

Jacqueline L. Frair

Phone: 315-470-4905 Email: jfrair@esf.edu

Website: <http://www.esf.edu/faculty/frair/>

Mail: SUNY ESF, 1 Forestry Drive, Syracuse, NY, 13210

Education and Professional Training

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	

Professional Appointments

Associate Professor, Wildlife Ecology	2012 – present
SUNY College of Environmental Science and Forestry Department of Environmental and Forest Biology, Syracuse, New York	
Associate Director, Roosevelt Wild Life Station	2010 – present
SUNY-ESF, Syracuse, New York	
Assistant Professor, Wildlife Ecology	2006 – 2012
SUNY-ESF, Dept. 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	1997 – 2000
Ducks Unlimited, Inc., Anchorage, Alaska	

Other Work Experience

Biological Technician – Bureau of Land Management, Fairbanks, Alaska	1997
Gray Wolf Trapper/Biologist – Wisconsin Department of Natural Resources, Gordon, Wisconsin	1995 – 1996
Editorial Clerk – Journal of Wildlife Management, Stevens Point, Wisconsin	1996 – 1997
Biological Aide – U.S. Forest Service, Rhinelander, Wisconsin	1994
Assistant Coordinator, Environmental Science Interns Program – Cornell University, Ithaca, New York	1993 – 1994

**Regular
Courses
Taught**

.....
Applied Wildlife Science – junior level course (EFB 491) 2007 – present
Applied Wildlife Science – graduate offering (EFB 796) 2011 – present
Analytically-intensive course required by wildlife science majors: sampling design, occupancy modeling, distance sampling, capture-mark-recapture, life tables and Leslie matrices, conservation genetics, habitat models and population viability analysis. Includes 2 recitation hours, a 3-hour lab, a team-based field project, and a professional conference experience (3 credit hours). Around 31-42 undergraduates and 2-8 graduate students/year.

Landscape Ecology (EFB 650) 2007, 2008, 2010, 2013 (next 2016)
Graduate-level, computer lab-intensive course that covers the theoretical foundations of and applications in Landscape Ecology – quantifying spatial pattern, reciprocal interactions between spatial pattern and organisms, GIS applications and statistical models (3 credit hours). Around 11-18 students/year.

Quantitative Methods and Models in R (EFB/FOR 796) 2009, 2011, 2012, 2014
Graduate level, analytically-intensive course covering frequentist, likelihood, and Bayesian statistical methods in ecology using program R (3 credit hours). Around 10-20 advanced graduate students/year. Co-taught with Dr. Jesse Brunner (first two years) and Dr. John Stella (second two years).

** Additional graduate-student led seminars organized intermittently.

.....
**Other
Courses
Taught**

Wildlife Field Techniques 2015 (next 2016)
A two-week field immersion course in wildlife conservation for undergraduates, covering the questions and tools involved in the study of free-ranging mammals, birds and fish and yielding certification in hunter and trapper education (3 credit hours). Co-taught with Paul Schuette (Roosevelt Postdoctoral Scholar), underwritten by a private donor, and held at the Lucky Star Ranch in Chaumont, New York. Fourteen students.

Hunter and Trapper Education for Wildlife Professionals 2011 – 2012
Undergraduate course covering all 4 NY State Sportsmen Education modules along with training on how professionals use harvest data to monitor wildlife populations (3 credit hours). Around 37-43 students.

Wildlife Field Techniques 2007 – 2012
Field-intensive, two-week summer course for undergraduates at ESF’s Cranberry Lake Biological Station in the Adirondack Park. Covered the questions and tools involved in the study of free-ranging mammals and birds (3 credit hours). Around 10-15 students.

Arctic Ecosystems: Field Methods and Assessment 2007
An exploration of arctic ecology and what it takes to work in such environments. On campus instruction explored the plant and animal life in strongly seasonal arctic

environments. A 10-day wilderness backpacking trip through Denali State Park, Alaska, embedded students in an alpine environment and culminated in certifications for Wilderness First Aid (American Red Cross) and Wilderness Steward (Outdoor Education Association; 3 credit hours). Co-taught with Thomas Welch. 8 students.

.....

