Jacqueline L. Frair

SUNY ESF, 257 Illick Hall, 1 Forestry Drive, Syracuse, NY 13210

*cell* (315) 214-9266 | *email* jfrair@esf.edu | *web* www.esf.edu/faculty/frair

Professional appointments

**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, Alaska1997-2000

**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

**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.

Sponsored Programs:

Areas of active research

*Funding:*

* ESF Project 81339-1145540 (2018-23; $678,662), New York State Department of Environmental Conservation (NY DEC). PIs: J. Frair and P. Jensen.
* *Pending grant proposal:* Forest carnivore exposure to anticoagulant rodenticides across the Northern Forest. PI: J. Frair. Source: Northern States Research Cooperative, (2021-23; $193,160). Pre-proposal received “competitive” rating.
* 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)

**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:*

* Project 81339-1144974 (2018-20; $201,559), NY DEC. PI: J. Frair
* Project 66287-1115688 (2014-19; $570,460), NY DEC. PI: J. Frair
* Project 77766-1139000 (2016-17; $2,000), American Wildlife Conservation Foundation, Inc. PI: S. Warsen (grad student)
* A.W. Franzmann and Distinguished Colleagues Award ($1,500 to graduate student), Alces Journal. PI: S. Warsen (grad student)
* Substantial in-kind support provided by DEC biologists and seasonal technicians.
* A DEC grant to A. Fuller (Cornell) funds 1 Ph.D. student (Jen Gruaer, started January 2021) that I co-advise.

**White-nose Syndrome Impacts on Cave-Dwelling Bats**This multi-dimensional work focuses on assessing the micobiome 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:*

* ESF Project 79124-1142092 (2017-20; $160,000), USDA Forest Service, Northern Forest Research Station. PI: J. Frair.
* Project 69461-1122156 (2014-19; $103,746), USDA Forest Service, Northern States Research Consortium. PIs: P. Marqhardt, D. DonnerWright, L. Berkman, and J. Frair.
* Project 62433-1105744 (2012-17; $294,299), USDA Forest Service, Northern forest Research Station. PI: J. Frair.

**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.

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

* ESF Project 79507-1142610 (2017-19; $36,000), Wildlife Conservation Society, Fellowship to Dina Matiukhina (graduate student). Advisor: J. Frair.
* Substantial in-kind support provided by WCS and Land of the Leopard National Park.

**Spatial ecology of felids in the fragmented Atlantic Forest**Assessment of the forest mammal community within Sao Paolo 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 Bonjorne de Almeida (anticipated graduation spring 2021).
* Direct and in-kind support also provided by 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:*

* Cornell subcontract (2019-2021; $44,393) under Project 81339-1145550.   
  PI: J. Frair.
* ESF Project 66827-1114098 (2013-2018; $312,028). PIs: M. Dovciak and J. Frair. Key collaborators: P. Curtis and P. Smallidge (Cornell), Jeremy Hurst (DEC).

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.

**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.

Sponsored Programs:

Previous research funding

*Funding:* ESF Project 64007-1109100 (2013-18; $539,488), National Science Foundation.   
PIs: J. Gibbs, S. Blake (St. Louis Zoo), S. Deem (St. Louis Zoo), and J. Frair.   
  
**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.

*Funding:*

* Fulbright graduate fellowship to Chee Pheng Low. Advisor: J. Frair.
* ESF Project 66287-1114095 (2013-17; $148,288), U.S. Army Corps of Engineers.   
  PIs: J. Frair and M. Teece. Key collaborator: R. Rainbolt, Fort Drum.
* Substantial in-kind support provided by US Army.

**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 ranch lands in a key jaguar conservation unit within the Brazilian Pantanal.

