

# Stephen Nicholas Matthews, PhD

## CURRICULUM VITAE

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### EDUCATION

2004-2008 Ph.D., Natural Resources, Ohio State University, Columbus, Ohio  
2000-2003 M.S., Wildlife Ecology, University of Maine, Orono, Maine  
1993-1997 B.S., Wildlife Biology, Frostburg State University Frostburg, Maryland

### PROFESSIONAL POSITIONS

*Associate Professor of Wildlife Landscape Ecology*, 2018-current, School of Environment and Natural Resources, Ohio State University

*Assistant Professor of Wildlife Landscape Ecology*, 2014-2018, School of Environment and Natural Resources, Ohio State University

*Research Assistant Professor*, 2011-2014, School of Environment and Natural Resources, Ohio State University & Northern Research Station, USDA Forest Service, Ohio.

*Post Doctoral Researcher*, 2008- 2010, Ohio State University & USDA Forest Service, Ohio. Develop a decision support tool to aid in planning and decisions with respect to potential impacts of climate change to the trees and birds of the eastern United States.

*Graduate Research/Teaching Assistant*, 2004-2008, School of Environment and Natural Resources, Ohio State University, Columbus, Ohio. Dissertation: "Stopover habitat utilization by migratory landbirds within human-modified landscapes of central Ohio"

*Ecologist*, 2004-2008, USDA Forest Service, Delaware, Ohio: Working under the student employment program and focused on modeling ecological responses to climate change.

*Graduate Teaching/Research Assistant*, 2000-2003, Department of Wildlife Ecology, University of Maine, Orono, Maine. Thesis: "Modeling bird occurrences in current and future landscapes"

### PUBLICATIONS

Journal peer-reviewed (\* represent graduate student advisee articles)

- Prasad, A., Peters, M., Matthews, S., & Iverson, L. 2023. Unpacking the ‘black box’: Improving ecological interpretation of regression-based models. *Diversity and Distributions* 29:926–945
- Skinner, A. A., Matthews, S. N., Ward, M. P., Souza-Cole, I., Wright, J. R., Thompson III, F. R., ... & Tonra, C. M. 2023. Eastern Whip-poor-wills have larger nonbreeding home ranges in areas with more agriculture and forest fragmentation. *Ornithological Applications*, 125, 1–15.
- Adams, B. T., and Matthews, S. N. 2022. Feature-dependent group structures and hierarchical songbird-habitat relationships in a managed forest landscape. *Ecological Indicators*, 136, 108717.
- Wright, J. R., Matthews, S. N., Pinchot, C. C., and Tonra, C. M. 2022. Preferences of avian seed-hoarders in advance of potential American chestnut reintroduction. *Forest Ecology and Management*, 511, 120133.
- Fotis, A., Flower, C. E., Atkins, J. W., Pinchot, C. C., Rodewald, A. D., and Matthews, S. 2022. The short-term and long-term effects of honeysuckle removal on canopy structure and implications for urban forest management. *Forest Ecology and Management*, 517, 120251.
- Peters, M. P., Matthews, S. N., Prasad, A. M., and Iverson, L. R. 2022. Defining landscape-level forest types: application of latent Dirichlet allocation to species distribution models. *Landscape Ecology*, 3.
- Skinner, A. A., Ward, M. P., Souza-Cole, I., Wright, J. R., Thompson III, F. R., Benson, T. J., Matthews, S. N., Tonra, C. M. 2022. High spatiotemporal overlap in the non-breeding season despite geographically dispersed breeding locations in the eastern whip-poor-will (*Antrostomus vociferus*). *Diversity and Distributions*. <https://doi.org/10.1111/ddi.13477>
- Rosenblatt, C. J.\*, Matthews, S. N., Gates, R. J., Peterman, W. E., and Shumar, M. B. 2022. Are Northern Bobwhites an Umbrella Species for Open-land Birds in Ohio? *Journal of Wildlife Management* <https://doi.org/10.1002/jwmg.22141>
- Adams, B. T., Matthews, S. N., Iverson, L. R., Prasad, A. M., Peters, M. P., and Zhao, K. 2021. Spring phenological variability promoted by topography and vegetation assembly processes in a temperate forest landscape. *Agricultural and Forest Meteorology*, 308, 108578.
- Rosenblatt, C. J.\*, Gates, R. J., Matthews, S. N., Peterman, W. E., and Stricker, N. J. 2021. An integrated population model to project viability of a northern bobwhite population in Ohio. *Ecosphere*, 12(9), e03731.
- Radcliffe, D. C.\* Hix, D.M., and Matthews, S.N. 2021. Predisposing factors’ effects on mortality of oak (*Quercus*) and hickory (*Carya*) species in mature forests undergoing mesophication in Appalachian Ohio. *Forest Ecosystems* 8,7
- Wright, J. R.\*, Powell, L. L., Matthews, S. N., and Tonra, C. M. 2020. Rusty Blackbirds select areas of greater habitat complexity during stopover. *Ornithological Applications*, 122(4), 2

- Radcliffe, D. C.\*, Matthews, S. N., and Hix, D. M. 2020. Beyond oak regeneration: modelling mesophytic sapling density drivers along edaphic, stand structural, and topographic gradients in mature oak-dominated forests of Appalachian Ohio. *Canadian Journal of Forest Research*, 50 (11), 1215-1227 .
- Prasad, A., Pedlar, J., Peters, M., McKenney, D., Iverson, L., Matthews, S., and Adams, B. 2020. Combining US and Canadian forest inventories to assess habitat suitability and migration potential of 25 tree species under climate change. *Diversity and Distributions*, 26(9), 1142-1159.
- Adams, B., Iverson, L., Matthews, S., Peters, M., Prasad, A., and Hix, D. 2020. Mapping Forest Composition with Landsat Time Series: An Evaluation of Seasonal Composites and Harmonic Regression. *Remote Sensing*, 12(4), 610.
- Iverson, L. R., Prasad, A. M., Peters, M. P., and Matthews, S. N. 2019. Facilitating Adaptive Forest Management under Climate Change: A Spatially Specific Synthesis of 125 Species for Habitat Changes and Assisted Migration over the Eastern United States. *Forests*, 10(11), 989.
- Tonra, C. M., Wright, J. R.\*, and Matthews, S. N. 2019. Remote estimation of overwintering home ranges in an elusive, migratory nocturnal bird. *Ecology and Evolution*, 9(22), 12586-12599.
- Adams, B. T.\*, and Matthews, S. N. 2019. Diverse temperate forest bird assemblages demonstrate closer correspondence to plant species composition than vegetation structure. *Ecography*, 42(10), 1752-1764.
- Peters, M. P., Iverson, L. R., Prasad, A. M., and Matthews, S. N. 2019. Utilizing the density of inventory samples to define a hybrid lattice for species distribution models: DISTRIB-II for 135 eastern US trees. *Ecology and Evolution*, 9(15), 8876-8899.
- Iverson, L. R., Peters, M. P., Prasad, A. M., and Matthews, S. N. 2019. Analysis of climate change impacts on tree species of the eastern US: Results of DISTRIB-II modeling. *Forests*, 10(4), 302.
- Adams B.T.\*, Matthews S.N., Peters M.P., Prasad A., and Iverson L.R. 2019. Mapping floristic gradients of forest composition using an ordination-regression approach with landsat OLI and terrain data in the Central Hardwoods region. *Forest Ecology and Management* 434:87-98
- Adams B.T.\*, and Matthews S.N. 2018. Enhancing Forest and Shrubland Mapping in a Managed Forest Landscape with Landsat–LiDAR Data Fusion. *Natural Areas Journal* 38(5):402-419
- Iverson L.R., Peters M.P., Bartig J.L., Rebbeck, J., Hutchinson, T.F., Matthews, S.N., and Stout, S. 2018. Spatial modeling and inventories for prioritizing investment into oak-hickory restoration. *Forest Ecology and Management* 424:355-366
- Malpass J.\*, Rodewald A., Matthews S., and Kearns L. 2018 Nest predators, but not nest survival, differ between adjacent urban habitats. *Urban Ecosystems*:1-14

- McCluskey E.M., Matthews S.N., Ligocki I.Y., Holding M.L., Lipps Jr G.J., and Hetherington T.E. 2018. The importance of historical land use in the maintenance of early successional habitat for a threatened rattlesnake. *Global Ecology and Conservation* 13
- Palus J.D., Goebel P.C., Hix D.M., and Matthews S.N. 2018. Structural and compositional shifts in forests undergoing mesophication in the Wayne National Forest, southeastern Ohio. *Forest Ecology and Management* 430:413-420
- Dossman, B.C.\*, Matthews, S.N. and Rodewald, P.G.. 2017. An experimental examination of the influence of energetic condition on the stopover behavior of a Nearctic–Neotropical migratory songbird, the American Redstart (*Setophaga ruticilla*). *The Auk* 135:91-100.
- Matthews, S.N., and Iverson, L.R. 2017. Managing for delicious ecosystem service under climate change: can United States sugar maple (*Acer saccharum*) syrup production be maintained in a warming climate? *International Journal of Biodiversity Science, Ecosystem Services & Management* 13:40-52.
- Iverson, L. R., Thompson, F.R., Matthews, S., Peters, M., Prasad, A., Dijak, W.D., Fraser, J., Wang, W.J., Hanberry, B. and He, H. 2017. Multi-model comparison on the effects of climate change on tree species in the eastern US: results from an enhanced niche model and process-based ecosystem and landscape models. *Landscape Ecology* 32:1327-1346.
- Malpass, J.S.\*, Rodewald, A.D., and Matthews, S.N. 2016. Species-dependent effects of bird feeders on nest predators and nest survival of two urban birds. *Condor*. 119: 1:16
- Karns, G., Gates, R., Matthews, S., Bruskotter, J., McCoy, J. Tonkovich, M. 2016. Factors influencing spatial heterogeneity of female white-tailed deer harvest dynamics. *Wildlife Society Bulletin* 40: 758-763
- Clark, J.S., Iverson, L., Woodall, C.W., Allen, C.D., Bell, D.M., Bragg, D.C., D’Amato, A.W., Davis, F.D., Herhsh, M.H., Ibanez, I., Jackson, S.T., Matthews, S., Pederson, N., Peters, M., Schwartz, M., Waring, K.M., and Zimmermann, N.E. 2016. The impacts of increasing drought on forest dynamics, structure, and biodiversity in the United States. *Global Change Biology* 22:2329-2352
- Dossman, B.\*, Mitchell, G.W.; Norris, R., Taylor, P.D., Guglielmo, C., Matthews, S.N., Rodewald, P.G. 2016. The effects of wind and fuel stores on stopover departure behavior across a migratory barrier. *Behavioral Ecology* 27:567-574
- Iverson, L.R., Knight, K., Prasad, A., Hearms, D., Matthews, S.N., Peters, M., Smith, A., Hartzler, D., Long, R. 2016. Potential species replacements for black ash (*Fraxinus nigra*) at the confluence of two threats: emerald ash borer and a changing climate. *Ecosystems* 19:248-270.
- Prasad, A. M., Iverson, L. R., Matthews, S. N., and Peters, M. P. 2016. A multistage decision support framework to guide tree species management under climate change via habitat suitability and colonization models, and a knowledge-based scoring system. *Landscape Ecology*, 31: 2187-2204.
- Peters, M.P., L.R. Iverson and S.N. Matthews. 2015. Long-term droughtiness and drought tolerance of eastern US forests over five decades. *Forest Ecology and Management* 345:56-64.

