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Education

Ph.D., 1995. University of Minnesota, Wildlife Conservation.
M.S., 1988. University of Minnesota, Wildlife. Plant Physiology Minor.
B.S., 1984. Cornell University, Division of Biological Sciences.

Current Positions

Associate Professor, Biology Department, University of Minnesota Duluth. 2014 to present.
Senior Research Associate, Forest and Lands Initiative, Natural Resources Research Institute,
University of Minnesota, 2013 to present.
Graduate Faculty, Conservation Biology, Univ. of Minnesota-Twin Cities. Fall 2005 to present.
Graduate Faculty, Integrated BioSciences, Univ. of Minnesota Duluth. Fall 2004 to present.

Graduate Courses Taught

Integrated BioSciences 8993, Graduate Seminar. Spring 2014, Spring 2018.
Integrated BioSciences 8020, Colloquia. Fall 2010, Spring 2010.
Integrated BioSciences 8201, Ecological Processes. Spring 2007.
Biology 5868, Conservation Biology. 2013, 2015, 2016, 2017.

Undergraduate Courses Taught

Biology 3987, Senior Seminar. 2013, 2014.
Biology 3993, Laboratory Teaching Experience. 2006, 2012.
Biology 3994, Undergraduate Research. 2013, 2014.
Biology 3996, Internship in Biology. 2013, 2014.
Biology 4764, Mammalogy. 2003-2017, every Fall semester.
Biology 4802, Evolution. Fall 2008, Spring 2009, Fall 2011.
Biology 4891, Animal Behavior. Spring 2006.
Biology 4892, Animal Behavior Laboratory. Spring Semester, 2000.

Professional Experience

Adjunct Assistant Professor, Biology Department, University of Minnesota Duluth. 2011 to 2014.
Assistant Professor (non-tenure track), Biology Dept., University of Minnesota Duluth, 2004 to 2011.
Research Associate, Center for Water and the Environment, Natural Resources Research Institute,
University of Minnesota, 1998 to 2013.
“Star Performer” outstanding researcher award; awarded to acknowledge exemplary work in research at
the University of Minnesota in 2006.
Visiting Assistant Professor, Dept. of Biology. University of North Dakota, Grand Forks. 2001-2002.
Introductory Biology 150, Ecology 332, Biometry 470.
Research Associate, Department of Fisheries and Wildlife, University of Minnesota, 1995 to 1998.
Visiting Scientist, Macaulay Land Use Research Institute, Aberdeen, Scotland, March 1998.
Research Assistant and/or Teaching Assistant, Department of Fisheries and Wildlife, University of
Minnesota, June 1986 to March 1995.

Proposals and Contracts (since 2003)

In brief: Total grants awarded to me since 2003: \$4,292,000
Active grants as of 12/31/2017: \$1,416,000
Remaining to be spent on active grants: \$ 300,000

Current Funding -- Active Grants

2018. MN Dept. of Natural Resources. Bat Acoustic Detection at Soudan Mine. 4/12/2018 – 12/3/2018. \$5,762.
2017. MN Dept. of Natural Resources. Wood Turtle Project, Phase 2 Pt 2. July 28, 2017 - June 30, 2018. ~\$45,603.
2016. Improving brook trout stream habitat through beaver management. Subcontract with Bemidji State University; main sponsor LCCMR. \$96,500.
2015. Defining Endangered Bat Habitat for Summer Forest Management. Subcontract with MN DNR; main sponsor LCCMR. ~\$1,260,000 project, to UM: \$1,016,054.
2015. Determining Population Size of Carnivores with Genetics and Cameras. LCCMR. ~\$200,000.
2015. Northeast Minnesota Bat Research. National Council on Air and Stream Improvement. \$28,500.

Finished Grants

2017. MN Dept. of Natural Resources. Little Brown Bat Telemetry Project at Lake Vermilion-Soudan mine. June 22, 2017 - June 30, 2017. ~\$5,000.
2017. MN Dept. of Natural Resources. Wood Turtle Project, Phase 2 Pt 1. April 6, 2017 - June 30, 2017. ~\$25,000.
2015. American marten research with MN DNR. MN DNR. ~\$48,000.
2015. White-tailed deer research with MN Zoo. MN Zoo. ~\$19,250.
2015. Climate Change Adaptation in Quetico Provincial Park. With L. Frelich, UM Twin Cities, Forest Resources Department. Quetico Foundation. ~\$11,634.
2015. Northeast Minnesota Bat Research. MN DNR / Blandin Foundation. \$7,500.
2015. Moose, wolf, and deer research with MN Zoo. MN Zoo. ~\$88,850.
2014. Active learning: Radiotracking raccoons and skunks at UMD. Chancellor's Small Grant. \$4,000.
2014. Climate Change Adaptation on Tribal Lands. With L. Frelich, UM Twin Cities, Forest Resources Bureau of Indian Affairs. ~\$15,000.
2014. Turtle Telemetry. MN DNR. ~\$90,000.
2013. White-tailed deer research with MN DNR. MN DNR. ~\$43,000.
2013. Wolves in Voyageurs National Park, phase II. Voyageurs National Park. ~\$12,000.
2013. White-tailed deer and wolf research with MN Zoo. MN Zoo. ~\$69,000.
2013. Moose and wolves in Voyageurs National Park. Voyageurs National Park. \$12,000.
2013. NPS Climate Change Initiative. S. Windels, R.A. Moen and Lee Frelich. Effects of Climate Change in Upper Midwest National Parks. ~\$350,000.
2013. Moose Habitat Restoration Techniques in Northeastern Minnesota. LCCMR. \$200,000.
2012. Moose Habitat Restoration Phase I. NE MN Moose Habitat Collaborative. \$960,000 to MDHA. ~\$50,000 to UMD.
2014. American marten research with MN DNR. MN DNR. ~\$10,000.

