

Richard B. Chandler

Warnell School of Forestry and Natural Resources
University of Georgia, 180 East Green St., Athens, GA 30602
rchandler@warnell.uga.edu, 706-542-5815

Education

- University of Massachusetts Amherst. 2011. Ph.D. Wildlife Conservation.
- University of Massachusetts Amherst. 2006. M.S. Wildlife Conservation.
- University of Vermont. 2002. B.S. Wildlife Biology.

Professional Positions

- Associate Professor, Warnell School of Forestry and Natural Resources, University of Georgia, 2018–present
- Assistant Professor, Warnell School of Forestry and Natural Resources, University of Georgia, 2013–2018
- Postdoctoral Research Ecologist, USGS Patuxent Wildlife Research Center, 2010–2013

Publications

Books

- Royle, J.A., R.B. Chandler, R. Sollmann, and B. Gardner. 2014. Spatial Capture-Recapture. Academic Press.

Journal Articles

In press

- Merker, S. and R.B. Chandler. In Press. An experimental test of the Allee effect range limitation hypothesis. *Journal of Animal Ecology*.
- Jiménez, J., B. Augustine, D.W. Linden, R. Chandler, and J.A. Royle. In press. Spatial capture-recapture with random thinning for unidentified encounters. *Ecology and Evolution*.

2021

- Yeiser, J.M., R.B. Chandler, and J.A. Martin. 2021. Distance-dependent landscape effects in terrestrial systems: a review and a proposed spatio-temporal framework. *Current Landscape Ecology Reports*. DOI
- Ritterson, J.D., D.I. King, R. Raudales, R. Trubey, and R.B. Chandler. 2021. Generating best management practices for Avian conservation with a land-sparing agricultural system. *Agroforestry Systems*. DOI

2020

- Fink, S, R.B. Chandler, M.J. Chamberlain, S. Castleberry, S. Glosenger-Thrasher. 2020. Distribution and activity patterns of large carnivores and their implications for human–carnivore conflict management in Namibia. *Human–Wildlife Interactions* 14(2), Article 16.
- Hooker, M.J., R.B. Chandler, B.T. Bond, and M.J. Chamberlain. 2020. Assessing population viability of black bears using spatial capture-recapture models. *Journal of Wildlife Management* 84:1100–1113.
- Howell, P.E., B.R. Hossack, E. Muths, B.H. Sigafus, and R.B. Chandler. 2020. Informing amphibian conservation efforts with abundance-based metapopulation models. *Herpetologica* 76:240–250.
- Merker, S. and R.B. Chandler. 2020. Identifying global hotspots of avian trailing-edge population diversity. *Global Ecology and Conservation* 22:e00915.
- Howell, P. E., B. R. Hossack, E. Muths, B. H. Sigafus, A. Chenevert-Steffler, R. B. Chandler. 2020. A statistical forecasting approach to metapopulation viability analysis. *Ecological Applications* 3:e02038.

2019

- Abernathy, H., D. Crawford, E. Garrison, R. Chandler, L.M. Conner, K.V. Miller, M.J. Cherry. 2019. Deer movement and resource selection during Hurricane Irma – Implications for Wildlife and Extreme Climatic Events. *Proceedings of the Royal Society B* 286:20192230.
- Bennett, R.E., A.D. Rodewald, K.V. Rosenberg, R. Chandler, L. Chavarria-Duriaux, J.A. Gerwin, D.I. King, and J. Larkin. 2019. Drivers of variation in migration behavior for a linked population of long-distance migratory passerine. *The Auk* 136(4): ukz051.
- Jimenez, J., R. Chandler, J. Tobajas, E. Descalzo, R. Mateo, P. Ferreras. 2019. Generalized spatial mark–resight models with incomplete identification: An application to red fox density estimates. *Ecology and Evolution* 9:4739–4748.
- Augustine, B., J.A. Royle, S. Murphy, R.B. Chandler, J. Cox, M. Kelly. 2019. Spatial capture-recapture for categorically marked populations with an application to genetic capture-recapture. *Ecosphere* 10:e02627.
- Crawford, D.A., M.J. Cherry, B.D. Kelly, E.P. Garrison, D. Shindle, L.M. Conner, R.B. Chandler, and K.V. Miller. 2019. Chronology of reproductive investment determines predation risk aversion in a felid-ungulate system. *Ecology and Evolution* 9:3264–3275.
- Coughlin, E.M., B.M. Shamblin, H.R. Tumas, R.B. Chandler, and C.J. Nairn. 2019. The complete mitochondrial genome of the Canada warbler (*Cardellina canadensis*). *Mitochondrial DNA Part B* 4:450–451.