**Current
Research
Funding**

Resistance to White-Nose Syndrome in bat populations of the Northern Forest: exploring the critical disease-genotype-microbiome link 2014 – 2016

Source: U.S.D.A. Northern States Research Cooperative
Amount: \$103,746 PIs: P. Marquardt, L. Berkman, J. Frair, D. Donner, D. Lindner

Wildlife research and management support (omnibus MOU) 2013 – 2018

Source: NY State Department of Environmental Conservation
Amount: \$3.4 million PIs: J. Frair and B. Swift

Covers all projects eligible for funding under the Federal Aid in Wildlife Restoration Act at ESF. Funded projects to J. Frair under this award include:

- Status of reintroduced river otter populations in New York State 2015 – 2018
Amount: \$102,674 PI: J. Frair, P. Schuette
- Assessing limiting factors for moose in the Adirondack Park 2014 – 2018
Amount: \$623,732 PI: J. Frair
- Develop indices to assess ecological impacts of white-tailed deer 2014 – 2016
Amount: \$312,213 PIs: M. Dovciak, J. Frair, J. Hurst
- Statistical support for wildlife management and research 2014 – 2018
Amount: \$702,443 PIs: J. Frair, B. Swift
- Other program support for wildlife management and research 2014 – 2018
Amount: \$143,318 PI: J. Frair

Research for carnivore management on Fort Drum 2013 – 2017

Source: U.S. Army Corps of Engineers
Amount: \$146,288 PI: J. Frair

How environment, physiology and life history interact to determine pattern in animal migration 2012 – 2015

Source: National Science Foundation, Community Ecology Cluster
Amount: \$600,000 PIs: J. Gibbs, S. Blake, S. Deem, J. Frair

Identifying wolf and bat movement corridors in the Great Lakes region using landscape genetics 2012 – 2017

Source: U.S.D.A. Forest Service, Northern Forest Research Station
Amount: \$294,299 PIs: J. Frair, D. Donner, and P. Marquardt

.....

**Previous
Research
Funding**

Grants as lead PI

- Panthera, Inc., Liz Claiborne-Art Ortenberg Jaguar Research Program, \$24,035 (2012-2014) – validation of the critical jaguar corridor in eastern Guatemala
- NY Department of Environmental Conservation, \$160,538 (2010-2012) – field research on river otter population monitoring, NY
- U.S.D.A. Northern States Research Cooperative, \$40,046 (2010-2011) – field research on evolving coyote diets and resource competition, NY
- U.S.D.A. McIntire-Stennis Program, \$50,393 (2009-2011) – field and lab study of noninvasive genetic approaches for monitoring forest wildlife, NY
- NY Department of Environmental Conservation, \$678,704 (2007-2012) – field research on coyote populations and impacts on deer
- U.S. Fish and Wildlife Service, \$60,000 (2007-2009) – field research on endangered Chittenango Ovate Amber Snail, NY
- Quebec Ministry of Natural Resources, \$7,600 CD (2006) – data analysis of caribou movements and resource selection, Quebec, Canada

Grants as co-PI

- U.S.D.A. Northern States Research Cooperative, \$106,866 (2012-2014) – quantifying beaver impacts on Adirondack forest communities at a landscape scale
- INECOL/SUNY ESF Seed Grant Program, \$5,000 (2012-13) – workshop, Mexico
- INECOL/SUNY ESF Seed Grant Program, \$5,000 (2012-13) – river otter, Mexico
- Honeywell, Inc., \$109,871 (2008-2009) – field research on use of willow bioenergy crops by wildlife, NY
- Alberta Conservation Association, \$42,000 CD (2005) – building elk resource selection models into a GIS tool for management, Alberta, Canada

.....

**Other
program
funding**

- Undergraduate immersion course in wildlife conservation at the Lucky Star Ranch** 2015, 2016
Source: Jody and Doreen Garrett
Amount: \$25,000 Project lead: J. Frair
- Founder’s Club contribution to the Boone and Crockett Program in Wildlife Conservation at SUNY ESF** 2015
Source: Camp Fire Club Conservation Fund
Amount: \$250,000 Project lead: J. Frair, N. Heaphy, P. Bruenn
- Conservation assessment of the Roosevelt Wildlife Collection at SUNY ESF** 2012
Source: Institute of Museum and Library Services, Heritage Preservation
Amount: \$3,590 Project lead: J. Frair

.....