2013. American marten research with MN DNR. MN DNR. ~\$10,000.
2013. Canada Lynx Survey, United Taconite Fairlane Plant. United Taconite. \$22,400.
2010. Legislative Citizen Committee on Minnesota Resources. Identifying Critical Habitats for Moose in Northeastern Minnesota. **R. Moen**, M. Lenarz, M. Schrage, A. Edwards, and M. Johnson. \$510,000.
2010. Tribal Wildlife Grants Program. Mooz (Moose) Habitat Use in a Changing Climate. S. Moore, A. Edwards, and **R. Moen**. \$199,999.
2010. Environmental Protection Agency Great Lakes Restoration Initiative. Restoring moose foraging habitat in Lake Superior Uplands. \$198,000.
2009. USGS-NPS Research Program. S. Windels, **R.A. Moen** and M.E. Nelson. Investigate Effects of Climate Change and Other Factors on Population Viability of Moose in Voyageurs National Park, MN. \$307,551.
2009. Lake Superior Coastal Zone Program. Bats and wind along the North Shore of Lake Superior. \$20,000.
2009. Great Lakes Indian Fish and Wildlife Commission. Lake Superior Carnivore Monitoring. \$5,000.
2008. Grand Portage National Monument. Beaver Populations in Grand Portage National Monument and the Grand Portage Indian Reservation. **R. Moen** and S. Moore. \$18,985.
- 2003-2009. Superior National Forest, US Forest Service. Partnership agreements for Canada lynx project on Superior National Forest. \$237,000.
2006. Tribal Landowners Incentive Program, USFWS. **R.A. Moen**, G. Host, G.J. Niemi, and B. Whiting (Grand Portage Indian Reservation). Identification of suitable habitat for Canada lynx -- Bizhiw -- in the Grand Portage area and northeastern Minnesota within 1854 Ceded Territories. \$141,000.
- 2003-2009. National Council on Air and Stream Improvement. **R.A. Moen** and G.J. Niemi. Canada lynx and snowshoe hare habitat use interactions. \$70,000.
2008. MN Department of Natural Resources. Marten studies in northeastern Minnesota. \$20,000.
2006. UMD Northland Advanced Transportation Systems Research Laboratories FY 2006 Summer Project Initiatives. **R.A. Moen** and G.J. Niemi. Animal-Vehicle Collisions and Road-Crossings—Detecting Responses. \$10,000.
2005. U.S. Fish and Wildlife Service. **R.A. Moen** and J. Mayasich. Terrestrial snail status assessment. \$20,000.
2005. Minnesota Dept. of Natural Resources. **R.A. Moen** and G.J. Niemi. Canada lynx ecology in Minnesota (CLEM). \$180,000. 2005-2007.
2005. UMD Chancellor's Faculty Small Grants Program. **R.A. Moen** and L.A. Shannon. Minnesota Mammals Website Project. \$1,410. 2005-2006.
2005. National Park Service, DOI. **R.A. Moen** and G.J. Niemi. Improve Limited Knowledge of Ecology and Population Status of Threatened Canada Lynx in Voyageurs National Park. \$100,000.
2003. US Geological Service. Canada lynx project on Superior National Forest in Northeastern Minnesota. ~\$250,000. 2003-2005.

Refereed Publications (57 total; names of student co-authors are underlined)

1. **Moen, R.A.** and Y. Cohen. 1989. Growth and competition between *Potamogeton pectinatus* L. and *Myriophyllum exalbescens* Fern. in experimental ecosystems. *Aquatic Botany* 33:257-270.
2. **Moen, R.A.**, J. Pastor, and Y. Cohen. 1990. Effects of beaver and moose on the vegetation of Isle Royale National Park. *Alces* 26:51-63.
3. Cohen, Y., P. Radomski, **R. Moen**. 1993. Assessing the interdependence of assemblages from Rainy Lake Fisheries data. *Canadian Journal of Fisheries and Aquatic Sciences* 50(2):402-409.
4. Yeakley, A., **R.A. Moen**, D.D. Breshears, and M.K. Nungasser. 1994. Response of North American ecosystem models to multi-annual periodicities in temperature and precipitation. *Landscape Ecology* 9:249-260.
5. Jordan, P.A., **R.A. Moen**, E.G. DeGayner, and W.C. Pitt. 1995. Trap-and-shoot and sharpshooting methods for control of urban deer: the case history of North Oaks, Minnesota. Pages 97-104 in J.B. McAninch, ed. *Urban Deer - a manageable resource?* Proceedings of the 1993 symposium of the North Central Section, The Wildlife Society. 175 pp.
6. **Moen, R.A.**, J. Pastor, and Y. Cohen. 1996. Interpreting behavior from activity counters in GPS collars on moose. *Alces* 32:101-108.
7. **Moen R.A.**, J. Pastor, Y. Cohen, and C.C. Schwartz. 1996. Effects of moose movement and habitat use on GPS collar performance. *Journal of Wildlife Management* 60:659-668.
8. Rodgers, A.R., R.S. Rempel, **R.A. Moen**, J. Paczkowski, C.C. Schwartz, E.J. Lawson, and M.J. Gluck. 1997. GPS collars for telemetry studies: a workshop. *Alces* 33:203-210.
9. Pastor, J., **Moen, R.A.**, and Cohen, Y. 1997. Spatial heterogeneities, carrying capacity, and feedbacks in animal-landscape interactions. *Journal of Mammalogy* 78:1040-1052.
10. **Moen, R.A.**, J. Pastor, and Y. Cohen. 1997. Accuracy of GPS telemetry collar locations with differential correction. *Journal of Wildlife Management* 61:530-539.
11. **Moen, R.A.**, J. Pastor, and Y. Cohen. 1997. A spatially explicit model of moose foraging and energetics. *Ecology* 78:505-521.
12. **Moen, R.A.** and G.D. DelGiudice. 1997. Simulating nitrogen metabolism and urinary urea nitrogen: creatinine ratios in ruminants. *Journal of Wildlife Management* 61:881-894.
13. **Moen, R.A.**, B.A. Crooker, and W.J. Weber. 1997. Use of a simulation model to detect effects of bST on body composition of lactating Holstein cows. *Journal of Animal Science* 75(Suppl. 1):56.
14. **Moen, R.A.**, Y. Cohen, and J. Pastor. 1998. Linking moose population and plant growth models with a moose energetics model. *Ecosystems* 1:52-63.
15. **Moen, R.A.**, J. Pastor, and Y. Cohen. 1998. Corrigendum: Accuracy of GPS telemetry collar locations with differential correction. *Journal of Wildlife Management* 62:808-810.
16. **Moen, R.A.** and J. Pastor. 1998. Simulating antler growth and energy, nitrogen, calcium, and phosphorus metabolism in caribou. *Rangifer Special Issue Number* 10:85-97.
17. Pastor, J., B. Dewey, **R.A. Moen**, Y. Cohen, D.J. Mladenoff, and M. White. 1998. Spatial patterns in the moose-forest-soil ecosystem on Isle Royale, Michigan, USA. *Ecological Applications* 8(2):411-424.
18. Moen, A.N. and **R.A. Moen**. 1998. Metabolic ratios for estimating energy metabolism in moose. *Alces* 34:181-187.
19. **Moen, R.A.** and J. Pastor. 1998. A model to predict nutritional requirements for antler growth in moose. *Alces* 34:59-74.
20. Cohen, Y., J. Pastor, and **R.A. Moen**. 1999. Bite, Chew, and Swallow. *Ecological Modelling* 116:1-14.
21. Pastor, J., K. Standke, K. Farnsworth, **R.A. Moen** and Y. Cohen. 1999. Further development of the Spalinger-Hobbs mechanistic foraging model for free-ranging moose. *Canadian Journal of Zoology* 77:1505-1512.
22. Pastor, J., Y. Cohen, and **R.A. Moen**. 1999. Generation of spatial patterns in boreal forest landscapes. *Ecosystems* 2:439-450.