2018

- Chandler, R.B., K. Engebretsen, M. Cherry, and E. Garrison, K.V. Miller. 2018. Estimating recruitment from capture-recapture data by modeling spatio-temporal

variation in birth and age-specific survival rates. *Methods in Ecology and Evolution* 10:2115–2130.

- Tumas H.R., B.R. Shamblin, M. Woodrey, N.P. Nibbelink, R. Chandler, C.J. Nairn. 2018. Landscape genetics of the foundational salt marsh plant species black needlerush (*Juncus roemerianus* Scheele) across the northeastern Gulf of Mexico. *Landscape Ecology* 33:1585–1601.
- McConnell, M.D., A.P. Monroe, R.B. Chandler, W.E. Palmer, S.D. Wellendorf, L.W. Burger, and J.A. Martin. 2018. Factors influencing northern bobwhite recruitment with implications for population growth. *Auk* 135:1087–1099.
- Chandler, R.B., J. Hepinstall-Cymerman, S. Merker, H. Abernathy-Conners, and R.J. Cooper. 2018. Characterizing spatio-temporal variation in survival and recruitment with integrated population models. *Special Collection on Integrated Population Models*. *Auk* 135:409–426.
- Hsiung, A.C., W.A. Boyle, R.J. Cooper, and R.B. Chandler. 2018. Altitudinal migration: ecological drivers, knowledge gaps, and conservation implications. *Biological Reviews* 93:2049–2070.
- Yeiser, J., J. Morgan, D. Baxley, R.B. Chandler, and J. Martin. 2018. Evidence that private land conservation has landscape-scale benefits for wildlife in agroecosystems. *Journal of Applied Ecology* 55:1930–1939.
- McFarland, K.P., J.D. Lloyd, S.J.K. Frey, P.L. Johnson, R.B. Chandler, and C.C. Rimmer. 2018. Modeling spatial variation in winter abundance to direct conservation actions for a vulnerable migratory songbird, Bicknell’s Thrush (*Catharus bicknelli*). *The Condor* 120:517–529.
- Howell, P.E., E. Muths, B. Hossack, B. Sigafus, and R.B. Chandler. 2018. Increasing connectivity between metapopulation ecology and landscape ecology. *Ecology* 99:1119–1128.
- Ferrari, B.A., B.M. Shamblin, R.B. Chandler, H.R. Tumas, S. Haché, L. Reitsma, and C.J. Nairn. 2018. Canada Warbler (*Cardellina canadensis*): Novel molecular markers and a preliminary analysis of genetic diversity and structure. *Avian Conservation and Ecology* 13:8 <https://doi.org/10.5751/ACE-01176-130108>.
- Laufenberg, J.S., J.D. Clark, and R.B. Chandler. 2018. Estimating population extinction thresholds with categorical classification trees for Louisiana black bears. *PLoS ONE* 13(1): e0191435. <https://doi.org/10.1371/journal.pone.0191435>
- Cherry, M.J., R.B. Chandler, E.P. Garrison, D.A. Crawford, B.D. Kelly, D.B. Shindle, K. Godsea, K.V. Miller, L.M. Conner. 2018. Wildfire affects space use and movement of white-tailed deer in a tropical pyric landscape. *Forest Ecology and Management* 409: 161–169.
- Whittington, J., M. Hebblewhite, and R. Chandler. 2018. Generalized spatial mark-resight models with an application to grizzly bears. *Journal of Applied Ecology* 55:157–168.