Peer-reviewed Publications

Bastille-Rousseau, G., Yackulic, C.B., Frair, J.L., Crebrea, F., Rousseau, L.-P., Wikelski, M., Keummeth, F. and Blake, S. (in press) Animal movement in the absence of predation: environmental drivers of movement strategies in a partial migration system. *Oikos*.

Tortato, F., Devlin, A., Hoogensteijn, R., May, J., Frair, J., Crawshaw, P., Izzo, T. and Quigley, H. (in press) Infanticide in a jaguar (*Panthera onca*) population – does the provision of livestock carcasses increase the risk? *Acta Ethologica*.

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

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.
- 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.
- 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.
- 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.

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.

.....

**Manuscripts
in review,
revision, or
preparation**

Saldivar Bellassai, S., Frair, J.L. and Feldpausch-Parker, A.M. (in review) Hunting practices and the sustainability of peccaries in the Paraguayan Dry Chaco. *Biological Conservation*.

Berkman, L.K., Frair, J.L., Marquardt, P., Donner, D.M., Kilgo, J.C. and Whipps, C.M. (in revision) Spatial analysis of genetic pattern in eastern coyotes (*Canis latrans*): evidence of a persistent contact zone between colonizing fronts in New York State.

Lesser, M.R., Dovciak, M., Frair, J.L., Curtis, P., Roberts, M., and Hurst, J. (in prep) Modelling white-tailed deer impacts on forest regeneration at scales relevant to deer management.

Warsen, S.A., Frair, J.L., and Jensen, P. (in revision from M.S. thesis) Evolving dietary niche of coyotes in the Adirondack Mountains of New York State. Prepared for *Wildlife Society Bulletin*.

Hansen, S.J.K., Frair, J.L. and Underwood, H.B. (in revision from M.S. thesis) Modeling a spatially-explicit probability of detection for call-based animal surveys. Prepared for *Landscape Ecology*.

Frair, J.L., Merrill, E.H., Boyce, M.S., Lele, S.R., Anderson, R. Visscher, D.R., Webb, N.W. and Allen, J.R. (in prep) Industrial influence on elk habitat performance under wolf predation in the eastern Canadian Rockies. Prepared for *Journal of Wildlife Management*.

Lesser, M.R., Frair, J.L., Hurst, J., Curtis, P. and Dovciak, M. (in prep) Predicting impacts of white-tailed deer on forest regeneration at scales relevant to deer management. Prepared for the *Journal of Applied Ecology*.

Other Publications

.....
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. (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.

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.

Invited Presentations

.....
What is the difference between conservation biology and wildlife ecology? 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)

Top dog? The ecological role of the coyote in the Northeastern U.S.
—NYSDEC Indian Nations Meeting, SUNY ESF, Syracuse, NY (Apr 2015)

- The Wildlife Society Annual Conference, Pittsburgh, PA (2014)
- Biology Dept. Seminar Series, Univ. of Alberta, Edmonton, Alberta, Canada (2014)
- Earth Lecture Series, SUNY ESF, Syracuse, NY (2014)

Shale energy technology and spatial distribution in North America. The Wildlife Society Annual Conference, symposium on “Understanding the effects of shale energy development on wildlife in North America,” Pittsburgh, PA (2014). Presented by Shannon Farrell (co-author).

Revealing novel links among bat ecology, genetics, and disease to understand white-nose syndrome. SUNY ESF and Upstate Medical Center symposium on “From lab to landscape: integrated infectious disease research”, Syracuse, NY (2014). Presented by Leah Berkman (co-author).