23. **Moen, R.A.**, J. Pastor, and Y. Cohen. 1999. Antler growth and extinction of Irish elk. *Evolutionary Ecology Research* 1:235-249.
24. **Moen, R.A.**, DelGiudice, G.D., Garrott, R.A., and R.O. Peterson. 2000. Urinary metabolites for enhancing ecological interpretations: a workshop. *Alces* 36:269-272.
25. **Moen, R.A.**, J. Pastor, and Y. Cohen. 2001. Effects of animal activity on GPS telemetry location attempts. *Alces* 37:207-216.
26. DelGiudice, G.D., **R.A. Moen**, F.J. Singer, and M.R. Riggs. 2001. Winter nutritional restriction and simulated body condition of Yellowstone elk and bison before and after the fires of 1988. *Wildlife Monographs*: 147:1-60.
27. Pastor J. and **R.A. Moen**. 2004. Palaeontology - Ecology of ice-age extinctions. *Nature*. 431:639-640.
28. Burdett, C.L., **R.A. Moen**, G.J. Niemi, and L.D. Mech. 2007. Defining space use and movements of Canada lynx with global positioning system telemetry. *Journal of Mammalogy* 88(2):457-467.
29. McCann, N.P., **R.A. Moen**, and G.J. Niemi. 2008. Using pellet counts to estimate snowshoe hare numbers in Minnesota. *Journal of Wildlife Management* 72:955-958.
30. **Moen, R.A.**, C.L. Burdett, and G.J. Niemi. 2008. Movement and Habitat use of Canada Lynx during denning in Minnesota. *Journal of Wildlife Management* 72:1507-1513.
31. **Moen, R.**, J.M. Rasmussen, C.L. Burdett, and K.M. Pelican. 2010. Hematology, serum chemistry, and body mass of free-ranging and captive Canada lynx in Minnesota. *Journal of Wildlife Diseases* 46:13-22.
32. McGraw, A.M., **R. Moen**, et al. 2010. An advisory committee process to plan for moose in Minnesota. *Alces* 46:189-200.
33. McCann, N. and **R.A. Moen**. 2011. Mapping potential core areas for lynx (*Lynx canadensis*) using snowshoe hare (*Lepus americanus*) pellet counts and satellite imagery. *Canadian Journal of Zoology* 89:509-516.
34. McGraw, A.M., **R.A. Moen**, and M. Schrage. 2011. Characteristics of Post-Parturition Areas of Moose in Northeast Minnesota. *Alces* 47:113-124.
35. **Moen, R.A.**, M.E. Nelson, and A. Edwards. 2011. Using cover type composition of home ranges and VHF telemetry locations of moose to interpret aerial survey results in Minnesota. *Alces* 47:101-112.
36. **Moen, R.A.**, S.K. Windels, and B. Hansen. 2012. Lynx habitat in and near Voyageurs National Park. *Natural Areas Journal* 32:348-355.
37. McGraw, A.M., **R.A. Moen**, and L. Overland. 2012. Effective Temperature Differences among Cover Types in Northeast Minnesota. *Alces* 48:45-52.
38. McCann, N., **R. Moen**, and T. Harris. 2013. Warm-season heat stress in moose (*Alces alces*). *Canadian Journal of Zoology* 91(12):893-898.
39. McGraw, A.M., J. Terry, and **R. Moen**. 2014. Pre-Parturition Movement Patterns and Birth Site Characteristics of Moose in Northeast Minnesota. *Alces* 50:93-103.
40. Cyr, T., S.K. Windels, **R. Moen**, and J. Warmbold. 2014. Diversity and abundance of terrestrial gastropods in Voyageurs National Park: Implications for risk of individual moose to *Parelaphostrongylus tenuis* infection. *Alces* 50:121-132.
41. Robinson, S., D. Neitzel, **R. Moen**, J. Ueber, K. Hamilton, D. Mulla, U. Munderloh, P. Redig, L. Johnson, K. Smith, C. Turner, M. Craft, K. Pelican. 2014. Disease risk in a dynamic environment: the spread of tick-borne diseases in Minnesota, USA. *Ecohealth* 12:152-163.
42. Olson, B., S.K. Windels, M. Fulton, **R. Moen**. 2014. Fine-Scale Temperature Patterns in the Southern Boreal Forest: Implications for the Cold-Adapted Moose. *Alces* 50:105-120.
43. VanderWaal, K.L., S.K. Windels, B.T. Olson, T. Vannatta, and **R. Moen**. 2015. Landscape influence on spatial patterns of meningeal worm and liver fluke infection in white-tailed deer. *Parasitology* 142:706-718.

44. Licht, D.S., **R. Moen**, P. Brown, M. Romanski, and R. Gitzen. 2015. The Canada Lynx of Isle Royale: overharvest and climate change in the extirpation of an island population. *Canadian Field Naturalist* 129:139-151.
45. Brown, D.J., M. Schrage, D. Ryan, **R.A. Moen**, M.D. Nelson, and R.R. Buech. 2015. *Glyptemys insculpta* (Wood Turtle): Longevity in the Wild. *Herpetological Review* 46(2):243-244.
46. Portinga, R.L. and **R. Moen**. 2015. Measuring actual and effective browse availability for moose using a new method in northeastern Minnesota. *Alces* 51: 107–122.
47. Cochrane, M.M., **R. Moen**, and D.J. Brown. 2015. *Glyptemys insculpta* (Wood Turtle) nest predation. *Herpetological Review* 46:618.
48. Street, G.M., J. Fieberg, A.R. Rodgers, M. Carstensen, R. Moen, S.A. Moore, S.K. Windels, and J.D. Forester. 2016. Habitat functional response mitigates reduced foraging opportunity across bioclimatic gradients: implications for animal fitness and space use. *Landscape Ecology* 31:1939–1953.
49. McCann, N.P., R.A. Moen, and S.K. Windels. 2016. Influence of temperature on summer bed site selection by moose (*Alces alces*). *Wildlife Biology* 22(5):228-237.
50. Brown, D.J., M.M. Cochrane, and R. Moen. 2017. Survey and Analysis Design for Wood Turtle Abundance Monitoring Programs. *Journal of Wildlife Management* 81:868-877. DOI: 10.1002/jwmg.21249.
51. Olson, B.T., S.K. Windels, R.A. Moen, and N.P. McCann. 2016. Moose modify bed sites in response to high temperatures. *Alces* 52:153-160.
52. Rick, J., **R. Moen**, J. Erb, and J.L. Strasburg. 2017. Population structure and gene flow in a newly harvested gray wolf (*Canis lupus*) population. *Conservation Genetics* 18:1091-1104. doi: 10.1007/s10592-017-0961-7.
53. Ditmer, M.A., R.A. Moen, S.K. Windels, J.D. Forester, T. Ness and T.R. Harris. 2017. Moose at their bioclimatic edge alter their behavior based on weather, landscape, and predators. *Current Zoology* zox047, <https://doi.org/10.1093/cz/zox047>.
54. Licht, D.S., **R. Moen**, and M. Romanski. 2017. Modeling Viability of a Potential Canada Lynx Reintroduction to Isle Royale National Park. *Natural Areas Journal* 37:170-177.
55. Vannatta, J.T. and **R. Moen**. 2016. Giant Liver Fluke in Moose: Just a Fluke? *Alces* 52:117-139.
56. Unger, T., **R. Moen**, and J.L. Strasburg. 2017. A methodological comparison among DNA source types for moose genotyping. *Alces* 53:000-000.
57. Thornton, D., A. Wirsing, C. Lopez-Gonzalez, J. Squires, S. Fisher, K. Larsen, A. Peat, M. Scraftford, **R. Moen**, A. Scully, T. King, and D. Murray. 2017. Asymmetric cross-border protection of peripheral transboundary species. *Conservation Letters* 00:e12430. <https://doi.org/10.1111/conl.12430>.

