

HANNAH L. CLIPP, PH.D.

**USDA Forest Service Resource Assistant
Associate Wildlife Biologist®
2017 National Science Foundation Graduate Research Fellow**

Current affiliation: USDA Forest Service Northern Research Station, Delaware, OH
Website: hannahclipp.weebly.com

EDUCATION

- Doctor of Philosophy (PhD) degree in Natural Resources Science** **2023**
Area of Emphasis: Wildlife & Fisheries Resources
- Graduate Certificate in GIS and Spatial Analysis** **2023**
West Virginia University, Morgantown, WV | Overall credits: 101; Cumulative GPA: **4.0**
PhD dissertation: “Effects of climate change and landscape-scale forest management on avian communities, abundance, and nest success in the Appalachian Mountains”
Link: <https://researchrepository.wvu.edu/etd/12046/>
Advisors: Dr. Petra B. Wood, Dr. Christopher T. Rota
- Master of Science (MS) degree in Wildlife Ecology** **2018**
University of Delaware, Newark, DE | Credits earned: 33; Cumulative GPA: **4.0**
MS thesis: “Investigating landbird stopover ecology and distributions along the U.S. coast of the Gulf of Mexico at multiple scales”
Link: <http://dspace.udel.edu/handle/19716/24052>
Advisor: Dr. Jeffrey J. Buler
- Bachelor of Science (BS) degree in Wildlife & Fisheries Resources** **2016**
Area of Emphasis: Wildlife Science, Fisheries Science
- Bachelor of Multidisciplinary Studies (BMdS) degree in Multidisciplinary Studies** **2016**
Minors: Conservation Ecology, Biology, English
West Virginia University, Morgantown, WV | Credits earned: 184; Cumulative GPA: **4.0**
Institutional honors: *Summa Cum Laude, University Honors Scholar*
Honors thesis: “Comparing waterbird communities of a newly created wetland and an established wetland in West Virginia”
Advisor: Dr. James T. Anderson

PEER-REVIEWED PUBLICATIONS

14. Gougherty, A. V., and **H. L. Clipp**. *Accepted*. Testing the reliability of an AI-based large language model to extract ecological information from the scientific literature. *npj Biodiversity*.

13. **Clipp, H. L.**, S. M. Pesi, M. L. Miller, L. C. Gigliotti, B. P. Skelly, and C. T. Rota. 2024. White-tailed deer detection rates increase when coyotes are present. *Ecology and Evolution* 14:e11149. (<https://doi.org/10.1002/ece3.11149>)
12. Skelly, B. P., **H. L. Clipp**, S. Landry, R. Rogers, Q. Phelps, J. T. Anderson, and C. T. Rota. 2023. A flexible Bayesian approach for estimating survival probabilities from age-at-harvest data. *Methods in Ecology and Evolution* 14:1061–1073. (<http://doi.org/10.1111/2041-210X.14077>)
11. **Clipp, H. L.**, D. J. Brown, C. T. Rota, and P. B. Wood. 2022. Distinct forest bird communities are strongly associated with red spruce-northern hardwood ecosystems in Central Appalachia. *Ecological Indicators* 135:108568. (<https://doi.org/10.1016/j.ecolind.2022.108568>)
10. **Clipp, H. L.**, A. L. Evans, B. E. Kessinger, K. Kellner, and C. T. Rota. 2021. A penalized likelihood for multi-species occupancy models improves predictions of species interactions. *Ecology* 102:e03520. (<https://doi.org/10.1002/ecy.3520>)
9. **Clipp, H. L.**, J. J. Buler, J. A. Smolinsky, K. G. Horton, A. Farnsworth, and E. B. Cohen. 2021. Winds aloft over three water bodies influence spring stopover distributions of migrating birds along the Gulf of Mexico coast. *Ornithology* 138:ukab051. (<https://doi.org/10.1093/ornithology/ukab051>)
8. Moravek, J. A., **H. L. Clipp**, T. P. Good, and P. M. Kiffney. 2021. Effects of subsidies from small anadromous Pacific salmon populations on stream and riparian food webs are mediated by channel gradient. *Freshwater Science* 40:1–20. (<https://doi.org/10.1086/712605>)
7. Cohen, E. B., K. G. Horton, P. P. Marra, **H. L. Clipp**, A. Farnsworth, J. A. Smolinsky, D. Sheldon, and J. J. Buler. 2021. A place to land: spatiotemporal drivers of stopover habitat use by migrating birds. *Ecology Letters* 24:38–49. (<https://doi.org/10.1111/ele.13618>)
6. **Clipp, H. L.**, E. B. Cohen, J. A. Smolinsky, K. G. Horton, A. Farnsworth, and J. J. Buler. 2020. Broad-scale weather patterns encountered during flight influence landbird stopover distributions. *Remote Sensing* 12:565. (<https://doi.org/10.3390/rs12030565>)
5. Verheijen, B. H. F., **H. L. Clipp**, A. J. Bartolo, W. E. Jenssen, and B. K. Sandercock. 2019. Effects of patch-burn grazing on density and space use of Dickcissels. *Avian Conservation and Ecology* 14:7. (<https://doi.org/10.5751/ACE-01343-140107>)
4. Horton, K. G., B. M. Van Doren, F. A. La Sorte, E. Cohen, **H. L. Clipp**, J. J. Buler, D. Fink, J. F. Kelly, and A. Farnsworth. 2019. Holding steady: little change in intensity or timing of bird migration over the Gulf of Mexico. *Global Change Biology* 25:1106–1118. (<https://doi.org/10.1111/gcb.14540>)
3. **Clipp, H. L.**, M. L. Peters, and J. T. Anderson. 2017. Winter waterbird community composition and use at two created wetlands in West Virginia, USA. *Scientifica* 2017:1730130. (<https://doi.org/10.1155/2017/1730130>)
2. **Clipp, H. L.**, and J. T. Anderson. 2014. Environmental and anthropogenic factors influencing salamanders in riparian forests: a review. *Forests* 5:2679–2702. (<https://doi.org/10.3390/f5112679>)
1. Anderson, J. T., **H. Clipp**, R. Hager, A. Keten, and Z. Zaimoglu. 2013. Conceptualizing a wetland research agenda for developing countries. *Jalaplavit* 8:5–13. (see PDF from hannahclipp.weebly.com/publications)

In Review

Brown, D. J., **H. L. Clipp**, C. A. Diggins, C. Roghair, C. A. Dolloff, C. Landress, M. McKinney, J. T. Goldner, and W. M. Ford. *In Review*. Chapter 6: Wildlife. *Red Spruce Ecosystem Ecology and Restoration in the Central and Southern Appalachians*. Springer.

FELLOWSHIPS, GRANTS, SCHOLARSHIPS, HONORS, AND AWARDS

Graduate Fellowships (\$189,000 total)

- West Virginia University Outstanding Merit Fellowship for Continuing Doctoral Students, 2022
- Honor Society of Phi Kappa Phi Dissertation Fellowship, 2022
- Mortar Board National Foundation Fellowship, 2021
- P.E.O. Scholar Award, 2021
- West Virginia University Ruby Distinguished Doctoral Fellowship, 2018
- National Science Foundation Graduate Research Fellowship, 2017

Research Grants (\$13,180 total)

- West Virginia University Farm Credit of the Virginias Student Value-Added Opportunity Fund Award, 2021
- American Ornithological Society Research Award, 2021
- Association for Environmental Health and Sciences Foundation's Dr. David F. Ludwig Memorial Student Travel Scholarship, 2020
- American Wildlife Conservation Foundation Research Grant, 2020
- West Virginia University Stitzel Graduate Student Support Fund Award, 2020
- Explorers Club Washington Group Exploration and Field Research Grant, 2020
- National Science Foundation Graduate Research Internship Program, 2018

Scientific Conference Travel Grants (\$4,490 total)

