

Jacqueline L. Frair

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Professional appointments

Associate Chair, Department of Environmental Biology	2021-present
Director, Roosevelt Wild Life Station	2019-present
Associate Director, Roosevelt Wild Life Station	2010-2019
SUNY College of Environmental Science and Forestry, Syracuse, New York	
Professor	2019-present
Associate Professor	2012-2019
Assistant Professor, Wildlife Ecology	2006-2012
SUNY College of Environmental Science and Forestry Department of Environmental and Forest Biology, Syracuse, New York	
Post-Doctoral Research Associate	
— SUNY-ESF, Dept. of Environmental and Forest Biology, Syracuse, New York	2006
— Université Laval, Québec, Québec, Canada	2006
— University of Alberta, Edmonton, Alberta, Canada	2005-2006
Wildlife GIS Coordinator — Ducks Unlimited, Inc., Anchorage, Alaska	1997-2000
Biological Technician	
— Bureau of Land Management, Fairbanks, Alaska	1997
— Wisconsin Department of Natural Resources, Gordon, Wisconsin	1995-1996
Editorial Clerk – Journal of Wildlife Management, Stevens Point, WI	1996-1997
Biological Aide – U.S. Forest Service, Rhinelander, Wisconsin	1994
Assistant Coordinator, Environmental Science Summer Interns Program	1993-1994
Cornell University, Ithaca, New York	

Education

Ph.D. Environmental Biology and Ecology	2005
University of Alberta, Edmonton, Alberta, Canada	
M.S. Natural Resources, Wildlife Specialization	1999
University of Wisconsin, Stevens Point, Wisconsin, USA	
B.S. Natural Resources, Wildlife Specialization	1994
Cornell University, Ithaca, New York, USA	
A.A.S. Arts and Science	1992
Tompkins Cortland Community College, Dryden, New York, USA	

Peer-reviewed publications

Underlining indicates graduate students advised by J. Frair

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59. Cunningham, S. A., Pyszczyński, T., Watson, T., Bakerian, R., Jensen, P. G., and J. L. Frair (2022) Detecting denning behavior with camera traps: An example with fishers. *Wildlife Society Bulletin*: e1371. <https://doi.org/10.1002/wsb.1371>
58. Hinton, J.W., J.E. Hurst, D.W. Kramer, J.H. Stickles, and J.L. Frair (2022) Model-based estimate of winter distribution and abundance of white-tailed deer in the Adirondack Park. *PLoS ONE* 17(8): e0273707. <https://doi.org/10.1371/journal.pone.0273707>
57. Hinton, J.W., K.M. West, D.J. Sullivan, K.E. Brzeski, J.L. Frair, and M.J. Chamberlain (2022) The natural history and ecology of melanism in red wolf and coyote populations of the southeastern United States – evidence for Gloger’s rule. *BMC Zoology*, 7(33). <https://doi.org/10.1186/s40850-022-00138-5>
56. Devlin, A.L., J.L. Frair, P.G. Crawshaw Jr., L.T.B. Hunter, F.R. Tortato, R. Hoogesteijn, N. Robinson, H.S. Robinson, and H.B. Quigley (accepted May 2022) Drivers of large carnivore density in non-hunted, multi-use landscapes. *Conservation Science and Practice*.
55. Hinton, J.W., R.E. Wheat, P. Schuette, J. Hurst, D. Kramer, J. Stickles, and J. Frair (2022) Challenges and opportunities for estimating abundance of a low-density moose population. *Journal of Wildlife Management*, 8(4):e22213. <https://doi.org/10.1002/jwmg.22213>
54. Peterson, S., D. Kramer, J. Hurst, D. Spalinger, and J. Frair (2022) Forage and habitat limitations for moose in the Adirondack Park, New York. *Alces*, 58:1-30. <https://alcesjournal.org/index.php/alces/article/view/969>.
53. Kramer, D.W., T.J. Prebyl, N.P. Nibbelink, K.V. Miller, A.A. Royo, and J.L. Frair (2022) Managing moose from home: determining landscape carrying capacity for *Alces alces* using remote sensing. *Forests*, 13:150. <https://doi.org/10.3390/f13020150>
52. Falcón-Cortés, A., D. Boyer, E.H. Merrill, J.L. Frair, and J.M. Morales (2021) Hierarchical, memory-based movement models for translocated elk (*Cervus canadensis*). *Frontiers in Ecology and Evolution*. <https://doi.org/10.1101/2021.04.30.442197>
51. Lewis, M.A., W.F. Fagan, M. Auger-Méthé, J. Frair, J.M. Fryxell, C. Gros, E. Gurarie, S.D. Healy, and J.A. Merkle (2021) Learning and animal movement. *Frontiers in Ecology and Evolution*. 9:681704, <https://doi.org/10.3389/fevo.2021.681704>
50. Wybron, M.D., M.D. Schlesinger, M.K. Fierke, J.L. Frair, and D. Parry (2021) Estimating abundance and occupancy of Northern Barrens Tiger Beetles in an isolated New York population. *Northeastern Naturalist*, 28(2):156-168.
49. Saldivar-Bellassai, S., A. Feldpausch-Parker, A.J. Giodano, and J. Frair (2021) Hunting practices and harvest sustainability of peccaries in the Paraguayan Dry Chaco. *Biological Conservation*, 256:109059.
48. Powers, K., L. Petracca, A. MacDuff, and J. Frair (2021) A pragmatic approach for determining otter distribution from disparate occurrence records. *Journal of Wildlife Management*, 86(1):63-72.

47. Frair, J. and G. Bastille-Rousseau (2021) Data collection and quantitative considerations for studying pattern-process relationships on landscapes. Pages 137-142 (Chapter 8) in *Wildlife Management and Landscapes: Principles and Applications*. Edited by W.F. Porter, C.J. Parent, R.A. Stewart, and D.M. Williams. Johns Hopkins University Press.
46. Petracca, L.S., J.L. Frair, G. Bastille-Rousseau, D.W. Macdonald, and A.J. Loveridge (2021) Harassment induced changes in lion space use as a conflict mitigation tool. *Conservation Science and Practice*.
45. Teitelbaum, C.S., A.P.K. Sirén, E. Coffel, J.R. Foster, J.L. Frair, J.W. Hinton, R.M. Horton, D.W. Kramer, C. Lesk, C. Raymond, D.W. Wattles, K.A. Zeller, T.L. and Morelli (2021) Habitat use as an indicator of adaptive capacity to climate change. *Diversity and Distributions*. <http://dx.doi.org/10.1111/ddi.13223>
44. Yi, X., D. Donner, P. Marquardt, J. Palmer, M. Jusino, J. Frair, D. Lindner, and E. Latch (2020) MHC variation is similar in little brown bats before and after white-nose syndrome outbreak. *Ecology and Evolution*, 10:10031-10043. **** Data published via DRYAD**
43. Peterson, S., D. Kramer, J. Hurst, and J. Frair (2020) Browse selection by moose in the Adirondack Park, New York. *Alces*, 56:107-126.
42. Petracca, L.S., J.L. Frair, G. Bastille-Rousseau, J.E. Hunt, D.W. Macdonald, L. Sibanda, and A.J. Loveridge (2019) The effectiveness of hazing African lions as a conflict mitigation tool: Implications for carnivore management. *Ecosphere* 10(2):e02967.
41. Petracca, L.S., P.J. Funston, P. Henschel, J.B. Cohen, S. MacLennan, H.S. Robinson, and J.L. Frair (2019) Modeling community occupancy from line transect data: A case study with large mammals in post-war Angola. *Animal Conservation* 24(4):420-433.
40. Lesser, M.R., M. Dovciak, J.L. Frair, P. Curtis, M. Roberts, and J. Hurst (2019) Modelling white-tailed deer impacts on forest regeneration at scales relevant to deer management. *Forest Ecology and Management*, 448:395-408.
39. Bastille-Rousseau, F., C.B. Yackulic, J.P. Gibbs, J.L. Frair, F. Cabrera, and S. Blake (2019) Migration triggers in a large herbivore: Galápagos giant tortoises navigating resource gradients on volcanoes. *Ecology*, early view (e02658). **** Article spotlighted on the journal cover**
38. Berkman, L.K., J.L. Frair, P.E. Marquardt, D.M. Donner, J.C. Kilgo, and C.M. Whipps (2019) Spatial genetic analysis of coyotes in New York State. *Wildlife Society Bulletin*, 43(1):21-30.
37. Peach, M.A., J.B. Cohen, J.L. Frair, B. Zuckerberg, P.J. Sullivan, W.F. Porter, and C. Lang (2019) The value of protected areas to avian persistence across 20 years of climate and land use change. *Conservation Biology*, 33(2):423-433.
36. Fuda, R.K., S.J. Ryan, J.B. Cohen, J. Hartter, and J.L. Frair (2018) Assessing the impacts of oil exploration and restoration on mammals in Murchison Falls Conservation Area, Uganda. *African Journal of Ecology*, 56(4):804-817. **** Article highlighted as a "top 20 most read paper" from this journal 2017-18**