Manuscripts in review or accepted

1. Escobar, L., K. VanderWaal, R. Moen, M. Craft, and T.R. Harris. Parasites Transmission Risk from White-tailed Deer to a Declining Moose population. *Canadian Journal of Zoology*, *in review*.
2. Cochrane, M.M., Brown, D.J., Nelson, M.D., Buech, R.R., Schrage, M., Ryan, D., & Moen, R.A. Status of a wood turtle (*Glyptemys insculpta*) population in northeastern Minnesota. *Herpetological Conservation and Biology*, accepted.
3. Joyce, M. J. Erb, and **R. Moen**. Effects of age, sex, and population dynamics on dispersal in a solitary, territorial carnivore. *Oikos*, *in review*.

Manuscripts nearing submission or in revision

4. Vannatta, J.T. and **R. Moen**. *Fascioloides magna* and *Taenia hydatigena* from Hunter Harvested White-tailed Deer. *Journal of Wildlife Diseases*, *in revision*.

5. Unger, T.L., **R. Moen**, and J.L. Strasburg. Prevalence of genetic polymorphisms in Minnesota moose associated with prion disease in other cervid populations. *Journal of Wildlife Diseases*, in revision.
6. Terry, J. and **R. Moen**. The Effects of Habitat and Host Activity on Larval Winter Tick (*Dermacentor albipictus*) Densities. *Journal of Wildlife Diseases*, in review.
7. Terry, J. and **R. Moen**. Comparison of Flagging and Walking Surveys on Winter Tick (*Dermacentor albipictus*) Sampling Density. *To be submitted to Journal of Wildlife Diseases*.
8. Alston, J.M., C.J. Reno, and **R. Moen**. Aquatic habitat use by moose (*Alces alces*) at their southern range boundary. *To be submitted to Alces*.
9. Cyr, T. and **R. Moen**. *Parelaphostrongylus tenuis* infection in gastropods climbing on vegetation in Northeastern MN, testing for parasite manipulation of the host's behavior. *Journal of Wildlife Diseases*, in review.
10. Ness, T.E. and **R. Moen**. Accuracy testing of a prototype accelerometer on a captive moose (*Alces alces*). *To be submitted to Alces*.
11. Abel, R.L. and **R.A. Moen**. Bat activity and habitat use in Northeastern Minnesota. *Journal of Mammalogy*, in revision.
12. Cyr, T. and **R. Moen**. Prevalence of *Parelaphostrongylus tenuis* in gastropod populations in terrestrial habitats with implications for the moose population. *To be submitted to Canadian Journal of Zoology*.
13. Terry, J. and **R. Moen**. The Extent of Overlap between Spring and Fall Moose (*Alces alces*) Paths. *To be submitted to Alces*.
14. **Moen, R.**, K. Hennig, Steve Windels, and Lee Frelich. Species range maps to create distribution records for species range projections with climate change. *To be submitted to Global Change Biology*.
15. Ibrahim, Y. and **R. Moen**. Seasonal Diet Composition of Gray Wolves (*Canis lupus*) in Northeastern Minnesota Determined by Scat Analysis. *To be submitted Journal of Wildlife Management*.
16. **Moen, R.A.**, S.K. Windels, G.D. DelGiudice, and ... Science paper on deer/wolves/moose. Close to being done.
17. **Moen, R.A.**, M.E. Nelson, and C.L. Burdett. Extra-territorial movements in a southern population of Canada lynx. *In revision*.
18. **Moen, R.A.**, L. Terwilliger, A.R. Dohmen, and S.C. Catton. In revision. Use of transportation corridors by Canada lynx. *To be submitted to Conservation Biology*.
19. Burdett, C.L., **R.A. Moen**, and G.J. Niemi. Evaluating fine-scale habitat selection of Canada lynx with a distance-based use metric. *In revision*.
20. Gaete, S., E. Schuttler, R.C. Bustamente, and **R. Moen**. Diet and activity patterns of *Leopardus guigna* in relation to prey availability in forest fragments of the Chilean temperate rainforest.
21. Terwilliger, L.A. and **R. Moen**. Interpolating missed GPS location attempts from successful GPS location attempts in Canada lynx (*Lynx canadensis*).

Technical Reports (www.nrri.umn.edu/lynx, www.d.umn.edu/~rmoen or d-commons.d.umn.edu)