- American Ornithological Society Student Travel Award, 2018
- University of Delaware Professional Development Award, 2018
- University of Delaware Departmental Travel Award, 2018
- The Wildlife Society Student Travel Grant, 2017
- American Ornithological Society Diversity in Ornithology Travel Award, 2017
- University of Delaware Professional Development Award, 2017
- University of Delaware Departmental Travel Award, 2017

Service Grants (\$800 total)

- Brooks Bird Club Grant, 2021
- Service League of Morgantown Community Grant, 2021

Scholarships (\$172,400 total)

Highlighted

- Goldwater Scholarship, 2015
- Udall Scholarship, 2015
- National Oceanic and Atmospheric Administration Hollings Scholarship, 2014

National

- Mensa Foundation STEM Scholarship for Women, 2022
- Mensa Foundation J. F. Schirmer Scholarship, 2020
- Mensa Foundation STEM Scholarship, 2018
- ABC Humane Wildlife Control and Prevention, Inc. Women in STEM Scholarship, 2017
- Izaak Walton League of America National Conservation Scholarship, 2015
- Ben Meadows Natural Resources Scholarship for Academic Achievement, 2014

- Rocky Mountain Elk Foundation Wildlife Leadership Award, 2014
- National Garden Clubs Scholarship, 2014
- Washington Brant Foundation Scholarship, 2014
- Alpha Kappa Alpha Educational Advancement Foundation Scholarship, 2013
- National Merit Scholarship, 2012

Regional / Organizational

- Honor Society of Phi Kappa Phi Love of Learning Award, 2020
- Honor Society of Phi Kappa Phi Love of Learning Award, 2018
- Mensa Foundation Diana Mossip Memorial Scholarship, 2017
- Federated Garden Clubs of Maryland Scholarship, 2015
- Maryland Saltwater Sportfishing Association Scholarship, 2015
- General Board of Higher Education and Ministry Scholarship, 2015
- Rotary Club of Aberdeen Scholarship, 2015
- Federated Garden Clubs of Maryland Scholarship, 2014
- Maryland Saltwater Sportfishing Association Scholarship, 2014
- General Board of Higher Education and Ministry Scholarship, 2014
- Rotary Club of Aberdeen Scholarship, 2014
- Maryland Saltwater Sportfishing Association Scholarship, 2013
- General Board of Higher Education and Ministry Scholarship, 2013
- Rotary Club of Aberdeen Scholarship, 2013
- Baltimore-Washington Conference of the United Methodist Church Scholarship, 2013
- Aberdeen Lioness Lions Club Scholarship, 2012
- Rotary Club of Aberdeen Scholarship, 2012
- Izaak Walton League of America Chapter Conservation Scholarship, 2012
- General Board of Higher Education and Ministry Scholarship, 2012
- Aberdeen High School Van Kleeck Memorial Scholarship, 2012
- National Defense Industrial Association – Aberdeen Proving Ground Chapter Scholarship, 2012

West Virginia University

- West Virginia University Foundation Distinguished Doctoral Scholarship, 2022
- HOME Scholarship, 2021
- Eberly Scholarship, 2015
- Forestry Endowment Fund Scholarship, 2015
- Safari Club International Foundation Sables C.J. McElroy Hunting Heritage Scholarship, 2014–2015
- University Merit Scholarship, 2012–2015
- Dean's Scholarship, 2014
- Goodspeed Forestry Scholarship, 2013
- Hoyt Division of Forestry and Natural Resources Scholarship, 2012

Honor Societies

- Honor Society of Phi Kappa Phi, inducted 2017
- Phi Beta Kappa Society, inducted 2016
- Mortar Board College Senior Honor Society, inducted 2015
- Gamma Sigma Delta (National Honor Society of Agriculture), inducted 2015
- Golden Key International Honour Society, inducted 2014
- Chimes Junior Honorary, inducted 2014
- Helvetia Sophomore Honorary, inducted 2013
- National Residence Hall Honorary, inducted 2013

Presentation Awards

- Best PhD Oral Presentation at the West Virginia University (WVU) Davis College Graduate Student Research Day, 2023
- Best Student Oral Presentation at The Wildlife Society conference, 2022
- Best Overall Presentation at the WVU Davis College Graduate Student Research Day, 2021
- Best PhD Lightning Presentation at the WVU Davis College Graduate Student Research Day, 2021
- Best PhD Poster at the WVU Davis College Graduate Student Research Day, 2019
- Best Poster at the University of Delaware College of Agriculture and Natural Resources Research Symposium, 2018
- Best Senior Poster at the WVU Wildlife & Fisheries Resources Undergraduate Student Symposium, 2016
- Best Non-Senior Poster at the WVU Wildlife & Fisheries Resources Undergraduate Student Symposium, 2015

Other Honors and Awards

- Invited guest for the West Virginia University Office of Graduate Education and Life podcast, 2022
- Invited speaker at the West Virginia University Graduate Fellows Recognition Reception, 2021
- Schantz Brothers Foundation Scholar, 2020
- Invited speaker for the West Virginia University Davis College Visiting Committee meeting, 2019
- Invited speaker at the West Virginia University Graduate Fellows Recognition Reception, 2018
- University of Delaware Department of Entomology and Wildlife Ecology W.J. Benton Graduate Student Award, 2018
- University of Delaware Departmental Graduate Student Recruitment Award, 2016
- National Science Foundation Graduate Research Fellowship Program Honorable Mention, 2016
- Northeast Section of The Wildlife Society P.F. English Memorial Award, 2016
- West Virginia University Order of Augusta, 2016
- West Virginia University Outstanding Senior, 2016
- West Virginia University Division of Forestry and Natural Resources Outstanding Senior, 2016
- West Virginia University Honors College Nath Scholar, 2016
- West Virginia University Wildlife and Fisheries Outstanding Senior, 2016
- Gamma Sigma Delta (National Honor Society of Agriculture) Outstanding Senior Award, 2016
- Invited speaker at a recognition ceremony for Senator Jay Rockefeller's lifetime achievement award in science policy from the National Institute of Standards and Technology, 2015
- Truman Scholarship Finalist, 2015
- Gamma Sigma Delta (National Honor Society of Agriculture) Outstanding Junior Award, 2015
- Udall Scholarship Honorable Mention, 2014

SCIENTIFIC PRESENTATIONS

National / International Conferences

- Clipp, H. L.,** C. T. Rota, and P. B. Wood. 2022. Potential broad-scale effects of future climate and land cover change on forest songbird distributions in the Appalachian Mountains. Oral presentation at The Wildlife Society conference, Spokane, WA.
- Clipp, H. L.,** D. J. Brown, C. T. Rota, and P. B. Wood. 2022. Identifying forest bird communities associated with red spruce forests in the central Appalachian Mountains. Oral presentation at the North American Congress for Conservation Biology, Reno, NV.
- Clipp, H. L.,** S. Augustine, B. Murry, M. Campos-Cerqueira, T. M. Aide, and C. T. Rota. 2022. Distribution of the Pearly-eyed Thrasher and its interactions with endemic species of conservation concern in Puerto Rico. Oral presentation at the American Ornithological Society conference, San Juan, Puerto Rico.