35. Whitman, B., W. Porter, A. Dechen Quinn, D. Williams, J. Frair, B. Underwood, and J. Crawford. (2018) Movement behavior preceding autumn mortality for white-tailed deer in central New York. *Journal of Mammalogy*, 99(3):675-683.
34. Petracca, L.S., Frair, J.L., Cohen, J.B., Calderon, A.P., Carazo-Salazar, J., Castaneda, F., Corrales-Gutierrez, D., Foster, R.J., Harmsen, B., Hernandez-Potosme, S., Robinson, N., Salom-Perez, R., Urbina, Y., Zeller, K.A., and Quigley, H. (2018) Robust inference on large-scale species habitat use with interview data: The status of jaguars outside of protected areas in Central America. *Journal of Applied Ecology*, 55:723-734.
33. Peach, M., Cohen, J., and Frair, J. (2017) Single-visit dynamic occupancy models: an approach to account for imperfect detection with Atlas data. *Journal of Applied Ecology*, 54:2033-2042.
32. Bastille-Rousseau, G., Yackulic, C.B., Frair, J.L., Cabrera, F., Rousseau, L.-P., Wikelski, M., Keummeth, F. and Blake, S. (2017) Animal movement in the absence of predation: environmental drivers of movement strategies in a partial migration system. *Oikos*, 126:1004-1019.
31. Tortato, F., Devlin, A., Hoogensteijn, R., May, J., Frair, J., Crawshaw, P., Izzo, T. and Quigley, H. (2017) Infanticide in a jaguar (*Panthera onca*) population – does the provision of livestock carcasses increase the risk? *Acta Ethologica*, 20(1):69-73.
30. Petracca, L. and Frair, J. (2017) When methodological flaws limit inference: A response to Caruso et al. (2016). *Oryx*, 51(2):208.
29. Fuda, R.K., Ryan, S.J., Cohen, J.B., Hartter, J., and Frair, J.L. (2016) Assessing impacts to primary productivity at the park edge in Murchison Falls Conservation Area, Uganda. *Ecosphere* 7:e01486.
28. Bastille-Rousseau, G., Yackulic, C., Frair, J., Cabrera, F., and Blake, S. (2016) Allometric and temporal scaling of movement characteristics in Galapagos tortoises. *Journal of Animal Ecology* 85:1171-1181.
27. Bastille-Rousseau, G., Potts, J., Yackulic, C., Frair, J., Ellington, E.H., and Blake, S. (2016) Flexible characterization of animal movement pattern using net squared displacement and a latent state model. *Movement Ecology*, 4:15. **** R package available at: <https://github.com/BastilleRousseau/lsmnsd>**
26. Hansen, S.K., Frair, J.L., Underwood, H.B., and Gibbs, J.P. (2015) Pairing call-response surveys and distance sampling for a mammalian carnivore. *Journal of Wildlife Management*, 79(4):662-671.
25. Campbell, S.P., Frair, J.L., Gibbs, J.P. and Rundell, R. (2015) Coexistence of the endangered, endemic Chittenango Ovate Amber Snail (*Novisuccinea chittenangoensis*) and a non-native competitor. *Biological Invasions*, 17(2):711-723.
24. Warsen, S.A., Frair, J.L., and Teece, M.A. (2014) Isotopic investigation of niche partitioning among native carnivores and the non-native coyote (*Canis latrans*). *Isotopes in Environmental and Health Studies*, DOI: 10.1080/10256016.2014.897946.

23. LeGrande, C.L. and Frair, J.L. (2014) The power of GIS: useful tips on using spatial analysis tools. *The Wildlife Professional*, 8(4):50-53.
22. Campbell, S.P., Frair, J.L., Gibbs, J.P., and Volk, T.A. (2012) Use of short-rotation coppice willow plantations by birds and small mammals in central New York. *Biomass and Bioenergy*, 47:342-353.
21. Zuckerberg B., Huettmann F., and Frair J. (2011) Data management as a scientific foundation for reliable predictive modeling. Chapter 3 in Drew A., Huettman F., and Wiersma Y., eds., *Predictive Modeling in Landscape Ecology*. Springer Verlag, NY.
20. Leblond, M., Frair, J., Fortin, D., Dussault, C., Ouellet, J.P. and Courtois, R. (2011) Assessing the influence of resource covariates at multiple scales: an application to forest-dwelling caribou faced with intensive human activity. *Landscape Ecology*, 26(10):1433-1446.
19. Eager, P.T., Allen, D.C., Frair, J.L., and Fierke, M.K. (2011) Within-tree distributions of the *Sirex noctilio* Fabricius (Hymenoptera: Siricidae) – parasitoid complex and development of an optimal sampling scheme. *Environmental Entomology*, 40(5):1266-1275.
18. Frair, J., Fieberg, J., Hebblewhite, M., Cagnacci, F., DeCesare, N. and Pedrotti, L. (2010) Resolving issues of imprecise and habitat-biased locations in ecological analyses using GPS telemetry data. *Philosophical Transactions of the Royal Society B-Biological Sciences*, 365(1550):2187-2200. **** Article spotlighted among “the most-cited articles of the year” for this journal**
17. Fieberg, J., Boyce, M.S. Matthiopoulos, J., Hebblewhite, M. and Frair, J. (2010) Correlation and studies of habitat selection: problem, red herring, or opportunity? *Philosophical Transactions of the Royal Society B-Biological Sciences*, 365(1550):2233-2244.
16. Beyer, H.L., Haydon, D.T., Morales, J.M., Frair, J.L., Hebblewhite, M., Mitchell, M., and Matthiopoulos, J. (2010) The interpretation of habitat preference metrics under use-availability designs. *Philosophical Transactions of the Royal Society B-Biological Sciences*, 365(1550):2245-2254. **** Article awarded “Wildlife Publication Award” by The Wildlife Society**
15. Merrill, E., Sand, H., Zimmerman, B., McPhee, H., Webb, N., Hebblewhite, M., Wabakken, P. and Frair, J. (2010) Building a mechanistic understanding of predation with GPS-based movement data. *Philosophical Transactions of the Royal Society B-Biological Sciences*, 365(1550):2279-2288.
14. Morales, J.M., Moorcroft, P.R., Matthiopoulos, J., Frair, J.L., Kie, J.G., Powell, R.A., Merrill, E.H., and Haydon, D.T. (2010) Building the bridge between animal movement and population dynamics. *Philosophical Transactions of the Royal Society B-Biological Sciences*, 365(1550):2289-2301.
13. Van Moorter, B., Visscher, D.R., Jerde, C. L., Frair, J.L. and Merrill, E.H. (2010) Identifying movement states from location data using cluster analysis. *Journal of Wildlife Management*, 74(3):588-594.
12. Wolf, M., Frair, J., Merrill, E. and Turchin, P. (2009) The attraction of the known: the importance of spatial familiarity in habitat selection in wapiti (*Cervus elaphus*). *Ecography*, 32, 401-410.