1. **Moen, R.**, G. J. Niemi, C. Burdett, and L. D. Mech. 2004. Canada lynx in the Great Lakes region. 2004 Annual report. NRRI Technical Report No. NRRI/TR-2004-33.
2. **Moen, R.**, G. J. Niemi, C. Burdett, and L. D. Mech. 2004. Canada lynx in the Great Lakes region. 2003 Annual report. NRRI Technical Report No. NRRI/TR-2004-01.
3. **Moen, R.A.**, A. Peterson, and J. Mayasich. 2006. Terrestrial snail status assessment. NRRI Technical Report No. NRRI/TR-2005/34.
4. **Moen, R.**, G.J. Niemi, C. Burdett, and L. D. Mech. 2006. Canada lynx in the Great Lakes region. 2005 Annual report. NRRI Technical Report No. NRRI/TR-2006-16.
5. **Moen, R.**, G.J. Niemi, J. Palakovich, and C. Burdett. 2006. Snowtrack surveys for Canada lynx presence in Minnesota west of Highway 53. NRRI Technical Report No. NRRI/TR-2006-17.
6. Burdett, C.L., E.L. Lindquist, and **R. Moen**. 2006. National Interagency Canada Lynx Detection Survey in Minnesota, Wisconsin, and Michigan. NRRI Technical Report No. NRRI/TR-2006-29.
7. **Moen, R.** and E.L. Lindquist. 2006. Testing a remote camera protocol to detect animals in the Superior National Forest. NRRI Technical Report No. NRRI/TR-2006-28.
8. Hanson, K. and **R. Moen**. 2008. Diet of Canada lynx in Minnesota. NRRI Technical Report No. NRRI/TR-2008/13.
9. **Moen, R.**, G.J. Niemi, and C. Burdett. 2008. Canada lynx in the Great Lakes. Final Report NRRI Technical Report No. NRRI/TR-2008/14
10. **Moen, R.** and R.J. Baker. 2008. Canada lynx on the border. NRRI Technical Report No. NRRI/TR-2008/16.
11. **Moen, R.** 2008. Evaluating Impacts of Reservoir Refill on Nesting Waterfowl and Waterfowl Habitat in Minnesota Power Water storage Reservoirs in Southern St. Louis County, Minnesota. NRRI Technical Report No. NRRI/TR-2008/33.
12. **Moen, R.** 2009. Canada lynx in the Great Lakes region. 2008 Annual Report. NRRI Technical Report No. NRRI/TR-2009/06.
13. **Moen, R.** 2009. Den sites of radiocollared Canada Lynx in Minnesota 2004-2007. NRRI Technical Report No. NRRI/TR-2009/07.
14. **Moen, R.** 2009. Techniques to Monitor Road Crossings and Animal-Vehicle collisions. NRRI Technical Report No. NRRI/TR-2009/11.
15. **Moen, R.** and S.K. Windels. 2009. Lynx habitat suitability in and near Voyageurs National Park. NRRI Technical Report No. NRRI/TR-2009/19.
16. Peterson, R., **R. Moen**, R. Baker, D. Becker, L. Cornicelli, A.J. Edwards, L. Frelich, G. Huschle, M. Johnson, A. Jones, M.S. Lenarz, J. Lightfoot, T. Martinson, G. Mehmel, S. Perich, D. Ryan, M.W. Schrage, and D. Thompson. 2009. Report to the Minnesota Department of Natural Resources (DNR) by the Moose Advisory Committee.
17. **Moen, R.** 2009. Canada lynx in the Great Lakes region. 2009 Annual Report. NRRI Technical Report No. NRRI/TR-2009-43.
18. **Moen, R.**, L. Terwilliger, A.R. Dohmen, and S.C. Catton. 2010. Habitat and road use by lynx on long-distance movements. NRRI Technical Report No. NRRI/TR-2010-02.
19. Stever, R. and **R. Moen**. 2011. Evaluating habitat use by moose with aerial photographs. NRRI Technical Report No. NRRI/TR-2011-13.
20. Abel, R. and **R. Moen**. 2011. North Shore bat activity and habitat use. NRRI Technical Report No. NRRI/TR-2011-11.
21. Terwilliger, L. and **R. Moen**. 2012. Canada lynx (*Lynx canadensis*) in Minnesota: Road use and Movements within the Home Range. NRRI Technical Report No. NRRI/TR-2012/31.
22. **Moen, R.**, K Potts, and J. Gilbert. 2011. Status of Mammalian Carnivores and Evaluation of Monitoring Techniques in the Lake Superior Basin. NRRI Technical Report No. NRRI/TR-2014-37.
23. **Moen, R.** and S.A. Moore. 2011. Beaver in the Grand Portage National Monument. NRRI Technical Report No. NRRI/TR-2011-20.
24. **Moen, R.**, R.O. Peterson, S.K. Windels, L. Frelich, and M. Johnson. 2011. Minnesota Moose Status: Progress on Moose Advisory Committee Recommendations. NRRI Technical Report No. NRRI/TR-2011-41.

25. **Moen, R.**, Tjepkes, T., and J. Bednar. 2013. Canada Lynx Survey On United Taconite Property In Forbes, MN. NRRI Technical Report No. NRRI/TR-2013-18.
26. Joyce, M. and **R. Moen**. 2014. Mapping forest harvest in northeastern Minnesota using aerial photographs and high resolution satellite imagery. NRRI Technical Report No. NRRI/TR-2014-17.
27. Jordan, P.A. Edited by **R. Moen**. 2013. A Sampling Protocol to Estimate Impacts of Moose and Snowshoe Hare on the Woody Vegetation of Isle Royale National Park. NRRI Technical Report No. NRRI/TR-2013-44.
28. Elfelt, M. and **R. Moen**. 2014. Accuracy and location success of an Ultralite GPS unit. NRRI Technical Report No. NRRI/TR-2014/32.
29. Ward, R.L. and **R. Moen**. 2014. Effects of stand age on species composition and browse density in northeastern Minnesota. NRRI Technical Report No. NRRI/TR-2014/36.
30. Ward, R. Edited by **R. Moen**. 2014. Identifying woody species browsed by moose in northeastern Minnesota. NRRI Technical Report No. NRRI/TR-2014/34.
31. Ibrahim, Y.C. and **R. Moen**. 2014. Manual for Prey Species Identification in Gray Wolf Scats. NRRI Technical Report No. NRRI/TR-2014/45.
32. **Moen, R.** 2014. Restoring moose foraging habitat in Lake Superior Uplands. NRRI Technical Report No. NRRI/TR-2014/47.
33. Bednar, J., E. Zlonis, H. Panci, **R. Moen**, and G. Niemi. 2015. Development of Habitat Models and Habitat Maps for Breeding Bird Species in the Agassiz Lowlands Subsection, Minnesota, USA. State Wildlife Grant T-39-R-1/F12AF00328. NRRI Technical Report No. NRRI/TR-2015/32.
34. Swingen, M., R. Baker, T. Catton, K. Kirschbaum, G. Nordquist, B. Dirks, and **R. Moen**. 2015. Preliminary Summary of 2015 Northern Long-eared Bat Research in Minnesota. NRRI Technical Report No. NRRI/TR-2015/44.
35. Swingen, M., Baker, R., Catton, T., Kirschbaum, K., Nordquist, G., Dirks, B., & Moen, R. A. (2016). Summary of 2016 Northern Long-eared Bat Research in Minnesota. NRRI Technical Report No. NRRI/TR-2016/41.
36. Swingen, M., Moen, R. A., & Baker, R. (2016). Summary of bat research conducted at Roseau River WMA, MN. NRRI Technical Report No. NRRI/TR-2016/42I.
37. Swingen, M., Moen, R. A., & Baker, R. (2016). Summary of bat research in Cedar Creek Ecosystem Science Reserve, MN. NRRI Technical Report No. NRRI/TR-2016/42B.
38. Swingen, M., Catton, T., Kirschbaum, K., Moen, R. A., & Baker, R. (2016). Summary of bat research in Chippewa National Forest, MN. NRRI Technical Report No. NRRI/TR-2016/42D.
39. Swingen, M., Catton, T., Kirschbaum, K., Moen, R. A., & Baker, R. (2016). Summary of bat research in Cloquet Forestry Center, MN. NRRI Technical Report No. NRRI/TR-2016/42C.
40. Swingen, M., Catton, T., Kirschbaum, K., Moen, R. A., & Baker, R. (2016). Summary of bat research in Hill River/Savanna and Solana State Forests, MN. NRRI Technical Report No. NRRI/TR-2016/42F.
41. Swingen, M., Moen, R. A., & Baker, R. (2016). Summary of bat research in Itasca State Park, MN 2016. NRRI Technical Report No. NRRI/TR-2016/42G.
42. Swingen, M., Moen, R. A., & Baker, R. (2016). Summary of bat research in St. Croix State Park, MN. NRRI Technical Report No. NRRI/TR-2016/42J.
43. Swingen, M., Catton, T., Kirschbaum, K., Moen, R. A., & Baker, R. (2016). Summary of bat research in Superior National Forest, MN. NRRI Technical Report No. NRRI/TR-2016/42K.
44. Cochrane, M.M., D.J. Brown, and R. Moen. 2017. Wood turtle capture and telemetry. NRRI Technical Report No. NRRI/TR-2017-05.
45. Cochrane, M.M., D.J. Brown, and R. Moen. 2017. Wood Turtle Nest monitoring and Mortality Surveys. NRRI Technical Report No. NRRI/TR-2017-08.

