

John F. Benson, Ph.D.

Associate Professor of Vertebrate Ecology

School of Natural Resources

University of Nebraska-Lincoln

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EDUCATION

PhD, Ecology and Conservation Biology, May 2013

Trent University, Peterborough, ON, Canada

Dissertation: Hybridization Dynamics between Wolves and Coyotes

Master of Science, Wildlife Ecology, May 2005

Louisiana State University, Baton Rouge, LA

Thesis: Ecology and Conservation of Louisiana Black Bears in the Tensas River Basin and Reintroduced Populations

Bachelor of Science, Wildlife, May 2001

Humboldt State University, Arcata, CA

Thesis: Use of Cover Types by Sierra Nevada Red Fox in the Southern Cascade Range

ACADEMIC APPOINTMENTS (CURRENT)

Associate Professor of Vertebrate Ecology – July 2022 – current

Assistant Professor of Vertebrate Ecology – January 2017 – June 2022

School of Natural Resources, Applied Ecology Mission Area

University of Nebraska, Lincoln, NE

Adjunct Graduate Professor – July 2017 – Current

Trent University, Environmental & Life Sciences Graduate Program

Peterborough, ON Canada

La Kretz Center Affiliate – February 2021 – current

UCLA La Kretz Center for California Conservation Science

Institute of the Environment & Sustainability

University of California, Los Angeles, CA

Fellow of the Center for Great Plains Studies – April 2017 – current

RESEARCH EXPERIENCE

Postdoctoral Research Fellow – July 2016 – Dec 2016

Monterey Bay Aquarium, Conservation & Science, Monterey, CA

Stanford University, Biology Department, Hopkins Marine Center, Pacific Grove, CA

John F. Benson C.V.

La Kretz Postdoctoral Fellow for California Conservation Science – Sep 2014 – July 2016

UCLA - La Kretz Center for California Conservation Science

Institute of the Environment & Sustainability, University of California, Los Angeles, CA

Principal Investigator, Predator-Prey Research – May 2013 – June 2014

Division of Wildlife Conservation, Alaska Department of Fish & Game, Fairbanks, AK

Graduate Research Assistant – September 2007 – April 2013

Trent University, Peterborough, Ontario, Canada

Biological Scientist, Florida Panther Research – July 2005 – April 2007

Florida Fish & Wildlife Conservation Commission,

Fish & Wildlife Research Institute, Naples, FL

Graduate Research Assistant – June 2002 – April 2005

School of Renewable Natural Resources, Louisiana State University, Baton Rouge, LA

PEER REVIEWED PUBLICATIONS (52)

*Graduate Student or Postdoc

Benson, J.F., Dougherty, K.D.*, Beier, P., Boyce, W.M., Cristescu, B., Gammons, D.J., Garcelon, D.K., Higley, J.M., Martins, Q.E., Nisi, A., Riley, S.P.D., Sikich, J.A., Stephenson, T.R., Vickers, T.W., Wengert, G.M., Wilmers, C.C., Wittmer, H.U., Dellinger, J.A. 2023. The ecology of human-caused mortality for a protected large carnivore. *PNAS* 120

Petridou, M.*, **Benson, J.F.**, Gimenez, O., Iliopoulos, Y., Kati, K. 2023. Do husbandry practices reduce depredation of free-ranging livestock? A case study with wolves in Greece. *Biological Conservation* In press.

Nisi, A.C.*, **Benson, J.F.**, King, R., Wilmers, C.C. 2023. Habitat fragmentation reduces survival and drives source-sink dynamics for a large carnivore. *Ecological Applications*. In Press.

Fill, C.T.*, Allen, C.R., **Benson, J.F.**, Twidwell, D. 2023. Fine-scale spatial and temporal activity patterns between tree-roosting bat species in an intensively managed agricultural landscape. *Plos One* In press.