- Rota, C. T., **H. L. Clipp**, and K. Kellner. 2022. A penalized likelihood for multispecies occupancy models improves estimates of species interactions. Oral presentation at the International Statistical Ecology Conference, Cape Town, South Africa.
- Clipp, H. L.**, C. T. Rota, and P. B. Wood. 2021. Managing wildlife openings to benefit game and non-game bird species in Central Appalachian forests. Oral presentation at The Wildlife Society conference (virtual).
- Clipp, H. L.**, C. T. Rota, and P. B. Wood. 2021. Potential effects of climate and land cover change on forest songbirds of the Appalachian Mountains. Poster presented at the American Ornithological Society conference (virtual).
- Clipp, H. L.**, C. T. Rota, and P. B. Wood. 2020. Managing wildlife openings to benefit game and non-game bird species in Central Appalachian forests. Poster presented at The Wildlife Society conference (virtual).
- Clipp, H. L.**, C. T. Rota, and P. B. Wood. 2020. Post-breeding bird use of wildlife openings in a heavily forested landscape. Poster presented at the North American Ornithological Conference (virtual).
- Buler, J. J., S. A. Cabrera-Cruz, E. B. Cohen, R. J. Smith, A. Farnsworth, J. A. Smolinsky, and **H. L. Clipp**. 2020. Broad-scale attraction of nocturnally migrating birds to artificial light at night is stronger during autumn than spring across North America. Oral presentation at the Artificial Light at Night Conference (virtual).
- Clipp, H. L.**, C. Johnson, C. T. Rota, and P. B. Wood. 2019. Optimizing multi-species occupancy of game and non-game bird species in wildlife openings within Central Appalachian forests. Poster presented at The Wildlife Society conference, Reno, NV.
- Clipp, H. L.**, E. B. Cohen, J. A. Smolinsky, A. Farnsworth, K. G. Horton, and J. J. Buler. 2019. Mesoscale winds shape spring stopover distributions of migrating birds along the Gulf of Mexico. Oral presentation at the American Ornithological Society conference, Anchorage, AK.
- Lerman, S., P. Marra, B. Reitsma, B. Evans, D. Narango, and **H. Clipp**. 2019. Shared stewardship for bird conservation: linking backyard habitats, citizen science, and yard management. Oral presentation at the American Ornithological Society conference, Anchorage, AK.
- Clipp, H. L.**, E. B. Cohen, J. A. Smolinsky, and J. J. Buler. 2018. Weather over the Gulf of Mexico influences broad-scale stopover patterns of migrating birds in the spring. Oral presentation at the American Ornithological Society conference, Tucson, AZ.
- Cohen, E. B., J. J. Buler, A. Farnsworth, **H. L. Clipp**, S. Cabrera-Cruz, K. Horton, B. Van Doren, and P. P. Marra. 2017. Stopover biology and migratory connectivity of avian populations around the Gulf of Mexico. Oral presentation at the VI International Conference of Partners in Flight, San Jose, Costa Rica.
- Clipp, H. L.**, J. A. Smolinsky, E. B. Cohen, A. Farnsworth, P. P. Marra, S. Kelling, and J. J. Buler. 2017. Relating wind patterns over the Gulf of Mexico to landbird stopover distributions along the Gulf Coast during spring migration. Poster presented at The Wildlife Society conference, Albuquerque, NM.
- Clipp, H. L.**, T. Schreckengost, J. A. Smolinsky, F. R. Moore, and J. J. Buler. 2017. Changes in stopover site function from fall to spring for migrating landbirds along the Gulf of Mexico. Oral presentation at the American Ornithological Society conference, East Lansing, MI.
- Clipp, H. L.**, M. L. Peters, and J. T. Anderson. 2016. Comparing waterbird communities of two created wetlands in West Virginia. Poster presented at the North American Ornithological Conference, Washington, D.C.
- Anderson, J. T., C. T. Rota, S. M. Landry, S. Cua, and **H. L. Clipp**. 2016. Hunters and trappers as citizen-scientists. Oral presentation at the XVI Nordic Congress of Wildlife Research, Rovaniemi, Finland.
- Moravek, J. A., **H. L. Clipp**, and P. M. Kiffney. 2016. The influence of salmon recolonization on riparian communities in the Cedar River, Washington, USA. Poster presented at the American Geophysical Union – Ocean Sciences meeting, New Orleans, LA.

Clipp, H. L., J. A. Moravek, T. P. Good, and P. M. Kiffney. 2016. Avian community response to salmon recolonization in the Cedar River watershed, WA. Poster presented at the American Society of Naturalists conference, Asilomar, CA.

Moravek, J. A., **H. L. Clipp,** and P. M. Kiffney. 2015. The influence of salmon recolonization on riparian communities in the Cedar River, Washington, USA. Poster presented at the American Geophysical Union conference, San Francisco, CA.

Clipp, H. L., A. Bartolo, B. H. F. Verheijen, and B. K. Sandercock. 2014. The effects of patch-burn grazing on Dickcissel territory size and selection in an experimental tallgrass prairie. Poster presented at The Wildlife Society conference, Pittsburgh, PA.

Regional Conferences

Clipp, H. L., C. T. Rota, and P. B. Wood. 2022. Occupancy of three game bird species in wildlife openings of the Monongahela National Forest, West Virginia. Oral presentation at the annual conference of the Southeastern Association of Fish and Wildlife Agencies, Charleston, WV.

Clipp, H. L., D. J. Brown, C. T. Rota, and P. B. Wood. 2020. Identifying forest bird communities associated with remnant and restored red spruce-northern hardwood ecosystems in Central Appalachia. Oral presentation at the Central Appalachians Spruce Restoration Initiative conference (virtual).

Clipp, H. L., M. L. Peters, and J. T. Anderson. 2016. Annual and seasonal patterns in the waterbird community of a recently created wetland in West Virginia in comparison to a nearby established wetland. Oral presentation at the Northeast Fish and Wildlife Conference, Annapolis, MD.

Clipp, H. L., J. A. Moravek, T. P. Good, and P. M. Kiffney. 2016. The effects of salmon recolonization and habitat on the avian community of the Cedar River watershed, WA. Poster presented at Society for Northwestern Vertebrate Biology conference, Coeur d'Alene, ID.

Clipp, H. L., N. S. Goodman, M. L. Peters, and J. T. Anderson. 2015. Comparing waterbird diversity, species composition, density, and abundance between a newly created and an established wetland in West Virginia. Poster presented at the Northeast Fish and Wildlife Conference, Newport, RI.

State Meetings and Events

Clipp, H. L., J. A. Moravek, T. P. Good, and P. M. Kiffney. 2021. Ecosystem effects of a small, recolonizing anadromous Pacific salmon population in the Cedar River, Washington. Oral presentation at the West Virginia chapter of the American Fisheries Society meeting (virtual).

Clipp, H. L., J. A. Smolinsky, and J. J. Buler. 2019. Seasonal differences in bird stopover duration is related to resource availability. Oral presentation at the West Virginia chapter of The Wildlife Society meeting, Morgantown, WV.

Clipp, H. L., N. S. Goodman, M. L. Peters, and J. T. Anderson. 2015. Short-term changes in a waterbird community following wetland creation in West Virginia. Poster presented at the West Virginia chapter of The Wildlife Society meeting, Elkins, WV.

Clipp, H. L., N. S. Goodman, M. L. Peters, and J. T. Anderson. 2015. Comparing waterbird diversity, species composition, and abundance between a newly created and an established wetland in West Virginia. Poster presented at the Undergraduate Research Day at the Capital event, Charleston, WV.

University / Local Symposia

Clipp, H. L., S. Augustine, B. Murry, M. Campos-Cerqueira, T. M. Aide, and C. T. Rota. 2023. Island-wide distribution of Pearly-eyed Thrashers in Puerto Rico and interactions with endemic species. Oral presentation at the West Virginia University Davis College Graduate Student Research Day, Morgantown, WV.