11. Frair, J.L., Merrill, E.H., Beyer, H.L. and Morales, J.M. (2008) Thresholds in landscape connectivity and mortality risks in response to growing road networks. *Journal of Applied Ecology*, 45, 1504-1513. ** Article spotlighted as “Editor’s choice” in this issue
10. Frair, J.L., Merrill, E.H., Allen, J.R. and Boyce, M.S. (2007) Know thy enemy: experience affects elk translocation success in risky landscapes. *Journal of Wildlife Management*, 71(2), 541-554.
9. Gillies, C.S., Krawchuk, M.A., Aldridge, C.L., Hebblewhite, M., Frair, J.L., Saher, D.J., Stevens, C.E., Jerde, C.J. and Nielsen, S.E. (2006) Application of random effects to the study of resource selection by animals. *Journal of Animal Ecology*, 75, 887-898.
8. Visscher, D.R., Merrill, E.H., Fortin, D. and Frair, J.L. (2006) Estimating woody browse availability for ungulates at increasing snow depths. *Forest Ecology and Management*, 222, 348-354.
7. Frair, J.L., Merrill, E.H., Visscher, D.R., Fortin, D., Beyer, H. and Morales, J.M. (2005) Scales of movement by elk (*Cervus elaphus*) in response to heterogeneity in forage resources and predation risk. *Landscape Ecology*, 20, 273-287.
6. Anderson, D.P., Forester, J.D., Turner, M.G., Frair, J.L., Merrill, E.H., Fortin, D., Beyer, H., Mao, J.S. and Boyce, M.S. (2005) Factors influencing seasonal home-range sizes in elk (*Cervus canadensis*) in North American landscapes. *Landscape Ecology*, 20, 257-271.
5. Morales, J.M., Fortin, D., Frair, J.L. and Merrill, E.H. (2005) Adaptive Models for Large Herbivore Movements in Heterogeneous Landscapes. *Landscape Ecology*, 20, 301-316.
4. Frair, J.L., Nielsen, S.E., Merrill, E.H., Lele, S.R., Boyce, M.S., Munro, R.H.M., Stenhouse, G.B. and Beyer, H.L. (2004) Removing GPS collar bias in habitat selection studies. *Journal of Applied Ecology*, 41, 201-212.
3. Morales, J.M., Haydon, D.T., Frair, J., Holsinger, K.E. and Fryxell, J.M. (2004) Extracting more out of relocation data: building movement models as mixtures of random walks. *Ecology*, 85(9), 2436-2445.
2. Frair, J.L. (2005) Survival and movement behaviour of resident and translocated wapiti (*Cervus elaphus*): Implications for their management in west-central Alberta, Canada. Ph.D. Dissertation, University of Alberta, Edmonton, Alberta, Canada.
1. Frair, J.L. (1999) Crossing paths: gray wolves and highways in the Minnesota-Wisconsin border region. M.S. Thesis, University of Wisconsin, Stevens Point, Wisconsin, USA.

Popular articles

Frair, J.L. and Gibbs, J. (2011) [The Roosevelt Wild Life Station](#): Revitalizing a Forgotten Conservation Legacy. Fair Chase, the official publication of the Boone and Crockett Club, Missoula, MT. Spring issue.

Frair, J.L. (2010) [SUNY-Environmental Science and Forestry studies coyotes' impact on deer](#). Page 12, New York Hunting & Trapping, 2010-11 Official Guide to Laws & Regulations (vol 4, issue no. 1, October 2010).

Frair, J., Merrill, E., Allen, J. and Boyce, M. (2010) Experience counts: improving translocation success of elk in Alberta. Fair Chase, the official publication of the Boone and Crockett Club, Missoula, MT. Fall issue.

Frair, J.L., Anderson, E.M., Kohn, B.E., Shelley, D.P., Gehring, T.M., and Unger, D.E. (1996) Impacts of Highway 53 expansion on gray wolves: preliminary results. Pages 123-131 in Fascione, N., comp., Wolves of America Conference Proceedings. Defenders of Wildlife, Washington, D.C. (non-peer reviewed)

Sponsored Programs:

Areas of active research

Jaguar Habitat Assessment, Peru

Assessing the status of jaguar habitat across Peru and the role of protected areas in maintaining functional and connected habitat for jaguar, cougar and other wild felids in the region. This research is currently being formalized.

Funding: Fulbright graduate scholarship to Daisy de Fatima Sanchez Mosqueda (started Fall 2020). Advisor: J. Frair.

Northern Fisher Population Demography

Documentation of survival and productivity in fisher (*Pekania pennanti*) using GPS collared individuals, camera traps, and harvest data spanning regional, statewide, and local (Tug Hill and central Adirondack Park) scales.

Funding:

- ESF Project 81339-1145540 (2018-23; \$678,662), New York State Department of Environmental Conservation (NY DEC). PIs: J. Frair and P. Jensen.
- Substantial in-kind support provided by DEC biologists and seasonal technicians, who handle the field capture and monitoring of fisher.

New York State Mammal Assessment

First-ever comprehensive assessment of the distribution and status of all terrestrial and fresh-water mammal species across New York State, involving museum records and contemporary field surveys. My role in this collaborative work is co-supervise the Ph.D. student (Melanie Berger) and assist in the coordination of survey design, analysis, and publication.

Funding:

- ESF Project 81339-114495 (2018-23; \$963,678), NY DEC. PIs: S. Farrell, J. Gibbs, M. Schlesinger, J. Frair, and C. Whipps
- Project 83269-1151405 (2016-19; \$56,571), USDA National Institute of Food and Agriculture, McIntire-Stennis program. PIs: S. Farrell, J. Frair, and A. Fuller (Cornell)

Monitoring River Otter Population Recovery

Evaluation of the recovery of river otter across central and eastern New York and development of an efficient statewide population monitoring plan.

Funding:

- ESF Project 81339-1145499 (2018-19; \$16,015), NY DEC. PI: J. Frair.
- Project 66287-1124856 (2013-19; \$151,321), NYDEC. PI: J. Frair.
- Project 54502-1088571 (2010-12; \$138,754), NY DEC. PI: J. Frair.
- Substantial in-kind support provided by DEC biologists and seasonal technicians, who conducted statewide field surveys.

Press coverage: <https://tinyurl.com/otter-article> (winter 2020)

Sponsored Programs:

Other active areas of program support

Wildlife Research and Management Support

This umbrella Memorandum of Understanding with the NY State Department of Environmental Conservation covers all research at ESF supported by funds under the Federal Aid in Wildlife Restoration. At present the award provides funding to 13 different projects and 10 PIs.

Funding:

- Current award 81339 (2018-23; \$5.66 million). PI on master award: J. Frair.
- Previous award 66287 (2013-18; \$3.4 million + 2019 amendment of \$263,327). PI: J. Frair.

In addition to the direct research support indicated previously, funds managed under this award by J. Frair include:

- **Biostatistical Support** (\$1,586,904 to date): Current project 81339-1145549 (2018-23; \$1,017,805), previous project 66287-1114821 (2013-18; \$569,098). Supports full-time Biostatistician (David Kramer) and Database Manager (Daniel Quinn) at the DEC central office in Albany.
- **Administrative Support** (\$429,491 to date): Current project 81339-1145550 (2018-23; \$269,227), previous project 66287-114096 (2013-18; \$160,264). Provides discretionary support to the Roosevelt Wild Life Station for consulting, budget planning, and award reporting.

Internships in Fish and Wildlife Conservation

Paid professional experience, working alongside state wildlife biologists, for up to 10 undergraduate and 4 graduate students annually.

Funding:

- Current Project 86577-1158004 (2019-24; \$999,089), NY State Department of Environmental Conservation. PI: J. Frair. Key collaborator: M. Schiavone (DEC)
- Previous Project 71309-1124515 (2017-19; \$336,000), NY State DEC. PI: J. Frair.