- McDermott, M. E.\*, Rodewald, A. D., and Matthews, S. N. 2015. Managing tropical agroforestry for conservation of flocking migratory birds. *Agroforestry Systems* 89: 383-396
- Malpass, J.S.\*, Rodewald, A.D., and Matthews, S.N. 2015. Woody cover does not promote activity of nest predators in residential yards. *Landscape and Urban Planning* 135:32-39.
- Coronado, Carlos J.\*, T. Eric McConnell and Stephen N. Matthews. 2015. Forestry and forest products in Ohio: 2011 Economic impacts with comparisons to 2001 values. *Wood and Fiber Science* 47(2):60-170.
- Matthews, S.N., Iverson, L.R., Peters, M.P., Prasad, A.M., and Subburayalu, S. 2014. Assessing and comparing risk to climate changes among forested locations: implications for ecosystem services. *Landscape Ecology* 29:213-228
- Janowiak, M.K., Swanston, C.W., Nagel, L.M., Brandt, L.A., Butler, P.R., Handler, S.D., Shannon, D.P, Iverson, L.R, Matthews, S.N., Prasad, A.M. and Peters, M.P. 2014. A practical approach for translating climate change adaptation principles into forest management actions. *Journal of Forestry* 112: 424-433
- Duval, R.P., McConnell, T.E., Hix, D.M., Matthews, S.N., and Williams, R.A. 2014. Ohio Hardwood Sawlog Price Trends. *Wood and Fiber Science* 46:85-96.
- Peters, M.P., Matthews, S.N., Iverson, L.R., Prasad, A.M. 2014. Delineating generalized species boundaries from species distribution data and a species distribution model. *International Journal of Geographical Information Science*. 28:1547-1560
- Coronado, C.J.\*, McConnell, T.E. and Matthews, S.N. 2014. Economic impacts of timber product outputs in Ohio across timber market regions. *Bioresources* 9:7579-7592.
- Prasad, A.M., Gardiner, J., Iverson, L.R., Matthews, S.; and Peters, M. 2013. Exploring tree species colonization potentials using a spatially explicit simulation model: implications for four oaks under climate change. *Global Change Biology* 19:2196-2208
- Peters, M.P., Iverson, L.R., Matthews, S.N., and Prasad, A.M. 2013. Wildfire hazard mapping: Exploring site conditions in eastern U.S. wildland-urban interfaces. *International Journal of Wildland Fire* 22:567-578.
- Yaussy, D.A., Iverson, L.R., Matthews, S.N. 2013. Competition and climate affects U.S. hardwood-forest tree mortality. *Forest Science* 59:416-430.
- Iverson, L.R., Matthews, S.N., Prasad, A.M., Peters, M., and Yohe, G. 2012. Development of risk matrices for evaluating climatic change responses of forested habitats. *Climatic Change* 114:231-243.
- Matthews, S.N., Iverson, L.R., Prasad, A.P., and Peters, M.P. 2011. Changes in potential habitat of 147 North American breeding bird species in response to redistribution of trees and climate following predicted climate change. *Ecography* 34: 933-945.
- Iverson, L.R., Prasad, A.M., Matthews, S.N., and Peters, M. 2011. Lessons learned while integrating habitat, dispersal, disturbance, and life-history traits into species habitat models under climate change. *Ecosystems* 14:1005-1020.

- Matthews, S.N., Iverson, L.R., Prasad, A.M., Peters, M.P., and Rodewald, P.G. 2011. Modifying climate change habitat models using tree species-specific assessments of model uncertainty and life history factors. *Forest Ecology and Management* 262:1460-1472.
- Matthews, S.N. and Rodewald, P.G. 2010. Movement behaviour of a forest songbird in an urbanized landscape: the relative importance of patch-level effects and body condition during migratory stopover. *Landscape Ecology* 25: 955-965.
- Hellmann, J.J., Nadelhoffer, K.J., Iverson, L.R., Matthews, S.N., Myers, P., Prasad, A.M., and Peters, M.P. 2010. Climate change impacts on terrestrial ecosystems in the Chicago region. *Journal of Great Lakes Research* 36:74-85.
- Prasad, A.M., Iverson, L.R., Peters, M.P., Matthews, S.N., Bossenbroek, J.M., Sydnor T.D., Schwartz, M. 2010 Modeling the invasive emerald ash borer risk of spread using a spatially explicit cellular model. *Landscape Ecology* 25:353-360.
- Matthews, S.N. and Rodewald, P.G. 2010. Urban forest patches and stopover duration of migratory Swainson's Thrushes. *Condor* 112:96-104.
- Prasad, A.P., Iverson L.R., Matthews, S.N., and Peters, M.P. 2009. Atlases of tree and bird species habitats for current and future climates. *Ecological Restoration* 27:260-263.
- Rodenhouse, N.L., Matthews, S.N., McFarland, K.P., Lambert, J.D., Iverson, L.R., Prasad, A.M., Sillett, T.S., and Homes, R.T. 2008. Potential effects of climate change on birds of the Northeast. *Mitigation and Adaptation Strategies for Global Change* 13:517-540.
- Iverson, L.R., Prasad, A.M. and Matthews, S.N. 2008. Potential changes in suitable habitat for 134 tree species in the northeastern USA. *Mitigation and Adaptation Strategies for Global Change* 13:487-516.
- Iverson, L.R., Prasad, A.M., Matthews, S.N., and Peters, M. 2008. Estimating potential habitat for 134 eastern US tree species under six climate scenarios. *Forest Ecology and Management* 254: 390-406.
- Schwartz, M.W., Iverson, L.R., Prasad, A.M., Matthews, S.N., and O'Connor, R.J. 2006. Predicting extinctions as a result of climate change. *Ecology* 87(7):1611-1615.
- Rodewald, P.G. and Matthews, S.N. 2005. Landbird use of riparian and upland forest stopover habitats in an urban landscape. *Condor* 107:261-270.
- Matthews, S.N., O'Connor, R.J., and Plantinga, A. 2002. Quantifying the impacts on biodiversity of policies for carbon sequestration in forests. *Ecological Economics* 40:71-87.

#### Additional publications

- Prasad, A., Pedlar, J., Peters, M., Matthews, S. Iverson, L., McKenney, D. Adams, B. 2023. An integrated framework for understanding climate change dynamics of tree species: implications for future forests. In Future Forests Adaptation to Climate Change. Ed. McNulty, S. Elsevier 2023 ISBN: 9780323904308
- Peters, M., Rooney, R. Matthews, S. Iverson, L., Prasad, A., Janowiak, M. 2023. Climate change atlas user's guide. U.S. Department of Agriculture, Forest Service, Northern Research Station. NRS-XXX

- Moser, W. K., Butler-Leopold, P., Hausman, C., Iverson, L., Ontl, T., Brand, L., Matthews, S., Peters, M. Prasad, A. 2020. The impact of climate change on forest systems in the northern United States: Projections and implications for forest management [Chapter 8]. In: Stanturf, John A., ed. Achieving sustainable management of boreal and temperate forests. Cambridge, UK: Burleigh and Dodds Science Publishing. p 239-290., 239-290.
- Iverson, Louis R.; Bartig, Jarel L.; Nowacki, Gregory J.; Peters, Matthew P.; Dyer, James M.; Hutchinson, Todd F.; Matthews, Stephen N.; Adams, Bryce T. 2019. USDA Forest Service section, subsection, and landtype descriptions for southeastern Ohio. Research Map NRS-10. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 68 p.
- Butler-Leopold, PR.; Iverson, L R.; Thompson, FR.; Brandt, LA.; Handler, SD.; Janowiak, M K.; Shannon, P. D; Swanston, CW.; Bearer, S; Bryan, AM.; Clark, KL.; Czarnecki, G; DeSenze, P; Dijak, WD.; Fraser, JS.; Gugger, PF.; Hille, A; Hynicka, J; Jantz, CA.; Kelly, MC.; Krause, KM.; La Puma, Ir; Landau, D; Lathrop, R G.; Leites, LP.; Madlinger, E; Matthews, SN.; et. al. 2018. Mid-Atlantic forest ecosystem vulnerability assessment and synthesis: a report from the Mid-Atlantic Climate Change Response Framework project. Gen. Tech. Rep. NRS-181. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 294 p.
- Janowiak, M.K.; D'Amato, A.W.; Swanston, C.W.; Iverson, L.; Thompson, F.R.; Dijak, W.D.; Matthews, S.; et al.. 2018. New England and northern New York forest ecosystem vulnerability assessment and synthesis: a report from the New England Climate Change Response Framework project. Gen. Tech. Rep. NRS-173. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 234 p.
- Matthews, S.N., Iverson, L.R., Peters, M.P. Prasad, A.P. 2018 Assessing potential climate change pressures across the conterminous United States: mapping plant hardiness zones, heat zones, growing degree days, and cumulative drought severity throughout this century. RMAP-NRS-9. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 31 p.
- Brandt, L.A.; Derby L., Abigail; S., Lydia; D.; Fahey, R.T.; Iverson, L.; Nowak, D.J.; Bodine, A.R.; Bell, A.; Still, S.; Butler, P.R.; Dierich, A.; Handler, S.D.; Janowiak, M.K.; Matthews, S.N.; Miesbauer, J.W.; Peters, M.; Prasad, A.; Shannon, P. D.; Stotz, D.; Swanston, C.W. 2017. Chicago Wilderness region urban forest vulnerability assessment and synthesis: a report from the Urban Forestry Climate Change Response Framework Chicago Wilderness pilot project. Gen. Tech. Rep. NRS-168. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 142 p.
- Clark, J.S., L. Iverson, C. W. Woodall, C. D. Allen, D. M. Bell, D. Bragg, A. D'Amato, F. W. Davis, M. Hersh, I. Ibanez, S. T. Jackson, S. Matthews, N. Pederson, M. Peters, M. W. Schwartz, K. Waring, and N. E. Zimmermann. 2016. The impacts of increasing drought on forest dynamics, structure, diversity, and management. In J. Vose, C. Luce, and J.S. Clark (eds). Effects of drought on forests and rangelands in the United States: a comprehensive science synthesis. Gen. Tech. Rep. WO-93b. Washington, DC: U.S. Department of Agriculture, Forest Service, Washington Office. 289 p.

