2010
- Audrey Smith (USU, MS-Mathematics), Com. Member. 2010
- Tammy L. Wilson (USU, PhD-Wildland Resources), Com. Member. 2010
- Amanda Bakian (USU, MS-Statistics), Com. Member. 2008
- Randy Larsen (USU, PhD-Wildland Resources), Com. Member. 2008

Undergraduates:

- Nicolas Calzada (UT-Austin, Computational Biology), Mentor and Research Supervisor 2024-
- Berkeley Ho (UT-Austin, Statistics and Data Sciences), Mentor and Research Supervisor 2024-
- Nazhin Nikaeen (UT-Austin, Computational Biology), Scientific Computation and Data Sciences Certificate Supervisor 2024
- Katherine Millman (CSU, UG-Wildlife and Statistics), Honors Com. Member 2020

Employees (Former):

- Michael Schwob, Statistical Technician 2020
- Christopher Peck, Research Associate 2017-2018
- Jonathan Lewis, Research Associate 2015-2016
- Joseph Halseth, Research Associate 2013-2015