Sponsored Programs:

Previous research funding

Monitor and Model Moose Populations in New York

Multi-institution collaborative research to estimate size, trend and limiting factors for moose in New York State. Collaborating PIs at other institutions: Jeremy Hurst (NY DEC), Angela Fuller (Cornell Cooperative Fish and Wildlife Unit), Krysten Schuler (Cornell Animal Health Diagnostic Center), and Heidi Kretzer (Wildlife Conservation Society). *Funding:* \$772,019 from NYS Department of Environmental Conservation, \$3,500 in direct support to Sam Peterson (grad student) from American Wildlife Conservation Foundation and A.W. Franzmann Distinguished Colleagues Award (Alces).

White-nose Syndrome Impacts on Cave-Dwelling Bats

This multi-dimensional work, led by Deahn DonnerWright at the USFS, focused on assessing the microbiome of cave bats in the northeastern and midwestern U.S., their ability to mount an immune response to the agent causing white-nose syndrome, and their spring emergence and fall swarm activity within national forests in the Great Lakes Region. *Funding:* \$454,299 from USDA Forest Service, Northern Forest Research Station and co-PI on \$103,746 from Northern States Research Consortium led by Paula Marqhardt.

Competitive effects of Amur tiger on Amur leopard

Assessment of potential competitive limitation of the critically-endangered Amur leopard by the growing Amur tiger population in and around the Land of the Leopard National park, far-eastern Russia, with a focus on resource selection, density, and productivity. *Funding:* \$36,000 in Wildlife Conservation Society fellowship to Dina Matiukhina (MS student) and in-kind support from the Land of the Leopard National Park.

Spatial ecology of felids in the fragmented Atlantic Forest

Assessment of the forest mammal community within Sao Paulo state, Brazil, using camera traps, occupancy models, and network analysis to identify drivers of intact versus depauperate communities with an emphasis on the conservation of wild felids. *Funding:* Graduate fellowship sponsored by the National Council for Scientific and Technological Development, Brazil to Lilian Bonjerne de Almeida, with direct and in-kind support from the Chico Mendes Institute for Biodiversity Conservation, Brazil.

Quantifying the Ecological Impacts of Abundant White-Tailed Deer

This research was a partnership with NYS DEC and Cornell Cooperative Extension to develop indices of the ecological impacts of deer browsing at fine spatial-scales (Cornell lead) and map the broad-scale impacts of deer on forest regeneration statewide (ESF lead). *Funding:* co-PI on \$356,421 led by Marton Dovčiak.

Migration in Giant Tortoises

This NSF-funded research, led by PI James Gibbs, investigated how environment, physiology, and life history interacts to determine migration in giant tortoises. My role was shared supervision of the post-doc and quantitative analysis of tortoise movements.

Funding: co-PI on \$539,488 from National Science Foundation.

Carnivore Research on Fort Drum

An assessment of spatio-temporal niche partitioning among meso-carnivores on Fort Drum, with an emphasis on foxes and coyotes and predator use of the human-dominated cantonment areas. Co-PI: Mark Teece. *Funding:* \$144,288 from U.S. Army Corps of Engineers (co-PI Mark Teece) and Fulbright fellowship to Chee Pheng Low (graduate student).

Jaguar Population Assessment, Brazil

Using GPS-collared animals and camera traps, this study investigated the activity patterns, resource selection, and density of jaguar within protected areas and working ranchlands in a key jaguar conservation unit within the Brazilian Pantanal. *Funding:* \$34,810 in direct funding to Allison Devlin (PhD student) from Panthera, Inc.

Persistence of Chacoan Peccary in the Paraguayan Dry Chaco

Using interviews with hunters and camera traps, this study provided an assessment of hunting pressure on the endangered Chacoan Peccary compared to other peccary species in the region. *Funding:* Fulbright graduate fellowship and \$5000 in direct support to Silvia Saldivar Bellasai (MS student) from Sequoia Park Zoo Foundation and Mohamed bin Zayed Species Conservation Fund.

Quantifying Beaver Impacts on Adirondack Forest Communities

This research, led by John Stella, focused on a multi-scale assessment of beaver impacts to quantify the spatial extent of beaver impact as an ecosystem engineer of the north woods. *Funding:* co-PI on \$106,866 from the USDA Forest Service (other co-PI Eddie Bevilaqua).

INECOL/SUNY ESF Seed Grants

Program established to initiate collaboration between SUNY ESF and INECOL, a partner research institute in Mexico. *Funding:* co-PI on \$5000 for research collaboration workshop led by Stew Diemont and \$5000 for tropic river otter genetics study led by Carolina Valdespino.

Jaguar Corridor Assessment, Guatemala

Using local residents as wildlife “detectors”, this research employed personal interviews to assess use of putative jaguar movement corridors across northern Guatemala. *Funding:* \$24,035 from Panthera (co-PI James Gibbs), Inc. and Fulbright scholarship to Ana Patricia Calderón Quiñónez (co-supervised with James Gibbs).

Population Status and Foraging Ecology of NY Coyotes

This research provided the first-ever comprehensive assessment of the number of coyotes occupying the state of NY, providing a novel means of monitoring change in coyote population using call-response surveys, and investigated coyote diets and deer kill rates.

Co-PIs: James Gibbs, Chris Whipps.

Funding: \$678,704 from NY DEC (co-PI James Gibbs), \$80,439 from USDA Forest Service through McIntire-Stennis program and Northern States Research Consortium (co-PIs Chris Whipps and Mark Teece), and \$2000 directly to Scott Warsen (MS student) from the American Wildlife Conservation Foundation.

Biodiversity within Willow Biomass Remediation Sites

As part of a larger program run by Tim Volk, this research focused on amphibian and avian use of willow plantations established as part of the remediation plan for the Solvay Settling Basin.

Funding: \$109,871 from Honeywell (co-PI James Gibbs), Inc. subcontract under Timothy Volk.

Status of the Endangered Chittenango Ovate Amber Snail

This research continued work began as a post-doc with James Gibbs, and continued field monitoring and analysis of a long-term dataset on population dynamics of this severely range-limited species. *Funding:* \$60,000 from US Fish and Wildlife Service (co-PI James Gibbs).

Large Herbivore Movements and Resource Selection

Investigations of the spatial ecology and multi-scale resource selection behavior to large

ungulates. *Funding:* \$42,000 for work on elk in Alberta from the Alberta Conservation Association (supervisor: Evelyn Merrill) and \$7,600 for work on caribou in Quebec from the University of Laval (supervisor: Daniel Fortin). Both covered post-doctoral salary for J. Frair.

Other program funding raised

Endowment for Camp Fire Conservation Fund Professorship in Wildlife Conservation at SUNY ESF

Amount: \$1,025,000 (fully vested 2017), Source: Camp Fire Conservation Fund and private donors, Project lead(s): J. Frair; Avery Stirratt and Preston Bruenn (Camp Fire Conservation Fund); Nora Heaphy and Dana Piwinski (ESF College Foundation)

Annual earnings on the endowment provides discretionary program funds to the professor.

Sponsorship for undergraduate immersion course in wildlife conservation at the Lucky Star Ranch

Amount: \$25,000 (2016), Source: Jody and Doreen Garrett, Project lead: J. Frair and Nora Heaphy (ESF College Foundation)

Funds used to purchase field equipment and food, and to underwrite tuition scholarships.

Conservation assessment of the Roosevelt Wildlife Collection at SUNY ESF

Amount: \$3,590 (2012), Source: Institute of Museum and Library Services, Heritage Preservation, Project lead: J. Frair

Funds covered professional assessment of the vertebrate collections, yielding a Conservation Assessment Plan essential to securing additional collections support from IMLS.

Likelihood & Bayesian Approaches to Data Analysis for Ecologists: a workshop

Amount: \$8,707 (2012), Source: Workshop fees, Project lead: J. Frair

Workshop attended by 25 participants from at least 9 different universities (PSU, UGA, UVM, Paul Smiths, SU/ESF, UWYO, UWisc, Cornell, and UDel) and 2 professional organizations (Panthera, US Army). Funds provided stipend and travel costs for workshop lead (Dr. Juan Manuel Morales) as well as coffee break supplies through the week.