- Nelson, M.D.; Barnett, C.J.; Brewer, M.; Butler, B.J.; Crocker, S.J.; Domke, G.M.; Gormanson, D.D.; Kurtz, C.M.; Lister, T.W.; Matthews, S.; McWilliams, W.H.; Meneguzzo, D.M.; Miles, P.D.; Morin, R.S.; Piva, R.J.; Riemann, R.; Smith, J.E.; Walters, B.F.; Westfall, J.; Woodall, C.W. 2016. Iowa Forests, 2013. Resour. Bull. NRS-102. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 124 p.
- Morelli, T.L., Deluca, W., Ellison C., Jane, S., Matthews, S. Morelli, T.L., Deluca, W., Ellison C., Jane, S., Matthews, S. 2015. Biological Responses to climate impacts with a focus on northeast and Midwest regional species of greatest conservation need. In Staudinger, M. D., Morelli, T.L., and Bryan, A.M. (eds). Integrating Climate Change into Northeast and Midwest State Wildlife Action Plans. DOI Northeast Climate Science Center Report, Amherst, Massachusetts.
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- Peters, M.P., Iverson, L.R., Matthews, S.N. 2014. Spatio-temporal trends of drought by forest type in the conterminous United States, 1960-2013. Res. Map NRS-7. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station.
- Butler, Patricia R.; Iverson, L.; Thompson, F.; Brandt, L.; Handler, S.; Janowiak, M.; Shannon, P.D.; Swanston, C.; Karriker, K.; Bartig, J.; Connolly, S.; Dijak, W.; Bearer, S.; Blatt, S.; Brandon, A.; Byers, E.; Coon, C.; Culbreth, T.; Daly, J.; Dorsey, W.; Ede, D.; Euler, C.; Gillies, N.; Hix, D.; Johnson, C.; Lyte, L.; Matthews, S.; McCarthy, D.; Minney, D.; Murphy, D.; O'Dea, C.; Orwan, R.; Peters, M.; Prasad, A.; Randall, C.; Reed, J.; Sandeno, C.; Schuler, T.; Sneddon, L.; Stanley, B.; Steele, A.; Stout, S.; Swaty, R.; Teets, J.; Tomon, T.; Vanderhorst, J.; Whatley, J.; Zegre, N.. 2015. Central Appalachians forest ecosystem vulnerability assessment and synthesis: a report from the Central Appalachians Climate Change Response Framework project. Gen. Tech. Rep. NRS-146. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 310 p.
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- Ojima, D.S., Iverson, L.R., Sohngen, B.L., Vose, J.M., Woodall, C.W., Domke, G.M., David L. Peterson D.L., Littell, J.S., Matthews, S.N., Prasad, A.M., Peters, M.P., Yohe, G.W., Friggens, M.M. Risk Assessment. In: Peterson, D.L.; Vose, J.M.; Patel-Weynand, T., eds. Climate change and United States forests. The Netherlands: Springer:223-244.
- Peters, M.P., L.R. Iverson, A.M. Prasad, and S.N. Matthews. 2013. Integrating Fine-scale Soil Data into Species Distribution Models: Preparing Soil Survey Geographic (SSURGO) Data from Multiple Counties. Gen. Tech. Rep.-122. USDA Forest Service, Northern Research Station, 70pp.
- Iverson, L., M. Peters, S. Matthews, and A. Prasad. 2013. An overview of some concepts, potentials, issues, and realities of assisted migration for climate change adaptation in forests Pages 25-34 Proceedings of the 60th Annual Western International Forest Disease Work Conference, Lake Tahoe, CA.
- Fisichelli, N.A., M. Peters, L. Iverson, S. Matthews, and C. Hawkins Hoffman. 2013. Climate change and forests of the Acadia National Park region: projected changes in habitat suitability for 83 tree species. National Park Service, Fort Collins, Colorado
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- Matthews, S.N. 2008. A new perspective of corridor design and implementation. Book review: Applying Nature's Design by Anderson and Jenkins. *Landscape Ecology* 23:497-498.
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- Matthews, S.N., O'Connor, R.J., Iverson, L.R., and Prasad, A.M. 2004. Atlas of current and climate change distributions of common birds of the eastern United States. General Technical Report Northeastern Research Station, USDA Forest Service, 340pp.

Web atlas publications (2014-2023 ~250,000 users per year)

- Matthews, S.N., Iverson, L.R., Prasad, A.M., and Peters, M. updated 2019-ongoing. A Climate Change Atlas for 147 Bird Species of the Eastern United States [database]. <http://www.nrs.fs.fed.us/atlas/bird>, Northern Research Station, USDA Forest Service, Delaware, Ohio.
- Prasad, A.M., Iverson, L.R., Matthews, S.N., and Peters, M. updated 2019-ongoing. A Climate Change Atlas for 134 Forest Tree Species of the Eastern United States [database]. <http://www.nrs.fs.fed.us/atlas/tree>, Northern Research Station, USDA Forest Service, Delaware, Ohio.

Publications for the general public (contributions)

- Williams, K. A., M. B. Shumar, L. J. Kearns, B. T. Shirkey, J. N. Mager, J. M. Lautenbach, M. A. Al-Saffar, A. M. Froehlich, R. J. Gates, D. G. Kovar, M. Kravitz, S. N. Matthews, C. K. Randall, N. A. Schell, M. Shieldcastle, and M. J. Wiley. 2023. The Second All-bird Conservation Plan. Ohio Bird Conservation Initiative, Columbus, OH. <https://obcinet.org/resources/all-bird-conservation-plan/>
- Kearns, L. J., M. B. Shumar, M. A. Titchenell, A. M. Duren, J. L. Thieme, E. B. Cashion, S. N. Matthews, J. Mueller, C. M. Tonra, and M. C. Shieldcastle. 2019. Managing small forest patches for birds: a guide for Ohio landowners. Ohio Bird Conservation Initiative, Columbus, OH.
- Union of Concerned Scientists. 2009. Climate Change in Pennsylvania: Impacts and Solutions for the Keystone State. Union of Concerned Scientists, Cambridge, MA

- Hellmann, J., Nadelhoffer, K., Iverson, L., Matthews, S., Peters, M., Prasad, A., and Ziska, L. 2008. Ecosystems. In Hayhoe, K., and Wuebbles, D. Climate Change and Chicago: Projections and Potential Impacts. Chicago Climate Action Plan. Chicago, Illinois.
- Ollinger, S., Goodale, C., Iverson, L., Rodenhouse, N., Lambert, D., Matthews, S., McFarland, K., Paradis, A. Elkinton, J., and Kraft, Cl. 2007. Impacts on forests. In: Frumhoff, P.C.; McCarthy, J.J.; Melillo, J.M.; Moser, S.C.; Wuebbles, D.J. Confronting climate change in the U.S. northeast: science, impacts, and solutions. Synthesis report of the Northeast Climate Impacts Assessment (NECIA). Cambridge, Massachusetts. Union of Concerned Scientists (UCS).

## **PRESENTATIONS**

- Matthews, S.N., Wrights, J.R., Pinchot, C., Tonra, C.M., 2023. Preference and dispersal of Oak and Chestnut seed by Blue Jays across a forested landscape. International Association for Landscape Ecology - North America. Riverside, CA
- Matthews, S.N., Peters, M., Prasad, A., Iverson, L., Gougherty, A. 2023. Climate Change Tree Atlas: A tool to explore potential responses of Ohio's forests. Ohio Forest Health Annual Meeting, Jackson, OH
- Matthews, S.N. Peters, M., Prasad, A., Iverson, L., Gougherty, A. 2023 Climate Change Tree Atlas and Plant Hardiness Zones. Adaptation Planning and Practices for Forest and Ecosystem Management By Northern Institute of Applied Climate Sciences. Webinar
- Matthews, S.N., Peters, M.P. 2023. Modeling Tree and Bird Habitat Suitability Under Current and Future Conditions South Central Climate Adaptation Science Center Webinar
- Matthews, S.N. 2022 Climate Change Tree Atlas: A tool to explore potential responses of Kentucky's forests. Adaptation Planning and Practices for Kentucky Forest Webinar
- Matthews, S.N. 2022. Ohio Oak Adaptive Silviculture for Climate Change (ASCC): Climate Change Considerations ASCC workshop Athens Ohio
- Matthews, S.N. 2022. Climate Change Tree Atlas: A tool to explore potential responses of Central Virginia's forests. Charlottesville Areas Tree Stewards. Virtual
- Matthews, S.N., Janowiak, M. 2021. Climate Change, Adaptation and Impacts on Forest Bird Recovery. The U.S. Fish and Wildlife Service's Forest Ecology Working Group, National Conservation Training Center, and Migratory Bird Program
- Matthews, S.N., Adams, B., Peters, M., Prasad, A., Iverson, L. 2022. How Might urban trees fare: contrasts and similarities among 170 eastern US urban areas International Association for Landscape Ecology - North America. Riverside, CA. Due to COVID-19, this conference occurred virtually
- Matthews, S.N., Janowiak, M. 2021. Climate Change, Adaptation and Impacts on Forest Bird Recovery. The U.S. Fish and Wildlife Service's Forest Ecology Working Group, National Conservation Training Center, and Migratory Bird Program

- Matthews, S.N., Radcliffe, D., Adams, B., Hix, D., Peters, M., Prasad, A., Iverson, L. 2021. Cataloging recent change in Ohio's Oak dominated forests to make sense of climate change projections in habitat. International Association for Landscape Ecology - North America. Reno, Nevada. Due to COVID-19, this conference occurred virtually
- Matthews, S.N. 2021. Climate Change Tree Atlas: new data and new opportunities in version 4. The Northern Research Station's Rooted in Research webinar series
- Matthews, S.N, Tonra, C., Wright, J., Skinner, A. 2020. Remote Estimation of Overwintering Home Ranges in the Neotropics of an Elusive, Migratory Nocturnal Bird. International Association for Landscape Ecology - North America. Toronto, ON. Due to COVID-19, this conference occurred virtually
- Matthews, S.N. 2020. The Impacts of Climate Change on Forests and Wildlife. Ohio Woodland Stewards Webinar. <https://woodlandstewards.osu.edu/resources/webinars>
- Matthews, S.N., Peters, M., Prasad, A., Iverson, L. 2020 Workshop: Woods Work: Climate Change Tree Atlas. Sustainable Forests Education Cooperative University of Minnesota Webinar <https://sfec.cfans.umn.edu/woods-work-tree-atlas>
- Mathews, S.N. and Lautzenheiser, T. 2020. Forest Adaptation Webinar Series: Forest Birds. <https://forestadaptation.org/learn/forest-adaptation-webinar-series>
- Matthews, S.N. and Brandt, L 2019. Urban Forestry Tools for Climate Mitigation and Health. Partners in Community Forestry Conference. Cleveland, OH
- Matthews, S.N. Changing forest distributions under climate change. Alleghany Society of American Foresters, Morgantown, WV
- Matthews, S.N. and Iverson, S.N. 2019. Climate Change: What is happening and what can we do Ohio Christmas Tree Association, OH
- Matthews, S.N., Shumar, M., Rodewald, P. 2018. Quantifying Land Use and Climate Pressures on Avian Distribution By Looking Back to Understand the Magnitude of Future Projections. The Wildlife Society Annual Meeting. Cleveland, OH.
- Matthews, S.N. 2018. Climate change impacts on trees and wildlife. Trees on Tap Ohio Woodland Stewards. Mansfield, OH.
- Matthews, S.N. 2018. Elephant in the Room: Climate Change Impacts to Forests. Southern Syrup Research Symposium. Summersville, WV
- Matthews, S.N. 2018. Linking trees and birds to understand habitat dynamics of songbird in a changing landscape. Department of Biological Sciences Seminar Series, Ohio University
- Matthews, S.N, Hix, D.M., Palus, J.D., Andrew, E.E., Goebel, P.C., and Radcliffe, D. 2018. Quantifying Change in Hardwood Forests across the Ecological Land Types of the Wayne National Forest. Central Hardwoods Conference. Bloomington, IN.
- Matthews, S.N. 2018. Climate change impacts on Forests and wildlife. Ohio Woodland, Water & Wildlife Conference. Mansfield, OH.
- Matthews, SN, Tonra, C., Wright, J., Adams, B., Shumar, M. 2018. All-Bird Conservation of Forest Habitats both day and night. Ohio Bird Banding Meeting, Cleveland Museum of Natural History, OH.