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)

Tog Dog: niche of the coyote in NY State. My Place in the Finger Lakes, 3rd Annual Conference, The Finger Lakes Institute at Hobart and William Smith College, Geneva, NY (2009)

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. Workshop on “GPS-Telemetry Data: challenges and opportunities for behavioral ecology studies”, the Centre for Alpine Ecology, Fondazione Edmund Mach, Trento, Italy (2008)

Removing GPS collar bias in habitat selection studies. Workshop on modern resource selection analyses at The Wildlife Society Annual Conference, Anchorage, AK (2006)

Know they enemy: experience affects translocation success in risky landscapes
—McGill University undergraduate wildlife course, Newcomb, NY (2007)
—GIS Day, University of Alberta (2004)

Thresholds in landscape connectivity and mortality risks for elk in response to growing road networks: a case study of elk in managed forests. Ecology-Wildlife Biology Seminar Series, University of Montana, Missoula, MT (2006)

Using simple movement models to understand the impacts of roads on habitat effectiveness. Biology Department Seminar Series, Université Laval, Québec City, Québec (2006)

Analyzing competing risks in survival models. Statistical Ecology Seminar, Department of Biological Sciences, University of Alberta (2005)

Using Cox regression to optimize translocation success: a case study with elk.
Symposium on survival analysis at The Wildlife Society Annual Conference, Calgary, AB (2004)

Evaluating the success of elk translocations to the Rocky Mountain foothills, AB.
Montane Science Workshop, Sundre, Alberta (2003)

Can small-scale movement biases to human disturbances affect the distribution patterns of herbivores? Symposium on “Animal movements in heterogeneous environments” at the International Association of Landscape Ecology Annual Conference, Darwin, Australia (2003)

The effects of highway expansion on a re-colonizing wolf populations. Wildlife Ecology class, Department of Natural Resources, Cornell University (1996)

.....

Conference Presentations

Presentations given by J. Frair except where noted

Documenting moose population size and distribution across public and private lands in the Adirondacks. Presented by P. Schuette (post-doc in the Frair lab)
—North American moose conference and workshop, Granby, CO (Apr 2015)
—Northeast Fish and Wildlife Conference, Newport, Rhode Island (Apr 2015)

Status of Adirondack Moose: Early returns from aerial surveys and animal captures. J. Frair, P. Schuette, K. Schuler, B. Tabor and E. Reed. The Wildlife Society annual conference, Winnipeg, Manitoba (Oct 2015).

Deer impacts on forest regeneration at spatial scales relevant to management decisions. Presented by M. Lesser (post-doc in the Dovciak and Frair labs). The Northeast Fish and Wildlife Conference, Newport, Rhode Island (Apr 2015).

Estimating coyote abundance via vocalizations and distance sampling (and similar titles). All presented by S. Hansen (M.S. student in the Frair lab)
—Northeast fish and Wildlife Conference, Saratoga Springs, NY (2013)
—The Wildlife Society Annual Conference, Hawaii (2011)
—Northeast Fish and Wildlife Conference, Manchester, NH (2011)
—Spotlight on Student Research, SUNY ESF, Syracuse, NY (2011)
—The Wildlife Society Annual Conference, Snowbird, UT (2010)

Quantifying coyote kill rates of white-tailed deer in NY State (and similar titles). All presented by R. Holevinski (Ph.D. student in the Frair lab)
—Northeast fish and Wildlife Conference, Saratoga Springs, NY (2013)
—Northeast fish and Wildlife Conference, Manchester, NH (2011)
—The Wildlife Society Annual Conference, Snowbird, UT (2010)
—The Wildlife Society, NY State Chapter, Alexandria Bay, NY (2010)
—The Wildlife Society, NY State Chapter, Owego, NY (2008)

Sélection d'habitat du caribou forestier en forêt aménagée . Société Québécoise pour l'Étude Biologique du Comportement, Sherbrooke, Québec, Canada (2011). Presented by M. Leblond (co-author).

The biogeography of songbirds on islands in Cranberry Lake. 18th annual Adirondack Research Consortium, Lake Placid, NY (2011). Presented by S. Warsen (M.S. student in the Frair lab).

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, SUNY-ESF (2010). Poster presented by L. Beaty (undergraduate mentee).

Testing for the presence of necrophobic behavior in small mammals. Spotlight on Student Research, SUNY-ESF (2010). Poster presented by G. Prounis (undergraduate mentee).

Using site occupancy to estimate eastern coyote populations. The Wildlife Society Annual Conference, Monterey, CA (2009). Presented by R. Holevinski (Ph.D. student in Frair lab).

Disjunct phenologies allow the coexistence of a threatened and an invasive terrestrial snail species. Ecological Society of America, Albuquerque, New Mexico (2009).

