Curriculum Vitae

JACOB M. HAUS

Ph.D., Associate Professor Certified Wildlife Biologist®

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 - jacob.haus@bemidjistate.edu Faculty Webpage •

EDUCATION

2017: Ph.D. in Wildlife Ecology; University of Delaware

2016: Graduate Certificate in Applied Statistics; University of Delaware

2014: M.S. in Wildlife Ecology; University of Delaware

2010: B.S. in Biology with emphasis in Ecology & Animal Behavior; Bemidji State University

PROFESSIONAL APPOINTMENTS

BEMIDJI STATE UNIVERSITY; SCHOOL OF SUSTAINABILITY AND LIFE SCIENCES:

2024 – present: Associate Professor of Wildlife Biology (tenured June 2024)

2019 – 2024: Assistant Professor of Wildlife Biology

University of Delaware; Department of Entomology & Wildlife Ecology:

2018 – 2019: Postdoctoral Research Associate

2017 – 2019: Adjunct Lecturer

2012 – 2017: Graduate Research Assistant

PUBLICATIONS

REFEREED JOURNAL ARTICLES:

- 10. Dion, J. R., A. M. Holland, J. M. Haus, J. E. Rogerson, and J. L. Bowman. 2021. Birth site selection by white-tailed deer in an area with low risk of predation. Northeastern Naturalist 28:94–105. DOI:10.1656/045.028.0108
- 9. Dion, J. R., J. M. Haus, J. E. Rogerson, and J. L. Bowman. 2020. White-tailed deer neonate survival in the absence of predators. Ecosphere 11:e03122. <u>DOI:10.1002/ecs2.3122</u>
- 8. Haus, J. M., J. R. Dion, M. M. Kalb, E. L. Ludwig, J. E. Rogerson, and J. L. Bowman. 2020. Interannual variability in survival rates for adult female white-tailed deer. Journal of Wildlife Management 84:675–684. DOI:10.1002/jwmg.21834
- 7. Haus, J. M., S. L. Webb, B. K. Strickland, K. P. McCarthy, J. E. Rogerson, and J. L. Bowman. 2020. Individual heterogeneity in habitat use has implications for survival in adult white-tailed deer. Ecosphere 11:e03064. DOI:10.1002/ecs2.3064
- 6. Holland, A. M., J. M. Haus, T. B. Eyler, M. D. Duda, and J. L. Bowman. 2020. Revisiting hunter perceptions toward chronic wasting disease; changes in behavior over time. Animals 10:187. DOI:10.3390/ani10020187 (invited; special issue)

- 5. Dion, J. R., J. M. Haus, J. E. Rogerson, and J. L. Bowman. 2019. An initial performance review of vaginal implant transmitters paired with GPS collars. Animal Biotelemetry 7:22. DOI:10.1186/s40317-019-0184-4
- 4. Haus, J. M., S. L. Webb, B. K. Strickland, J. E. Rogerson, and J. L. Bowman. 2019. Land use and dispersal influence mortality in white-tailed deer. Journal of Wildlife Management 83:1185–1196. DOI:10.1002/jwmg.21666
- 3. Haus, J. M., T. B. Eyler, and J. L. Bowman. 2019. A spatially and temporally concurrent comparison of popular density estimators for white-tailed deer. Northeastern Naturalist 26:305–324. DOI:10.1656/045.026.0207
- 2. Haus, J. M., J. A. Demchur, J. R. Dion, P. L. Habecker, and J. L. Bowman. 2018. Theileriosis identified in multiple neonatal white-tailed deer (*Odocoileus virginianus*) in Delaware, USA. Journal of Wildlife Diseases 54:885–888. DOI:10.7589/2018-02-044
- 1. Haus, J. M., T. B. Eyler, M. D. Duda, and J. L. Bowman. 2017. Hunter perception towards chronic wasting disease; implications for harvest and management. Wildlife Society Bulletin 41:294–300. DOI:10.1002/wsb.761

JOURNAL ARTICLES IN REVIEW/REVISION:

Haus, J. M., J. R. Dion, S. L. Webb, J. E. Rogerson, and J. L. Bowman. *In revision*. Parturition effects on sociality and dynamic interactions of female white-tailed deer. <u>Preprint DOI:10.21203/rs.3.rs-3352719/v1</u>

Holland, A. M., J. M. Haus, J. R. Dion, J. E. Rogerson, and J. L. Bowman. *In review*. Navigating motherhood: biological and landscape factors affecting postpartum movement in white-tailed deer.