- Matthews, S.N., Shumar, M., Iverson, L.R., Prasad, A.M., Peters, M. 2017. Quantifying change in avian distribution by looking back to understand the magnitude of future projections." Presented at US-International Association for Landscape Ecology Annual Meeting. Baltimore, MD (Symposium presentation)
- Matthews, S.N, Hix, D.M, Palus, J.D., Andrew, E.E., Goebel, P.C., and Radcliffe, D. 2017. Assessing change in hardwood forests of the Wayne National Forest, southeastern Ohio. Sustaining Oak Symposium, Knoxville TN
- Matthews, SN, Tonra, C., Wright, J., Adams, B., Shumar, M. 2017. All-Bird Conservation of Forest Habitats: What We Are Missing If We Don't Consider the Night . Ohio Biodiversity Conservation Partnership Research Review. Columbus OH
- Matthews, S.N.2017. Ohio's Forests – Planning for Threats: Climate Change, Invasives, and More. Presented at Environmental Professional Network Monthly Breakfast Event. Columbus, OH
- Matthews, SN, Shumar, M, Rodewald, P, 2017. Landscape and Climate Signals Reflect Changes in Ohio Breeding Bird Distributions. Ohio Fish and Wildlife Management Association. Columbus, OH
- Matthews, S.N., Iverson, L.R., Prasad, A.M., and Peters, M. 2016 Considering forest species vulnerability to climate change requires integration of current conditions and projection. US-International Association for Landscape Ecology, Ashville, NC (Symposium presentation)
- Matthews, S.N. 2016. Songbird conservation on the landscape scale: considering local, regional drives of change in Ohio's forests. USDA Forest Service Washington Ohio. (Invited presentation)
- Matthews, S.N. 2016. Potential effects of future climate change on the oak resource. Southwest Michigan Oak Restoration Workshop. MI (Invited presentation)
- Matthews, S.N. 2016. Linking trees and birds to understand climate change impacts. Taking Flight: Birding in the Catskills. NY (Invited plenary presentation)
- Matthews, S.N. 2016. Wildlife and Oak Forests. SILVAH: Oak Ecology and Silviculture Workshop. OH
- Matthews, S.N. and Malpass, J.S. 2016. Urban Backyard bird project. Bird Conservation in Ohio and the Role of Citizen Science. Ohio's Certified Volunteer Naturalists
- Matthews, S.N. 2015. Potential climate change impacts in eastern forests: insights gained by jointly evaluating tree and wildlife responses. Department of Forestry Seminar Series, University of Kentucky
- Matthews, S.N. 2015. Climate Change Tree Atlas Results on the Species Vulnerability Assessment for the Northeast. University of Vermont.
- Matthews, S.N., Iverson, L.R., Peters, M.P., Prasad, A.M. 2015. Biodiversity of oak forest in the eastern United States: regional and local importance for wildlife IALE World Congress, Portland, OR. April, 2015

- Matthews, S.N. 2015. Wildlife in oak forests: regional and local importance for management and conservation. Ohio Biodiversity Conservation Partnership Annual Review.
- Matthews, S.N., Iverson, L.R., Peters, M.P., Prasad, A.M. 2015. Linking trees and birds to understand climate change impacts and assist in habitat management adaptation New England SAF 95th Winter Meeting Fairlee, VT 05045
- Matthews, S.N. and Iverson, L.R. 2014. Potential Changes in Tree Species Habitats in the Coming Nine Decades. Managing Urban Forests in a Changing Climate 2014 Urban Tree Conference. The Morton Arboretum, Lisle, Illinois
- Matthews S.N., Iverson, L.R., Prasad, A.M., and Peters, M.P. 2014. Floristic composition and avian distributions: addressing global change impacts. US- International Association for Landscape Ecology 29th Annual meeting. Anchorage Alaska
- Matthews, S.N. 2014. Potential ecological responses to climate change: linking birds and forest inventory data. Inventorying Alaska's Forests: An Opportunity for Integrating Interagency Needs with the FIA. Anchorage AK
- Matthews, S.N. 2014 Pests and Invasives, Fragmentation, Changing Markets - Do Ohio's Forests. Need Foresters or Magicians? Panel Presenter. Environmental Professional Network Monthly Breakfast Event. Columbus Ohio.
- Matthews S.N., Iverson, L.R., Prasad, A.M., and Peters, M.P. 2013. Potential climate change response of oaks across the Eastern United States. Society of American Foresters National Convention, Charleston, South Carolina (*Invited*)
- Matthews, S.N., Iverson, L.R., Peters, M.P., Prasad, A.M., and Subburayalu, S. 2013. Incorporating range position and temporal stability of projected changes in tree species habitats to assess regional climate change vulnerability. Ecological Society of America 98th Annual meeting. Minneapolis, Minnesota (*Invited*)
- Matthews S.N., Iverson, L.R., Prasad, A.M., Peters, M.P., and Subburayalu, S. 2013. Can Rapid Screening and Comparing Risks of Climate Change Vulnerabilities to Forests Provide Insights for Ecosystem Services? US- International Association for Landscape Ecology 28th Annual meeting. Austin, Texas.
- Matthews S.N., Iverson L., Prasad A.M., Peters M., and Rodenhouse, N. 2012. Integrating pattern and process across spatial scales to assess the potential effects of climate change on forest birds. 5th North American Ornithological Conference Vancouver, British Columbia, Canada (*Invited*)
- Matthews S.N., Iverson L., Prasad A.M., Peters M., and Subburayalu S. 2012. It takes more than a map: using species distribution models to inform conservation in response to climate change requires understanding determinates of species patterns. 4<sup>th</sup> International Ecosummit, Columbus Ohio.
- Matthews S.N., Iverson L., Prasad A.M., and Peters M. 2012. Potential Effects of Climate Change. Ohio-Society of American Foresters Winter Meeting. (*Invited*)
- Matthews S.N., Iverson L., Prasad A.M., and Peters M. 2012. The role species distribution models can play to inform habitat conservation in response to climate change. Environmental Science Graduate Program Seminar Series. (*Invited*)

- Matthews S.N., Iverson L., Prasad A.M., and Peters M. 2012. Potential Impacts of Climate Change on Wildlife. Ohio Woodland Water & Wildlife Conference (*Invited*)
- Matthews S.N., Iverson, L.R., Prasad, A.M., and Peters, M.P. 2012. Regional Impacts of Climate Change on Forests and bird communities. OSU climate change webinar series. (*Invited*)
- Matthews S.N., Iverson, L.R., Prasad, A.M., Peters, M.P., Neilson R. and Drapek, R. 2011. Comparing plant functional type and individual species distribution models under climate change: results for eastern US trees. US- International Association for Landscape Ecology 26th Annual Symposium, Portland, Oregon.
- Matthews, S., L. R. Iverson, A M. Prasad, and M.P. Peters. 2011. Long-term impacts associated with climate variability. Bottomland Ecosystem Restoration: Bridging Science and Management 2011 Conference. Collinsville, Illinois (*Invited*)
- Matthews S.N., Iverson, L.R., Prasad, A.M., and Peters, M.P. 2010. Extending species models with a management focus in northern Wisconsin. Ecological Society of America 95<sup>th</sup> Annual Meeting, Pittsburgh, Pennsylvania. (*Invited*)
- Matthews, S.N., Iverson, L.R., Prasad, A.M., and Peters, M.P. 2010. Potential Change to tree species habitats in the eastern U.S. due to climate change: DISTRIB and SHIFT models. FVS-climate Workshop, Milwaukee, Wisconsin. September 2010. (*Invited*)
- Matthews S.N., Iverson, L.R., Prasad, A.M., and Peters, M.P. 2010. Climate change in eastern forests: assessing potential species distributions using a multi-stage modeling approach. Army Corps of Engineering Workshop, Vicksburg, Mississippi. August 2010. (*Invited*)
- Matthews S.N., Iverson, L.R., Prasad, A.M., and Peters, M.P. 2010. Climate change and modeling forest responses. Meeting at the Hubbard Brook Experimental Forest, Hubbard Brook, New Hampshire. July 2010. (*Invited*)
- Matthews, S.N., Iverson, L.R., Prasad, A.M., and Peters, M. 2010. Translating potential habitat changes in tree species to climate change based on model dissection and species characteristic responses to disturbance and biological factors. US- International Association for Landscape Ecology 25<sup>th</sup> Annual Symposium, Athens, Georgia.
- Matthews, S.N. 2009. Climate change in eastern forests: using climate models and species attributes to quantify potential changes. Biological Sciences Seminar Series, Wright State University. Dayton, Ohio. (*Invited*)
- Matthews, S.N., Iverson, L.R., Prasad, A.M., and Peters, M. 2009. Taking the next step with abundance based distribution models to assess climate change. Ecological Society of America 94<sup>th</sup> Annual Meeting. Albuquerque, New Mexico.
- Matthews, S.N., Iverson, L.R., Prasad, A.M., and Peters, M. 2009. Potential responses of eastern bird habitats to climate change. Allegheny Plateau Climate Change Workshop, May 12-13, 2009. Warren, Pennsylvania. (*Invited*)
- Matthews, S.N., Iverson, L.R., Prasad, A.M., and Peters, M. 2009. Potential impacts of climate change on bird and tree habitats within the Appalachian mountains. Ecology and Management of High-Elevation Forests of the Central and Southern Appalachian Mountains. Slatyfork, West Virginia. (*Invited*)

- Matthews, S.N. and Rodewald, P.G. 2008. Stopover habitat use of migratory landbirds within urban forest patches in central Ohio. 69th Midwest Fish & Wildlife Conference. Columbus, Ohio.
- Matthews, S., Iverson, L., Prasad, A., and Peters, M. 2008. Modeling potential impacts of climate change on bird habitats in the eastern United States. Natural Areas Association 35<sup>th</sup> Annual Meeting. Nashville, Tennessee. *(Invited)*
- Matthews, S., Iverson, L., Prasad, A., and Peters, M. 2008. What the trees have to say: modeling the potential response of birds to climate change in the eastern United States. 23rd annual US-International Association for Landscape Ecology, Madison, Wisconsin.
- Matthews, S.N. 2008. A trip through the city: migratory stopover of forest birds in an urban environment. School of Environment and Natural Resources, Ohio State University, Columbus, Ohio.
- Matthews, S.N., Iverson, L., Peters, M., Prasad, A., and Stout, S. 2008 Climate impacts in Pennsylvania: research collaborator and advisory meeting, Union of Concerned Scientists, State College, Pennsylvania. *(Invited)*
- Matthews, S.N. 2008. Stopover habitat utilization by migratory landbirds within urbanizing landscapes of central Ohio. USDA Forest Service, Delaware, Ohio. *(Invited)*
- Matthews, S.N. and Rodewald, P.R. 2007. Landbird stopover migrants in urban forest systems: stopover duration and activity of Swainson's Thrushes. The Wildlife Society 14<sup>th</sup> Annual Meeting, Tucson, Arizona.
- Matthews, S.N. and Rodewald, P.R. 2006. Migratory stopover duration and movement of Swainson's Thrushes in an urban landscape. IV North American Ornithological Conference, Veracruz, Mexico.
- Matthews, S.N. and Rodewald, P.R. 2006. Suitability of forest habitats for migrating landbirds along an urban to rural landscape gradient. Terrestrial Wildlife Ecology Laboratory Research Forum. Columbus, Ohio.
- Matthews, S.N. 2001. Carbon sequestration and afforestation; biodiversity consequences. Society of American Foresters Northeast conference, Portland, Maine. (Poster)
- Matthews, S.N. 2001. Linking wildlife and econometric modeling of afforestation for carbon sequestration. Wildlife Graduate Conference, Durham, New Hampshire.