Professional mentoring activities

Faculty

- Member of Faculty Mentoring Committees: Dr. Eliezer Gurare, Dr. Cynthia Downs, Dr. Rebecca Rundell, and Dr. Shannon Farrell.

Post-doctoral Research Associates

- Dr. Camilo Calderón-Acevedo, Roosevelt Post-doctoral Scholar, Project: NY Mammal Survey
- Dr. Amanda Cheeseman, Roosevelt Post-doctoral Scholar. Project: NY Mammal Survey. *Amanda is now an Assistant Professor at South Dakota State University.*
- Dr. Joseph Hinton, Roosevelt Post-doctoral Scholar. Project: Management and monitoring of moose populations in NY.

- Dr. Lisanne Petracca, Roosevelt Post-doctoral Scholar. ESF Project: Spatial ecology of bats on national forests. *Lisanne is now a Postdoctoral Researcher in the Quantitative Conservation Lab at the University of Washington.*
- Dr. Rachel Wheat, Roosevelt Post-doctoral Scholar. ESF Projects: Modeling moose populations in NY and ecological impacts of deer. *Rachel is now a Biostatistician with Oregon Department of Fish and Wildlife.*
- Dr. Guillaume Bastille-Rousseau. ESF Project: Galapagos tortoise migration. *Guillaume is now an Assistant Professor at Southern Illinois University.*
- Dr. Paul Schuette, Roosevelt Post-doctoral Scholar. ESF Project: Designing moose monitoring program. *Paul is currently a Wildlife Ecologist with the US Fish and Wildlife Service, Alaska.*
- Dr. Mark Lesser. ESF Project: Quantifying ecological impacts of deer. *Mark is currently an Assistant Professor at SUNY Plattsburgh.*
- Dr. Leah Berkman. ESF Project: Landscape genetics in bats and other species. *Leah is currently a Biometrician with the Missouri Department of Conservation.*
- Dr. Cecilia Hennessy. ESF Project: Landscape genetics.
- Dr. Stephen Campbell. ESF Projects: Status of Chittenango Ovate Amber Snail and Biodiversity use of willow plantations. *Steve is currently a Conservation Biologist at the Albany Pine Bush Preserve Commission, NY.*

Ph.D. Students

Continuing students

- Melanie Berger – transferred Spring 2020, focusing on abundance and trends in bat populations across NY State.
- Stephanie Cunningham – started Fall 2019, candidacy exam passed spring 2022, focusing on demography of northern fisher.
- Lilian Bonjorne de Almeida – started Fall 2015, candidacy exam passed fall 2018, defended summer 2021.

Completed dissertations

Devlin, A.L. 2019. Drivers of jaguar (*Panthera onca*) distribution, density, and movement in the Brazilian Pantanal. Ph.D. Dissertation, SUNY ESF. *Allison is a Post-doctoral Research Associate on Panthera's Jaguar Program at the University of Montana.*

Petracca, L.S. 2018. Spatial and behavioral ecology of large carnivores at the human-wildlife interface: insights for species conservation within and between protected areas. Ph.D. Dissertation, SUNY ESF. *Lisanne is a Postdoctoral Researcher in the Quantitative Conservation Lab at the University of Washington.*

Peach, M. 2017. Evaluating the role of protected areas in mitigating avian responses to climate and land use change. Ph.D. Dissertation, SUNY ESF. Co-advised by J. Frair and J. Cohen. *Michelle is a Lecturer at the University of Rhode Island.*

M.S. Students

Continuing students

- Georgiana Silveira – started Fall 2021, focusing on rodenticide exposure in forest mesocarnivores across the NE US.
- Sandy Slovikosky – started Fall 2020, focusing on global drivers of large cat conflict.
- Daisy de Fatima Sanchez Mosqueda – started Fall 2020, focusing on jaguar habitat connectivity across Peru.
- Terra Rentz – started 2014, continuing while working full-time as the Forest Health & Resiliency Division Manager at the Washington Department of Natural Resources.

Completed theses

Matiukhina, D. 2020. Drivers of resource partitioning and density for endangered large felids, Amur tiger (*Panthera tigris altaica*) and Amur leopard (*Panthera pardus orientalis*), in the Russian Far East. M.S. Thesis, SUNY ESF. *Dina is a Senior Research Scientist at the Land of the Leopard National Park, Russia.*

Peterson, S. 2018. Browse selection and constraints for moose (*Alces alces*) in the Adirondack Park, New York, USA. M.S. Thesis, SUNY ESF. *Sam is a District Wildlife Manager for Colorado Parks & Wildlife.*

Powers, K. 2018. Monitoring occurrence and habitat use by river otters, *Lontra canadensis*, across New York State. M.S. Thesis. *Kelly just successfully completed pilot training for the US National Guard.*

Low, C.P. 2017. Influence of coyotes on meso-predator occurrence, resource selection, and activity patterns in human-dominated landscapes, Fort Drum, New York. M.S. Thesis, SUNY ESF. *Chee Pheng is a Project Coordinator of the Wildlife Conservation Society – Malaysia program.*

Fuda, R.K. 2015. A park under pressure: the impacts of human disturbance in Murchison Falls Conservation Area, Uganda. M.S. Thesis, SUNY ESF. Co-supervised by S. Ryan and J. Frair. *Becky is an Assistant Wolf Biologist at the Oregon Department of Fish and Wildlife.*

Saldivar Bellassai, S.S. 2014. Status and threats to persistence of the Chacoan Peccary (*Catagonus wagneri*) in the Defensores del Chaco National Park, Paraguay. M.S. Thesis, SUNY ESF. *Silvia is a biologist with Itaipu Binacional – Áreas Protegidas, Paraguay.*

Calderón Quiñónez, A.P. 2013. Assessment of movement corridors for jaguars in eastern Guatemala. M.S. Thesis, SUNY ESF. Co-supervised by J. Gibbs and J. Frair. *Ana Patricia is currently pursuing a Ph.D. at the Leibniz Institute for Zoo and Wildlife Research.*

Hansen, S.J.K. 2013. Estimating density of coyotes from call-response surveys using distance sampling and soundshed models. M.S. Thesis, SUNY ESF. *Sara is the Statewide Deer Specialist for the Washington Department of Fish & Wildlife.*

Warsen, S.A. 2012. Evolving niche of coyotes in the Adirondack Mountains of New York: Long-term dietary trends and interspecific competition. M.S. Thesis, SUNY ESF. *Scott is a District Wildlife Biologist at the U.S. Forest Service, Michigan.*

Boser, C.L. 2009. Diet and hunting behavior of coyotes in agricultural-forest landscapes of New York State. M.S. Thesis, SUNY ESF. *Christina is an Ecologist in California*.

M.P.S. Students

Completed students

- Andrew MacDuff, M.P.S. 2017. *Andy now serves as Region 6 Director for the New York State Department of Environmental Conservation*.
- Christa LeGrande, M.P.S. 2014. *Christa is now a Monitoring Biologist at Joint Base Lewis-McChord, Fort Lewis, Washington*.