Presented by S. Campbell (post-doc in Frair lab).

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). Presented by E. Merrill (co-author).

—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). All presented by C. Boser (M.S. student in the Frair lab).

—The Wildlife Society annual conference, Monterey, CA (2009)

—Ecological Society of America, Albuquerque, NM (2009)

—The Wildlife Society annual conference, Miami, FL. (2008), poster presentation

—The Northeast Natural History X, Albany, NY (2008)

Determining the population status of eastern coyotes, a genetics approach. The

Northeast Natural History Conference X, Albany, NY (2008), Presented by R. Holevinski (Ph.D. student in Frair lab).

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).

Presented by E. Merrill (co-author).

—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). Presented by E. Merrill (co-author).

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).

Presented by M. Hebblewhite (co-author).

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).

.....

Public Presentations

Top Dog? Evaluating the ecological role of coyotes in the eastern United States

— Safari Club International, Central NY Chapter – Oneonta, NY (Apr 2015; 15 people)

— Cayuga County Federation of Conservation Clubs – Auburn, NY (Mar 2015; 70 people)

— 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)

Coyote foraging ecology in the eastern United States (various titles)

— 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)

— 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)

The Roosevelt Wild Life Station (various 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)

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 Mntn. House, AB (2005)
- Public Advisory Committee, Weyerhaeuser Ltd., Drayton Valley, Alberta (2004)
- 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 Mntn. House, AB (2002)
- Ta Otha School – Bighorn First Nations Reserve, Alberta (2002)
- Alberta Conservation Association, public meeting – Rocky Mntn. House, AB (2002)
- Rotary International, chapter meeting – Rocky Mountain House, Alberta (2001)
- Public Advisory Committee, Sunpine Forest Products, Sundre, Alberta (2001)

Highway 53 expansion and gray wolf dispersal in northern Wisconsin (various titles)

- 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)

Research presentations delivered by graduate students in the Frair lab

- Victory Sportsmen Expo – Painted Post, NY (2011)
- New York Houndsmen Annual meeting – Camden, NY (2011)
- Tioga County and surrounding Sportsmen Federations – Owego, NY (2011)
- NY State Trappers Association – Delmar, NY (2011), Herkimer, NY (2008)
- Affiliated Conservation Clubs of Madison County (2011)
- Camillus Middle School (2011)
- Montezuma Wildlife Refuge (2011)
- Steuben County Fair (2010)
- Adirondack Ecological Center – Newcomb, NY (2010, 2009, 2008)
- NY State Trappers Convention – Herkimer, NY (2010, 2008, 2007)
- Fur Takers of America Trapper’s College – Milford, Indiana (2010)
- Steuben County Rotary Sportsmen Dinner – Canisteo, NY (2010)
- SUNY Ulster and the Catskill Institute for the Environment (2010)
- Paul Smith’s College Fish and Wildlife Seminar Series (2010)
- Adirondack Park Visitor’s Interpretive Center, volunteer luncheon (2010)
- Richmondville Historical Society – Richmondville, NY (2009)
- National Wild Turkey Federation – NY Chapter (2009)
- SUNY Cobleskill’s Wildlife Techniques Course (2008)
- Elmcrest Children’s Center – Syracuse, NY (2008)
- Great Swamp Conservancy – Canastota, NY (2008)
- Fingerlakes Community College – Honeyoye, NY (2008)
- Town of VanEttan public meeting (2007)

- Town of Horseheads public meeting (2007)
- Gander Mountain – Kingston, Utica, Johnson City, and Middletown, NY (2007)
- Bass Pro Sport Shop – Auburn, NY (2007)
- Canisteo Rotary (2007)

.....