Selection of co-authored presentation (\* represent graduate student advisees)

- Peterman, W. E., S. N. Matthews, J. Dong, and M. B. Shumar. 2023. Spatial scale of forest effects on breeding bird occurrence. The Wildlife Society 30th Annual Conference. 6 November, 2023. Louisville, KY, USA.
- Korpi, Z.,\* S. N. Matthews, R. Jacob, M. E. McDermott, D. Russell, M. Shieldcastle, M. B. Shumar, and C. M. Tonra. 2023. Lake-crossing behavior of migratory songbirds: assessing potential collision risk with offshore wind on Lake Erie. Ohio Avian Research Conference. 14, October, 2023. Columbus, OH, USA.



- Korpi, Z.,\* S. N. Matthews, R. Jacob, M. E. McDermott, D. Russell, M. Shieldcastle, M. B. Shumar, and C. M. Tonra. 2023. Lake-crossing behavior of migratory songbirds: assessing potential collision risk with offshore wind on Lake Erie. Joint meeting of the American Ornithological Society and the Society of Canadian Ornithologists. 10 August, 2023. London, ON, Canada.
- Kearns, L. J., J. Cepek, H. Farrington, Z. Korpi, M. Kreger, T. J. Krynak, S. N. Matthews, M. Shieldcastle, M. B. Shumar, C. M. Tonra, K. A. Williams, and J. R. Wright. 2023. Motus expansion for tracking migratory wildlife in Ohio. Ohio Wildlife Management Conference. 20 January, 2023. Columbus, OH, USA.
- Dong, J.,\* S. N. Matthews, W. E. Peterman, M. B. Shumar, and P. G. Rodewald. 2024. The Ohio Breeding Bird Atlas reveals shifts of community Diversity. Ohio Wildlife Management Conference. 19 January, 2024. Columbus, OH, USA.
- Engstrom, C.,\* S. N. Matthews, C. M. Tonra, L. J. Kearns, B. T. Adams, M. B. Shumar, and M. E. McDermott. 2024. Investigating the response of the forest songbird community to climate-adaption management in Ohio. Ohio Wildlife Management Conference. 19 January, 2024. Columbus, OH, USA.
- Doerger, A.,\* S. N. Matthews, M. B. Shumar, M. E. McDermott, C. M. Tonra, L. J. Kearns, and B. T. Adams. 2023. Identifying the factors behind abundance of a vulnerable warbler species. Ohio Avian Research Conference. 14, October, 2023. Columbus, OH, USA.
- Dong, J.\* , S. N. Matthews, W. E. Peterman, M. B. Shumar, and P. G. Rodewald. 2023. Functional traits in birds: can they modulate the effects of climate change and forest cover changes at the local scale? The Wildlife Society 30th Annual Conference. 7 November, 2023. Louisville, KY, USA.
- Koontz, R.\* , Matthews, S., Mercer, K. Pinchot, L. 2023. Evaluating phenological variation of DED-tolerant American elm selections to inform landscape-level restoration opportunities. Annual conference of the International Association of Landscape Ecology-North America. 20 March, 2023. Riverside, CA, USA
- Dong, J.\* , S. N. Matthews, W. E. Peterman, M. B. Shumar, and P. G. Rodewald. 2023. Do functional traits mediate the effects of climate change and land-cover-land-use on bird occurrence across Ohio, USA? Annual conference of the International Association of Landscape Ecology-North America. 20 March, 2023. Riverside, CA, USA.
- Doerger, A., L. J. Kearns, S. N. Matthews, M. B. Shumar, M. E. McDermott, and C. M. Tonra. 2023. Understanding the factors behind Cerulean Warbler (*Setophaga cerulea*) abundance in an Appalachian hardwood forest ecosystem. Ohio Wildlife Management Conference. 20 January, 2023. Columbus, OH, USA.
- Adams, B.T.\* , Matthews, S., Peters, M., Prasad, A., and Iverson, L. 2019 Mapping continuous forest gradients with harmonic regression of Landsat time series across southeastern Ohio. Annual Conference of the NA Regional Association of the International Association for Landscape Ecology. Fort Collins, CO. (Invited)
- Shumar, M. and Matthews, S. 2019 A comparison of traditional and autonomous methods for detection and monitoring of nightjars. Association of Field Ornithologist/ Wilson Ornithological Joint Meeting, Cape May, NJ

- Rosenblatt, C.\*, Matthews, S., Gates, R. 2019. Modeling population dynamics of Northern Bobwhite (*Colinus virginianus*) in response to future changes in winter weather Association of Field Ornithologist / Wilson Ornithological Joint Meeting, Cape May, NJ
- Skinner, A., Wright, J.\*, Matthews, S., Tonra, C. 2019. Using GPStracking to fill knowledge gaps in the full annual cycle of an elusive aerial insectivore in steep decline Association of Field Ornithologist / Wilson Ornithological Joint Meeting, Cape May, NJ
- Rosenblatt, C.\*, Gates, R., Matthews, S. 2019. Modeling Population Dynamics of the Northern Bobwhite (*Colinus virginianus*) in Ohio American Ornithological Society, Anchorage AK
- Milbern, L\*. and Matthews, S. 2019. Breeding Songbird Habitat Utilization in Urban Riparian Forests. American Ornithological Society, Anchorage AK
- Radcliffe, D.\*, Hix, D., Matthews, S. 2019. Oak and Hickory Mortality Patterns in Mature Low-Disturbance Forests of Appalachian Ohio. Society of American Foresters National Convention Louisville KY.
- Radcliffe, D.\*, Hix, D., Matthews, S. 2019. Effects of Topography and Soil on Mesophytic Sapling Dynamics in Mature Oak-Hardwood Forests of Southeast Ohio. Society of American Foresters National Convention.
- Adams, B. T.\*, Matthews, S., Peters, M., and Iverson, L.. 2018. Mapping floristic gradients of forest composition using ordination and Landsat OLI imagery in southern Ohio's Central Hardwoods. Poster presentation at Annual Conference U.S. Regional Association of the International Association for Landscape Ecology (US-IALE). Chicago, IL
- Adams, B. T.\*, and Matthews, S.N. 2018. Forest assemblages predict avian assemblages better than vegetation structure in southern Ohio's Central Hardwoods. Poster presentation at Annual Conference U.S. Regional Association of the International Association for Landscape Ecology (US-IALE). Chicago, IL
- Radcliffe, D.\*, Hix, D.M., and Matthews, S.N. 2018. Successional dynamics of oaks and maples in mature second-growth forests, varying by slope aspect in Ohio. Oral presentation at the Society of American Foresters National Convention. Portland, OR.
- Radcliffe, D.\*, Matthews, S.N., and Hix, D.M. 2018. Implications of changing oak and maple dynamics for understanding stability of wildlife habitats in southeast Ohio. (Oral presentation at the Wildlife Society Conference. Cleveland, OH.
- Graziano, M.P.\*, Peterman, W., Matthews, S. 2018. Forest communities and amphibians: linking trees to colonization. Oral presentation at the Wildlife Society Conference. Cleveland, OH.
- Wittum, R.\*; Graziano, M.; Matthews, S. 2018. Eat Or Be Eaten: the Importance of Aquatic Invertebrates as Predators and Food Sources of Pool-Breeding Amphibians. Poster presentation at the Wildlife Society Conference. Oct. 11, 2018. Cleveland, OH.
- Adams\*, B., Matthews, S.N., Presenter. 2017. Predicting and describing the spatial differentiation in community composition of forest birds in a managed forested landscape." Presented at US-International Association for Landscape Ecology Annual Meeting. Baltimore, MD

- Radcliffe, D\*, Matthews, S.N, Hix, D.M, and Goebel, P.C. 2017. Oak Decline and Maple Increase in Southeastern Ohio Includes Favorable Slope Aspects. Society of American Foresters Convention. Albuquerque NM
- Shumar, M., Matthews, S.N., Rodewald, P., Batdorf, K. 2016. Regional changes in breeding bird distributions: a strong proximate signal of land cover shifts in the face of growing climate pressure. North American Ornithological Conference (NAOC).
- Donovan, K.J. \*, Adams, B.T. \*, Matthews, S.N. 2016. Songbird conservation on the landscape scale in southeast Ohio's public forestland using habitat suitability index models. North American Ornithological Conference (NAOC), Washington, DC.
- Adams, B.T. \*, Donovan, K.J. \*, Matthews, S.N 2016. Predicting and describing gradients of forest breeding birds: linking ordination space to environmental gradients. North American Ornithological Conference (NAOC). Washington, DC.
- Malpass, J.S. \*, A.D. Rodewald, and S.N. Matthews. 2016. Conserving our urban birds: Lessons from the OSU Yard Birds Project. North American Ornithological Conference (NAOC). Washington, DC.
- Adams, B.T. \*, Donovan, K.J. \*, Matthews, S.N 2016. Examining independent effects of habitat amount and fragmentation on a Neotropical migrant songbird. US-International Association for Landscape Ecology, Asheville, NC (contributed presentation)
- Donovan, K.J. \*, Adams, B.T. \*, Matthews, S.N. 2016. Songbird conservation on the landscape scale in southeast Ohio's public forestland using habitat suitability index models. US-International Association for Landscape Ecology, Asheville, NC (contributed presentation)
- Adams, B.T. \*, Donovan, K.J. \*, Matthews, S.N 2016. Examining independent effects of habitat amount and fragmentation on the Cerulean Warbler (*Setophaga cerulea*). Ohio Natural History Conferences, Columbus Ohio (contributed presentation)
- Graziano, M.P\*, Matthews, S.N. 2016 The influence of forest composition on amphibian communities in upland constructed wetlands. Ohio Natural History Conferences, Columbus Ohio (contributed presentation)
- Blyth, L.\*, Matthews, S.N., Hutchinson , T. 2015. The importance of habitat heterogeneity in understanding the effect of forest management practices on salamanders IALE World Congress, Portland, OR. April, 2015
- McDermott, M. \*, A.D. Rodewald, and S.Matthews. 2015. Functional traits and habitat use of Andean flocks in managed agroforestry landscapes. Neotropical Ornithological Congress, Brazil.
- Malpass, J.S. \*, A.D. Rodewald, and S.N. Matthews. 2015. Effect of wildlife-friendly gardening on species interactions. Annual Meeting of Ohio Fish and Wildlife Management Association, Columbus, OH.
- Malpass, J.S. \*, A.D. Rodewald, and S.N. Matthews. 2015. Conserving Our Urban Birds: Lessons from the OSU Yard Birds Project. Ohio Biodiversity Conservation Partnership (OBCP) –Terrestrial Wildlife Ecology Laboratory Meeting (TWEL) Nov. 2015, Columbus, OH.