Horton, J. R., C. Roy, J. M. Haus, and B. J. Hiller. *In review*. Greater prairie-chicken nest survival and vegetation response to conservation grazing.

THESIS & DISSERTATION:

Haus, J. M. 2017. Survival, movement, and habitat selection of adult white-tailed deer in southern Delaware. Ph.D. dissertation, University of Delaware. *Advised by Jacob L. Bowman*.

Haus, J. M. 2013. The impact of CWD on deer harvest and determining methods to estimate deer abundance. Master's thesis, University of Delaware. *Advised by Jacob L. Bowman*.

POPULAR MEDIA ARTICLES:

Haus, J. M., J. E. Rogerson, and J. L. Bowman. 2019. Bucks got wetter as they got wiser. Quality Whitetails 26(6):26–30.

Haus, J. M., J. E. Rogerson, and J. L. Bowman. 2019. Don't overlook your does; female survival drives population change. Quality Whitetails 26(2):60–62.

Haus, J. M., J. E. Rogerson, and J. L. Bowman. 2018. Danger zone; yearling buck harvest on public land. Quality Whitetails 25(5):48–52.

Dion, J. R., J. M. Haus, J. E. Rogerson, and J. L. Bowman. 2018. Born with one hoof in the grave; fawns die even without predators. Quality Whitetails 25(3):24–25.

GRANTSMANSHIP

FUNDING AWARDED:

Total: \$1,149,394 As Principal Investigator: \$511,794

FUNDED PROPOSALS: (J. M. Haus listed first when Principal Investigator)

2023: Haus, J. M., and B. J. Hiller. Efficacy of suburban archery hunting to manage deer populations. Minnesota Environment and Natural Resources Trust Fund. \$393,000.

2020: Haus, J. M. Occupancy and abundance of snowshoe hare predators on the Leech Lake

\$5,000.

2019: Bowman, J. L., and J. M. Haus. A preliminary estimate of white-tailed deer (Odocoileus

virginianus) abundance in First State National Historical Park (DE). U.S. National Park

Reservation. Bemidji State University New Faculty Scholarship and Innovation Fund.

Service. \$39,999.

2018: Haus, J. M., M. D. Duda, and J. L. Bowman. Opinions of residents, deer hunters, and

landowners on deer Management in Maryland. Maryland Wildlife and Heritage Service.

\$97,359.

2018: Bowman, J. L., E. W. Ness, and J. M. Haus. Population demographics of bobcats (*Lynx*

rufus) in western Maryland. Maryland Wildlife and Heritage Service. \$232,537.

2018: Bowman, J. L., and J. M. Haus. Habitat selection and harvest susceptibility of male wild

turkeys (Meleagris gallopavo) in southern Delaware. Delaware Division of Fish and

Wildlife. \$365,064.

2017: Haus, J. M., and J. L. Bowman. Density of white-tailed deer and sika deer on Blackwater

National Wildlife Refuge (MD). U.S. Fish and Wildlife Service. \$16,435.

PROPOSALS IN REVIEW:

2025: Haus, J. M., and M. W. Schrage. Recommended for funding. White-tailed deer survival and

habitat use on the Fond du Lac Reservation and surrounding elk restoration area – Phase I. Minnesota Environment and Natural Resources Trust Fund. \$1,441,000.

COURSES TAUGHT

BEMIDJI STATE UNIVERSITY: (regularly taught)

BIOL2610 General Ecology (3 credits, Fall)

BIOL3610 Principles of Wildlife Management (3 credits, Spring)

BIOL4520 Mammalogy (3 credits; Fall & Spring)

BIOL4530 Ecology & Management of Large Mammals (3 credits, Fall)

BIOL4780 Wildlife Management Techniques (5 credits, Spring)

BIOL4894 Advanced Research Projects I (2 credits; Fall)

BIOL4895 Advanced Research Projects II (2 credits; Spring)

UNIVERSITY OF DELAWARE: (as adjunct)

ENWC201 Wildlife Conservation & Ecology (3 credits), Fall 2018 ENWC415 Wildlife Research Techniques (3 credits), Spring 2017 – 2019

ADVISING & MENTORING

GRADUATE STUDENT ADVISEMENT:

Peterson, K. *In progress*. Environmental factors associated with anthropogenic food resource use by American black bears. Master's thesis. Bemidji State University.

Kemna, R. *In progress*. White-tailed deer spatial response to a suburban archery hunt; implications for harvest and management. Master's thesis. Bemidji State University.