*Funding:*

* Project 69277-1120446 (2014-15; $4,200), Panthera. PI: A. Devlin (Ph.D. student), Advisor: J. Frair, Key Collaborator: H. Quigley (Panthera, Inc.).
* Project 61793-1110742 (2013-14; $8,860), Panthera. PI: A. Devlin.
* Project 62524-1105933 (2012-13; $9,750), Panthera. PI: A. Devlin.
* Project 57158-1094064 (2010-12; $12,000), Panthera. PI: A. Devlin.
* Substantial in-kind support provided by Panthera and Pantanal National Park.

**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 to Silvia Saldivar Bellassai. Advisor: J. Frair.
* Project 64581-1110445 (2012-14; $1000), Sequoia Park Zoo Foundation.   
  PI: S. Saldivar Bellassai.
* Mohamed bin Zayed Species project number 13056029 (2013; $4,000).   
  PI: S. Saldivar Bellassai.
* Substantial in-kind support provided by Anthony Giordano.

**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:* Project 60788-1104451 (2012-14; $106,866), USDA Forest Service, Northern States Research Consortium. PIs: John Stella, Eddie Bevilaqua, and J. Frair.   
  
**INECOL/SUNY ESF Seed Grants**  
This seed grant program was established to initiate collaboration between SUNY ESF and INECOL, a partner research institute in Mexico.

* **Research collaboration workshop:** *PIs:* S. Diemont and J. Frair  
  Project 60207-1100783 (2012-13; $5,000)
* **Tropical river otter genetics:** *PIs:* J. Frair and Carolina Valdespino  
  Project 60207-1100789 (2012-13; $5,000)

**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:*

* Fulbright graduate scholarship to Ana Patricia Calderón Quiñónez. Advisors:   
  J. Gibbs and J. Frair.
* Project 62819-1106529 (2012-13; $12,000), Panthera. PI: J. Frair and J. Gibbs.
* Project 60050-1100425 (2011-12; $12,035), Panthera. PI: J. Frair and J. 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 also investigated coyote diets and deer kill rates.

*Funding:*

* Project 54028-1090589 (2010-11; $40,046), USDA Forest Service, Northern States Research Consortium. PIs: J. Frair and M. Teece.
* Project 53858-1086739 (2010; $2,000), American Wildlife Cons. Foundation.   
  PI: S. Warsen (grad student)
* Project 52022-1079827 (2009-11; $50,393), USDA McIntire-Stennis program. PIs: J. Frair and C. Whipps.
* Project 41975-1060233 (2007-12; $678,704), NY DEC. PI: J. Frair and J. Gibbs.

**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:* Project 46337-1070360 (2008-09; $109,871). PIs: J. Frair, J. Gibbs, and   
S. Campbell.  
  
**Status of the Endangered Chittenango Ovate Amber Snail**This research continued work I began as a post-doc with James Gibbs, with continued field monitoring and analysis of a long-term dataset on population dynamics of this severely range-limited species.

*Funding:* ESF Project 44719-1066832 (2007-09; $60,000), US Fish and Wildlife Service. PIs: J. Frair and J. Gibbs. Key collaborator Robyn Niver (USFWS).  
**Large Herbivore Movements and Resource Selection**This research focus represented a continuation of my some of my dissertation work, with extension into new systems and species.

*Funding:*

* Elk Project Grant (2005; $42,000), Alberta Conservation Association, Alberta, Canada. PIs: J. Frair and Evelyn Merrill (University of Alberta)
* Caribou Project Grant (2006; $7,600), University of Laval, Quebec, Canada.   
  PI: J. Frair. Key collaborator Daniel Fortin (University of Laval).

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 Manual Morales) as well as coffee break supplies through the week.*

**Faculty**

Professional mentoring activities

* Member of Faculty Mentoring Committtees: Dr. Cynthia Downs, Dr. Rebecca Rundell, and Dr. Shannon Farrell.

**Post-doctoral Research Associates**

* Dr. Joseph Hinton, Roosevelt Post-doctoral Scholar. ESF Project: Management and monitoring of moose populations in NY (position ends 2021).
* 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**

* Stephanie Cunningham – started Fall 2019, focused on demography of northern fisher.
* Lilian Bonjorne de Almeida – started Fall 2015, passed candidacy exam fall 2018, anticipated graduation May 2021.