Petridou, M.*, **Benson, J.F.**, Gimenez, O., Kati, K. 2023. Spatiotemporal patterns of wolves and sympatric predators and prey relative to human disturbance in northwestern Greece. *Diversity* 15

Wood, E.*, Nordeen, T., Inselman, W., Mahoney, P.J.*, **Benson, J.F.** 2022. Spatial ecology of bighorn sheep in a prairie landscape in Nebraska. *Journal of Wildlife Management* 86

Nisi, A.C.*, **Benson, J.F.**, Wilmers, C.C. 2022. Unreliable human cues create an ecological trap for a large carnivore. *Oikos* 2022 (Cover article).

Thompson, C.*, **Benson, J.F.**, Patterson, B.R. 2022. Survey design for building a species distribution model for beaver. *Wildlife Society Bulletin* 46

John F. Benson C.V.

- Palumbo, M.D., Petrie, S.A., Schummer, M., Rubin, B.D., **Benson, J.F.** 2022. Influence of resource selection on nonbreeding season mortality of mallards. *Journal of Wildlife Management* 86.
- Fill, C.T.*, Allen, C.R., **Benson, J.F.**, Twidwell, D. 2022. Spatial distribution of bat activity in agricultural fields. *Ecology and Society* 27
- Benson, J.F.**, Abernathy, H.N., Sikich, J.A., Riley, S.P.D. 2021. Mountain lions reduce movement, increase efficiency during Covid-19 shutdown. *Ecological Solutions & Evidence* 2
- Riley, S.P.D., Sikich, J.A., **Benson, J.F.** 2021. Big cats in the big city: spatial ecology of mountain lions in greater Los Angeles. *Journal of Wildlife Management* 85 (Cover Article)
- Cove, M.V.,... **Benson, J.F.** ... et al. 2021. Snapshot USA 2019: a coordinated national camera trap survey of the United States. *Ecology* 102
- Fill, C.T.*, Allen, C.R., Twidwell, D., **Benson, J.F.** 2021. Northern long-eared bat roost use at the western periphery of their range. *American Midland Naturalist* 185:241-248
- Benson, J.F.**, Sikich, J.A., S.P.D. Riley. 2020. Survival and competing mortality risks of mountain lions in a major metropolitan area. *Biological Conservation* 241
- Benson, J.F.**, Mahoney, P.J.*, Wickers, T. W. et al. 2020. Ecological roles of top predators in isolated mountain ranges. *Ecological Applications* 30
- Oliveira, T.*, **Benson, J.F.**, Thompson, C., Patterson, B.R. 2020. Resource selection at homesites by wolves and eastern coyotes in a Canis hybrid zone. *Ecosphere* 11 (Cover Article)
- Keiter, D.A.*, Patterson, B.R., Rodgers, A.R., **Benson, J.F.** 2020. Camera traps detect prey of northern carnivores. *Northeastern Naturalist* 27
- Benson, J.F.**, Mahoney, P.J.*, Wickers, T. W. et al. 2019. Extinction vortex dynamics of top predators isolated by urbanization. *Ecological Applications*. 29
- Raynor, E.J., ...**Benson J.F.**...et al. 2019. Noise does not surpass land cover in explaining habitat selection of greater prairie-chicken (*Tympanichus cupido*). *The Condor* 121
- Keiter, D.A.*, Patterson, B.R., **Benson, J.F.** 2019. Implications of a beaver pelt lining the natal chamber of a wolf den. *Northeastern Naturalist* 26
- Benson, J.F.**, Jorgensen, S.J., J.B. O’Sullivan, Winkler, C., White, C., Garcia-Rodriguez, E., Sosa-Nishizaki, O Lowe, C.G. 2018. Juvenile survival, competing risks, and spatial variation in mortality risk of a marine apex predator. *Journal of Applied Ecology* 55:2888-2897
- Heppenheimer... **Benson, J.F.**... et al. 2018. Population genomic analysis of North American eastern wolves (*Canis lycaon*) supports their conservation priority status. *Genes* 10: 1-17

Benson, J.F., Loveless, K.M., Rutledge, L.Y., Patterson, B.R. 2017. Ungulate predation and ecological roles of wolves and coyotes in eastern North America. *Ecological Applications* 27:718-733 (*Cover Article*)