Shelton, K. 2023. Occupancy and activity patterns of snowshoe hares, fishers, martens, and bobcats on the Leech Lake Band of Ojibwe Reservation. Master's thesis. Bemidji State University.

GRADUATE STUDENT COMMITTEE MEMBER:

Horton, J. 2024. Greater prairie-chicken (*Tympanuchus cupido pinnatus*) nest success and vegetation response to conservation grazing in northwestern Minnesota. Master's thesis. Bemidji State University.

Lamp, K. 2022. Occupancy, abundance, and population genetics of bobcats in western Maryland, USA. Master's thesis. University of Delaware.

UNDERGRADUATE STUDENT RESEARCH ADVISEMENT:

Cooper, D. *In progress*. Scavenger activity on white-tailed deer carcasses in a CWD management area; implications for prion dispersal. McNair Scholars Program, Bemidji State University.

Olson, H., 2024. Snowshoe hare resource use on the Leech Lake Band of Ojibwe Reservation. Student Achievement Conference, Bemidji State University.

Blegen, G. 2023. Using the Jacobson camera survey method to estimate deer density in Hobson Memorial Forest. Student Achievement Conference, Bemidji State University.

Francis, J. 2023. The impact of harvest and winter severity on deer density within the city of Bemidji, Minnesota. Student Achievement Conference, Bemidji State University.

Harris, A. 2020. Using remote photography to assess mammalian species richness in a northern coniferous forest. McNair Scholars Program, Bemidji State University.

Piazza, C. 2015. An investigation of deer abundance in urban forest fragments in northern Delaware. University of Delaware Summer Scholars Program.

Lewis, K. 2014. Seasonal variation in resource selection of juvenile male white-tailed deer. Undergraduate senior thesis, University of Delaware.

CONFERENCE PRESENTATIONS & ACTIVITY (*received award)

SELECTED PRESENTATIONS AS FIRST AUTHOR:

24. Haus, J. M. 2020. White-tailed deer movement, survival, and fawn recruitment in a predator free system. Invited presentation to the U.S. National Park Service seminar series, virtual. Oral.

- 23. Haus, J. M., J. Nawroki, and A. M. V. Fournier. 2019. Unpaid and underpaid labor as a barrier to diversity in the wildlife profession. Invited presentation to the executive committee at The Wildlife Society 26th Annual Conference, Reno, NV. Oral.
- 22. Haus, J. M., S. L. Webb, B. K. Strickland, J. E. Rogerson, and J. L. Bowman. 2019. Individual heterogeneity in habitat use has implications for survival in adult white-tailed deer. Southeast Deer Study Group 42nd Annual Meeting Louisville, KY. Oral.
- 21. Haus, J. M., J. R. Dion, J. E. Rogerson, and J. L. Bowman. 2018. White-tailed deer neonate survival in the functional absence of predators. The Wildlife Society 25th Annual Conference, Cleveland, OH. Oral.
- 20. Haus, J. M., J. E. Rogerson, J. R. Dion, and J. L. Bowman. 2018. A comparison of white-tailed deer survival rates on public versus private land; the impact of age and sex. 9th International Deer Biology Congress, Estes Park, CO. Oral.
- 19. Haus, J. M., and J. L. Bowman. 2018. Sika deer density and crop damage; does the data support farmer perceptions? Deer Advisory Council, Blackwater National Wildlife Refuge, Cambridge, MD. Oral.
- 18. Haus, J. M., J. E. Rogerson, and J. L. Bowman. 2018. Factors influencing survival of yearling male white-tailed deer in Delaware. Northeast Fish and Wildlife 74th Annual Conference, Burlington, VT. Oral.
- 17. Haus, J. M., J. E. Rogerson, and J. L. Bowman. 2018. Factors influencing survival of yearling male white-tailed deer in Delaware. Southeast Deer Study Group 41st Annual Meeting, Nashville, TN. Oral.
- 16. Haus, J. M., J. L. Bowman, J. R. Dion, and J. E. Rogerson. 2017. Sociality of adult female white-tailed deer following parturition. The Wildlife Society 24th Annual Conference, Albuquerque, NM. Oral.
- 15. Haus, J. M., J. L. Bowman, and J. E. Rogerson. 2017. Retention of expandable collars on male white-tailed deer. Northeast Fish and Wildlife 73rd Annual Conference, Norfolk, VA. Oral.
- 14. Haus, J. M., J. L. Bowman, and J. E. Rogerson. 2017. Retention of expandable collars on male white-tailed deer. Southeast Deer Study Group 40th Annual Meeting, Saint Louis, MO. Oral.
- 13. Haus, J. M., J. L. Bowman, and J. E. Rogerson. 2016. Cause-specific mortality during an outbreak of epizootic hemorrhagic disease; a case for compensatory mortality? The Wildlife Society 23rd Annual Conference, Raleigh, NC. Oral.
- 12. Haus, J. M., J. L. Bowman, and J. E. Rogerson. 2016. Cause-specific mortality during an outbreak of epizootic hemorrhagic disease; a case for compensatory mortality? Northeast Fish and Wildlife 72nd Annual Conference, Annapolis, MD. Oral.
- 11. Haus, J. M., and J. L. Bowman. 2016. Spatial ecology and harvest management of white-tailed deer in Delaware. Maryland/Delaware State Chapter of The Wildlife Society annual meeting, Georgetown, DE. Oral.
- 10. Haus, J. M., J. L. Bowman, and J. E. Rogerson. 2016. Cause-specific mortality during an outbreak of epizootic hemorrhagic disease; a case for compensatory mortality? Southeast Deer Study Group 39th Annual Meeting, Concord, NC. Oral.
- 9. Haus, J. M., J. L. Bowman, and T. B. Eyler. 2015. An evaluation of methods to estimate deer abundance. The Wildlife Society 22nd Annual Conference, Winnipeg, MB. Oral.