- Clipp, H. L.,** D. J. Brown, C. T. Rota, and P. B. Wood 2022. Quantifying avian community composition and individual species associations with the red spruce ecosystem in West Virginia. Oral presentation at the West Virginia University Davis College Graduate Student Research Day, Morgantown, WV.
- Clipp, H. L.** 2022. Age ratios of songbirds caught in wildlife openings of the Monongahela National Forest during the post-breeding season. Poster presented at the 3rd annual West Virginia University Women in Natural Resources Symposium, Morgantown, WV.
- Clipp, H. L.** 2021. Wildlife species detected by game cameras in wildlife openings of the Monongahela National Forest, West Virginia. Presentation at the 2nd annual West Virginia University Women in Natural Resources Symposium (virtual).
- Clipp, H. L.** 2021. Use of wildlife openings in the Monongahela National Forest by post-breeding bird species. Oral presentation at the West Virginia University Davis College Graduate Student Research Day (virtual).
- Clipp, H. L.** 2019. Multi-species avian occupancy of wildlife openings in the Monongahela National Forest. Poster presented at the West Virginia University Davis College Graduate Student Research Day, Morgantown, WV.
- Clipp, H. L.,** T. Schreckengost, J. A. Smolinsky, and J. J. Buler. 2018. Food availability determines how migrating birds use stopover sites. Poster presented at the University of Delaware College of Agriculture and Natural Resources Research Symposium, Newark, DE.
- Clipp, H. L.** 2017. Burning desire: Does patch-burn grazing affect territory size and mating opportunities for a grassland songbird? Poster presented at the University of Delaware Graduate Research Forum, Newark, DE.
- Clipp, H. L.** 2016. Hurricane effects on migratory birds. "Elevator pitch" presented at the Delaware Environmental Institute's Pitch:90 student elevator pitch competition, Newark, DE.
- Clipp, H. L.,** and J. T. Anderson. 2016. Comparing avian communities of a newly created wetland and an established wetland in West Virginia. Poster presented at the West Virginia University Wildlife and Fisheries Resources Undergraduate Student Symposium, Morgantown, WV.
- Clipp, H. L.,** T. Good, J. A. Moravek, and P. M. Kiffney. 2016. Avian community response to salmon recolonization in the Cedar River Watershed, WA. Poster presented at the National Oceanic and Atmospheric Administration Northwest Fisheries Science Center Science Symposium, Seattle, WA.
- Clipp, H. L.,** T. P. Good, and P. M. Kiffney. 2015. Avian predator response to salmon recolonization in the Cedar River, WA. Poster presented at the National Oceanic and Atmospheric Administration Science and Education Symposium, Silver Spring, MD.
- Clipp, H. L.,** N. S. Goodman, M. L. Peters, and J. T. Anderson. 2015. Comparing waterbird species diversity and composition between a newly created wetland and an established wetland in West Virginia. Poster presented at the West Virginia University Wildlife and Fisheries Resources Undergraduate Student Symposium, Morgantown, WV.
- Clipp, H. L.,** B. H. F. Verheijen, and B. K. Sandercock. 2014. The effects of patch-burn grazing management on Dickcissel territory size and selection. Oral presentation at the Ecological Genomics Research Forum, Konza Prairie Biological Station, Manhattan, KS.
- Clipp, H. L.,** and J. Nelson. 2012. Analysis of optimal nutrient and sediment practices in response to TMDL requirements. Poster presented at the Science and Mathematics Academy Gallery Walk, Aberdeen, MD.

INVITED TALKS

- Clipp, H. L.,** and A. V. Gougherty. 2024. Impacts of recent climate change on the size and severity of forest pest outbreaks. Oral presentation to the USDA Forest Service Northern Research Station RWU NRS-03 (virtual).
- Clipp, H. L.,** and A. V. Gougherty. 2024. Effects of recent climate change on the size, severity, and impact of forest pest outbreaks. Oral presentation to the USDA Forest Service Northern Research Station RWU NRS-06 (virtual).
- Clipp, H. L.** 2023. Science in the scope: The latest in bird research by West Virginia University graduate students. Oral presentation to the Mountaineer chapter of the National Audubon Society (virtual).
- Clipp, H. L.,** and D. D. Courtney. 2022. Avian adventures in Alaska. Oral presentation to the Mountaineer chapter of the National Audubon Society (virtual).
- Clipp, H. L.** 2022. Finding our feathered friends: Birding opportunities in Morgantown. Oral presentation to the Valley Hills Garden Club, Morgantown, WV.
- Clipp, H. L.** 2022. A look at bird migration with weather surveillance radars. Oral presentation at the Kachemak Bay Shorebird Festival, Homer, AK.
- Clipp, H. L.** 2022. Science in the scope: The latest in bird research by West Virginia University graduate students. Oral presentation to the Mountaineer chapter of the National Audubon Society, Morgantown, WV.
- Clipp, H. L.** 2022. Bird communities of red spruce forests in West Virginia. Oral presentation in the West Virginia Woodland Stewards Seminar Series (virtual).
- Clipp, H. L.,** and S. Augustine. 2021. Birds of the Monongahela National Forest: What we know and what we are learning. Oral presentation in the West Virginia University Core Arboretum Nature Connection Series, Morgantown, WV.
- Clipp, H. L.** 2021. Science in the scope: The latest in bird research by West Virginia University graduate students. Oral presentation to the Mountaineer chapter of the National Audubon Society (virtual).
- Clipp, H. L.** 2020. Science in the scope: The latest in bird research by West Virginia University graduate students. Oral presentation to the Mountaineer chapter of the National Audubon Society, Morgantown, WV.
- Clipp, H. L.** 2019. Weather surveillance radar and migrating birds. Oral presentation to the Mountaineer chapter of the National Audubon Society, Morgantown, WV.
- Clipp, H. L.** 2019. Eating on the go: Food availability determines how migrating birds use stopover sites. Oral presentation at the Brooks Bird Club Foray program, Beverly, WV.
- Clipp, H. L.** 2019. Using weather surveillance radar to study wildlife. Oral presentation to the West Virginia University student chapter of The Wildlife Society, Morgantown, WV.
- Clipp, H. L.** 2018. Introduction to backyard birds. Oral presentation to the Sundale Nursing Home, Morgantown, WV.
- Clipp, H. L.** 2017. Hunters and trappers contributing to citizen-science. Oral presentation to the Harford County chapter of the Izaak Walton League of America, Abingdon, MD.
- Clipp, H. L.** 2016. A tale of two wetlands. Oral presentation to the Delmarva Ornithological Society, Hockessin, DE.
- Clipp, H. L.** 2016. A glance at grasslands: The Dickcissels of Konza Prairie. Oral presentation to the Mountaineer chapter of the National Audubon Society, Morgantown, WV.

GRADUATE & UNDERGRADUATE RESEARCH EXPERIENCE

Aug 2018 – Aug 2023

Doctoral Dissertation Research / National Science Foundation Graduate Research Fellowship

West Virginia University Division of Forestry and Natural Resources, Morgantown, WV

- Demonstrated skills in conducting scientific research, project collaboration and management, written and oral communication, critical thinking, data analysis, budget management, leadership, and problem solving
- Established or engaged in collaborations with 20 scientists from the USDA Forest Service National Forest System, USDA Forest Service Northern Research Station, Monongahela National Forest, Hubbard Brook Experimental Forest, Smithsonian Migratory Bird Center, West Virginia Division of Natural Resources, West Virginia University, Dartmouth College, University of Georgia, University of Puerto Rico, and Rainforest Connection (Puerto Rico)
- Initiated and managed 4 scientific research projects as part of my dissertation:
 - Investigated the relative potential effects of climate and landscape change on the distributions of 14 forest songbird species within the Appalachian Mountains, resulting in 2 presentations and an in-progress manuscript (first author)
 - Quantified the change in avian assemblages over a nearly 30-year period and across latitudinal and elevational gradients, resulting in an in-progress manuscript (first author)
 - Assessed the response of avian communities to local and landscape features in unharvested and intensively harvested forests, resulting in an in-progress manuscript (first author)
 - Partnered with managers from the USDA Forest Service Monongahela National Forest and West Virginia Division of Natural Resources to identify wildlife opening characteristics that support both target game bird species and a diversity of songbird species, resulting in 9 presentations and an in-progress manuscript (first author)
- Led or co-led 6 research collaborations in addition to my dissertation:
 - Partnered with a USDA Forest Service Northern Research Station scientist to run community-level analyses and indicator species analyses to identify unique bird communities and individual bird species associated with red spruce-northern hardwood ecosystems in the Central Appalachians, resulting in 4 presentations, a peer-reviewed publication (first author), and an in-progress book chapter (co-author)
 - Led a 5-person team to propose a new statistical technique (penalized likelihood for multispecies occupancy models) to improve predictions of species interactions, resulting in one co-authored presentation and a peer-reviewed publication (first author)
 - Co-led a 7-person team to propose a novel Bayesian modeling approach to estimate survival rates of wildlife and fisheries populations from age-at-harvest data, resulting in a peer-reviewed manuscript (second author)
 - Led a 6-person team to determine the distribution of an opportunistic colonizing bird species and its interactions with endemic species of conservation concern across environmental and anthropogenic gradients in Puerto Rico, resulting in one presentation and an in-progress manuscript (first author)
 - Led a 6-person team to quantify the effect of predator species presence on camera trap detection rates of prey species, using coyotes and white-tailed deer in Central Appalachian forests as a model predator-prey system, resulting in a peer-reviewed publication (first author)
 - Led a 3-person team to empirically validate recent forest management guidelines for wood thrushes and scarlet tanagers (both declining interior-forest songbird species), resulting in an in-progress manuscript (first author)
- Submitted a research proposal to the National Science Foundation (not awarded) and applied for various small research grants to support fieldwork expenses (6 of which were awarded)
- Prepared and submitted all necessary federal, state, and university forms and permits, including animal care protocols approved by the West Virginia University Institutional Animal Care and Use Committee, to conduct fieldwork, which involved mist-netting and banding songbirds