Invited presentations

Conservation of large mammals in human-dominated landscapes

- School of Natural Resources & Environment Seminar, Lake Superior State University, MI (Mar 2021)
- Keynote address, NY State Chapter of The Wildlife Society, Fayetteville, NY (Feb 2020)
- Adaptive Peaks Lecture Series, Syracuse, NY (Oct 2019)

Learning, cognition in animal movement

- Learn and Move workshop, Banff International Research Station, Alberta (April 2019)

Adirondack moose: population status and limiting factors

- New England Society of American Foresters annual meeting, moose symposium (Mar 2019)

Tracking recovery of NY river otter

- New York River Otter recovery team, Montezuma Audubon Center (2019)
- NY Trappers Association, Executive meeting, Herkimer (2019)

Educating the next generation of conservation leaders: Challenges for 'sustainable use' in university curricula

- Women and Sustainable Hunting 4th Annual Conference, Artemis Working Group of the International Council on Game and Wildlife Conservation, Illomantsi, Finland (Aug 2018)

Top Dog? The ecological role of the coyote in northeastern forests

(various titles)

- Dale L. Travis Public Lecture Series, SUNY ESF, Syracuse, NY (Mar 2017; ~500 people)
Link to video recording: <https://www.esf.edu/travislecture/past.htm>
- Great Swamp Conservancy, 20th Anniversary Celebration – Canastota, NY (Nov 2017)
- Adirondack Visitors Center – Newcomb, NY (Aug 2017)
- Webinar hosted by the U.S.F.S. Northeastern States Research Cooperative (2015)
Link to webinar: <https://vimeo.com/145465495>
- Safari Club International, Central NY Chapter – Oneonta, NY (Apr 2015)
- NYSDEC Indian Nations Meeting, SUNY ESF, Syracuse, NY (Apr 2015)
- Cayuga County Federation of Conservation Clubs – Auburn, NY (Mar 2015; 70 people)
- The Wildlife Society Annual Conference, Pittsburgh, PA (2014)
- Biology Dept. Seminar Series, Univ. of Alberta, Edmonton, Alberta, Canada (2014)
- New York State Fish and Wildlife Management Advisory Board – Pulaski, NY (2014)
- New York State Conservation Council – Utica, NY (2014)
- American Wildlife Conservation Foundation – Smyrna, NY (2014)
- Earth Lecture Series, SUNY ESF, Syracuse, NY (2014)

- Sportsman Club – New Paltz, NY (2012)
- Erie County Federation of Sportsman’s Clubs – Armor, NY (2011; 450 people)
- Junior Café Scientifique – Museum of Science and Tech., Syracuse, NY (2010)
- My Place in the Finger Lakes, 3rd Annual Conference, The Finger Lakes Institute at Hobart and William Smith College, Geneva, NY (2009)
- NY State Conservation Council – Albany, NY (2008)
- Affiliated Conservation Clubs of Madison County – Madison, NY (2007)
- International Trappers Convention – Herkimer, NY (2007)
- NY State DEC Bureau of Wildlife Annual Meeting – Hamilton, NY (2007)
- NY State Conservation Council – Albany, NY (2007)
- Rotary International, chapter meeting – Harpursville, New York (2007)

Should I major in conservation biology or wildlife ecology? What’s the difference?

- Ignite TWS, The Wildlife Society Annual Conference, Winnipeg, Manitoba (Oct 2015)

The conservation broker: bridging the gap between academic research and wildlife management

- Biology Seminar Series, University of Maine, Orono, ME (Nov 2015)

The impact of oil & gas development on large mammals: lessons from the west

- Symposium on “The Biological Impacts of Hydraulic Fracturing” at the Northeast Natural History Conference, Albany, NY (2011)

The Roosevelt Wild Life Station (and similar titles)

- Camp Fire Club, Conservation Fund Board of Directors – Chappaqua, NY (2015)
- Boone & Crockett Club Annual Meeting – Kansas City, MO (2011)
- ESF Foundation Board of Directors – Minnowbrook, NY (2011)

Tracking wildlife with GPS technology

- GIS Day, SUNY-ESF, Syracuse, NY (2010)

GPS collar errors and solutions: a prospectus for studies of animal movement and resource selection (and similar titles)

- Workshop on “GPS-Telemetry Data: challenges and opportunities for behavioral ecology studies”, the Centre for Alpine Ecology, Fondazione Edmund Mach, Trento, Italy (2008)
- Workshop on modern resource selection analyses at The Wildlife Society Annual Conference, Anchorage, AK (2006)

Know thy enemy: experience affects translocation success in risky landscapes (and similar titles)

- McGill University undergraduate wildlife course, Newcomb, NY (2007)
- GIS Day, University of Alberta (2004)
- Symposium on survival analysis at The Wildlife Society Annual Conference, Calgary, AB (2004)

Thresholds in landscape connectivity and mortality risks for elk in response to growing road networks: a case study of elk in managed forests (and similar titles)

- Ecology-Wildlife Biology Seminar Series, University of Montana, Missoula, MT (2006)
- Biology Department Seminar Series, Université Laval, Québec City, Québec (2006)
- Symposium on “Animal movements in heterogeneous environments” at the International Association of Landscape Ecology Annual Conference, Darwin, Australia (2003)

Analyzing competing risks in survival models

— Statistical Ecology Seminar, Department of Biological Sciences, University of Alberta (2005)

Elk survival, movement, and resource selection in the Canadian Rockies

(various titles)

- Student Chapter of the Wildlife Society – SUNY-ESF, Syracuse, NY (2006)
- Alberta Conservation Association, public meeting – Rocky Mountain House, AB (2005)
- Public Advisory Committee, Weyerhaeuser Ltd., Drayton Valley, Alberta (2004)
- Montane Science Workshop, Sundre, Alberta (2003)
- Rotary International, chapter meeting – Harpursville, New York (2002)
- Rocky Mountain Elk Foundation, Banquet – Rocky Mountain House, AB (2002)
- Rocky Mountain Elk Found., Board of Directors – Rocky Mountain House, AB (2002)
- Ta Otha School – Bighorn First Nations Reserve, Alberta (2002)
- Alberta Conservation Association, public meeting – Rocky Mountain House, AB (2002)
- Rotary International, chapter meeting – Rocky Mountain House, Alberta (2001)
- Public Advisory Committee, Sunpine Forest Products, Sundre, Alberta (2001)

Effects of Highway 53 expansion on gray wolf dispersal in northern Wisconsin

(various titles)

- Wildlife Ecology class, Department of Natural Resources, Cornell University (1996)
- Mt. Upton Elementary School – Mt. Upton, New York (1996)
- Stevens Point High School – Stevens Point, Wisconsin (1996)
- Wisconsin Department of Natural Resources – Spooner, Wisconsin (1996)
- Gordon Elementary School – Gordon, Wisconsin (Mar 1996)
- Rod & Reel Club – Wisconsin Rapids, Wisconsin (Sep 1995)

Conference presentations

The presenter of
co-authored
works indicated
otherwise
presented by
J. Frair

Camera deployment for optimal detection of critical life events for an arboreal mammal

- Annual meeting of the Northeast Association of Fish & Wildlife Agencies, Virtual Conference (Apr 2021; S. Cunningham)

The effectiveness of hazing African lions as a conflict mitigation tool

- Annual meeting of the NY State Chapter of The Wildlife Society, Fayetteville, NY (Feb 2020; L. Petracca)
- Annual meeting of the National Chapter of The Wildlife Society, Reno, NV (Sep 2019; L. Petracca)

Assessing river otter population status in NY (and similar titles)

- New York State Chapter of The Wildlife Society Annual Meeting, Zoom (2021)
- Northeast Fish and Wildlife Conference, Vermont (2018; K. Powers)
- Northeast Natural History Conference, Connecticut (2017)
- The Wildlife Society Annual Conference, North Carolina (2016; Powers)

Foraging ecology and status of Adirondack moose (and similar titles)

- Northeast Fish and Wildlife Conference, Vermont (2018; S. Peterson)
- North American Moose Conference, Washington (2018; S. Peterson)
- 51st North American Moose Conference, Ingonish, Nova Scotia (2017; S. Peterson)
- The Wildlife Society Annual Conference, North Carolina (2016; S. Peterson)
- North American moose conference and workshop, Granby, CO (Apr 2015; P. Schuette)
- Northeast Fish and Wildlife Conference, Newport, Rhode Isl. (Apr 2015; P. Schuette)

— The Wildlife Society Annual Conference, Winnipeg, Manitoba (2015)

Anthropogenic drivers of space use among coyote, gray fox, and fisher on Fort Drum Military Installation, NY (and similar titles)

— Northeast Natural History Conference, Connecticut (2017; C.P. Low)
— The Wildlife Society Annual Conference, North Carolina (2016; C.P. Low)

Robust inference on species distribution in human-dominated landscapes using interview data: jaguar in Central America.