- 8. Haus, J. M. 2015. Tracking white-tailed deer movement for research and management. An Evening at the Hook Lecture Series. Prime Hook National Wildlife Refuge (DE). Oral.
- 7. Haus, J. M., J. L. Bowman, and T. B. Eyler. 2015. An evaluation of methods to estimate deer abundance. Southeast Deer Study Group 38th Annual Meeting, Little Rock, AR. Oral.
- 6. Haus, J. M., J. L. Bowman, and T. B. Eyler. 2014. Negative hunter attitude towards CWD; implications for harvest and management. The Wildlife Society 21st Annual Conference, Pittsburg, PA. Oral.
- 5. Haus, J. M., J. L. Bowman, and T. B. Eyler. 2014. Negative hunter attitude towards CWD; implications for harvest and management. Southeast Deer Study Group 37th Annual Meeting, Athens, GA. Oral.
- 4. Haus, J. M., J. L. Bowman, and T. B. Eyler. 2013. Variability in deer density estimators and the impact on chronic wasting disease management. The Wildlife Society 20th Annual Conference, Milwaukee, WI. Poster.
- 3. Haus, J. M., and J. L. Bowman. 2013. Summary of research in Maryland's CWD management area. Chronic Wasting Disease Interstate Meeting, Fredrick, MD. Oral.
- 2. Haus, J. M., J. L. Bowman, and T. B. Eyler. 2013. A spatially and temporally concurrent comparison of popular deer abundance estimators. Southeast Deer Study Group 36th Annual Meeting, Greenville, SC. Poster. *Best Student Poster
- 1. Haus, J. M., E. H. Rave, and R. E. Urbanek. 2010. White-tailed deer herbivory on European buckthorn (*Rhamnus cathartica*). Student Scholarship and Creative Achievement 11th annual Conference, Bemidji, MN. Oral.

SELECTED PRESENTATIONS AS COAUTHOR: (J. M. Haus listed last when presenter was a mentored student)

- 19. Kemna, R. A., S. Jones, B. J. Hiller, E. S. Michel, and J. M. Haus. 2024. Impacts of controlled archery hunting on the movement and survival of female white-tailed deer. The Wildlife Society 31st Annual Conference, Baltimore, MD. Poster.
- 18. Kemna, R. A., S. Jones, B. J. Hiller, E. S. Michel, and J. M. Haus. 2024. White-tailed deer spatial response to a controlled city archery hunt. Minnesota State Chapter of The Wildlife Society annual meeting, Bemidji, MN. Poster.
- 17. Horton, J., C. Roy, B. J. Hiller, and J. M. Haus. 2024. Greater prairie-chicken nest success and vegetation response to northwestern Minnesota conservation grazing schemes. Minnesota State Chapter of The Wildlife Society annual meeting, Bemidji, MN. Oral.
- 16. Olson, H., R. A. Kemna, T. M. Roerick, A. Sheffield, and J. M. Haus. 2024. Snowshoe hare resource use on the Leech Lake Band of Ojibwe Reservation. Minnesota State Chapter of The Wildlife Society annual meeting, Bemidji, MN. Poster.
- 15. Webb, S. L., J. L. Dykes, J. M. Haus, W. D. Gulsby, and D. G. Stewart. 2023. Spatial ecology of white-tailed deer across their range. East Texas Wildlife Expo, Jasper, TX. Poster.
- 14. Horton, J., C. Roy, B. J. Hiller, and J. M. Haus. 2023. Impacts of conservation grazing on nest success of greater prairie-chickens in northwestern Minnesota. Minnesota State Chapter of The Wildlife Society annual meeting, Brainerd, MN. Poster. *Best Student Poster