- Graziano, M. \*, Matthews, S.N. 2015 Colonization of Amphibians in Upland Constructed Wetlands: The influence of Forest Composition and Preliminary Result. Ohio Biodiversity Conservation Partnership (OBCP) –Terrestrial Wildlife Ecology Laboratory Meeting (TWEL) Nov. 2015, Columbus, OH.
- Adams, B.T. \*, Donovan, K.J. \*, Matthews, S.N., and Kearns, L.J. 2015. Examining Independent Effects of Habitat Amount and Fragmentation on a Neotropical Migrant. Ohio Biodiversity Conservation Partnership (OBCP) –Terrestrial Wildlife Ecology Laboratory Meeting (TWEL) Nov. 2015, Columbus, OH
- Donovan, K.J. \*, Adams, B.T. \*, Matthews, S.N., and Kearns, L.J. 2015. Landscape Scale Conservation of Songbirds in Southeast Ohio’s Public Forestland Using Habitat Suitability Index Models. Ohio Biodiversity Conservation Partnership (OBCP) – Terrestrial Wildlife Ecology Laboratory Meeting (TWEL) Nov. 2015, Columbus, OH
- Dossman, B. \*, Mitchell, G., Matthews, S. Rodewald. 2014. Ecological Barriers and their Role in Shaping Stopover Behavior of Migratory Songbirds. Animal Movement Symposium, Raleigh, North Carolina
- McDermott, M.E. \*, A.D. Rodewald, and S.N. Matthews. 2014. La contribución de sistemas agroforestales a la conservación de aves migratorias neotropicales. IV Congreso Colombiano de Zoología, Cartagena, Colombia.
- Blyth, L. \*, Matthews, S., Hutchinson, T. 2014 The role of within treatment habitat gradients in evaluating the effect of forest management practices on salamander species composition. Midwest Fish and Wildlife Conference, Kansas City, Missouri (poster)
- Blyth, L. \*, Matthews, S., Hutchinson, T. 2014 Characterizing Salamander Species Composition in Managed Forests: The Role of Within Treatment Habitat Gradients. Ohio Fish and Wildlife Management Association Conference, Columbus, Ohio (poster)
- Blyth, L. \*, Gazono, M. \*, Matthews, S., Hutchinson, T. 2014 Characterization of Salamander Species Composition In a Managed Forest Using Within Treatment Habitat Gradients . Ohio Biodiversity Conservation Partnership Annual Review, Columbus, Ohio (oral presentation)
- McDermott, M.E. \*, A.D. Rodewald, and S.N. Matthews 2014. La contribución de sistemas agroforestales a la conservación de aves migratorias neotropicales - IV Reunión Ecuatoriana de Ornitología, Maldonado, Ecuador
- Dossman, B. \*, Matthews, S., Rodewald, P. 2014. The Probability of Departure from Stopover in light of Ecological Context: Behavioral Adaptations in response to a Migratory Barrier. Ohio Biodiversity Conservation Partnership, Columbus OH.
- Dossman, B. \*, Mitchell, G., Matthews, S. Rodewald, P. 2014. Individual Route Choice is Driven by Favorable Wind Conditions in Two Migratory Songbirds. AOU-COS-SCO 2014 Joint Meeting - Presentation-Estes Park, Colorado
- Fisichelli, N.A., Monahan, W.B., Peters, .P., Matthews, S.N.. 2014. Forecasting breeding bird habitat suitability Acadia National Park region: Implications for monitoring, management, and education. AOU-COS-SCO. 2014 Joint Meeting. Estes Park, Colorado

- McDermott, M.E. \*, Rodewald, A.D., Matthews, S.N. 2014. The contribution of agroforestry systems to conservation of overwintering neotropical migrants. AOU-COS-SCO 2014 Joint Meeting - Presentation-Estes Park, Colorado
- Bahn, V, Matthews, SN, and Morin, X. 2013. Processes at work on North American tree species range edges have implications for the predictability of their movements under climate change. Ecological Society of America 98th Annual meeting. Minneapolis, Minnesota
- Iverson, LR, Matthews, SN, Prasad, AM, and Peters, MP. 2013. Using a species distribution model and traits to assess tree species vulnerability and adaptability under climate change in the U.S. Northwoods and Central Hardwoods. Ecological Society of America 98th Annual meeting. Minneapolis, Minnesota
- Bahn, V., Matthews, S., Morin, X., Iverson L., Prasad, A., Peters, M., Svenning, J-C., McGill, B. 2012. Will biotic interactions ever be predictable? Insights from combining correlational and process-based tree species distribution models. US- International Association for Landscape Ecology 27th Annual Symposium, Newport, Rhode Island (*Invited*)
- Iverson, L.R., Matthews, S.N., Prasad, A.M., Peters, M.P., Yohe, G., Friggens, M. 2012. Development of risk matrices for evaluating climatic change responses for selected tree and bird habitats. US- International Association for Landscape Ecology 27th Annual Symposium, Newport, Rhode Island (*Invited*)
- Batdorf, K., Rodewald, P., Matthews, S., and Shumar, M. 2012. Are all species moving poleward? Distributional shifts in Ohio's breeding birds and potential drivers of change. Ecological Society of America 97<sup>th</sup> Annual Meeting, Portland, Oregon.
- Batdorf, K\*., Rodewald, P., Matthews, S., and Shumar, M. 2012. Are all species moving poleward? Understanding distributional shifts in Ohio's breeding birds. 5th North American Ornithological Conference Vancouver, British Columbia, Canada \*Winner student presentation award
- Johnson, P. \*, Rodewald, P., and Matthews, S. 2012. Migratory Stopover of Landbirds within the Western Lake Erie Basin: Exploring How Landscape Features Influence Migrant Abundance to Inform Conservation. 5th North American Ornithological Conference Vancouver, British Columbia, Canada.
- Prasad A.M., Matthews S.N., Iverson L., and Peters M. 2012. (Webinar) Climate change Tree and Bird atlases: Tools for evaluating the impact of climate change on species habitats in the eastern United States. National Conservation Training Center. Shepherdstown, WV.
- Iverson, L. R., Prasad, A.M., Knight, K.S., Herms, D.A., Matthews, S.N., Peters, M.P., Smith, A. and Long, R.P. 2010. Potential species replacements for ash in a changing climate, from a modeling and field perspective. Ecological Society of America, Pittsburgh, Pennsylvania.
- Iverson, L.R., Prasad, A.M., Matthews, S.N., and Peters, M.P. 2010. Considering connectivity and species characteristics in potential tree species shifts. US-International Association for Landscape Ecology 25<sup>th</sup> Annual Symposium, Athens, Georgia.
- Prasad, A.M., Iverson, L.R., Matthews, S.N., and Peters, M.P. 2010. Tree species colonization potentials using a spatially explicit cellular model and factors modifying them. US-International Association for Landscape Ecology 25<sup>th</sup> Annual Symposium, Athens, Georgia.

- Peters, M.P., Iverson, L.R., Prasad, A.M., and Matthews, S.N. 2010. Exploring site conditions through an integrated moisture index. US- International Association for Landscape Ecology 25<sup>th</sup> Annual Symposium, Athens, Georgia.
- Prasad, A.M., Matthews, S.N., Iverson, L.R., and Peters, M. 2010. Tree and bird atlas websites - critical information for climate change. USDA Forest Service Eastern Climate Change Town Hall Meeting (Video/Teleconference)
- Iverson, L.R., Prasad, A.M., Matthews, S.N., and Peters, M. 2009. Combining tools in the landscape ecology toolbox to model potential impacts of climate change. US- International Association for Landscape Ecology 24<sup>th</sup> Annual Symposium, Snowbird, Utah.
- Rodewald, P.G., Matthews, S.N., and Buchanan, A.A. 2009. Movement and stopover duration of migrant forest songbirds within different landscapes. 127<sup>th</sup> Meeting of the American Ornithologists' Union. Pittsburgh, Pennsylvania.
- Iverson, L., Prasad, A., Matthews, S., and Peters, M. 2008. Modeling potential impacts of climate change on suitable habitats of 134 trees and 147 birds in the eastern United States. 23<sup>rd</sup> annual US-International Association for Landscape Ecology, Madison, Wisconsin.
- Rodewald, P.G., Buchanan, A.A., and Matthews, S.N. 2008. Stopover behavior of migrant landbirds in two fragmented landscapes: lakeshore and inland regions of Ohio. Joint meeting of The Wilson Ornithological Society and the Association of Field Ornithologists, Mobile, Alabama.
- Iverson, L.R., Prasad, A.M., Matthews, S.N., and Peters, M.P. 2007. Potential impacts of climate change on birds and trees of the eastern United States: newest climate scenarios and species abundance modelling techniques. Proceedings of the 7<sup>th</sup> International Association for Landscape Ecology World Congress, Wageningen, Netherlands.
- Iverson, L.R., Prasad, A.M., Schwartz, M.W., and Matthews, S.N. 2006. Statistical modeling of current and potential future habitat, then simulation of potential colonization within that habitat, for tree species in the eastern US. Advances in forest landscape modeling: approaches, standardization, validation, and application. International Workshop on Forest Landscape Modeling, Beijing, China.
- Iverson, L., Prasad, A., and Matthews, S.N. 2006. GIS with regression tree ensemble methods to evaluate current and potential future habitat for tree species in the eastern U.S. Ecological Society of America 91<sup>st</sup> Annual Meetings. Memphis, Tennessee.