McLaren, A.A., **Benson J.F.**, Patterson B.R. 2017. Multi-scale habitat selection by cow moose (*Alces alces*) at calving sites in central Ontario. *Canadian Journal of Zoology* 95:891-899

Benson, J.F., Mahoney, P.J., Sikich, J.A., Serieys, L.E.K., Pollinger, J.P., Ernest, H.B., Riley, S.P.D. 2016. Demographic, genetic, and landscape interactions threaten viability of a large carnivore in a major metropolitan area. *Proceedings of the Royal Society B* 283 (*Cover Article*)

Benson, J.F., Sikich, J.A., Riley, S.P.D. 2016. Population and individual-level resource selection patterns of mountain lions preying on mule deer along an urban-wildland gradient. *PLOS-One* 11

Little, A.R., **Benson, J.F.**, Chamberlain, M.J. Conner, L.M., Warren, R.J. 2016. Survival and cause-specific mortality of female Eastern wild turkeys in 2 longleaf pine savannas. *Wildlife Biology* 22:238-245

Patterson, B.R., Mills, K.J., Middel, K.R., **Benson, J.F.**, Obbard, M.E. 2016. Influence of predation on seasonal and diel timing of moose calving in Ontario. *PLOS-One* 11

Benson, J.F., Mahoney, P.J., Patterson, B.R. 2015. Spatiotemporal variation in selection of roads influences mortality risk for canids in an unprotected landscape. *Oikos* 124:1164-1173

Benson, J.F., Mills, K.J., Patterson, B.R. 2015. Resource selection by wolves at dens and rendezvous-sites in Algonquin Park, Canada. *Biological Conservation* 182:223-232

Benson, J.F., and B.R. Patterson. 2015. Spatial overlap, proximity, and habitat-use by individual wolves within the same packs. *Wildlife Society Bulletin* 39:31-40

Benson, J.F., Patterson, B.R., Mahoney, P.J. 2014. A protected area influences genotype-specific survival and the structure of a *Canis* hybrid zone. *Ecology* 95:254-264. (*Cover Article*)

Gardner, C.L., Pamperin, N.J., **Benson, J.F.** 2014. Movement patterns and space use of maternal grizzly bears influence cub survival in Interior Alaska. *Ursus* 25:121-138

Benson, J.F. 2013. Improving rigor and efficiency of use-availability habitat selection analyses with systematic estimation of availability. *Methods in Ecology and Evolution* 4:244-251

Benson, J.F., Patterson, B.R. 2013. Inter-specific territoriality in a *Canis* hybrid zone: spatial segregation between wolves, coyotes, and hybrids. *Oecologia* 173:1539-1550

Benson, J.F., Mills, K.J., Loveless, K.M., Patterson, B.R. 2013. Genetic and environmental influences on pup mortality risk for wolves and coyotes within a *Canis* hybrid zone. *Biological Conservation* 166:133-141

John F. Benson C.V.

Benson, J.F., Patterson, B.R. 2013. Moose predation by eastern coyotes and coyote × wolf hybrids. *Canadian Journal of Zoology* 91:837-841

Patterson, B.R., **Benson, J.F.**, Middel, K.R., Mills, K.J. Obbard, M.E. 2013. Moose-calf mortality in central Ontario, Canada. *Journal of Wildlife Management* 77: 832-841

Benson, J.F., Patterson, B.R., Wheeldon, T.J. 2012. Spatial genetic and morphologic structure of wolves and coyotes in relation to environmental heterogeneity in a *Canis* hybrid zone. *Molecular Ecology* 21:5934-5954

Benson, J.F., Lotz, M.A., Land, E.D., Onarato, D.P. 2012. Evolutionary and practical implications of pseudo-estrus behavior in Florida panthers (*Puma concolor coryi*). *Southeastern Naturalist* 11:149-154