— The Wildlife Society Annual Conference, North Carolina (2016; L. Petracca)
— Ecological Society of America, Annual Meeting, Florida (2016; L. Petracca)

Single-visit dynamic occupancy models: An approach to account for imperfect detection with Atlas data

— North American Ornithological Conference, Washington, D.C. (2016; M. Peach Lang)

Deer impacts on forest regeneration at spatial scales relevant to management decisions

— The Northeast Fish and Wildlife Conference, Newport, Rhode Island (Apr 2015; M. Lesser)

Estimating coyote abundance and population status (and similar titles)

— Northeast fish and Wildlife Conference, Saratoga Springs, NY (2013; S. Hansen)
— The Wildlife Society Annual Conference, Hawaii (2011; S. Hansen)
— Northeast Fish and Wildlife Conference, Manchester, NH (2011; S. Hansen)
— Spotlight on Student Research, SUNY ESF, Syracuse, NY (2011; S. Hansen)
— The Wildlife Society Annual Conference, Snowbird, UT (2010; S. Hansen)
— The Wildlife Society Annual Conference, Monterey, CA (2009; R. Holevinski)
— The Northeast Natural History Conference X, Albany, NY (2008; R. Holevinski)

Quantifying coyote kill rates of white-tailed deer in NY State (and similar titles)

— Northeast fish and Wildlife Conference, Saratoga Spr., NY (2013; R. Holevinski)
— Northeast fish and Wildlife Conference, Manchester, NH (2011; R. Holevinski)
— The Wildlife Society Annual Conference, Snowbird, UT (2010; R. Holevinski)
— The Wildlife Society, NY State Chapter, Alexandria Bay, NY (2010; R. Holevinski)
— The Wildlife Society, NY State Chapter, Owego, NY (2008; R. Holevinski)

Sélection d'habitat du caribou forestier en forêt aménagée

— Société Québécoise pour l'Étude Biologique du Comportement, Sherbrooke, Québec, Canada (2011; M. Leblond)

The biogeography of songbirds on islands in Cranberry Lake

— 18th annual Adirondack Research Consortium, Lake Placid, NY (2011; S. Warsen)

The dividing line: genetically differentiating two stocks of coyotes in NY State

— Northeast Fish and Wildlife Association Annual Conference, Boston, MA (2010)
— The Wildlife Society Annual Conference, Monterey, CA (2009)

The effect of trails on salamander abundance: implications for trail management

— Spotlight on Student Research (poster), SUNY-ESF (2010; L. Beaty, undergraduate mentee)

Testing for the presence of necrophobic behavior in small mammals

— Spotlight on Student Research (poster), SUNY-ESF (2010; G. Prounis, undergraduate mentee)

Disjunct phenologies allow the coexistence of a threatened and an invasive terrestrial snail species

— Ecological Society of America, Albuquerque, New Mexico (2009; S. Campbell)

Cumulative effects of wolves and industrial activities on elk (and similar titles)

— Statistical Methods for Geographic and Spatial Data in Management of Natural Resources, NCDIS, Montreal, Canada (2010; E. Merrill)
— The Wildlife Society Annual Conference, Miami, FL (2008)
— The Wildlife Society, Alberta Chapter, Red Deer, AB (2003)
— Partners in Conservation, Leduc, AB (2003)
— Cumulative Environmental Effects Management Conference, Calgary, AB (2000)

Foraging ecology of eastern coyotes in NY State (and similar titles)

— The Wildlife Society annual conference, Monterey, CA (2009; C. Boser)
— Ecological Society of America, Albuquerque, NM (2009; C. Boser)
— The Wildlife Society annual conference (poster), Miami, FL. (2008; C. Boser)
— The Northeast Natural History X, Albany, NY (2008; C. Boser)

Habitat effectiveness and roads: revisiting the paradigm in managed forests

— The Wildlife Society Annual Conference, Anchorage, AK (2006)

Scaling up local responses to roads to population-level distribution (and similar titles)

— 8th Western States and Provinces Deer and Elk Workshop, Spokane, WA (2009; E. Merrill)
— The Ecological Society of America Annual Conference, Montréal, Canada (2005)
— The Wildlife Society Annual Conference, Calgary, Alberta (2004)
— International Deer Biology Congress, Québec City, Québec (2002)

Landscape patterns and movement strategies alter wolf-elk encounter rates

— The Wildlife Society annual conference, Calgary, AB (2004; E. Merrill)

Elk translocation success, study of survival and retention (and similar titles)

— International Wildlife Management Congress, Christchurch, New Zealand (2004)
— The Wildlife Society, Northwest Section, Banff, Alberta (2001)

Removing GPS collar bias in habitat selection studies (and similar titles)

— International Conference on Resource Selection Functions, Laramie, WY (2003)
— The Wildlife Society Annual Conference, Reno, NV (2001)

Application of Resource Selection Functions to modeling predator-prey dynamics

— First International Conference on Resource Selection by Animals, Laramie, WY (2003; M. Hebblewhite)

Impacts of Highway 53 expansion on gray wolves

— Wolves of America Conference, Albany, NY (1996)

Wisconsin gray wolf immobilization and handling protocol

— Midwest Furbearers Workshop, Upper Peninsula, MI (1996)

Undergrad courses taught

- Applied Wildlife Science – junior level course (EFB 491)** Annually, 2007-present
- Applied Wildlife Science – graduate offering (EFB 796)** Annually, 2011-present
Analytically-intensive course required by wildlife science majors focused on population ecology, monitoring, and modeling, and solving real-world conservation problems (3 credit hours). 31-50 undergrads and 1-8 graduate students each year.
- Animal Tracks and Sign (EFB 496)** Annually, 2020, 2021
A field-intensive online course (1 credit hour) that engages students in the art and science of reading animal signs – from footprints and scats, disturbances of soil and damage to plants, to vocalizations and other animal-made noises – and in designing robust population surveys based on animal sign. 15-37 students.
- Wildlife Field Techniques** 2007-2011, 2012, 2015, 2017
A two-week field immersion course providing hands-on experience with the questions and tools involved in the study and management of free-ranging mammals, herps, birds and fish. 12-19 students each year.
- Hunter and Trapper Education for Wildlife Professionals** 2011, 2012
Course engaged students in the process of managing for sustainable use and exposed them to the hunting and trapping constituencies involved in the wildlife profession (3 credit hours). 37-43 students each year.
- Arctic Ecosystems: Field Methods and Assessment** 2007
An exploration of arctic ecology and what it takes to work in such environments. On campus instruction plus a 10-day wilderness excursion in Denali State Park, Alaska. Co-taught with Thomas Welch, Upstate Medical University. 8 students.
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Graduate courses taught

- Landscape Ecology (EFB 650)** 2007, 2008, 2010, 2013, 2016, 2020
Theoretical foundations and applications in Landscape Ecology (3 credit hours). 11-18 students each year.
- Statistical Modeling in R for Ecologists (EFB/FOR 796)** 2009, 2011-12, 2014, 2016-19, 2021
Frequentist, likelihood, and Bayesian statistical methods in ecology using program R (3 credit hours). Co-taught 2021 with Stephanie Cunningham (ESF Ph.D. student), 2012-19 with Dr. John Stella (ESF Department of Forest and Natural Resources Management), and 2009-12 with Dr. Jesse Brunner. 10-20 graduate students each year.
- Seminars offered (EFB 796)**
- Advances in occupancy modeling Spring 2018
 - Mixed effects models (led by Ph.D. student L. Petracca) Spring 2017
 - Foraging ecology (led by Ph.D. student L. Petracca) Fall 2016
 - Resource Selection Functions Fall 2016
 - Vertebrate Conservation Conversation Fall 2010, 2011
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Service to college and department