**GRANTS:**

**Awarded**

Principal Investigator (PI)

Climate impacts and vulnerability synthesis for USDA northern forests climate hub. U.S. Department of Agriculture-Northern Forest Climate Hub. FY23-26. Matthews, S.N. \$202,900

- Tree Seed Sourcing for Forest Restoration under Current and Future Climate Scenarios U.S. Department of Agriculture- Forest Service. FY22-current. Matthews, S.N. \$99,000
- Advancing understanding of critical cerulean warbler habitat to maximize landscape conservation opportunities across Ohio. Ohio Division of Wildlife. FY22-current. Matthews, S.N. ,Tonra, C.M. \$125,000
- American Elm restoration: Investigating Elm phenology. U.S. Department of Agriculture- Forest Service. FY21-Current. Matthews S.N \$42,300
- Freeman's maple (red x silver) potential for syrup production and resilience in Ohio's forests. U.S. Department of Agriculture- Agricultural Marketing Services FY20-Current. Matthews, S.N., Karns G. \$217,148
- Ohio Bird Conservation Initiative. Ohio Division of Wildlife. FY18-current. Matthews. \$434,400
- Stage two: Restoration of iconic tree species U.S. Department of Agriculture- Forest Service. FY18-2023. Matthews S.N., Curtis P. \$576,780
- Enhancing the application of projected climate change impacts for forests. U.S. Department of Agriculture- Forest Service. FY19-2023. Matthews S.N., Adams, B. \$50,000.
- Will impacts of forest change on seed dispersal mutualisms amplify the decline in oak-hickory forests. Ohio Agricultural Research and Development Center-SEEDS Grant. FY17-2020. Matthews, S.N., Tonra, C. \$49,000
- Development and testing of DED-tolerant elm selections for restoration. U.S. Department of Agriculture- Forest Service. FY18-2020. Matthews, S.N., \$157,000
- Framework for restoring American elm and ecological resilience. U.S. Department of Agriculture- Forest Service. FY17-2020. Matthews, S.N., Flower, C., Pinchot, C. \$190,000
- A partnership to support collaborative oak management in Ohio's Appalachian forests. U.S. Department of Agriculture- Forest Service. FY2015-2020. Matthews, Goebel, P.C., Hix, D.M. \$160,000
- Response of early successional avifauna to pipeline right-of-ways vegetation management in eastern Ohio. Ohio Division of Wildlife, FY2017-FY2019. Matthews, S.N., Karns, G.R. \$121,000
- Ohio biodiversity conservation partnership - Forest focus area songbird monitoring survey. Ohio Division of Wildlife, FY 2012-FY2018. Matthews, S.N. \$300,000
- Assessment of land use change on wildlife populations in Ohio. Ohio Division of Wildlife, FY2015-2016. Matthews, S.N., Gates, R.J Bruskotter, J.T., Karns, G.R. \$102,000
- Climate change induced biome shifts and implications for contaminant management. Department of Defense: Army Corps of Engineers, FY 2011&2012 \$114,036
- Ohio biodiversity conservation partnership - response of salamanders to forest management practices. Ohio Division of Wildlife, FY 2011-FY2014 Matthews, S.N. \$128,626

Co-Principal Investigator (Co-PI)

Why are Whip-poor-wills disappearing across the Midwest? US Fish and Wildlife Service. FY21-current Tonra C., Matthews, S. OSU portion of larger award \$31,000

Will impacts of forest change on seed dispersal mutualisms amplify the decline in oak-hickory forests. Ohio Agricultural Research and Development Center- Immediate Needs Program. FY21-current. Tonra, C. Matthews, \$49,000

Filling critical knowledge gaps for full annual cycle conservation of rapidly declining aerial insectivore in the midwest whip-poor-will (*Antrastomus vociferus*). US Fish and Wildlife Service. FY2018-2020 Tonra C., Matthews, S., Ward, M., Thompson, F. \$51,000

Reseeding restored forests: Can seed dispersal mutualisms amplify restoration of American chestnut (*Castanea dentata*)? The American Chestnut Foundation, FY2017-2020 Tonra C., Mathews, S. and Pinchot, C. \$15,000.

Regional and landscape level movements of landbirds during migratory stopover in western Lake Erie. Ohio Division of Wildlife FY 2012-2014 Matthews, S.N., Rodewald, P.G. \$125,443

Development of new deer management units for Ohio. Ohio Division of Wildlife FY2013-2014. Bruskotter, J.T., Gates, R.J., Matthews, S.N., Karns, G.R. \$166,414

Ohio Breeding Bird Atlas II. Ohio Division of Wildlife. FY 2013. Matthews, S.N., Rodewald, P.G. \$70,000. Served as local Co-PI for the last year of the project

Joint scientist position between the USDA Forest Service, Northern Research Station and the Ohio State University, School of Environment and Natural Resources FY2011-2015. Sharp, J.S. Matthews, S.N. \$360,185

### **Submitted unfunded**

Epidemiology and Ecology of Guinea Worm in Olive Baboons of Ethiopia. The Carter Center. PI Garabed, R. CO-PI Binkley, L., Pomeroy, L., Matthews, S.

Cutting trees to save the forest: investigating evidence-based forest management to improve diversity and function. National Science Foundation. Lead institution Holden Arboretum. OSU subaward Matthews.

Beyond the Individual: Exploring the Role of Rural Landscape and Community Diversity in Preventing Antimicrobial Resistance. 2019. National Institute of Food and Agriculture (NIFA) USDA. Garabed, R., Jackson-Smith D., Wittum, T., Matthews, S., George, K., Flint, M.

How does wetland hydroperiod affect phenological processes? An experimental assessment of hydroperiod alterations on trophic linkages and species fitness in forested ecosystems. 2015. Strategic Environmental Research and Development Program (SERDP). Peterman, W., Matthews, S., and Tonra, C. 2015, role Co-PI

Evaluating cumulative threats to forest birds of the Northeast over a range of future scenarios to assess conservation opportunities and challenges. 2015. Powell Synthesis Center USGS. (Unfunded). Matthews, S.N., Rodenhouse, N.L., Thompson, J., and Sohl, T.L.; role PI



Sustaining forest ecosystems through management: biotic constraints on planting climate-adapted forest. 2015. USDA/NIFA Agriculture and Food Research Initiative. (Unfunded). Kaye, M., Royo, A., Leites, L. Raymond, P., Kern, C., Matthews, S.; role Co-I

Integrating pattern and process across spatial scales to assess the relative effects of environmental change on forest birds of the Northeast. 2013. National Science Foundation. Research Grant. ( Unfunded ). Matthews, SN, Rodenhouse, NL, Iverson, LR; role PI

### **Post-doctoral and research staff**

Molly McDermott- Research Associate (S2) – Climate change traits 2023

Matthew Shumar- Program Coordinator - Ohio Bird Conservation Initiative (OBCI) 2018-current

Alexander Fotis-Research Associate- Urban Forest Restoration 2019-2021

Christina Voise – Research Associate – Plant breeder to support Elm research 2019-2021

Alleta Doran Research Associate – Elm research at forest service lab 2020-2021

Julia Wolfe Research Associate – Elm research at forest service lab

Bryce Adams – Post-doctoral researcher- Spatial modeling oak forest and climate change 2018-2020

Sakthi Subburayalu- Post doctoral researcher- Ecosystem Services Climate Change 2012-2013

### **Graduate Students**

#### **Current**

Jess Dong (PhD)- Climate change and species interactions (Co-Advisor with Peterman)

Carly Engstrom (MS)- Forest bird habitat modeling (Co-Advisor with Tonra)

Zoe Korpi (MS) Lake Erie bird migration (Co-Advisor with Tonra)

Anna Rose (MS) Trophic Tick and Forest Birds

#### **Completed:**

Rosemary Koontz (MS)-Co-Advisor- Evaluating phenological variation of DED-tolerant American elm selections and their use by avian species to inform landscape-level restoration opportunities. Autumn 2023

Audrey Laiveling (MS) Co-Advisor- Trophic Linkages as Pathways for Aquatic Dissemination of Carbapenem-Resistant Enterobacteriaceae in Ohio Watersheds. Autumn 2023

James Wright (PhD) Co-Advisor- Dynamics of a seed dispersal mutualism between avian seed-hoarders and nut-bearing trees: Implications for oak management and American chestnut restoration Spring 2022

Leandro Lessin (MS) Factors related to bird collisions with buildings along the coast of Lake Erie Spring 2022

Leanna DeJong (MS) Co-Advisor- Impacts of Amur Honeysuckle (*Lonicera maackii*) Removal on the Composition of Avian Assemblages in Rural Riparian Forests Summer 2020

- Lana Milbern (MS) Habitat usage of breeding songbirds in urban Columbus, Ohio. Defended Spring 2020
- Connor Rosenblatt (MS) Co-Advisor- Integrated Population Modeling of Northern Bobwhite and Co-occupancy with Open-land-Dependent Birds in Southern Ohio. Defended Spring 2020
- Lewis Lolya (MS) Co-Advisor-Assessing avian responses to habitat management along pipeline rights-of-ways in eastern Ohio. Spring 2019
- Donald Radcliffe (MS): Co-Advisor-Topographic, edaphic, and stand structural factors associated with oak and hickory mortality and beech regeneration in mature forests of Appalachian Ohio. Spring 2019
- Bryce Adams (PhD) Advisor- Quantifying avian and forest communities to understand interdependencies of ecological systems and inform forest bird conservation. Defended Summer 2018
- Michael Graziano (PhD) Advisor- Response of salamanders to forest management linking breeding pools to upland use. Defended Spring 2017
- Kaley Donovan (MS) Advisor- Songbird Habitat Models on the Landscape-scale in Southeast Ohio's Public Forestland. Defended fall 2016
- Jennifer Malpass (PhD) Co-Advisor- Effects of Food and Vegetation on Breeding Birds and Nest Predators in the Suburban Matrix. Defended Fall 2015
- Bryant Dossman (MS) Co-Advisor- Thesis topic: Movement ecology of migratory stopover in Western Lake Erie Basin. . Defended Spring 2015
- Carlos Coronado (MS) Co-Advisor- Thesis topic: Ohio wood product price trends. Defended Spring 2015
- Lauren Blyth (MS)- Advisor Thesis topic: Response of salamanders to forest management in upland habitat. . Defended Fall 2014
- Molly McDermott (PhD) Co-Advisor-Dissertation Topic: Wintering Ecology and Conservation of Migratory Birds and Mixed-species Flocks in the Northern Andes. Defended Spring 2014
- Katherine Batdorf (MS)-Co-Advisor- Thesis title- Distributional Changes in Ohio's Breeding Birds and the Importance of Climate and Land Cover Change. Defended fall 2012
- Patrick Johnson (MS)- Co-Advisor- Thesis title: Migratory Stopover of Songbirds in the Western Lake Erie Basin. Defended fall 2012
- Cody Berkebile (MENR)\_Project topic: Habitat patterns and Blue bird nesting success at Blacklick Metro Park

Graduate Committee Membership:

MS OSU: Current (6), Completed (33)

PhD OSU Current (4), Completed OSU (11)

SENR Graduate Representative on candidacy exam (2)

OSU Graduate School Representative on Dissertation Exam (4)

Wright State University, Biology Department, PhD (1)

Undergraduate Research:

Lillian Ostrander – 2019 – current Undergraduate Honors Thesis

Renna Wittum – 2018 Undergraduate research on amphibian response to invertebrate abundance

Morgan Oberly Thesis title: An Assessment of Infant Eastern Cottontail Rehabilitation Success.

Defended spring 2015

Kyleigh Godsey- 2016-current Undergraduate intern working on nocturnal bird surveys

Makiah Payne- 2016 Undergraduate intern working on nocturnal bird surveys

**TEACHING EXPERIENCE**

Courses

*ENR-5360 Principles of Wildlife Ecology and Management, Instructor of Record*

Ohio State University, School of Environment and Natural Resources, Columbus, Ohio

Autumn 2014-current: Upper level undergraduate course exploring the need for sound grounding in ecological understanding to make effective management decisions.

*ENR-8890.01 Introduction to Applied Data Analysis*

Ohio State University, School of Environment and Natural Resources, Columbus, Ohio

Spring 2023. Co-Instructor and co-developer of the course to provide graduate students with in-depth training in data analysis. Aim to serve as foundational course to enable students to take advanced graduate classes and development needed skill for their graduate research.