46. Moen, R., M.M. Cochrane, and D.J. Brown. 2016. Wood Turtle Population Monitoring. NRRI Technical Report No. NRRI/TR-2016/42K.
47. Houck, B., J. Alston, and R. Moen. 2017. Use of Tube Hair Snares to Detect Weasels in Minnesota. NRRI Technical Report No. NRRI/TR-2017/XX.
48. Houck, B. and R. Moen. 2017. Use of Cable Restraint Hair Snares to Detect Carnivores in Minnesota. NRRI Technical Report No. NRRI/TR-2017/XX.
49. Moen, R., J. Alston, and Houck, B. 2017. Remote Cameras to Monitor Carnivore Populations in Northeast Minnesota. NRRI Technical Report No. NRRI/TR-2017/XX.
50. Dirks, B., Dietz, N., Swingen, M., Moen, R., & Baker, R. (2017). Summary of 2017 Bat Research at Arden Hills Army Training Site, MN. NRRI Technical Report No. NRRI/TR-201741a. University of Minnesota Duluth.
51. Dirks, B., Dietz, N., Swingen, M., Moen, R., & Baker, R. (2017). Summary of 2017 Bat Research at Camp Ripley Training Center, MN. NRRI Technical Report No. NRRI/TR-201741e. University of Minnesota Duluth.
52. Swingen, M., Moen, R., & Baker, R. (2017). Summary of 2017 Bat Research in Cloquet Valley State Forest, MN. NRRI Technical Report No. NRRI/TR-201741c. University of Minnesota Duluth.
53. Swingen, M., Moen, R., & Baker, R. (2017). Summary of 2017 Bat Research in Mille Lacs WMA & Rum River State Forest, MN. NRRI Technical Report No. NRRI/TR-201741g. University of Minnesota Duluth.
54. Swingen, M., Nordquist, G., Moen, R., & Baker, R. (2017). Summary of 2017 Bat Research in Minnesota Valley National Wildlife Refuge - Louisville Swamp Unit, MN. NRRI Technical Report No. NRRI/TR-201741f. University of Minnesota Duluth.
55. Swingen, M., Moen, R., Baker, R., Nordquist, G., Catton, T., Kirschbaum, K., Dirks, B., and Dietz, N. (2017). Summary of 2017 Bat Research in Minnesota. NRRI Technical Report No. NRRI/TR-201740. University of Minnesota Duluth.
56. Swingen, M., Moen, R., & Baker, R. (2017). Summary of 2017 Bat Research in Nemadji State Forest, MN. NRRI Technical Report No. NRRI/TR-201741h. University of Minnesota Duluth.
57. Swingen, M., Nordquist, G., Moen, R., & Baker, R. (2017). Summary of 2017 Bat Research in Richard J. Dorer State Forest - Hay Creek Unit, MN. NRRI Technical Report No. NRRI/TR-201741b. University of Minnesota Duluth.
58. Swingen, M., Moen, R., & Baker, R. (2017). Summary of 2017 Bat Research in Sherburne National Wildlife Refuge, MN. NRRI Technical Report No. NRRI/TR-201741i. University of Minnesota Duluth.
59. Swingen, M., Kirschbaum, K., Catton, T., Moen, R., & Baker, R. (2017). Summary of 2017 Bat Research in the Chippewa National Forest and Surrounding Area. NRRI Technical Report No. NRRI/TR-201741d. University of Minnesota Duluth.
60. Swingen, M., Catton, T., Kirschbaum, K., Moen, R., & Baker, R. (2017). Summary of 2017 Bat Research in the Superior National Forest, MN and Surrounding Area. NRRI Technical Report No. NRRI/TR-201741k. University of Minnesota Duluth.
61. Swingen, M., Moen, R., & Baker, R. (2017). Summary of 2017 Bat Research in Three Rivers Park District, MN. NRRI Technical Report No. NRRI/TR-201741j. University of Minnesota Duluth.
62. Moen, R., Baker, and M. Swingen. (2017). Summary of 2017 Bat Research At Lake Vermilion – Soudan Underground Mine State Park. NRRI Technical Report No. NRRI/TR-201740. University of Minnesota Duluth.
63. Huston, K., M.M. Cochrane, and R. Moen. (2017). Wood Turtle Hibernacula Characteristics in Northeastern Minnesota. NRRI Technical Report No. NRRI/TR-2018-03. University of Minnesota Duluth.

Books, Computer Programs, and Other Publications

- Moen, A.N. and **R.A. Moen**. 1985. Computer Programs for Natural Resource Analysis and Management. Volume 1. CornerBrook Press. Lansing, New York.
- Moen, A.N. and **R.A. Moen**. 1985. Deer Management at the Bernheim Foundation Properties, Clermont, Kentucky. CornerBrook Press. Lansing, New York.
- Moen, A.N., C.W. Severinghaus, and **R.A. Moen**. 1986. Deer CAMP Computer-Assisted Management Program (diskette, operating manual, and tutorial). CornerBrook Press. Lansing, New York.
- Gordon, B.L., **R.A. Moen**. 2009. Bat activity in northeastern Minnesota. *Bat Research News* 50:108-109.
- Joyce, M., A. Zalewski, J. Erb, and **R. Moen**. In press. Biogeographical variation in rest site selection by members of the *Martes* species complex: impact of thermal stress and predation risk. Chapter in a book arising from 6th International *Martes* Symposium.