College-level service

- Research Advisory Committee, Office of Research Programs 2022-present
- College Review Committee, Promotion and Tenure, member 2019-present
- Forest Properties Faculty Advisory Committee, member 2019-present
- ESF Science Advisor to the NY Fish and Wildlife Management Advisory Board (a legislatively mandated position) 2006-2016, 2018-present
- Council for Geospatial Modeling and Analysis, member 2006-present
- President’s Satellite Campuses and Properties Task Force, member 2019-2020
- ESF Discovery Challenge, People Advisory Group, co-chair 2018-2019
- Faculty Governance Executive Committee, member 2009-2011
- Faculty Governance Committee on Research, chair 2009-2011
- Faculty Governance Committee on Research, member 2007-2009
- Search committees for administration, staff, and faculty
 - Roosevelt Wild Life Collections Manager 2021
 - ESF College President (elected faculty representative) 2020
 - Director, College Foundation 2016
 - IT Programmer/Analyst 2007
 - Professor, FNRM Department 2007-2008
- Supervised Roosevelt Wild Life Collections Manager/ Instructional Support Specialist, Ron Giegerich 2009-2021
- Ad Hoc Honorary Degree Nomination Committee, chair 2007-2009
- Regularly chair graduate student prelim exams and defenses 2006-present
- Regularly participate in student recruiting events/open houses 2006-present

Departmental service

- Associate Chair, Research and Development Fall 2021-present
- Director, Roosevelt Wild Life Station 2019-present
- Associate Director, Roosevelt Wild Life Station 2010-2019
- Curriculum Coordinator, Wildlife Science 2010-2019, 2020-present
- Manage Fish & Wildlife Professional Internship program for undergrads and grads (up to 14 students per year) 2017-present
- Advise 25-31 Wildlife Science majors yearly 2006-present
- Search committees for new faculty and staff, chairing 3 searches
 - Quantitative/Mathematical Wildlife Ecologist, chair 2021
 - Camp Fire Conservation Fund Professor of Wildlife Conservation, chair 2018
 - Wildlife Habitat Ecology Professor, chair 2013
 - Wildlife Ecology Professor 2010
 - General Biology Instructor 2008
- Award/recognition oversight
 - Moore Family Fund for Wildlife Conservation Grad Award 2020-present
 - Betty Moore Chamberlaine Graduate Student Award 2009-2013
 - Ralph T. King Award to Outstanding Wildlife Student 2011-2012
- Graduate Program Advisory Committee, member 2008-2009
- Student Chapter of The Wildlife Society, Faculty Advisor 2008-2011
- Mentored 4 undergraduate honors students (Wittmeyer, Keiter, Brubaker, Jimenez), 5 independent research projects, and additional REU students

International Council for Game and Wildlife Conservation

- Deputy President, Applied Science Division Apr 2017-present
- Expert to the US Delegation Apr 2017-present

New York State Department of Environmental Conservation

- Hunter Education Program evaluation (interviewee) 2015

The Wildlife Society

- National Chapter, Member 2004-present
- Northeast Section
 - Immediate Past-president 2021-2022
 - President 2020-2021
- The Wildlife Society, NY State Chapter, Vice-President 2008-2010
- College/University Wildlife Education Working Group, member 2011-present
- Marcellus Shale Ad Hoc Working Group, member 2011-2014
- GIS and Remote Sensing Working Group, member 2004-2009

Society for Conservation Biology, lifetime member 2006-present

Ecological Society of America, lifetime member 2006-present

Journal of Applied Ecology, Associate Editor 2012-2018

Ad-hoc reviewer:

Animal Behaviour, Conservation Biology, Biological Conservation, Diversity and Distributions, Ecography, Ecology, Ecological Applications, Ecological Modeling, Ecological Monographs, Ecosphere, Forest Ecology and Management, Journal of Animal Ecology, Journal of Applied Ecology, Journal of Animal Ecology, Journal of Wildlife Management, Landscape Ecology, Mammal Review, Oikos, Philosophical Transactions of the Royal Society, PLoS One, Wildlife Society Bulletin

Symposiums organized or sponsored

- “Regional Partnerships for Monitoring Wildlife with Camera Traps” – Northeast Fish & Wildlife Conference, New Jersey (2022), lead by Paul Jensen (sponsored by Roosevelt Wild Life Station)
- “Wolves and coyotes in the Northeast” – Northeast Natural History Conference, Syracuse, NY (2012), co-lead with D. Bogen
- “Animal Movements in Heterogeneous Landscapes” – US International Association of Landscape Ecologists, Madison, WI (2008), co-lead with E.H. Merrill

Technical workshops delivered or sponsored

- Full day workshops sponsored by the Roosevelt Wild Life Station:
 - “Spatial analysis in R” delivered by L. Petracca and A. Cheeseman, Northeast Fish & Wildlife Conference (Online 2021)
 - “Spatial analysis in R” delivered by L. Petracca and A. Cheeseman, The Wildlife Society Annual Conference (Online 2020).
 - “Analysis of satellite data in R” delivered by G. Bastille-Rousseau, The Wildlife Society Annual Conference (2016)

- “Likelihood and Bayesian analysis for ecologists” (5 days) – SUNY ESF, Syracuse, NY, J.M. Morales and J. Frair (co-organizers; 2012)
- “Geospatial skills workshop” (8 hours) – The Wildlife Society Annual Conference, Hawaii, H. Beyer and J. Frair (co-organizers; 2011)
- “Modern approaches to resource selection modeling” (4 hours) – US-International Association of Landscape Ecologists Annual Conference, Madison, WI, J.D. Forester and J. Frair (co-organizers; 2008)

Member of graduate program steering committee for non-ESF students

- Ph.D. students: Colin Swider, Elizabeth McDonald, and Julia Dombroski (Syracuse University); Jen Grauer (Cornell)
- M.S. students: Hannah Blair and Leanna Matthews (Syracuse University)

Continuing education

Webinars focused on Diversity, Equity, and Inclusion in the wildlife field

- Creating Safe Spaces roundtables, National Wildlife Foundation (Dec 2020, Jan 2021)
- Forage Friday conversation during Black Mammalogists Week (Sep 2020)

Seminars/workshops on delivering effective online education — Summer Institute Happy Hours (Fridays, summer 2020)

National Academies Summer Institute on Undergraduate Education in Science – University of Connecticut (4 days, 2016)

Spatial Capture-Recapture Modeling Workshop – Cornell University, NY (3 days, 2014)

Chemical Immobilization of Animals – Safe Capture International (2 days, 1994, 2012)

Sportsmen Education course – NY State Department of Environmental Conservation (10 hours, 2011)

Bayesian Population Analysis in WinBUGS – Patuxent Wildlife Research Center, MD (1 week, 2010)

Wildlife Applications of Bayesian Survival Analysis using WinBUGS – The Wildlife Society, Snowbird, UT (1 day, 2010)

Geographic and Spatial Data in the Management of Natural Resources – University of Montreal, Canada (3 days, 2010)

Bayesian and maximum likelihood approaches to data analysis – University of Glasgow, Scotland (1 week, 2008)

“R” workshop – SUNY-ESF (2 days, 2008)

No more P-values? Model based inference in the life sciences – SUNY-ESF (2 day, 2007)

Conservation genetics for wildlife biologists and managers – The Wildlife Society, Tuscon, AZ (1 day, 2007)

Awards and distinctions	Outstanding Professional – New York Chapter of The Wildlife Society	2021
	Exemplary Researcher Award – SUNY ESF Research Foundation	2019
	Outstanding Academic Advisor Award – ESF Undergraduate Student Association	2019
	Wings across the Americas, Research Collaboration Award – US Forest Service	2016
	TWS Fellow – The Wildlife Society, National Chapter	2014
	Distinguished Teacher Award – ESF Undergraduate Student Association	2011
	Student Chapter Advisor of the Year Award – The Wildlife Society	2011
	Wildlife Publication Award – The Wildlife Society (Beyer et al. (2010) <i>Phil Trans Roy Soc B</i> , 365:2245-2254)	2010
	Distinctions as a Graduate Student	
	– William Wishart Post-Graduate Award. The Wildlife Society, Alberta Chapter	2005
– Best Student Oral Presentation Award. The Wildlife Society, Alberta Chapter, Annual Conference	2003	
– Outstanding Graduate Student Award. University of Wisconsin, Stevens Point	1997	
– Graduate Student Council Award. College of Natural Resources, University of Wisconsin, Stevens Point	1997	