- 13. Shelton, K. C., T. M. Roerick, J. H. Gilbert, and J. M. Haus. 2023. Occupancy and activity patterns of snowshoe hare, marten, fisher, and bobcat within the Leech Lake Band of Ojibwe Reservation. Minnesota State Chapter of The Wildlife Society annual meeting, Brainerd, MN. Oral.
- 12. Lamp, K. J., A. M. Holland, J. M. Haus, H. Spiker, L. P. Waits, and J. L. Bowman. 2022. Assessment of genetic sampling methods for bobcats in western Maryland, USA. The Wildlife Society 29th Annual Conference, Spokane, WA. Oral.
- 11. Shelton, K. C., T. M. Roerick, J. H. Gilbert, and J. M. Haus. 2021. Abundance and occupancy of snowshoe hare predators on the Leech Lake Band of Ojibwe Reservation. The Wildlife Society 28th Annual Conference, virtual. Poster.
- 10. Lamp, K. J., B. Yalcinkaya, A. M. Holland, J. M. Haus, K. P. McCarthy, W. G. Shriver, H. Spiker, L. P. Waits, and J. L. Bowman. 2021. Using noninvasive survey methods to evaluate occupancy and abundance of bobcats in western Maryland, USA. The Wildlife Society 28th Annual Conference, virtual. Poster.
- 9. Harris, A. S., and J. M. Haus. 2021. Mammalian activity patterns and temporal segregation in a northern conifer forest. 81st Annual Midwest Fish and Wildlife Conference, virtual. Poster.
- 8. Holland, A. M., J. M. Haus, T. B. Eyler, M. D. Duda, and J. L. Bowman. 2020. Revisiting hunter perceptions toward chronic wasting disease: changes in behavior over time. Southeast Deer Study Group 43rd Annual Meeting, Auburn, AL. Oral.
- 7. Hardman, D. A., A. M. Holland, J. M. Haus, J. R. Foth, and J. L. Bowman. 2020. Male eastern wild turkey survival in Delaware. The Wildlife Society 27th Annual Conference, virtual. Poster.
- 6. Lamp, K. J., B. Yalcinkaya, A. M. Holland, J. M. Haus, K. P. McCarthy, W. G. Shriver, H. Spiker, L. P. Waits, and J. L. Bowman. 2020. Occupancy, abundance, and population genetics of bobcats in western Maryland, USA. The Wildlife Society 27th Annual Conference, virtual. Poster.
- 5. Hardman, D. A., J. M. Haus, J. R. Foth, and J. L. Bowman. 2019. Harvest rates of adult and juvenile eastern wild turkeys in Delaware. The Wildlife Society 26th Annual Conference, Reno, NV. Poster.
- 4. Lamp, K. J., J. M. Haus, H. Spiker, L. P. Waits, and J. L. Bowman. 2019. Assessment of noninvasive surveying methods for bobcats in western Maryland. The Wildlife Society 26th Annual Conference, Reno, NV. Poster.
- 3. Dion, J. R., J. M. Haus, J. L. Bowman, and J. E. Rogerson. 2018. White-tailed deer neonate survival in the functional absence of predators. Southeast Deer Study Group 41st Annual Meeting, Nashville, TN. Oral.
- 2. Bowman, J. L., J. M. Haus, D. M. Kalb, and T. B. Eyler. 2018. The history and management of sika deer in Maryland. 9th International Deer Biology Congress, Estes Park, CO. Oral.
- 1. Dion, J. R., J. L. Bowman, J. M. Haus, and J. E. Rogerson. 2017. Twenty years of the modern vaginal implant transmitter; then and now. Northeast Fish and Wildlife 73rd Annual Conference, Norfolk, VA. Oral.

SYMPOSIUMS & PANEL DISCUSSIONS:

Invited panel member. 2022. *A future PI training session: how do I get the job, and what do I do once I have it*? The Wildlife Society 29th Annual Conference, Spokane, WA.

Invited panel member. 2015. *Wildlife Capture Techniques for Research and Management*. The Wildlife Society 22nd Annual Conference, Winnipeg, MB.