- Chandler, R.B. and J. Hepinstall-Cymerman. 2016. Estimating the spatial scales of landscape effects on abundance. *Landscape Ecology* 31:1383–1394.
- Howell, P.E., B.R. Hossack, E. Muths, B.H. Sigafus, and R.B. Chandler. 2016. Survival estimates of reintroduced populations of the Chiricahua leopard frog (*Lithobates chiricahuensis*). *Copeia* 4:824–830.
- Monroe, A., R.B. Chandler, W. Burger, Jr., and J.A. Martin. 2016. Converting exotic forages to native warm-season grass can increase avian productivity in beef production systems. *Agriculture, Ecosystems, and Environment* 233:85–93.
- Dziadzio, M.C., L.L. Smith, R.B. Chandler, and S.B. Castleberry. 2016. Effect of nest location on gopher tortoise nest survival. *Journal of Wildlife Management* 80:1314–1322.
- Laufenberg, J., J.D. Clark, M.J. Hooker, C.L. Lowe, K.C. O’Connell-Goode, J.C. Troxler, M.M. Davidson, M.J. Chamberlain, R.B. Chandler. 2016. Demographic rates and population viability of black bears in Louisiana. *Wildlife Monographs* 194:1–37.
- Taylor, A.R., J.H. Schacke, T.R. Speakman, S.B. Castleberry, R.B. Chandler. 2016. Factors related to common bottlenose dolphin (*Tursiops truncatus*) seasonal migration along South Carolina and Georgia coasts, USA. *Animal Migration* 3:14–26.
- Dziadzio, M.C., A.K. Long, L.L. Smith, R.B. Chandler, and S.B. Castleberry. 2016. Presence of red imported fire ants at gopher tortoise nests. *Wildlife Society Bulletin* 40:202–206.

2015

- Chandler, R.B., E. Muths, B.H. Sigafus, C.R. Schwalbe, C.J. Jarchow, and B.R. Hossack. 2015. Spatial occupancy models for predicting metapopulation dynamics and viability following reintroduction. *Journal of Applied Ecology* 52:1325–1333.
- Sollmann, R., B. Gardner, R.B. Chandler, J.A. Royle, and T.S. Sillett. 2015. An open population hierarchical distance sampling model. *Ecology* 96:325–331.
- Hostetler, J.A. and R.B. Chandler. 2015. Improved state-space models for inference about spatial and temporal variation in abundance from count data. *Ecology* 96:1713–1723.

2014

- Chandler, R.B. and J.D. Clark. 2014. Spatially explicit integrated population models. *Methods in Ecology and Evolution* 5:1351–1360.
- Graves, T., R.B. Chandler, J.A. Royle, P. Beier, and K.C. Kendall. 2014. Estimating landscape resistance to dispersal. *Landscape Ecology* 29:1201–1211.
- Royle, J.A., R.B. Chandler, C.C. Sun, and A.K. Fuller. 2014. Reply to Efford on “*Integrating Resource Selection Information with Spatial Capture-recapture.*” *Methods in Ecology and Evolution* 5:603–605.
- Zipkin, E.F., T.S. Sillett, E.H.C. Grant, R.B. Chandler, and J.A. Royle. 2014. Inferences about population dynamics from count data using multistate models: a

comparison to capture-recapture approaches. *Ecology and Evolution* 4:417–426.

- Zipkin, E.F., J.T. Thorson, K. See, H.J. Lynch, E.H.C. Grant, Y. Kanno, Y., R.B. Chandler, B.H. Letcher, and J.A. Royle. 2014. Modeling structured population dynamics using data from unmarked individuals. *Ecology* 95:22–29.

2013

- Chandler, R.B., D.I. King, C.C. Chandler, R. Raudales, R. Trubey, and V. J. Arce Chavez. 2013. A small-scale land-sparing approach to conserving biodiversity in tropical agricultural landscapes. *Conservation Biology* 27:785–795.
- Sollmann, R., B. Gardner, R.B. Chandler, D. Shindle, D. Onorato, J.A. Royle, and A. O’Connell. 2013. Using multiple data sources provides density estimates for endangered Florida panther. *Journal of Applied Ecology* 50:961–968.
- Chandler, R.B. and J.A. Royle. 2013. Spatially-explicit models for inference about density in unmarked populations. *Annals of Applied Statistics* 7:936–954.
- Royle, J.A., R.B. Chandler, K.D. Gazenski, and T.A. Graves. 2013. Spatial capture-recapture models for jointly estimating population density and landscape connectivity. *Ecology* 94:287–294.
- J.A. Royle, R.B. Chandler, C.C. Sun, and A.K. Fuller. 2013. Integrating resource selection information with spatial capture-recapture. *Methods in Ecology and Evolution* 4:520–530.
- Yackulic, C.B., R.B. Chandler, E. Zipkin, J.A. Royle, J.D. Nichols, E.H.C. Grant, and S. Veran. 2013. Presence-only modeling using MAXENT: When can we trust the inferences? *Methods in Ecology and Evolution* 4:236–243.