**Completed dissertations**

Devlin, A.L. 2019. Drivers of jaguar (*Panthera once*) 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**

* Sandy Slovikosky – started Fall 2020, focused on drivers of large cat conflict.
* Daisy de Fatima Sanchez Mosqueda – started Fall 2020, focused on jaguar habitat status 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 a Regional Wildlife Manager with 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.*

Peer-reviewed publications

Underlining indicates graduate students   
advised   
by J. Frair

Powers, K., L. Petracca, A. MacDuff, and J. Frair. (in press) Robust inference on otter distribution from disparate occurrence records. *Journal of Wildlife Management*.

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*.

Teitelbaum, C.S., Sirén, A.P.K., Coffel, E., Foster, J.R., Frair, J.L., Hinton, J.W., Horton, R.M., Kramer, D.W., Lesk, C., Raymond, C., Wattles, D.W., Zeller, K.A., and Morelli, T.L. (2021). Habitat use as an indicator of adaptive capacity to climate change. *Diversity and Distributions*. <http://dx.doi.org/10.1111/ddi.13223>

Frair, J. and G. Bastille-Rousseau. (in press) Data collection and quantitative considerations for studying pattern-process relationships on landscapes. Chapter 8 *in* Wildlife and Landscapes edited by W.F. Porter, C.J. Parent, R.A. Steward, and D.M. Williams. Johns Hopkins University Press.

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](https://datadryad.org/stash/dataset/doi:10.5061/dryad.76hdr7ssq).

Peterson, S., D. Kramer, J. Hurst, and J. Frair (2020) Browse selection by moose in the Adirondack Park, New York. *Alces*, 56:107-126.

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.

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.

Lesser, M.R., Dovciak, M., Frair, J.L., Curtis, P., Roberts, M., and Hurst, J. (2019) Modelling white-tailed deer impacts on forest regeneration at scales relevant to deer management. *Forest Ecology and Management*, 448:395-408.

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

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.

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.

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

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.

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*.*

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.

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.

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.

Petracca, L. and Frair, J. (2017) When methodological flaws limit inference: A response to Caruso et al. (2016). *Oryx*, 51(2):208.

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.

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.

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>

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.

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.

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.

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.

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.

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.

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.

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.

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

Fieberg, J., Boyce, M.S. Matthiopoulous, 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.

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

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.

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.

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.

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.

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

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

Other publications

Frair, J.L. and Gibbs, J. (2011) [The Roosevelt Wild Life Station](https://drive.google.com/drive/folders/1_9rz40i7xrzEdZwlmehga1dTkL3n_2fQ): 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](https://drive.google.com/drive/folders/1_9rz40i7xrzEdZwlmehga1dTkL3n_2fQ). 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)

Invited presentations

**Conservation of large mammals in human-dominated landscapes**

― Keynote address, Annual meeting of the NY State Chapter of The Wildlife Society, Fayetteville, NY (Feb 2020)

― Adaptive Peaks Lecture Series, 2019 Exemplary Researcher Award Speaker SUNY ESF, 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, Illomansti, 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  
  
Presenter of   
co-authored works indicated

**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, post-doc)

― Annual meeting of the National Chapter of The Wildlife Society, Reno, NV (Sep 2019; Petracca)

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

― Northeast Fish and Wildlife Conference, Vermont (2018; K. Powers, M.S. student)

― Northeast Natural History Conference, Connecticut (2017; Frair)

― 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; Sam Peterson, M.S. student)

― North American Moose Conference, Washington (2018; Peterson)

― 51st North American Moose Conference, Ingonish, Nova Scotia (2017; Peterson)

― The Wildlife Society Annual Conference, North Carolina (2016; Peterson)

― North American moose conference and workshop, Granby, CO (Apr 2015; Paul   
 Schuette, post-doc)

― Northeast Fish and Wildlife Conference, Newport, Rhode Isl. (Apr 2015; Schuette)