CONFERENCE & WORKSHOP ORGANIZATION:

Lead organizer. 2024. *Passing the torch; preparing our future wildlife professionals for the challenges ahead.* Minnesota State Chapter of The Wildlife Society annual meeting. Bemidji, MN.

Lead organizer. 2021. *Leadership through conservation challenges*. Minnesota State Chapter of The Wildlife Society summer workshop. Virtual.

PROFESSIONAL SERVICE & MEMBERSHIP

ELECTED OFFICE:

| 2024 – present: | President; Minnesota Chapter of The Wildlife Society Executive Board |
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| 2023 – 2024: | President-Elect; Minnesota Chapter of The Wildlife Society Executive Board |
| 2020 – 2022: | Member-at-Large; Minnesota Chapter of The Wildlife Society Executive Board |
| 2017 – 2019: | Treasurer; Maryland-Delaware Chapter of The Wildlife Society Executive Board |

SERVICE TO COMMUNITY & PROFESSIONAL SOCIETIES:

| 2021 – present: | Member; Chronic Wasting Disease Action Coalition |
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| 2019 – present: | Advisor; City of Bemidji Deer Management Committee |
| 2019 – present: | Faculty advisor; Bemidji State University student chapter of The Wildlife Society |

2018 – present: Abstract reviewer; The Wildlife Society National Conference

SERVICE TO BEMIDJI STATE UNIVERSITY:

| 2023 – present: | Member-at-Large, Academic Program Marketing Group |
|-----------------|--|
| 2022 – present: | Biology department representative, Faculty Senate |
| 2022 – present: | BIO Fund committee member, Department of Biology |
| 2022 – present: | Graduate faculty representative [committees served: 1] |

PEER-REVIEW ACTIVITY:

Invited Reviewer: Journal of Wildlife Management [11], Wildlife Society Bulletin [7], Ecology and

Evolution [4], Journal of Fish and Wildlife Management [3], Northeastern Naturalist [2], Urban Ecosystems [2], Diversity [1], Ecology [1], Evolutionary Ecology [1], Human-Wildlife Interactions [1], PLoS ONE [1], Wildlife Biology [1]

Total: 35

PROFESSIONAL MEMBERSHIP:

2019—present: American Society of Mammalogists

2010—present: National Deer Association

2008—present: The Wildlife Society

- Certified Wildlife Biologist® (2020)

- Minnesota State Chapter

- Hunting, Trapping, & Conservation Working Group

- Spatial Ecology & Telemetry Working Group

- College & University Education Working Group

AWARDS & HONORS

- 2023: Rising Star in Wildlife Education Award. The Wildlife Society College & University Education Working Group.
- 2022: Service to Chapter Award. Minnesota State Chapter of The Wildlife Society.
- 2013: Outstanding Student Poster Presentation, 1st Place, Southeast Deer Study Group 36th Annual Meeting, Greenville, SC.

CONFERENCE TRAVEL AWARDS: (\$3,650)

- 2019: Leadership Institute Travel Grant. The Wildlife Society 26th Annual Conference, Reno, NV. \$1,600.
- 2015: Student Travel Grant. The Wildlife Society 22nd Annual Conference, Winnipeg, MB. \$450.
- 2015: Professional Development Award. University of Delaware Office of Graduate and Professional Education. \$500.
- 2013: Student Research Travel Award. University of Delaware Department of Entomology and Wildlife Ecology. \$500.
- 2013: Professional Development Award. University of Delaware Office of Graduate and Professional Education. \$600.

PROFESSIONAL DEVELOPMENT & CERTIFICATIONS

- 2023: Protection of Human Subjects in Research; Social, Behavioral, and Educational. Collaborative Institutional Training Initiative.
- 2019: Leadership Institute. The Wildlife Society.
- 2017: Responsible Conduct of Research. Office of Graduate and Professional Education. University of Delaware, Newark, DE.
- 2016: AniMove Workshop: Fundamentals of Animal Movement Analysis. Senckenberg Biodiversity and Climate Research Center, Frankfurt, Germany.
- 2014: Rocket Net Explosives Safety Training. USDA-APHIS Wildlife Services. Atlantic City, NJ.
- 2013: Chemical Immobilization of Animals Workshop. Safe-Capture International, Inc. Laurel,
- 2003: Advanced Hunter Education Certification. Minnesota Department of Natural Resources.
- 2000: Firearms Safety Certification. Minnesota Department of Natural Resources.