2012

- Sillett, T.S., R.B. Chandler, J.A. Royle, M. Kéry, S.A. Morrison. 2012. Hierarchical distance sampling models of habitat-specific abundance and total population size of the Island Scrub-Jay. *Ecological Applications* 22:1997–2006.
- Royle, J.A, R.B. Chandler, C. Yackulic, and J.D. Nichols. 2012. Likelihood analysis of species occurrence probability from presence-only data for modeling species distributions. *Methods in Ecology and Evolution* 157:261–280.
- Chandler, C.C., D.I. King, and R.B. Chandler. 2012. Do mature forest birds prefer early-successional habitat during the postfledging period? *Forest Ecology and Management* 264:1–9.

2011

- Chandler, R.B. and D.I. King. 2011. Habitat quality and habitat selection of golden-winged warbler warblers in Costa Rica: application of hierarchical models for open populations. *Journal of Applied Ecology* 48:1038–1047.
- King, D.I., C.C. Chandler, J.H. Rappole, R.B. Chandler, and D.W. Mehlman. 2011. Establishing quantitative habitat targets for an endangered Neotropical migrant (*Dendroica chrysoparia*) during the non-breeding season. Bird Conservation International. DOI: 10.1017/S095927091100027X.

- Schlossberg, S., D.I. King, and R.B. Chandler. 2011. Effects of low-density housing development on shrubland birds in western Massachusetts. *Landscape and Urban Planning* 103:64–73.
- Fiske I. and R.B. Chandler. 2011. unmarked: an R package for fitting hierarchical models of wildlife occurrence and abundance. *Journal of Statistical Software* 43:1–23.
- Chandler, R.B., J.A. Royle, and D.I. King. 2011. Inference about density and temporary emigration in unmarked populations. *Ecology* 92:1429–1435.

2010

- Schlossberg, S., D.I. King, R.B. Chandler, and B.A. Mazzei. 2010. Regional synthesis of habitat relationships in shrubland birds. *Journal of Wildlife Management* 74:1513–1522.

2009

- Chavez-Arce, V.J.R. Raudales, R. Trubey, D.I. King, R.B. Chandler, and C. Chandler. 2009. Measuring and managing the environmental costs of coffee production in Latin America. *Conservation and Society* 7:141–144.
- Wolfe, J.D., R.B. Chandler, and D.I. King. 2009. Molt patterns, age, and sex criteria for selected highland Costa Rica landbirds. *Ornithología Neotropical* 20:451–459.
- Chandler, R.B., D.I. King, and C.C. Chandler. 2009. Effects of management regime on the abundance and nest survival of shrubland birds in wildlife openings in northern New England, USA. *Forest Ecology and Management* 258:1669–1676.
- Chandler, R.B., King, D.I., and S. DeStefano. 2009. Scrub-shrub bird habitat associations at multiple spatial scales in beaver meadows in Massachusetts. *Auk* 126: 186–197.
- King, D.I., R.B. Chandler, S. Schlossberg, and C.C. Chandler. 2009. Habitat use and nest success of scrub-shrub birds in wildlife and silvicultural openings in western Massachusetts, U.S.A. *Forest Ecology and Management* 257:421–426.
- King, D.I., R.B. Chandler, J.M. Collins, W.R. Peterson, and T.E. Lautzenheiser. 2009. Effects of width, edge and habitat on the abundance and nesting success of scrub-shrub birds in powerline corridors. *Biological Conservation* 142:2672–2680.

2004

- Chandler R.B., A.M. Strong, and C.C. Kaufman. 2004. Elevated lead levels in urban house sparrows: A threat to sharp-shinned hawks and merlins? *Journal of Raptor Research* 38:62–68.