*ENR-3300 Introduction to Forestry, Fisheries, and Wildlife*

Ohio State University, School of Environment and Natural Resources, Columbus, Ohio

Autumn 2012, Spring 2015-2022: Co-Instructor of the course responsible for the wildlife content area. In addition, contributing to the transition from academic quarters to semester transition for the course.

*Online:ENR-3300 Introduction to Forestry, Fisheries, and Wildlife*

Ohio State University, School of Environment and Natural Resources, Columbus, Ohio

Co-Instructor and Designer to bring the class to online platform.

*ENR 5370 Management of Wildlife Habitats*

Ohio State University, School of Environment and Natural Resources, Columbus, Ohio

Spring 2014: Upper level undergraduate and graduate course exploring the principles of wildlife-habitat relationships, natural history of major North American ecosystems, and the conservation and management of wildlife habitats.

*ENR-8980 Environment and Natural Resources Seminar Series*

Ohio State University, School of Environment and Natural Resources, Columbus, Ohio

Autumn 2012, 2013, 2014: Co-Instructor of weekly seminar series required for graduate students. The seminars are intended to capture and showcase the diversity of disciplines in SENR via inviting local, national, and international scholars to present.

*ENR-623 Principles of Wildlife Ecology and Management, Instructor of Record*

Ohio State University, School of Environment and Natural Resources, Columbus, Ohio

Autumn 2011: Upper level undergraduate course exploring the need for sound grounding in ecological understanding to make effective management decisions.

*ENR-319 Introduction to Forestry, Fisheries, and Wildlife, Instructor of Record*

Ohio State University, School of Environment and Natural Resources, Columbus, Ohio

Spring 2011: Course providing a survey of forestry, fisheries, and wildlife to undergraduates that aims to demonstrate the many similarities in the three fields, and serves as an introductory course to our Forestry, Fisheries, and Wildfire curriculum.

*ENR-899 Ecology and Evolution of Bird Migration, Co-Instructor*

Ohio State University, School of Environment and Natural Resources, Columbus, Ohio

Winter 2010: Co-instructor of a graduate seminar course examining avian migration through readings and in class discussions of peer reviewed research.

Teaching assistant:

*Introduction to Forestry, Fisheries, and Wildlife (ENR 319), Fall 2005*

Ohio State University, School of Environment and Natural Resources, Columbus, Ohio

*Population Ecology (WLE 410), Fall 2001 and 2002*

University of Maine, Department Wildlife Ecology, Orono, Maine

*Statistical Ecology (WLE 220), Spring 2000 and 2001*

University of Maine, Department Wildlife Ecology, Orono, Maine

*Wildlife Ecology Field Course (WLE 250), Summer 2001*

University of Maine, Department Wildlife Ecology, Orono, Maine

*Wildlife Ecology Field Trip (WLE 150), Summer 2000*

University of Maine, Department Wildlife Ecology, Orono, Maine

Guest Lecture:

*Principles of Wildlife Ecology and Management (ENR 623),*

Ohio State University, School of Environment and Natural Resources, Columbus, Ohio

Lecture covered endangered and extinct species. Fall 2005

Lecture covered climate change and ecological impacts. Fall 2009, 2012

*Management of Wildlife Habitat (ENR 625), Guest Lecturer*

Ohio State University, School of Environment and Natural Resources, Columbus, Ohio

Presented three consecutive lectures covering the urban ecology portion of the course.

Winter 2005, 2006, and 2007

Presented four consecutive lectures introducing the habitat concept. Winter 2007

Lecture covered corridors within discussion of Habitat fragmentation. Winter 2009, 2012

Workshops:

*Promoting Best Management Practices for Forest Birds Co leaders Apsley, Duren, Matthews, Shumar, Schultes, Titchenell*

Conducted two workshops, one at Vinton Furnace State Experimental Forest and one at Mohican State Forest. Total of 75 participants. 2014. These workshops presented guidelines for forest management to benefit birds. OSU SENR and Extension, Ohio Division of Wildlife, OBCI, US Forest Service

*Climate change: the ecological impacts. S.N. Matthews (lead), with L. Iverson and L. Kearns*  
Ohio State University, School of Environment and Natural Resources, Columbus, Ohio  
½ Day workshop June 2012 for Ohio Association of Agriculture Educators. This workshop was presented to introduce high school educators to the science of climate change and exploration of our climate change web atlas as tool for the classroom

*R Statistical Package Workshop, Co-leader R. Gates and S.N. Matthews*  
Ohio State University, School of Environment and Natural Resources, Columbus, Ohio  
2-day workshop 2008 for faculty, graduate students, and Ohio Division of Wildlife staff.  
This workshop was presented as an introduction to the R statistical package with extended focus on common application for wildlife and fisheries research.

*Design of Natural Resource Monitoring Surveys, Teaching Assistant*  
Ohio State University, School of Environment and Natural Resources, Columbus, Ohio  
Teaching Assistant for three day workshop. Fall 2006

## **PROFESSIONAL SERVICE**

Manuscript Reviewer for:

Ecological Indicators (2023), Ornithological Applications (2023, 2021), Ecological Modelling (2021), Forest Ecology and Management (2023, 2022, 2020, 2019, 2018, 2012, 2008), Frontiers of Biogeography (2023), Ecosphere (2021), Landscape Ecology (2020, 2019, 2018, 2015, 2015, 2014), Ecology and Evolution (2020, 2019), Journal of Wildlife Management (2018), Avian Conservation and Ecology (2018), Global Change Biology (2018, 2016, 2011, 2010), Diversity and Distributions (2017), Condor (2017), Frontiers in Ecology and Evolution (2017), Climatic Change (2016), Conservation Biology (2016), Plos-one (2016), Sustainability (2016), Ecological Applications (2015), Nature Climate Change (2014), European Journal of Forest Research (2014), Journal of Animal Ecology (2013), Ecospher (2013, 2014, 2020), European Journal of Forest Research (2013), Forestry (2012), Ibis (2012), Journal of Ecology (2012), Biological Conservation (2011), Canadian Journal of Zoology (2011), Torrey Botanical Society (2011), Global Ecology and Biogeography (2010, 2013), Acta Oecologica (2010), Canadian Journal of Forest Research (2010), Environmental Management (2014, 2010, 2009), Animal Conservation (2008), Urban Ecosystems (2008)

International Association for Landscape Ecology- North America –Co-chair Nominations Committee 2023-current

International Association for Landscape Ecology- North America – Secretary 2019-2023

Ohio Bird Conservation Initiative Steering Committee 2019-current

Member of the Vinton Furnace State Experimental Forest research advisory subcommittee representing the School of Environment and Natural Resources, 2011-current

Columbus Forest Master Plan – Steering Committee member  
Ohio Bird Conservation Initiative Steering Committee Treasurer 2018  
NSF- DEB Population and Community Ecology panel reviewer 2022  
NSF- proposal merit review, 2014, 2015, 2017  
National Climate Assessment Forest Drought team, 2014-2015  
US-IALE 2016 annual meeting: Organized Symposium S-13 Intersecting Forest Management, Adaptation, and Climate Change: Biodiversity Implications  
Cooper Ornithological Society Grinnell Awards reviewer 2014-2016  
Appalachian Mountain Joint Venture Technical Committee 2015-current  
Ohio Bird Conservation Initiative Research Committee 2016-current  
US Environmental Protection Agency-STARR fellowship review panel, 2012  
Session moderator, “Global Change Biology” for 94<sup>th</sup> Ecological Society of America Annual Meeting, Albuquerque, New Mexico, 2009  
Session moderator “Ecology & Management of Nongame Birds” for 69<sup>th</sup> Midwest Fish and Wildlife Conference, Columbus Ohio, 2008

University, College, School Service

CFAES Research Advisory Council 2023-current  
SENR Director Search Committee 2023-current  
SENR Research Committee 2022-current  
SENR Graduate Studies Committee, 2014-2023, Co-Chair 2016-2017  
SENR Faculty Search Committee, Chair: Ecological Forestry and Restoration, 2021-2022  
SENR Faculty Search Committee: Sustainable Forest Operations, 2020-2021  
Natural and Mathematical Science Panel, OSU College of Arts and Science, Panel, 2014-2018  
SENR co-coordinator reaccreditation of forestry majors by Society of American Foresters 2108  
Department of Veterinary Preventive Medicine Faculty Search Committee: Ecosystem Health 2017  
Graduate Fellowship Nominating Committee School of Environment and Natural Resources 2012, 2014-2017  
CFAES undergraduate research symposium poster competition judge  
SENR Faculty Search Committee: Wildlife Ecology and Management, 2015  
SENR Faculty Search Committee: Avian Ecologist, 2014  
CFAES Undergraduate Recruitment faculty phoning Spring 2015  
Go Green Go Buckeye recruiting event, School of Environment and Natural Resources, 2013  
2015

Autumn Open house, School of Environment and Natural Resource, participated in wildlife ecology demonstration, 2013

Judge, Denman Undergraduate Research Forum, Ohio State University, 2013

Faculty Search Committee: Environmental Modeling and Spatial Analysis, 2013

Seminar Series Committee School of Environment and Natural Resources OSU, 2012- 2014

Other professional engagement activities

UCAT Course Design Institute, Ohio State University, Winter Break Dec 12-18, 2013

Reisch Teaching Brown Bag Discussions-9 week group centered on discussions of the book "How People Learn" Spring Semester, 2013

Member of the Environmental Sciences Network Ohio State University, 2012

USDA Forest Service Research Scientist PD panel training August 2, 2012

Organizing and planning committee for the Ohio's Wildlife in a Changing Climate conference sponsored by Ohio Division Wildlife being held December 15 and 16, 2011.

Mathematical Biosciences Institute (MBI) Workshop: Ecology and Invasive Species February 21-25, 2011

Training: Orientation to Research Administration and Being a PI at Ohio State - Roles and Responsibilities at The Ohio State University January 18-19, 2011

Advanced Modeling and Analysis Using ArcGIS: Model Automation Using ModelBuilder sponsored by Forest Service through ESNU March 23-27, 2009

Avian banding demonstration for Student Chapter of The Wildlife Society, 2006 and 2007

Computer Lab Administrator Terrestrial Wildlife Ecology Lab, Ohio State University, 2004-06

Panel Speaker, School of Environment and Natural Resources Graduate Student Orientation, Ohio State University, 2006

Graduate Student Representative, Academic Affairs Committee, School of Environment and Natural Resources, Ohio State University, 2005

Committee Member, Ohio Agriculture Research and Development Center (OARDC) Graduate Student Award Competition Committee, Ohio State University, 2005

Seminar Series Committee Member, Department of Wildlife Ecology University of Maine 2001 and 2002

**AWARDS**

Award of professional excellence- Department of Wildlife Ecology, University of Maine 2019

U.S. Department of Agriculture Forest Service Certificate of Merit, 2007

Student Travel Award, School of Environment and Natural Resources, Ohio State University, 2006 and 2007

Student Travel Award, American Ornithologists' Union, 2006

Ray Travel Award, Ohio State University, 2006

Outstanding Wildlife Ecology Graduate Student Award, University of Maine, 2003

Howard Mendall Memorial Award, Department of Wildlife Ecology, University of Maine, 2002  
(Outstanding research on migratory birds)

**PROFESSIONAL ORGANIZATIONS**

International Association for Landscape Ecology