- Organized and led 3 field seasons of data collection from mid-April to mid-August 2019–2021 in the Monongahela National Forest, WV, which included the following:
 - Managed annual operating budgets (ranging from \$18,000 to \$34,000) for fieldwork expenses
 - Entrusted with and managed \$24,000 worth of field equipment (including game cameras, autonomous recording units, sound level meters, wind anemometers, binoculars, etc.)
 - Created and maintained annual field gear inventory
 - Safely operated and maintained a total of 4 federal field vehicles
 - Hired, trained, and supervised a total of 7 field technicians
 - Conducted a total of 868 game bird surveys, 1279 communitywide avian point count surveys, 242 avian transect surveys, and 1279 vegetation surveys
 - Deployed game cameras and autonomous recording units at a total of 146 study sites
- Maintained 5 federal field vehicles belonging to the West Virginia Cooperative Fish and Wildlife Research Unit outside of field seasons (e.g., responsible for making appointments for regularly scheduled oil changes, vehicle inspections, and miscellaneous vehicle repairs)
- Recruited, coordinated, trained, and managed 16 undergraduate work-study students and volunteers over the course of 5 academic years
- Developed and provided acoustic data processing training using Raven Pro to 11 trainees, including field technicians, undergraduate work-study students and interns, and volunteers
- Served in an advisory role in the formation of a red spruce monitoring project in West Virginia by The Nature Conservancy
- Prepared and submitted reports (including annual updates, progress reports, and final research reports) to the West Virginia Cooperative Fish and Wildlife Research Unit, National Science Foundation, and 4 funding organizations
- Demonstrated expertise with advanced data analyses, Program R, JAGS, and ArcGIS

Jun 2018 – Aug 2018

National Science Foundation Graduate Research Internship

USDA Forest Service Northern Research Station, Amherst, MA

- Applied for and secured funding through the National Science Foundation Graduate Research Internship Program to work with a USDA Forest Service Northern Research Station scientist
- Demonstrated skills in conducting scientific research, collaboration, oral communication, budget development, problem solving, and project management
- Studied the daily movements of breeding northern cardinals in urban / suburban neighborhoods near Springfield and Amherst, MA, resulting in valuable preliminary data for a larger research project and one co-authored presentation
- Secured \$800 in funding for 2 GPS tags
- Entrusted with \$3,500 worth of field equipment (including GPS tags and bird banding equipment)
- Worked independently and in a 2-person team to deploy GPS tags on male and female northern cardinals
- Performed multiple bird banding demonstrations for community youth groups
- Performed science communication and outreach in suburban neighborhoods of Massachusetts

Aug 2016 – Aug 2018

Master's Thesis Research

University of Delaware Department of Entomology and Wildlife Ecology, Newark, DE

- Demonstrated skills in conducting scientific research, collaboration, written and oral communication, critical thinking, data analysis / analytics, leadership, problem solving, and project management
- Collaborated closely with 5 scientists from the Smithsonian Migratory Bird Center and Cornell Lab of Ornithology, resulting in 2 co-authored presentations, 3 invited talks, and 2 peer-reviewed publications (co-author)
- Managed 3 scientific research projects as part of thesis:

- Used boosted regression tree models to relate large-scale weather patterns over the Gulf of Mexico to bird stopover distributions along the northern coast, resulting in one presentation and a peer-reviewed publication (first author)
- Tested hypotheses about how winds aloft over the Gulf of Mexico, Atlantic Ocean, and Caribbean Sea relate to coastal stopover distributions at 4 temporal scales and 4 spatial scales, resulting in 2 presentations and a peer-reviewed publication (first author)
- Investigated stopover duration and the roles of stopover habitat along the northern coast of the Gulf of Mexico, resulting in 4 presentations
- Recruited, coordinated, trained, and managed 19 undergraduate student volunteers over the course of 2 academic years
- Demonstrated familiarity with ArcGIS, Python, MATLAB, Program R, PRESENCE, and HTML

Aug 2014 – May 2016

Honors Thesis / Senior Capstone Research

West Virginia University Division of Forestry and Natural Resources, Morgantown, WV

- Demonstrated skills in conducting scientific research, collaboration, written and oral communication, critical thinking, data analysis / analytics, leadership, problem solving, and project management
- Co-managed a scientific research project, from initial idea to publication, resulting in an Honors thesis, 8 presentations, and a peer-reviewed publication (first author)
- Studied waterbird communities of created wetlands in the Pleasant Creek Wildlife Management Area, WV; performed 535 wetland bird census surveys at 2 study sites from August 2014 to May 2016 and analyzed 3 years of waterbird survey data
- Wrote the entire manuscript

Jun 2015 – Aug 2015

National Oceanic and Atmospheric Administration (NOAA) Hollings Internship

NOAA Northwest Fisheries Science Center, Seattle, WA

- Demonstrated skills in conducting scientific research, collaboration, written and oral communication, critical thinking, data analysis / analytics, and project management
- Co-managed a scientific research project, from initial idea to publication, resulting in 5 presentations, 2 co-authored presentations, and a peer-reviewed publication (second author)
- Worked in a 4-person team to investigate the response of the avian community to salmon recolonization in the Cedar River watershed, WA
- Learned how to identify western bird species by sight and sound
- Conducted strip transect surveys for birds along 7 river reaches in June–July 2015, using both visual and auditory identification methods
- Sampled and sorted benthic macroinvertebrates, counted juvenile fish during snorkeling surveys, and collected plant and vegetation samples for stable isotope analysis along 7 river reaches
- Collected river morphology and flow measurements for 7 river reaches
- Helped analyze trends in water, aquatic macroinvertebrate, fish, bird, and spider metrics
- Assisted in writing the manuscript

Feb 2014 – Nov 2014

Review Paper Writing Project

West Virginia University Division of Forestry and Natural Resources, Morgantown, WV

- Demonstrated skills in collaboration, written communication, critical thinking, and project management
- Initiated and completed a scientific research project, resulting in a peer-reviewed publication (first author)
- Conducted a literature review of factors influencing salamanders in riparian forests
- Wrote the entire manuscript

May 2014 – Aug 2014

Research Experiences for Undergraduates Summer Internship

Kansas State University Division of Biology, Manhattan, KS

- Demonstrated skills in conducting scientific research, collaboration, written and oral communication, critical thinking, data analysis / analytics, problem solving, and project management
- Co-managed a scientific research project, from initial idea to publication, resulting in 4 presentations and a peer-reviewed publication (second author)
- Studied the effects of 3 different management strategies on breeding territory sizes of grassland songbirds in Konza Prairie, KS
- Learned how to identify grassland songbird species by sight and sound
- Worked in a 2-person team to mist-net, color-band, measure, and collect blood samples from ~80 dickcissels; conducted nest searches and monitoring for dickcissels
- Worked independently in the field and used a handheld GPS unit to map 61 male dickcissel territories; mapped 27 of the 61 territories in both June and July to compare temporal differences in size and selection
- Used ArcGIS, Geospatial Modelling Environment, and Program R to create minimum convex polygons and kernel density estimates, calculate territory areas, and analyze data
- Participated in professional development workshops