Book chapters

- Hossack, B.R., P.E. Howell, J.C. Rorabaugh, E. Muths, R.B. Chandler, and B.H. Sigafus. 2020. Hanging by a thread: recovery of reintroduced Chiricahua Leopard Frogs after bullfrog eradication in an intensively managed landscape. Pages xx–xx in S.C. Walls and K.M. O'Donnell, editors. *Strategies for Conservation Success in*

Herpetology. Society for the Study of Amphibians and Reptiles, University Heights, OH, USA.

- Chandler, R.B., S. Tolfree, J. Gerwin, C. Smalling, L. Chavarría-Duriaux, G. Duriaux, and D.I. King. 2015. Conservation implications of golden-winged warbler social and foraging behaviors during the nonbreeding season. *In* Golden-winged Warbler Ecology, Conservation, and Management (Streby, H.M., D.E. Anderson, and D.A. Buehler, eds.), *Studies in Avian Biology* 49:175–192. CRC Press.
- King, D.I., R.B. Chandler, C. Smalling, R. Trubey, R. Raudales, and T. Will. 2016. Nonbreeding golden-winged warbler habitat: status, conservation, and needs. *In* Golden-winged Warbler Ecology, Conservation, and Management (Streby, H.M., D.E. Anderson, and D.A. Buehler, eds.), *Studies in Avian Biology* 29:29–38. CRC Press.
- Rosenberg, K.V., T. Will, D.A. Buehler, S.B. Swarthout, W.E. Thogmartin, and R.B. Chandler. 2016. Historic and current distribution and population status of golden-winged warblers. *In* Golden-winged Warbler Ecology, Conservation, and Management (Streby, H.M., D.E. Anderson, and D.A. Buehler, eds.), *Studies in Avian Biology* 49:3–28. CRC Press.
- King, D.I., R.B. Chandler, J.H. Rappole, R. Raudales, and R. Trubey. 2012. Community-Based Agroforestry Initiatives in Nicaragua and Costa Rica for Biodiversity Conservation. Pages 99–115 *In* Biodiversity conservation in agroforestry landscapes: challenges and opportunities. Javier Simonetti, Audrey A. Grez Cristián, F. Estades and Jorge Pérez, *Eds.* Universidad de Chile Press.

Presentations

Invited – seminars

- Chandler, R.B. 2019. Dynamics of Trailing-edge Bird Populations in the Southern Appalachian Mountains. Department of Fish and Wildlife Conservation, Virginia Tech.
- Chandler, R.B. 2019. Dynamics and Viability of Trailing-edge Populations in the Southern Appalachian Mountains. Odum School of Ecology, University of Georgia.
- Chandler, R.B. 2018. Narrowing the divide between ecological theory and application with hierarchical spatio-temporal models. Department of Wildlife Ecology and Conservation, University of Florida.
- Chandler, R.B. 2016. Narrowing the divide between ecological theory and practice with hierarchical spatial models. Department of Forest and Wildlife Ecology, University of Wisconsin Madison.
- Chandler, R.B. and P.E. Howell. 2015. Integrating landscape resistance into spatial metapopulation models. Computational Ecology and Epidemiology Study Group. Odum School of Ecology, University of Georgia.
- Chandler, R.B. 2015. Spatial correlation as information about ecological processes. Warnell School of Forestry, University of Georgia.

- Chandler, R.B. 2014. The role of spatial models in applied ecological research. Auburn University.
- Chandler, R.B. 2012. Land-sparing coffee production systems for avian conservation. Smithsonian Migratory Bird Center.
- Chandler, R.B., 2012. Population dynamics and species distributions following secondary contact. University of New Hampshire.