Murray, D.L, Hussey, K., Finnegan, L., Lowe, S., Price, G., **Benson, J.F.** et al. 2012. Assessment of status and viability of a moose population at the southern range limit in Ontario. *Canadian Journal of Zoology* 90:422-434

Benson, J.F., Hostetler, J.H., Onorato, D., Johnson, W.E., Roelke, M., O'Brien, S.J., Jansen, D., Oli, M.K. 2011. Intentional genetic introgression influences survival of adults and sub-adults in a small, inbred felid population. *Journal of Animal Ecology* 80:958-966. (Cover Article)

Benson, J.F., Lotz, M.A., Jansen, D. 2008. Natal den selection by Florida panthers. *Journal of Wildlife Management* 72:405-410

Land E.D., Shindle, D.B., Kawula, R., **Benson, J.F.**, Lotz, M.A., Onorato, D.P. 2008. Florida panther habitat selection analyses of concurrent GPS and VHF telemetry data. *Journal of Wildlife Management* 72:633-639

Benson, J.F., Chamberlain, M.J. 2007. Space use, movements, survival, and reproduction of reintroduced female Louisiana black bears. *Journal of Wildlife Management* 71:2393-2403

Benson, J.F., Chamberlain, M.J. 2007. Space use and habitat selection of female Louisiana black bears in the Tensas River Basin of Louisiana. *Journal of Wildlife Management* 71:117-126

Benson, J.F., Chamberlain, M.J., Leopold, B.D. 2006. Regulation of space use in a solitary felid: population density or prey availability? *Animal Behaviour* 71:685-693

Benson, J.F., Chamberlain, M.J. 2006. Cub adoption by a translocated female Louisiana black bear. *Ursus* 17:178-181

Benson, J.F., Chamberlain, M.J. 2006. Food habits of Louisiana black bears (*Ursus americanus luteolus*) in 2 subpopulations of the Tensas River Basin. *American Midland Naturalist* 156:118-127

John F. Benson C.V.

Benson, J.F., Perrine, J.D., Golightly Jr., R.T., Barrett, R.H. 2005. Use of cover and response to cover type edges by female Sierra Nevada red foxes in winter. *Western North American Naturalist* 65:127-130

Benson, J.F., Chamberlain, M.J., Leopold, B.D. 2004. Land tenure and occupation of vacant home ranges by bobcats (*Lynx rufus*). *Journal of Mammalogy* 85:983-988

MANUSCRIPTS IN REVIEW

(* Graduate student or Postdoc)

Benson, J.F., Keiter, D.*, Mahoney, P.J.*, et al. (102 authors). Intrinsic and environmental drivers of social cohesion in wild canids. *Nature Communications* (In Review).

Benson, J.F., Mahoney, P.J.*, et al. Humans drive spatial variation in mortality risk for a threatened wolf population in a *Canis* hybrid zone. *Journal of Applied Ecology* (In Review).

Shamon, H.,... **Benson, J.F.** ... (many authors) et al. "SNAPSHOT USA 2021: A third coordinated national camera trap survey of the United States – initial trends. *Ecology* (Revision submitted).

MANUSCRIPTS IN PREPARATION

(* Graduate student or Postdoc)

Benson, J.F., Mahoney, P.J.* et al. Reducing extinction risk in small, isolated carnivore populations. Intended for *Conservation Letters* (analysis complete, drafting manuscript).

Dougherty, K.D.*, **Benson, J.F.**, L. Powell, VanWormer, E. Incorporating functional characteristics of habitat classes into resource selection functions. Intended for *Methods in Ecology & Evolution* (In Review).

Campos, R.*, **Benson, J.F.**, Llana, L., Blanco, J.C., Lopez-Bao, J.V., M., Alvares, F. High anthropogenic mortality in a protected large carnivore: range-wide survival and cause-specific mortality of Iberian wolves. Intended for *Biological Conservation* (co-author review prior to submission).