SELECTED EMPLOYMENT EXPERIENCE

July 2023 – Present

Ecologist

USDA Forest Service Northern Research Station (remote)

40 hours / week; \$750 weekly stipend

- Recruited into the USDA Forest Service Resource Assistants Program (Cohort 7)
- Demonstrated skills in conducting scientific research, collaboration, written and oral communication, critical thinking, data analysis / analytics, leadership, problem solving, and project management
- Collaborated and met regularly with scientists from the Landscape Change Research Group within the Northern Research Station
- Compiled information on the establishment and spread of emerging infectious tree diseases for a research project evaluating the ability of an artificial intelligence-based large language model to extract ecological data from scientific literature
- Took the lead on a collaborative research project modeling the relationship between climate change and forest pest damage amounts and severity across the conterminous USA
- Modeled and forecasted maps of forest pest distributions under future climate scenarios as part of the Climate Change Pest Atlas
- Contributed to a review manuscript exploring the interaction of biotic, climatic, and anthropogenic disturbances and their roles in shaping macroecological patterns in forested ecosystems

Aug 2016 – Aug 2018

Graduate Research Assistant

University of Delaware Department of Entomology and Wildlife Ecology, Newark, DE

40 hours / week; \$24,000 annual stipend

- Demonstrated skills in collaboration, written and oral communication, critical thinking, data analysis / analytics, and problem solving

- Followed established radar processing protocols to screen, process, and analyze large weather surveillance radar datasets (~19,500 days of data encompassing 8 years and 13 weather surveillance radars); updated radar processing protocols and R code to be more efficient and incorporate an online SQL database
- Maintained large SQL database with >40,000 records
- Classified synoptic weather type for >700 days

May 2016 – Jun 2016

Avian Field Technician (Grassland Birds)

Vermont Center for Ecostudies, Norwich, VT

40 hours / week; \$560 weekly stipend

- Demonstrated skills in collaboration and problem solving
- Worked in a 3-person team collecting data at Joint Base Cape Cod, MA, and Patuxent Naval Air Base, MD, as part of the Grassland Bird Migration Project
- Located, mist-netted, and banded grasshopper sparrows, eastern meadowlarks, and upland sandpipers
- Removed geolocators from grasshopper sparrows and placed satellite tags on eastern meadowlarks and upland sandpipers
- Conducted double-observer point count surveys

May 2014 – May 2016

Avian Field Technician (Waterfowl and Waterbirds)

West Virginia University Division of Forestry and Natural Resources, Morgantown, WV

10–20 hours / week; \$8 hourly salary

- Demonstrated skills in conducting scientific research, collaboration, leadership, and problem solving
- Learned waterfowl and waterbird species identification and assisted with wetland bird census surveys as part of training
- Independently performed 535 wetland bird census surveys (2 surveys, repeated 2–4 times per week) from August to May 2014–2016 at 2 created wetlands
- Counted and identified individual birds by species and sex; recorded behavior
- Coordinated and collected monthly water column and soil macroinvertebrate samples over the course of 2 field seasons
- Coordinated and conducted seasonal vegetation sampling using quadrats over the course of 2 field seasons
- Recruited, coordinated, trained, and managed 3 fellow undergraduate student volunteers over the course of 2 field seasons
- Safely operated multiple field vehicles over the course of 2 field seasons

Oct 2013 – May 2016

Research Assistant

West Virginia University Division of Forestry and Natural Resources, Morgantown, WV

10–20 hours / week; \$8 hourly salary

- Demonstrated skills in collaboration and written communication
- Conducted literature reviews and research for manuscripts and grant proposals
- Edited and formatted manuscripts for publication in a variety of scientific journals
- Wrote sections of review papers and project proposals
- Maintained the West Virginia University Environmental Research Center website and quarterly newsletter over the course of 2.5 years
- Collaborated with 2 international scientists
- Worked with little direct supervision once daily tasks were assigned

Apr 2014

Wildlife Technician (White-tailed Deer)

West Virginia University Extension Service, Morgantown, WV

5 hours / week; \$8 hourly salary

- Assisted in distance sampling study of white-tailed deer in Morgantown using forward-looking infrared (FLIR) technology
- Used a range finder to measure distance of deer from survey vehicle

Oct 2012 – May 2013, Aug 2013 – Dec 2013

Office Assistant

West Virginia University Division of Forestry and Natural Resources, Morgantown, WV

20 hours / week; \$8 hourly salary

- Demonstrated skills in oral communication and problem solving
- Performed various administrative, accounting, and secretarial tasks within the main office for the Division of Forestry and Natural Resources
- Made copies of and organized receipts and paperwork, filed student and faculty records, and shredded confidential documents
- Developed interpersonal skills and provided visitor assistance

Apr 2013 – May 2013

Research Assistant

West Virginia University Division of Forestry and Natural Resources, Morgantown, WV

5–10 hours / week; \$8 hourly salary

- Prepared and designed diagrams for publication in a book
- Conducted literature reviews; researched data and statistics

TEACHING, MENTORING, TUTORING, AND SUPERVISORY EXPERIENCE

Aug 2021 – May 2023

Supervisor for Data Processing Assistants (Undergraduate Student Workers)

West Virginia University Division of Forestry and Natural Resources, Morgantown, WV

- Supervised 2 undergraduate student workers
- Planned and led training sessions to teach students how to perform sound data analysis with Raven Pro software
- Communicated regularly to review goals and objectives, answer questions, discuss concerns, troubleshoot issues, and check on progress
- Kept track of cumulative student work hours to ensure compliance with budget restrictions

Jan 2019 – May 2023

Guest Lecturer

West Virginia University Division of Forestry and Natural Resources, Morgantown, WV

- “Introduction to Wildlife and Fisheries Resources” (WMAN 175); 80–90 students annually
 - Annually prepared and taught 3 lab lectures pertaining to avian capture techniques and lead bird banding demonstrations for students

- “Vertebrate Natural History” (WMAN 224); 50–60 students annually
 - Taught 2 lectures (“Birds: Evolution, Feathers, Flight, Beaks, and Feet”, “Birds: Intelligence, Reproduction, Migration, and Recent Extinctions”)
 - Annually co-taught 2 lab lectures pertaining to avian natural history
- “Wildlife and Fisheries Techniques” (WMAN 300); 60–70 students annually
 - Prepared and taught 2 lectures (“Bird Capture”, “Avian Field Study Design”)
- “Ornithology” (WMAN 426); 50–60 students annually
 - Prepared and taught 2 lectures (“Annual Cycles”, “Migration”)
 - Annually prepared and taught 2–4 lab lectures; assisted with additional lab lectures
 - Annually co-led lab field trips and bird banding demonstrations for students
 - Designed indoor lab student activities (for inclement weather during field trips)
- “Introduction to Quantitative Ecology” (WMAN 493B); 20 students
 - Taught 1 lecture (“Introduction to ANOVA”)

Jan 2022 – May 2022

Supervisor for Data Processing Intern (Undergraduate Student)

West Virginia University Division of Forestry and Natural Resources, Morgantown, WV

- Supervised an undergraduate student enrolled in “Professional Field Experience” (WMAN 491)
- Met on a weekly basis for 30 minutes to review goals and objectives, answer questions, discuss concerns, and troubleshoot issues; and submitted a formal evaluation of the student’s performance

Nov 2018 – May 2019, Nov 2019 – Apr 2020, Oct 2020 – Apr 2021

Bird Mist-netting and Banding Training Workshop Leader

West Virginia University Division of Forestry and Natural Resources, Morgantown, WV