Professional Service (Partial list)

- 49th North American Moose Conference and Workshop in 2015, Granby, CO. 2 graduate students, 1 undergraduate student, and myself presented 3 papers and 2 posters.
- MN-WI Joint State Chapter TWS meeting, Duluth, MN, February 4-6, 2015. Graduate students and post-docs gave 5 presentations and 2 posters.
- 48th North American Moose Conference and Workshop in 2014, Girdwood, AK. 3 graduate students, 2 post-docs, and myself presented papers.
- MN TWS meeting, Bemidji, MN, February 4-6, 2014. Graduate students and post-docs gave 5 presentations and 2 posters.
- The Wildlife Society (TWS) 20th Annual Conference in Milwaukee, Wisconsin, October 5-9, 2013. "Research and Management of Declining Moose Populations in the Upper Midwest." Symposia co-organizer and presenter.
- 47th North American Moose Conference and Workshop in 2013, Whitefield, NH. 4 graduate students will be presenting papers or posters.
- MN TWS meeting in 2013, Moose in Minnesota symposium during 2013 meeting in Walker, Minnesota. Co-organizer, presenter. 5 graduate students also presented papers at this meeting.
- Invited participant, Isle Royale Climate Change Adaptation planning meeting at Fort Collins, Colorado. January 2013.
- Organizer (with Dr. Glenn DelGiudice, MN DNR) of Moose Research Meetings held at NRRI in December 2011, December 2012, and December 2013. These meetings provide local resource management personnel (DNR, Tribal, County, Federal) with an update on current moose research.
- Presenter and Attendee, VII International Moose Symposium in 2012 in Bialowieza National Park, Poland.
- Presenter and Attendee, 46th North American Moose Conference and Workshop in 2011, Jackson Hole, WY. William Chen presented a poster at this conference.
- DNR Mammal Species Technical Advisory Team. Member, 2012 – present.
- Invited Participant, Isle Royale Canada lynx restoration planning meeting in Ashland, WI. March, 2012.
- Co-chair (with S. Windels), 45th North American Moose Conference and Workshop, International Falls, MN, June 2010.
- Co-chair (with Chair Rolf Peterson), Moose Advisory Committee to Minnesota DNR. 2008-2009.

Lynx on the Border Workshop, Chair, Organizing Committee, Grand Portage, MN, October 24-27, 2007.

Organizing Committee and Program Committee Chair, 35th North American Moose Conference and Workshop, Grand Portage, MN, May 1999.

Editorial Board for *Oecologia*, 2001-2003. Handled 25 manuscripts.

Associate Editor, *Alces*: 1997-2004, 2013 – present. Handled 12 manuscripts.

Manuscript Reviews (ongoing, 6 per year since 2000)

Alces • *American Naturalist* • *Physiological and Biochemical Zoology* • *Canadian Journal of Zoology* • *Conservation Ecology* • *Ecology* • *Ecological Monographs* • *Ecological Modelling* • *Ecosystems* • *Great Basin Naturalist* • *Journal of Applied Ecology* • *Journal of Wildlife Management* • *Journal of Wildlife Diseases* • *Landscape Ecology* • *Oecologia* • *Photogrammetric Engineering and Remote Sensing* • *Rangifer* • *Wildlife Society Bulletin*

Proposal Reviews

National Science Foundation • USDA National Research Initiative Competitive Grants Program • other Agencies/Organizations.

Seminars and Presentations (Partial list)

I give presentations at professional conferences, public lectures, guest lectures, and departmental seminars every year. Examples of some recent presentations by my research group include:

Olson, B., S.K. Windels, **R. Moen**, and M. Fulton. Characteristics of the Thermal Landscape for Moose at Voyageurs National Park. Poster presentation at VII International Moose Symposium in 2012 in Bialowieza National Park, Poland.

Morris, D.M., S.K. Windels, B.E. McLaren, **R. Moen**, and W.J. Severud. Thermal and Vegetative Attributes of Aquatic Patches Available to Moose in Northern Minnesota. Poster presentation at VII International Moose Symposium in 2012 in Bialowieza National Park, Poland.

Joyce, M.J., Erb, J.D., and **R. Moen**. Space use and microhabitat structure selection by American marten in Minnesota. American Society of Mammalogists 2012 annual meeting, Reno, Nevada.

Moen, R., S.K. Windels, S. Moore, A. Edwards, and L. Solomon. Identifying cow movements and parturition sites using GPS collars with short location intervals. Paper presented at VII International Moose Symposium in 2012 in Bialowieza National Park, Poland.

Moen, R. Capturing animals from mice to moose. Invited presentation at 63rd AALAS National Meeting, November 4–8, 2012, Minneapolis, MN.

Moen, R. Canada Lynx in Minnesota. Dept. of Fisheries, Wildlife, and Conservation Biology Departmental Seminar, 9/27/2012, University of Minnesota, St. Paul.

Licht, D., P. Brown, **R. Moen**. Canada Lynx Restoration at Isle Royale National Park: A Feasibility Study. Poster presented at 2012 The Wildlife Society meetings in Portland, Oregon

Licht, D., P. Brown, **R. Moen**. Canada Lynx Restoration at Isle Royale National Park. 2012 Western Great Lakes Resource Management Conference, Ashland, WI.

Moen, R. Moose in Minnesota. 9th Annual Forestry, Wildlife and Natural Resources Research Review, 1/11/2012, Cloquet, MN.

Moen, R. Minnesota - Land of 10,000 Lynx Locations. 9th Annual Forestry, Wildlife and Natural Resources Research Review, 1/11/2012, Cloquet, MN.

McGraw, A.M., **R. Moen**, and M. Schrage. Effective temperature of cover types found in moose home ranges in Northeast Minnesota. Paper presented at the 46th North American Moose Conference and Workshop, 5/26/2011, Jackson, WY

Olson, B., S.K. Windels, **R. Moen**, and M. Fulton. Measurement and modeling of thermal landscape for moose at Voyageurs National Park. Poster presented at the 46th North American Moose Conference and Workshop, 5/26/2011, Jackson, WY.

- Moen, R.** Moose and Canada lynx -- Current Research, Involving the Public, and Photography. Science. Invited presentation to Bell Museum Social, Bell Museum of Natural History, Minneapolis, MN 4/13/2012.
- Moen, R.** Moose in Minnesota: What's Next. Grand Rapids Jaycees 2011 Home Show. Grand Rapids, MN, 3/20/2011
- Moen, R.** 2011. Update to 2011 DNR Moose Managers Meeting. Tower, MN.
- Moen, R.** 2010. Minnesota - Land of 10,000 Lynx Locations. Invited seminar, Lakehead University. Thunder Bay, Ontario, 10/19/2010.
- McGraw, A., **R. Moen**, and M. Schrage. Post-parturition areas within moose home range in northeast Minnesota. Poster presented at Midwest Fish and Wildlife Conference, Minneapolis, MN, December, 2010.
- Moen, R.** Long-term monitoring of hare and lynx populations in Minnesota. Invited presentation at the Midwest Fish and Wildlife Conference, Minneapolis, MN, December, 2010.
- Moen, R.** Trapping and radiocollaring wild animals for research. School Forest Days at Pike Lake Elementary School, Pike Lake, MN, 5/14/2010.
- Moen, R.** Moose in Northeastern Minnesota. Invited seminar to Lake Superior Binational Forum, Duluth, MN, 1/29/2010.