― The Wildlife Society Annual Conference, Winnipeg, Manitoba (2015; Frair)

**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, MS student)

― The Wildlife Society Annual Conference, North Carolina (2016; 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, Ph.D. student)

― Ecological Society of America, Annual Meeting, Florida (2016; 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, Ph.D. student)

**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, post-doc)

**Estimating coyote abundance and population status** (and similar titles)

― Northeast fish and Wildlife Conference, Saratoga Springs, NY (2013; S. Hansen, M.S. student)

― The Wildlife Society Annual Conference, Hawaii (2011; Hansen)

― Northeast Fish and Wildlife Conference, Manchester, NH (2011; Hansen)

― Spotlight on Student Research, SUNY ESF, Syracuse, NY (2011; Hansen)

― The Wildlife Society Annual Conference, Snowbird, UT (2010; Hansen)

― The Wildlife Society Annual Conference, Monterey, CA (2009; R. Holevinski, Ph.D. student)

― The Northeast Natural History Conference X, Albany, NY (2008; 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, Ph.D. student)

― Northeast fish and Wildlife Conference, Manchester, NH (2011; Holevinski)

― The Wildlife Society Annual Conference, Snowbird, UT (2010; Holevinski)

― The Wildlife Society, NY State Chapter, Alexandria Bay, NY (2010; Holevinski)

― The Wildlife Society, NY State Chapter, Owego, NY (2008; Holevinski)

**Sélection d’habitat du caribou forestier en forêt aménagée**

― Société Québécoise pour l'Étude Biologique du Comportement, Sherbrooke, Québec, Canada (2011; M. Leblond, co-author and graduate student at Laval University)

**The biogeography of songbirds on islands in Cranberry Lake**

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

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

― Northeast Fish and Wildlife Association Annual Conference, Boston, MA (2010; Frair)

― The Wildlife Society Annual Conference, Monterey, CA (2009; Frair)

**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, post-doc)

**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, co-author)

― The Wildlife Society Annual Conference, Miami, FL (2008; Frair)

― The Wildlife Society, Alberta Chapter, Red Deer, AB (2003; Frair)

― Partners in Conservation, Leduc, AB (2003; Frair)

― Cumulative Environmental Effects Management Conference, Calgary, AB (2000; Frair)

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

― The Wildlife Society annual conference, Monterey, CA (2009; C. Boser, MS student)

― Ecological Society of America, Albuquerque, NM (2009; Boser)

― The Wildlife Society annual conference (poster), Miami, FL. (2008; Boser)

― The Northeast Natural History X, Albany, NY (2008; Boser)

**Habitat effectiveness and roads: revisiting the paradigm in managed forests**

― The Wildlife Society Annual Conference, Anchorage, AK (2006; Frair)

**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, co-author).

―The Ecological Society of America Annual Conference, Montréal, Canada (2005; Frair).

―The Wildlife Society Annual Conference, Calgary, Alberta (2004; Frair)

―International Deer Biology Congress, Québec City, Québec (2002; Frair)

**Landscape patterns and movement strategies alter wolf-elk encounter rates**

― The Wildlife Society annual conference, Calgary, AB (2004; E. Merrill, co-author)

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

―International Wildlife Management Congress, Christchurch, New Zealand (2004; Frair)

―The Wildlife Society, Northwest Section, Banff, Alberta (2001; Frair)

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

―International Conference on Resource Selection Functions, Laramie, WY (2003; Frair)

―The Wildlife Society Annual Conference, Reno, NV (2001; Frair)

**Application of Resource Selection Functions to modeling predator-prey dynamics**

― First International Conference on Resource Selection by Animals, Laramie, WY (2003; M. Hebblewhite, co-author)

**Impacts of Highway 53 expansion on gray wolves**

― Wolves of America Conference, Albany, NY (1996; Frair)

**Wisconsin gray wolf immobilization and handling protocol**

― Midwest Furbearers Workshop, Upper Peninsula, MI (1996; Frair)

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 solving real-world conservation problems (3 credit hours). 31-50 undergrads and 1-8 graduate students each year.