**Service to
Department,
College and
University**

Mentoring & Training

- Supervisor to 3 post-doctoral researchers (Campbell, Berkman, Schuette) and co-supervisor to 2 (Lesser, Bastille-Rousseau)
- Major professor to 5 Ph.D. students (Holevinski, Devlin, Peach, Petrecca, Bonjorne deAlmeida), 9 M.S. students (Boser, Warsen, Hansen, Saldivar Bellassai, Rentz, MacDuff, Low, Powers, Peterson), and 1 M.P.S. student (LeGrande) student (LeGrande); co-major professor to 1 Ph.D. student (Peach) and 2 M.S. students (Calderon and Fuda); successfully completed 7 students to date
- Steering member or examiner on 26 M.S. or Ph.D. student committees at ESF and 3 at Syracuse University
- Advised 3 undergraduate honors students (Keiter, Brubaker, Jimenez), 4 REU projects, and 3 independent research projects
- Advisor to ~25 undergraduates/year in the wildlife science major
- Faculty advisor to The Wildlife Society ESF Student Chapter, 2008-2011
- Facilitated internship and professional experiences for 50+ undergraduates
- Coordinated 43+ ESF students, 53+ students from other colleges, 2 high school students, and 14+ private citizens as volunteers or interns in field research

Committee appointments and other positions

- Curriculum Coordinator for Wildlife Science major 2010-present
- Participated in 5 faculty/staff searches
 - Wildlife Habitat Ecology Professor, chair 2013
 - Wildlife Ecology Professor, committee member 2010
 - General Biology Instructor, committee member 2008
 - Forest and Natural Resources Professor, committee member 2007-2008
 - IT Programmer/Analyst, committee member 2007
- Council for Geospatial Modeling and Analysis – member 2006-present
- Faculty Governance Executive Committee – member 2009-2011
- Faculty Governance Committee on Research – chair 2009-2011
- Faculty Governance Committee on Research – member 2007-2009
- Ad Hoc Honorary Degree Nomination Committee – chair 2007-2009
- Graduate Program Advisory Committee member 2008-2009
- Organized Betty Moore Chamberlaine Graduate Student Award 2009-2013
- Organized Ralph T. King Award to Outstanding Wildlife Student 2011-2012

Roosevelt Wild Life Station

- Led development and implementation of strategic plan 2014-2015
- Led fundraising campaign for endowed wildlife professorship 2011-present

- Raised funds and secured grants for general program support 2011-present
- Instrumental in establishing Honorary Advisory Council 2013
- Organized 2-4 students/year to inventory the wildlife collection 2011-2013
- Supervised R. Giegerich, Instructional Support Specialist 2009-present

.....

Professional Service

New York State Department of Environmental Conservation

- Science Advisor, NY Fish and Wildlife Management Advisory Board 2006-2016
- Hunter Education Program evaluation (interviewee) 2015

The Wildlife Society, member

2004-present

- College/University Wildlife Education Working Group, member 2011-present
- Marcellus Shale Ad Hoc Working Group, member 2011-present
- GIS and Remote Sensing Working Group, member 2004-2009
- The Wildlife Society, NY State Chapter, Vice-President 2008-2010

Society for Conservation Biology, lifetime member

2006 - present

Ecological Society of America, lifetime member

2006 - present

Associate Editor, Journal of Applied Ecology

2012-present

Ad-hoc reviewer

Animal Behaviour, Biological Conservation, Ecography, Ecology, Ecological Applications, Ecological Modeling, Ecological Monographs, Forest Ecology and Management, Journal of Applied Ecology, Journal of Animal Ecology, Journal of Wildlife Management, Landscape Ecology, Philosophical Transactions of the Royal Society, 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

- “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)

.....

Continuing Education

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)

Institutional Social and Behavioral Research Certification – Syracuse University (2013)

Institutional Animal Care and Use Committee Certification – SUNY-ESF (2006, 2014)

Animal Care and Use I and II – University of Alberta, Edmonton, AB (2004, 2005)

Awards and Distinctions

.....

National Academies Education Fellow in Science	2016-17
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 – The Wildlife Society, National Chapter	2011
Wildlife Publication Award – The Wildlife Society, National Chapter for co-authored paper Beyer et al. (2010) <i>Phil Trans Roy Soc B</i> , 365:2245-2254	2010
First-authored paper among the most-cited articles of the year in the Philosophical Transactions of the Royal Society	2010

First-authored paper identified as “Editor’s Choice” in the Journal of Applied Ecology¹	2008
Post-Graduate Student Award – The Wildlife Society, Alberta Chapter	2005
Best Student Oral Presentation – 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

.....

¹ see <http://onlinelibrary.wiley.com/doi/10.1111/jpe.2008.45.issue-5/issuetoc>