Professional Service (University committees and programs)

- Student Awards Committee, Biology Dept., Swenson College of Science and Engineering, University of Minnesota Duluth. 2015-2016 academic year.
- Outreach Committee, Biology Dept. Representative, Swenson College of Science and Engineering, University of Minnesota Duluth. 2014-2015 academic year.
- Executive Committee, Biology Dept. Representative, Swenson College of Science and Engineering, University of Minnesota Duluth. 2014 to present.
- Merit Committee, Biology Dept., Swenson College of Science and Engineering, University of Minnesota Duluth. 2014-2015 academic year.
- Graduate Student Orientation, Integrated Biosciences Graduate Program. 2008 – 2013. Committee chair and responsible for planning new graduate student orientation.
- Curriculum Committee, Integrated Biosciences Graduate Program, University of Minnesota. 2009–present. Committee Chair 2010 – 2013.
- Special Projects Assistant to Director of Center for Water and the Environment, Natural Resources Research Institute. 2012 – 2013. Occasional projects at request of Dr. Lucinda Johnson.
- GIS Laboratory Management Committee, Center for Water and Environment, Natural Resources Research Institute, University of Minnesota, Duluth. 1996-present (rarely meets).

Graduate Students completed

1. Nicholas McCann. M.S. 2006. Using pellet counts to predict snowshoe hare density, snowshoe hare habitat use, and Canada lynx habitat use in Minnesota. University of Minnesota Duluth. (Co-advised with J. Niemi, currently Post-Doc with Dr. Tara Harris (Minnesota Zoo) and I after completing a Ph.D. at Purdue University).
2. Julie Palakovich. M.S. 2007. Using GPS collars to monitor the activity and habitat use of Canada lynx in Minnesota. University of Minnesota Duluth. (Co-advised with J. Niemi, currently Public Policy Associate with the American Institute of Biological Sciences).
3. Christopher Burdett. Ph.D. 2007. Hierarchical structure of Canada lynx space use and habitat selection in northeastern Minnesota. Ph.D. Dissertation, University of Minnesota, Twin Cities. (J.

- Niemi and L.D. Mech, my role was effectively advisor, currently post-doc at Colorado State University).
4. Brice Hansen. M.S. 2009. Factors affecting passive infrared cameras and their use in determining carnivore habitat selectivity based on presence and visitation rates. Integrated BioSciences program, University of Minnesota, Twin Cities. (Defended August 2009).
 5. Tom Ness. M.S. 2010. Using activity counters to estimate behavior of free-ranging moose. University of Minnesota, Twin Cities. Plan B Professional Program.
 6. Amanda McGraw. M.S. 2010. Characteristics of Post-Parturition Areas of Moose and Effective Temperature of Cover Types in Moose Home Ranges in Northeast Minnesota. Integrated BioSciences program, University of Minnesota, Twin Cities.
 7. Becky Gordon. M.S. 2011. Bat habitat use and insect availability in northeast Minnesota. Integrated BioSciences program, University of Minnesota, Twin Cities.
 8. Michael Joyce. M.S. 2013. American marten home range and habitat use, with focus on rest sites and reproductive den sites. Integrated BioSciences program, University of Minnesota, Twin Cities.
 9. Rachel Ward. M.S. 2013. Moose browse measurement techniques. Integrated BioSciences program, University of Minnesota, Twin Cities.
 10. Stephania Galupo-Gaete. M.S. 2014. Prey species consumed by the Guina (*Leopardus guigna*) in Chile. Conservation Biology program, University of Minnesota, Twin Cities.
 11. Tim Cyr. M.S. 2015. Gastropod habitat use in relation to moose habitat use and disease transmission. Integrated BioSciences program, University of Minnesota, Twin Cities.
 12. Juliann Terry. M.S. 2015. Fire and its relationship to winter tick distribution in Minnesota. Integrated BioSciences program, University of Minnesota, Twin Cities.
 13. Yvette Ibrahim. M.S. 2015. Wolf scat analysis for diet composition. Integrated BioSciences program, University of Minnesota, Twin Cities.
 14. Tessa Tjepkes. M.S. 2015. Genetic Analysis of Moose Populations from Minnesota and Yellowstone National Park. Integrated BioSciences program, University of Minnesota, Twin Cities. Co-Advised with Dr. Jared Stasburg (UMD Biology).
 15. Jessica Rick. M.S. 2015. Genetic diversity, structure, and hybridization in a harvested gray wolf (*Canis lupus*) population in Minnesota. Integrated BioSciences program, University of Minnesota, Twin Cities. Co-Advised with Dr. Jared Stasburg (UMD Biology).
 16. J. Trevor Vanatta. M.S. 2016. Liver flukes and aquatic snails. Integrated BioSciences program, University of Minnesota, Twin Cities.
 17. Lauren Terwilleger. M.S. 2016. Lynx movements and habitat use within the home range. Conservation Biology program, University of Minnesota, Twin Cities.
 18. Madaline Cochrane. M.S. 2017. Wood turtle habitat use. Integrated BioSciences program, University of Minnesota, Twin Cities.

Graduate Students in progress

1. Amanda McGraw. Ph.D. *in progress*. Moose browse regeneration techniques and economic impact. Integrated BioSciences program, University of Minnesota, Twin Cities.
2. Michael Joyce. Ph.D. *in progress*. American marten habitat. Integrated BioSciences program, University of Minnesota, Twin Cities.
3. Rodrigo Villalobos Aguirre. Ph.D. *in progress*. Mountain lions and humans in Chile. Conservation Biology program, University of Minnesota, Twin Cities.
5. Anne Patterson. M.S. *in progress*. Habitat use of northern long-eared bats. Integrated BioSciences program, University of Minnesota, Twin Cities.

6. Rachel Voorhorst. M.S. *in progress*. Climate change effects on mammal distributions. Integrated BioSciences program, University of Minnesota, Twin Cities.
7. Miranda Galey. M.S. *in progress*. Bat project, topic to be decided. Integrated BioSciences program, University of Minnesota, Twin Cities.
8. Maria Berkeland. M.S. *in progress*. Wood turtle project, topic to be decided. Integrated BioSciences program, University of Minnesota, Twin Cities.

Post-Doctoral advisees

1. Dr. Nicholas McCann. Moose habitat use and thermal characteristics of activity centers. Post-doctoral position in collaboration with the Minnesota Zoo. 2011 – 2013.
2. Dr. Kimberly VanderWaal. A collaborative project to investigate and model parasite transmission dynamics between white-tailed deer, moose, and other vectors in northeastern Minnesota. 2013-2014.
3. Dr. Brian Kot. A collaborative project to investigate wolf-moose interactions, including habitat use overlap and the impacts of wolf predation on moose in northeastern Minnesota. 2013 – 2015.
4. Dr. Mark Ditmer. A collaborative project on wolves and moose. Working with the MN Zoo. 2015 – 2017.

Undergraduate Students

I have mentored between 5 to 18 undergraduate students each year since 2003. Mentoring includes hiring, internships, formal classes (BIOL 3993, 3994, 3996), and the Undergraduate Research Opportunities Program (UROP).