Patterson, B.R., **Benson, J.F.**, Mills K.M., Loveless, Murray, D.L. Eastern wolf dispersal from Algonquin Provincial Park, Ontario: implications for population expansion in surrounding areas. (Undergoing final revisions prior to submission, intended for *Biological Conservation*).

Benson, J.F., Found, R., B.R. Patterson. Dietary niche overlap between wolves and coyotes in 3-species hybrid zone. Intended for *Ecology* (analysis complete, drafting manuscript).

POPULAR SCIENCE PUBLICATIONS

Benson, J.F. 2018. A Hybrid's Tale. International Wolf Center Magazine (personal encounter).

John F. Benson C.V.

Benson, J.F. 2013. A Hybrid's Tale. In *Wild Wolves We Have Known*. D. Thiel and A. Thiel (Editors). International Wolf Center, Ely, MN, USA. (Book Chapter).

RESEARCH FUNDING (~\$3 MILLION AWARDED)

Barker, B.S., Diamond, J., Krehbiel, M., Brassil, C.E., **Benson, J.F.** 2023. Informal Biodiversity Education Models for Rural and Tribal Youth. National Science Foundation (DRL-AISL). *Submitted (\$1,959,476 requested)*

Benson, J.F. 2023. Statewide dispersal and connectivity of mountain lions in California. The Nature Conservancy in California (**\$14,000, pending**).

Benson, J.F. 2022-2024. Spatial Ecology of American Plains Bison on Vermejo Park Ranch, New Mexico. Center of Excellence for Bison Studies, South Dakota State University (**\$111, 285**)

Benson, J.F. 2021-2028. Elk Resource Selection, Movement, Survival, and Population Dynamics in Western Nebraska. Nebraska Game & Parks Commission (**\$831,942**)

Benson, J.F. 2020-2023. Integrated population model for Nevada mountain lions. Nevada Department of Wildlife (**\$30,000**)

Benson, J.F. 2017-2024. Factors limiting mule deer populations in Nebraska. Nebraska Game and Parks Commission (**\$1,489,420**)

Benson, J.F., Keiter, D.A., Rodgers, A.R., Patterson, B.R. 2018-2020. Evaluating the Persistence of an Island Population of Boreal Woodland Caribou in the Presence of Wolves and Alternative Prey. SARRFO Grant, Ontario Ministry of Natural Resources & Forestry (**\$60,000**)

Benson, J.F. 2017-2020. Spatial ecology of bighorn sheep in Nebraska. Nebraska Game and Parks Commission (**\$280,740**)

Benson, J.F., P.J. Mahoney, L.Y. Rutledge, C. Thompson, B.R. Patterson. 2017-2019. A Spatially-Explicit Model of Population Viability and Hybridization Dynamics for Algonquin Wolves Relative to Harvest Management Strategies Outside of Algonquin Park. SARRFO Grant, Ontario Ministry of Natural Resources and Forestry (**\$57,680**)

Benson, J.F. 2011. Hybridization Dynamics between Wolves and Coyotes in Ontario. Wildlife Conservation Society-Canada/W.Garfield Weston (**\$8,170**)

Benson, J.F., D. Murray, B. Patterson. 2010. Survival and Cause-Specific Mortality in and Around Algonquin Provincial Park. Ontario Ministry of Natural Resources Species at Risk Grant (**\$10,000**)

Benson, J.F., D. Murray. 2009. Hybridization Dynamics between Eastern Wolves and Coyotes in Central Ontario. World Wildlife Fund - SARRFO Fund Grant (**\$40,000**)

John F. Benson C.V.

D. Onorato, **Benson, J.F (Co-PIs)**. 2006. Habitat Selection of Florida Panthers in Everglades National Park. National Park Service Grant (\$12,000)

Benson J.F., M. Chamberlain. 2004. Genetic Relatedness of Louisiana Black Bears in the Tensas River Basin Population. Johnston Science Foundation Grant (\$5,000).