Invited – conferences

- Chandler, R.B., M.J. Cherry, K.V. Miller, L.M. Conner, R.J. Warren, E. Garrison, D. Shindle, D. Crawford, B. Kelly, and K. Engebretsen. 2016. Efficient monitoring of unmarked prey populations by combining camera and telemetry data. The 23rd Annual Meeting of The Wildlife Society. Raleigh, NC.
- Chandler, R.B., R.J. Cooper, J. Hepinstall-Cymerman, S. Merker, R. Chitwood, H. Abernathy. 2016. Spatially explicit integrated population models for understanding the mechanisms governing range shifts. North American Ornithological Conference, Washington DC.
- Chandler, R.B. 2015. Modeling population dynamics using data from marked and unmarked individuals. 22nd Annual Conference of The Wildlife Society. Winnipeg, Manitoba.
- Chandler, R.B. 2015. Estimating Deer Density by Combining Camera and Telemetry Data. Annual meeting of the Georgia Chapter of The Wildlife Society. Athens, GA.
- Chandler, R.B. and S.A. Merker. 2015. Integrated population models for predicting spatial and temporal dynamics at range margins. 100th Annual Conference of the Ecological Society of America. Baltimore, MD.
- Chandler, R.B and J.D. Clark. 2013. Cost-efficient monitoring using capture-recapture methods. The Georgia Chapter Meeting of the Wildlife Society. Athens, GA.
- Chandler, R.B., J.A. Royle, J. Sauer, and K. Pardieck. 2012. Modeling population dynamics and detection probability using Breeding Bird Survey data. 18th Annual Meeting of the Wildlife Society. Waikoloa, HI.
- Chandler, R.B. 2011. Modeling population dynamics and detection probability using Breeding Bird Survey data. The International Environmetrics Society's Third North American Regional Meeting. La Crosse, WI.
- Chandler, R.B., D.I. King, and K.V. Rosenberg. 2010. Monitoring Neotropical-Nearctic migratory birds during the non-breeding season. Midwest Fish and Wildlife Conference. Minneapolis, MN.

Contributed

- Chandler, R.B., E. Muths, B. Sigafus, C. Schwalbe, C. Jarchow, and B. Hossack. 2014. Spatial occupancy models for metapopulation viability analysis. The International Statistical Ecology Conference. Montpellier, France.

- Chandler, R.B. and D.I. King. 2009. Golden-winged Warbler habitat selection in Costa Rica. 127th Stated Meeting of the American Ornithologists' Union. Philadelphia, PA.
- Chandler, R.B., D.I. King, and C.C. Chandler. 2008. Conservation implications of Golden-winged Warbler non-breeding ecology in a forest-agriculture mosaic in Costa Rica. 126th Stated Meeting of the American Ornithologists' Union. Portland, OR.
- Chandler, R.B., D.I. King, V.J. Chavez A., C.C. Chandler, R. Raudales, and R. Trubey. 2007. Species richness, composition, and body condition in a novel coffee cultivation system "Integrated Open Canopy" in Costa Rica. 125th State Meeting of the American Ornithologists' Union. Laramie, WY.
- Chandler R.B., D.I. King, and C.C. Chandler. 2005. Effects of patch size and treatment method on early-successional birds in managed shrublands in New Hampshire. 123rd State Meeting of the American Ornithologists' Union meeting, Santa Barbara, CA.
- Chandler. C.C., D.I. King and R.B. Chandler. 2005. Habitat use of Neotropical migrant birds during the pre-migratory period. 123rd Stated Meeting of the American Ornithologists Union, Santa Barbara, CA.

Grants

- Effects of Working Lands for Wildlife and Pine Savanna Conservation Projects on Northern Bobwhite. 2019. Co-PI with Dr. James Martin. Pheasants Forever, Inc. \$230,000
- Central Georgia Black Bear Population Viability Analysis (PVA). 2019. Co-PI with Dr. Michael Chamberlain. Georgia Department of Natural Resources. \$85,000.
- Individual-based species distribution models for understanding the demographic drivers of range shifts and their consequences for biodiversity. 2017. PI. National Science Foundation Faculty Early Career Development Award. \$719,862.
- Migratory connectivity of wintering golden-winged warblers. 2016. PI. Subcontract from Indiana University of Pennsylvania. \$13,200.
- Improving northern bobwhite abundance estimates to set harvest regulations. 2015. Co-PI with Dr. James Martin. Georgia Department of Natural Resources. \$285,942.
- Habitat loss and fragmentation effects on northern bobwhites and eastern meadowlarks. 2015. Co-PI with Dr. James Martin, Dr. Clint Moore, Dr. Jim Giocomo, and Dr. Myung-Bok Lee. Gulf Coast CESU. \$50,000.
- Effects of conservation reserve enhancement program on bird populations at local landscape scales in Kentucky. 2015. Co-PI with Dr. James Martin. Kentucky Department of Natural Resources. \$165,997.
- Population dynamics and viability of white-tailed deer and Florida panther in a rapidly changing environment. 2014. PI with Dr. Karl Miller, Dr. Robert Warren, and Dr. Mike Conner. Florida Fish and Wildlife Commission. \$1,162,602.