- Organized a workshop series and trained a total of 12 undergraduate students over the course of 3 academic years to set up mist nets, extract birds, take bird measurements, and band birds in conjunction with an ongoing bird banding research project

Aug 2015 – Dec 2015

Teaching Assistant

West Virginia University Division of Forestry and Natural Resources, Morgantown, WV

- “Renewable Resources Policy and Governance” (FOR 421 / WMAN 421); 160 students total
 - Helped run online course and reviewed course content
 - Constructed quiz and exam questions, and graded written assignments

Sep 2013 – Dec 2013

Athletics Tutor

West Virginia University Athletics, Morgantown, WV

- Developed a study plan for a student-athlete enrolled in “Vertebrate Natural History” (WMAN 224)
- Met with the student-athlete at least once per week for tutoring sessions
- Improved the student-athlete’s academic performance in the class

Jun 2013 – Aug 2013

Mentor for Summer Science Program

United States Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, Aberdeen, MD

- Supervised 4 groups of 10–15 children in grades 5 through 7
- Developed lesson plans and led laboratory experiments related to genetics, biomedical science, toxicology, and biotechnology

VOLUNTEERING, COMMUNITY SERVICE, AND PUBLIC OUTREACH

Aug 2017 – Present

Science Communicator

Various Social Media Platforms (Online)

- Posted photos and facts about wildlife species and science topics on Facebook, Instagram, and Twitter to an audience of >3,000 people

Dec 2013 – Present

Christmas Bird Count Volunteer

Mountaineer chapter of the National Audubon Society, Morgantown, WV | Delmarva Ornithology Society, Hockessin, DE

- Participated in annual Christmas Bird Count surveys with regional ornithology organizations
- Recruited, organized, and led a team of citizen-scientists to cover specific locations within the Morgantown Christmas Bird Count circle since 2020

Sep 2018 – May 2023

Bird Banding Volunteer

West Virginia University Division of Forestry and Natural Resources, Morgantown, WV

- Assisted with bi-weekly urban bird banding as part of an ongoing West Virginia University bird banding research project
- Communicated with the public during bird banding demonstrations

Feb 2013 – May 2016, Aug 2018 – May 2023

Education and Bird Rehabilitation Volunteer

Avian Conservation Center of Appalachia, Cheat Lake, WV

- Coordinated a team of up to 5 volunteers and provided care for up to 40 rehabilitating and education birds on a weekly basis
- Trained 9 new volunteers and interns how to provide care for rehabilitating and education birds
- Presented and worked with education birds at dozens of community outreach and public education events

Feb 2018 – May 2023

“Letters to a Pre-Scientist” Participant

Letters to a Pre-Scientist Pen Pal Program (Online)

- Participated in annual training
- Wrote and exchanged letters with middle school students from disadvantaged communities
- Encouraged young students to be interested in and pursue scientific fields, using language appropriate for their grade level

Sep 2012 – May 2023

Environmental Education, Community / Public Outreach, and Bird Field Trip Volunteer

Various Organizations and Locations

- **Public Bird Viewing Station and Birding Field Trip Assistant (May 2022):** Assisted members of the public who attended shorebird viewing stations and helped to lead birding field trips in collaboration with the U.S. Fish & Wildlife Service’s Alaska Maritime National Wildlife Refuge, Homer, AK
- **Public Bird Banding Demonstration Assistant (Apr 2022):** Assisted with leading a public demonstration of mist-netting and banding birds at the West Virginia University Core Arboretum, Morgantown, WV;

showed ~20 members of the public how researchers safely capture birds to study them and answered questions about bird research

- ***Elementary School Bird Banding Demonstration Assistant (Mar 2022)***: Assisted with a demonstration of mist-netting and banding birds at Suncrest Elementary School, Morgantown, WV; explained the career of a wildlife biologist and showed captured birds to ~100 students in first grade
- ***Public Bird Banding Demonstration Co-Leader (Sep 2021)***: Assisted with leading a public demonstration of mist-netting and banding birds at the West Virginia University Core Arboretum, Morgantown, WV; showed ~25 members of the public how researchers safely capture birds to study them and answered questions about bird research
- ***Environmental Education and Outreach Exhibitor (Apr 2018)***: Talked to a diversity of people about bird migration and research at multiple public outreach events, including University of Delaware's Ag Day (community event that focuses on educating people about agriculture and natural resources) and GreenFest (sustainability festival targeting families)
- ***Wildlife Outreach Program Leader (Jan 2018)***: Led a wildlife outreach program at the Dover Public Library, DE; obtained an assortment of educational mammal, bird, and insect specimens, and talked to ~50 children, aged 3 to 16, about various bird, mammal, and insect facts
- ***Discover Life in West Virginia Volunteer (Sep 2014)***: Participated in a citizen science/community outreach program that educated the public about fisheries sampling techniques
- ***National Hunting and Fishing Days Volunteer (Sep 2012, 2013, 2014)***: Assisted the West Virginia Division of Natural Resources with multiple educational activity stations; communicated with children about wildlife and fisheries topics

WORKSHOPS / TRAINING COURSES

<i>Climate Change Training for USDA Forest Service Resource Assistants</i> USDA Forest Service Office of Sustainability and Climate	Jun 2023 – Dec 2023
<i>Write Winning Grant Proposals</i> Grant Writers' Seminars and Workshops West Virginia University	Sep 2022
<i>Turning Sound into Discovery: Including Wildlife Audio Recorders in Your Research Toolkit</i> North American Congress for Conservation Biology	Jul 2022
<i>Leadership Skills: Restoring Connections Through Productive Conflict</i> North American Congress for Conservation Biology	Jul 2022
<i>Joint Species Distribution Models: An Introduction to the Bayesian Hierarchical Modeling of Species Communities (HMSC) Package in R</i> American Ornithological Society	Jun 2022
<i>Understanding and Communicating Forestry for Wildlife Biologists</i> The Wildlife Society	Oct 2021
<i>Customized BBS Data using the bbsBayes R Package</i> American Ornithological Society	Aug 2021
<i>Understanding Molt and Aging of Passerines</i> American Ornithological Society	Aug 2021
<i>Introduction to Statistical Inference with Count Data in R</i> American Ornithological Society	Aug 2021
<i>eBird Status: Working with Modeled Products in R</i> American Ornithological Society	Aug 2021

<i>Introduction to Structured Decision-Making</i> The Wildlife Society	Sep 2020
<i>Write Winning Grant Proposals</i> Grant Writers' Seminars & Workshops West Virginia University	Oct 2018
<i>Bayesian Statistics and JAGS</i> University of Delaware	Feb 2017 – May 2018
<i>R Workshop</i> Smithsonian Migratory Bird Center	Jan 2017 – Mar 2018
<i>Software Carpentry (Bash, Python, Git) Workshop</i> University of Delaware	Aug 2017
<i>Radar Aeroecology Training Course</i> University of Oklahoma	Jul 2017

ADDITIONAL FIELD AND LAB EXPERIENCE

Bird Surveys and Trapping

- Worked in a 2-person team to conduct Neighborhood Nestwatch visits in and near Springfield and Amherst, MA – including point count surveys, songbird capture and banding, nest searching, and resight surveys Jun – Aug 2018
- Volunteered with the Delaware Shorebird Project to band and re-sight shorebirds along Delaware Bay, DE May 2018
- Participated in citizen-science winter marsh raptor surveys at multiple locations in DE Jan – Feb 2018
- Assisted with banding, measuring, aging, and sexing birds caught at the banding station located in The Nature Conservancy's Clive Runnells Family Mad Island Marsh Preserve, TX May 2017
- Assisted with point count surveys for forest songbirds in the Lewis Wetzel Wildlife Management Area, WV May 2015
- Assisted in trapping, banding, and measuring Cooper's hawks for genetic research at Krepps Park, WV Apr 2015
- Mist-netted and banded northern saw-whet owls in the West Virginia University Research Forest, WV Nov 2013, 2014
- Mist-netted, color-banded, measured, and took blood samples from 4 grassland songbird species, and conducted nest searches and monitoring for a suite of grassland songbird species in Konza Prairie, KS May – Aug 2014
- Conducted golden eagle and raptor surveys at multiple sites in WV and PA Oct 2013 – Jan 2014