TEACHING EXPERIENCE

University Course Instructor/Designer

University of Nebraska-Lincoln

NRES/BIOS 386: Vertebrate Zoology (undergraduate)

NRES/BIOS 476/876 Mammalogy (undergraduate/graduate)

NRES 891a Writing in Science (graduate)

Univ. of California – Los Angeles, Dept. of Ecology and Evolutionary Biology

EEB 297: Analysis and Modeling for Wildlife Ecology (graduate)

EEB 297: Predator-Prey Dynamics (graduate)

Holling Family Early Achievement Faculty Award for Teaching Excellence, **2023**, UNL-IANR (\$3000)

Workshop Developer & Teacher --- Known-fate Survival & Competing Risks Modeling in R

- 1) Technical workshop for 30 students at Wildlife Society Conference (Oct. 2015)
- 2) Contracted by Colorado Parks & Wildlife to teach technical workshop (Feb. 2016)

- I co-designed & co-taught this workshop with one other person

Graduate Teaching Assistant --- Environmental Science Program, Trent University

ERSC 1010H: Introduction to Environmental Science-Global Issues

ERSC 1020H: Introduction to Environmental Science-Canadian Issues

- Teaching assistant for 6 semesters (September 2007-April 2011)

GRADUATE STUDENTS ADVISED

Current graduate students:

Hunter Ellsworth, Ph.D., University of Nebraska – Lincoln

Kyle Dougherty, Ph.D., University of Nebraska – Lincoln

Tabitha Hughes, Ph.D., University of Nebraska – Lincoln

Soham Pattekar (Ph.D., University of Nebraska-Lincoln)

Jake Harvey, M.S., University of Nebraska-Lincoln

Jasmine Grewal, M.S., University of Nebraska-Lincoln

Emma Balunek, M.S., University of Nebraska-Lincoln

Kate Asmus, M.S., University of Nebraska-Lincoln

Maria Petridou, Ph.D., co-advised at Department of Biological Applications and Technology, University of Ioannina, Greece

John F. Benson C.V.

Ellie Bolas, Ph.D., co-advised at Fish, Wildlife, & Conservation Biology Department, UC-Davis

Completed graduate students:

Erin Wood, University of Nebraska-Lincoln, M.S. Thesis (2020): Space use and resource selection of bighorn sheep ewes in a prairie badlands population

Rafael Campos, University of Porto, Portugal, M.S. Thesis (2018): Survival and Population Dynamics of the Iberian Wolf in Portugal (co-advised at CIBIO-inBIO, University of Porto)

POSTDOCTORAL SCHOLARS MENTORED

Nicholas Sutton, Jun 2022 - current

Peter Mahoney, Jul 2019 – Aug 2020; Current position: Research Wildlife Biologist with NOAA

GRADUATE STUDENT COMMITTEE SERVICE

Completed (5): Kyle Dougherty (MS), Hugh Ellerman (MS), Chris Fill (MS), Daniel Crawford (PhD, Virginia Tech/Texas A&M), Anna Nisi (PhD, UC Santa Cruz)

Current (4): Connor Thompson (PhD, Trent University), Mariah Ward (MS, Trent University), April Sperflage (University of Nebraska-Omaha), Jenna Malzhan (Auburn University)

UNIVERSITY COMMITTEE SERVICE

SNR Seminar Committee (member 2017-2020; chair 2021- current)

SNR Graduate Committee (2019 – current)

SNR Undergraduate Curriculum (2020 – current)

SNR Graduate Curriculum (Applied Ecology) committee (2021 – current)

Nebraska Cooperative Fish & Wildlife Research Unit Search Committee – Assistant Unit Leader – Wildlife Scientist (Successful hire, 2020)

SELECTED CONFERENCE PRESENTATIONS

(*Graduate Student Mentee)

Benson, J.F., Dougherty, K.D. *, et al. 2023. The ecology of human-caused mortality for a protected large carnivore. WY Chapter of Wildlife Society, Laramie, WY (Oral)

Benson, J.F., Keiter, D.*, Mahoney, P.J.*, et al. (102 authors). 2022. Intrinsic and environmental drivers of social cohesion in wild canids. Wildlife Society, Spokane, WA (Oral)

Benson, J.F., Dougherty, K.D. *, et al. 2022. The ecology of human-caused mortality for a protected large carnivore. Wildlife Society, Spokane, WA (Oral)

Dougherty, K.D. *, Dellinger, J.A., **Benson, J.F.** 2022. Statewide Resource Selection by California Mountain Lions Relative to Human-Caused Mortality Risk at Multiple Scales. Wildlife Society, Spokane, WA (Oral)

John F. Benson C.V.