**Animal Tracks and Sign (EFB 496)** 2020  
A “pandemic-proof”, field-intensive, home study course (1 credit hour) that engaged 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. 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.

Graduate courses taught

**Landscape Ecology (EFB 650)** 2007, 2008, 2010, 2013, 2016, 2020

Analytically-intensive course covering theoretical foundations and applications in Landscape Ecology (3 credit hours). 11-18 students each year.

**Quantitative Methods and Models in R (EFB/FOR 796)** 2009, 2011, 2012, 2014, 2016-19Analytically-intensive course covering frequentist, likelihood, and Bayesian statistical methods in ecology using program R (3 credit hours). Co-taught since 2012 with Dr. John Stella (SUNY-ESF Department of Forest and Natural Resources Management). 10-20 graduate students each year.

**Seminars offered (EFB 796)**

― Advances in occupancy modeling Spring 2018

― Mixed effects models (co-led by Ph.D. student L. Petracca) Spring 2017

― Foraging ecology (co-led by Ph.D. student L. Petracca) Fall 2016  
― Resource Selection Functions Fall 2016

― Vertebrate Conservation Conversation Fall 2010, 2011

Service to college and department

**College-level service**

― College Review Committee, Promotion and Tenure, member 2019-present

― Forest Properties Faculty Advisory Committee, member 2019-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

― Served on search committee for administration, staff, and faculty

* ESF College President (elected faculty representative) 2020
* Director, College Foundation 2016
* IT Programmer/Analyst 2007
* Professor, FNRM Department 2007-2008

― Ad Hoc Honorary Degree Nomination Committee, chair 2007-2009

― ESF Science Advisor to the NY Fish and Wildlife 2006-2016, 2018-present  
 Management Advisory Board (a legislatively mandated position)

― Council for Geospatial Modeling and Analysis, member 2006-present

― Regularly chair graduate student prelim exams and defenses

**Departmental service**

― Director, Roosevelt Wild Life Station 2019-present

― Associate Director, Roosevelt Wild Life Station 2010-2019

― Supervise Roosevelt Wild Life Collections Manager/ 2009-present   
 Instructional Support Specialist, Ron Giegerich

― Curriculum Coordinator, Wildlife Science 2010-2019, 2020-present

― Manage Fish & Wildlife Professional Internship program for 2017-present  
 undergrads and grads (up to 14 students per year)  
― Advise 25-31 Wildlife Science majors yearly 2006-present

― Participated on search committee for new faculty, 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 committees

* Manage Moore Family Fund for Wildlife Conservation Grad Award 2020-present
* Organized Betty Moore Chamberlaine Graduate Student Award 2009-2013
* Organized 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), REU projects, and 5 independent research projects

Professional service

**International Council for Game and Wildlife Conservation**― Deputy President, Applied Science Division Apr 2017-present

― Expert to the US DelegationApr 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, President 2020-present

― 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**

― “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**

― “Spatial analysis in R” (1 day). Delivered by L. Petracca and A. Cheeseman, sponsored by the Roosevelt Wild Life Station

* Northeast Fish and Wildlife Conference, Online (2021)
* The Wildlife Society Annual Conference, Online (2020)

― “Analysis of satellite data in R” (1 day) – The Wildlife Society Annual Conference, 2016). Delivered by G. Bastille-Rousseau, sponsored by the Roosevelt Wild Life Station.

― “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

**Exemplary Researcher Award** – SUNY ESF Research Foundation2019

**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 2010

(Beyer et al. (2010) *Phil Trans Roy Soc B,* 365:2245-2254)

**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, 2003  
 Annual Conference

― Outstanding Graduate Student Award. University of Wisconsin, Stevens Point 1997

― Graduate Student Council Award. College of Natural Resources, 1997

University of Wisconsin, Stevens Point