Fisheries, Herpetological, and Aquatic Sampling

- Participated in constrained stream surveys for wood turtles in PA Apr 2022
- Identified, weighed, and measured fish species, collected terrestrial invertebrate input into streams, and assisted with maintenance of experimental design set-up for salmonid research in the Cedar River Municipal Watershed, Seattle, WA Jun – Jul 2015
- Assisted volunteers from the Friends of Deckers Creek with monthly fish electroshocking surveys and water quality monitoring in WV Sep 2012 – May 2015
- Collected wetland water from various sites in WV for tadpole research and assisted with maintenance of experimental design set-up Mar – Dec 2014

- Helped West Virginia Division of Natural Resources conduct a parallel wire electroshocking fish survey of Dunkard Creek, WV Sep 2014
- Collected macroinvertebrates, took water samples, and measured stream flow at multiple sites in WV Apr 2014
- Sorted macroinvertebrates in West Virginia University fisheries research lab Jan – Apr 2014
- Partnered with Chesapeake Environmental Management, Inc. and the Maryland State Highway Association to delineate wetlands, forests, and streams on an agricultural property through GIS and field verification, measure physical stream characteristics, and identify the most cost-effective way to implement reductions of nutrient and sediment loading associated with total maximum daily load requirements Jul 2011 – May 2012

Mammal and Habitat Surveys

- Participated in American black bear den checks in the Monongahela National Forest, WV, with the West Virginia Division of Natural Resources Jan 2013, 2019, 2022
- Assisted biologists from the West Virginia Division of Natural Resources with aging and weighing white-tailed deer, measuring antler beam metrics, and collecting ectoparasites and DNA samples at a deer check station in WV Nov 2014
- Checked artificial burrows and Sherman box traps for small mammals in Konza Prairie, KS May – Aug 2014
- Conducted vegetation surveys at study sites in Konza Prairie, KS, using Daubenmire frames to classify cover types and Robel poles to take visual obstruction readings May – Aug 2014

CURRENT AND RECENT LEADERSHIP ROLES

Regional

- Mountaineer chapter of the National Audubon Society 2018 – Present
 - *Board Member / Past-President* 2022 – Present
 - Attended and participated in board meetings
 - Reviewed and approved annual budget
 - Served in an advisory role to the new President and Vice President, explaining past chapter activities and operations
 - Provided guidance and expertise as knowledgeable board member
 - Managed and maintained email listserv for members
 - Managed social media content and messages
 - Assisted with meeting and program announcements
 - *Newsletter Serial Columnist* 2018 – Present
 - Initiated a new article series that focuses on science communication
 - Wrote 1+ article(s) in every bi-annual newsletter since January 2019
 - *President* 2020–2022
 - Initiated a novel Birding Backpack program in partnership with the Morgantown Public Library System; applied for and was granted \$800 in external community funding to purchase 20 binoculars for the Birding Backpacks
 - Organized and led a “birdability” initiative to document accessibility information for local public birding destinations

- Launched and maintained a novel email listserv for members, which was used to communicate announcements and upcoming activities
- Responded to public inquiries via email and social media
- Oversaw a 15% membership increase and an increase in Facebook engagement
- Acquired \$1,085 in new membership incentive matches from National Audubon Society
- Led bi-annual board meetings and presided over 11 committees
- Led monthly membership meetings in person and on Zoom
- Proposed and approved annual budgets of ~\$2,500
- Represented the chapter at public / community events
- Submitted annual chapter reports to the National Audubon Society
- Communicated with National Audubon Society Chapter Services to resolve members' questions and issues
- *Programs Committee Chair* 2020–2022
 - Arranged for guest speakers (totaling 25) at monthly programs
- *Vice President* 2019–2020
 - Attended and participated in board meetings

West Virginia University

- Davis College Graduate Student Association 2018–2023
 - *Vice President* 2021–2023
 - Acted as liaison for the Division of Forestry and Natural Resources Graduate Resources Graduate Student Association
 - Contributed and implemented ideas for bi-annual events
 - Attended student organization registration workshop
- Division of Forestry and Natural Resources Graduate Student Association 2018–2023
 - *Professional Development and Networking Committee* 2019–2023
 - Brainstormed and organized networking opportunities
 - *Fundraising Committee* 2019–2023
 - Spearheaded the creation and sale of calendars, stickers, and t-shirts as a fundraiser
 - *Graduate Seminar Series Committee* 2018–2023
 - Identified and invited speakers to give monthly departmental seminars
 - *President* 2021–2022
 - Proposed departmental funding requests
 - Oversaw an operating budget of ~\$1,500
 - Presided over 5 committees
 - Arranged bi-weekly speakers and meeting topics
 - Led bi-weekly meetings and communicated to members about upcoming events and activities on a weekly basis
 - Instituted new initiatives, including a weekly Zoom writing group
 - Managed and maintained membership roster and email list
 - Attended student organization registration workshop Attended student organization registration workshop
- Women in Natural Resources 2018–2023
 - *Treasurer* 2020–2023
 - Handled an operating budget of ~\$700
 - Developed annual budget and kept detailed financial records
 - Managed and maintained membership roster

- *Vice President* 2018–2020
 - Arranged speakers and meeting topics throughout each semester
 - Assisted in organizing the annual spring symposium
 - Led bi-weekly meetings in the absence of the President and accomplished tasks delegated by the President

PROFESSIONAL SOCIETIES

National

- American Ornithological Society 2016 – Present
- The Wildlife Society 2012 – Present
 - *Biometrics Working Group* 2023 – Present
 - *Early Career Professional Working Group* 2023 – Present
 - *Forest and Wildlife Working Group* 2018 – Present
 - *Student Development Working Group* 2012–2023
 - *Student Development Working Group Newsletter Committee and Newsletter Columnist* 2016–2018
- Society for Conservation Biology 2012 – Present

Regional

- West Virginia state chapter of The Wildlife Society 2018 – Present

West Virginia University

- Student chapter of The Wildlife Society 2012–2016, 2018–2023
 - *Guest speaker* 2018–2023
 - *Vice President* 2015–2016
 - *Secretary* 2013–2015
- Student chapter of American Fisheries Society 2012–2016, 2018–2023
- Student chapter of the Society for Conservation Biology 2012–2016
 - *President* 2014–2016
 - *Secretary* 2012–2014
 - *Founding Member* 2012
- Minorities in Agriculture, Natural Resources, and Related Sciences 2014–2016
- Gamma Sigma Delta (National Honor Society of Agriculture) 2014–2016
- Society of Environmental Professionals 2012–2016

University of Delaware

- Student chapter of The Wildlife Society 2016–2018
 - *Guest speaker* 2016–2018

SELECTED OTHER ORGANIZATIONS AND EXTRA-CURRICULAR ACTIVITIES

National Organization Membership

- National Audubon Society 2018 – Present
- Izaak Walton League of America 2012 – Present

Regional Organization Membership

- Harford County chapter of the Izaak Walton League of America 2012 – Present
- Delmarva Ornithological Society 2016–2018
 - *Conservation Committee* 2016–2018

West Virginia University

- Davis College Justice, Equity, Diversity, and Inclusion Organization 2021–2023
- Women of Color Committee 2020–2023
- Council for Gender Equity 2020–2023
- Student Organization Presidents Advisory Council 2014–2016
- Mountaineer chapter of Pheasants Forever 2014–2016
- Honors Student Association 2012–2016
- Quidditch Club 2012–2016
 - *Vice President* 2015–2016
 - *Treasurer* 2013–2014
- Fencing Club 2013–2015
- Honors Hall Council 2012–2013

University of Delaware

- College of Agriculture and Natural Resources Diversity Committee 2017–2018
- Student chapter of Ducks Unlimited 2017–2018
- Blue Hen Birding 2016–2018