- Refining post-delisting monitoring for Louisiana black bears. 2014. PI with Dr. Joseph Clark. Louisiana Department of Wildlife and Fisheries. Subcontract through University of Tennessee. \$82,000.
- Development and evaluation of an unbaited camera survey technique for estimating demographic parameters of white-tailed deer. 2014. Co-PI with Dr. Karl Miller. \$374,000.
- Integrating metapopulation ecology and landscape ecology for improved population viability analysis and conservation decision-making. 2013. Co-PI with Dr. Blake Hossack, Dr. Erin Muths, and Dr. Brian Irwin. U.S. Geological survey. \$210,000.
- Estimating population size and viability of the Central Georgia black bear population. 2013. Co-PI with Dr. Michael Chamberlain. Georgia Department of Natural Resources. 2014–2016. \$366,000.
- Analysis of golden-winged warbler winter distribution data. 2011. Cornell Lab of Ornithology. \$12,000.
- Development of the **R** Package `unmarked` to Analyze Data from Long-term Monitoring Programs. 2011–2012. National Park Service. \$50,000.
- Habitat Selection and Habitat-specific Survival of Wintering Golden-winged Warblers (*Vermivora chrysoptera*) in Managed Landscapes in Costa Rica. 2009–2010. USDA Forest Service International Programs. \$64,000.
- Migratory Bird Conservation Using Alternative Coffee Cultivation and Processing Methodologies. 2006–2008. US Fish and Wildlife Service, Division of Bird Habitat Conservation. (with the Mesoamerican Development Institute). \$137,000.

Awards and Honors

- Recipient of the Warnell School of Forestry and Natural Resources' Alumni Association Faculty Award for Early Career Teaching. 2019.
- Recipient of the University of Georgia's Fred C. Davidson Early Career Scholar Award. 2017.
- Elected Treasurer of the Wildlife Society's Biometrics Working Group. 2015.
- Elected to the board of the Wildlife Society's Biometrics Working Group. 2014.
- Named Elective Member of the American Ornithologists' Union, 2013.
- Co-recipient of the Wildlife Society's 2013 spatial ecology award for the development of the **R** package `unmarked`.
- Co-recipient of the 2009 US Forest Service "Wings Across the Americas Award" for outstanding research achievement in protection of migratory birds and their habitat.
- American Ornithologists' Union Student Travel Award. June 2007.
- Dean's Junior Book Award for outstanding academic achievement and leadership potential. University of Vermont. May 2001.

- Office of Sponsored Programs, University of Vermont award for outstanding undergraduate research. October 2000.

Teaching

Courses at UGA

- Estimation of Fish and Wildlife Population Parameters. WILD/FISH 8390. Co-instructed with Dr. Mike Conroy. (Spring 2017–2018)
- Experimental Design and Analysis. FANR 6750. Co-instructed with Dr. Robert Cooper. (Fall 2013–2018)
- Applied Population Dynamics. WILD 5700/7700. (Spring 2014–2019)
- Spatial Capture-Recapture. WILD 8300. (Spring 2015 & 2016)
- Conserving Wildlife in Agricultural Landscapes. WILD 5300/7300. (Fall, 2014)

Workshops

- Spatial capture-recapture workshop. Oct 2016. The Wildlife Society Conference, Raleigh NC. With J.A. Royle and C. Sutherland.
- Spatial capture-recapture workshop. July 2016. University of Georgia. With J.A. Royle and B. Augustine.
- Spatial capture-recapture workshop. March 2015. University of Georgia. With J.A. Royle and J. Laufenberg.
- Hierarchical models for abundance, distribution and species richness in spatially-structured populations using **unmarked** and **WinBUGS**. Workshop at Patuxent Wildlife. Nov 2012 with M. Kéry and J.A. Royle.
- Estimating avian abundance and occupancy with marked and unmarked individuals. Workshop given at the 5th North American Ornithological Conference, Vancouver, British Columbia, Canada in August 2012. With E. Cooch, P. Doherty, and J.D. Nichols.
- Hierarchical modeling using the R package **unmarked**. Workshop given at International Statistical Ecology Conference with J.A. Royle. July 2012. <http://www.cees.uio.no/isec2012/workshops/unmarked.html>
- Hierarchical models for abundance, distribution and species richness in spatially-structured populations using **unmarked** and **WinBUGS**. Workshop at Patuxent Wildlife. April 2012 with M. Kéry and J.A. Royle.
- Analysis of wildlife occurrence and abundance data using the **R** package **unmarked**. January 2012. With J.A. Royle. <https://sites.google.com/site/unmarkedinfo/home/webinars/2012-january>
- Hierarchical models of wildlife occurrence, abundance, and survival. 2011. Graduate-level course taught at UMass. With W. Deluca. <https://sites.google.com/site/hierarchicalmodelingcourse/>

- Monitoring Nearctic birds in the Neotropics. 2008. Field course taught to Latin American researchers in Colombia.

Referee Service

Animal Conservation, Annals of Applied Statistics, The Auk, Biometrics, Canadian Journal of Fisheries and Aquatic Sciences, Diversity and Distributions, Ecography, Ecological Applications, Ecology, Ecology Letters, Folia Zoologica, Freshwater Biology, Ibis, Journal of Applied Ecology, Journal of Mammology, Methods in Ecology and Evolution, Nature Communications, Ornothología Neotropical, PLoS One.

Professional Memberships

Ecological Society of America, American Ornithological Society (Elective Member), The Wildlife Society

Advising

Graduate students

- Samuel Merker, PhD candidate. Investigating the factors limiting species distributions at low latitude range margins.
- Lydia Stiffler, PhD candidate. Spatial population dynamics of white-tailed deer in the Florida panther range.
- Heather Gaya, PhD candidate. Individual-based, spatial models of trailing-edge population dynamics.
- Morgan Manning, MS candidate. Nesting ecology of loggerhead sea turtles in Northern Recovery Unit.

Postdoctoral researchers

- James Johnson. Monitoring white-tailed deer populations using camera traps.

Former graduate students

- Tori Mezebish. MS. Overwinter survival and migratory behavior of ring-necked ducks.
- James Johnson. PhD. Monitoring white-tailed deer populations using camera traps.
- Ryan Chitwood, MS (co-advised with Dr. Robert J. Cooper). Population dynamics of the black-throated blue warbler.
- Kristin Engebretsen, MS (co-advised with Dr. Karl Miller). White-tailed deer recruitment in the Florida panther range.
- Michael Biggerstaff, MS (co-advised with Dr. Karl Miller). Activity patterns of white-tailed deer in southern Georgia.

- Paige Howell, PhD. Spatial metapopulation models for informing conservation decisions.
- Joel Owen, MS. Nest site selection of red-and-green macaws.
- An Chee Hsiung, MS. Conservation in tropical agricultural landscapes.
- Daniel Crawford, MS (co-advised with Dr. Karl Miller). Resource selection of white-tailed deer in South Florida.
- Jared Green, MS. (Co-advised with Dr. Tracey Tuberville). Effectiveness of head-starting as a management tool for establishing a viable population of blanding's turtles.

Former postdoctoral researchers

- Florent Bled. Monitoring white-tailed deer and Florida panther population dynamics. Co-sponsored with Dr. Mike Conner, Dr. Robert Warren, and Dr. Karl Miller
- Greg Wann. Population dynamics of ruffed grouse near the southern extent of their range.
- Jared Laufenberg. Refinements in monitoring methods for the Louisiana Black Bear. Co-sponsored with Dr. Joseph Clark.
- Michael Cherry. Monitoring white-tailed deer and Florida panther population dynamics. Co-sponsored with Dr. Mike Conner, Dr. Robert Warren, and Dr. Karl Miller