Ellsworth, W.H.*, Inselman, W., **Benson, J.F.** 2022. Survival and Cause-Specific Mortality of Mule Deer along the Range Periphery in Nebraska. Wildlife Society, Spokane, WA (Oral)

Harvey, J.*, Martins, Q., Dougherty, K., Garcelon, D., **Benson, J.F.** 2022. Resource Selection by Mountain Lions Preying on Black-Tailed Deer in a Human-Dominated Landscape. Wildlife Society, Spokane, WA (Oral)

Gaynor, K., Hayes, F., Cross, P., **Benson, J.F.**, Cherry M.J.,.... Smith, J.A. 2022. The Influence of Recreation on Animal Movement in US National Parks. Wildlife Society, Spokane, WA (Oral)

Riley, S.P.D., Sikich, J.A., Blakey, R., **Benson, J.F.** 2022. Response of Mountain Lions to Increased (Massive Wildfire) and Reduced (Covid-19 Shutdown) Human Impacts in a Major Metropolitan Area. Wildlife Society, Spokane, WA (Oral).

Young, J., Schultz, J., Kays, R., ... **Benson, J.F.**,... Breck, S. 2022. Bold Behavior in Urban and Rural Coyotes Across the United States of America. Wildlife Society, Spokane, WA (Oral).

Asmus, K.*, Cruse, C., Jonas, J., **Benson, J.F.**, Ranglack, D. 2022. Spatial ecology of American plains bison on Vermejo Park Ranch, New Mexico. Wildlife Society, Spokane, WA (Poster)

Benson, J.F., Keiter, D. *, Mahoney, P.J.*, et al. (102 authors). 2022. Intrinsic and environmental drivers of social cohesion in wild canids. International Wolf Symposium, Minneapolis, MN (Oral)

Patterson, B.R., A.R. Rodgers, **Benson, J.F.** 2022. Wolf persistence on Michipicoten Island, Ontario in the absence of ungulate prey. International Wolf Symposium, Minneapolis, MN (Oral)

Thompson, C.*, **Benson, J.F.**, Patterson, B. 2022. Dispersal movement and connectivity of eastern wolves in Ontario, Canada. International Wolf Symposium, Minneapolis, MN (Oral)

Ellsworth, W.H.*, W.M. Inselman, **J.F. Benson.** 2021. Seasonal Space Use, Movements, and Mortality of Mule Deer in Western Nebraska. Nebraska Wildlife Society, Virtual (Oral).

Benson, J.F., E. Wood*, T. Nordeen, P. Mahoney, W. Inselman. 2021. Spatial Ecology of bighorn sheep ewes in the prairie badlands of Nebraska. Nebraska Wildlife Society, Virtual (Oral).

Benson, J.F., Sikich, J.A., S.P.D. Riley. 2020. Survival and competing mortality risks of mountain lions in greater Los Angeles. Wildlife Society, Virtual (Oral presentation).

Benson, J.F., Mahoney, P.J., Thompson, C.*, Rutledge, L.R., Fryxell, J.M., Patterson, B.R. 2019. Survival and mortality risk in a Canis hybrid zone. Wildlife Society, Reno (Oral presentation)

John F. Benson C.V.

Wood*, E., Nordeen, T., **Benson J.F.** 2019. Spatial ecology of bighorn sheep in Nebraska. Wildlife Society, Reno (Oral presentation).

Nisi, A*, **Benson, J.F.**, Wilmers, C. 2019. Spatial and behavioral predictors of mortality risk for a large carnivore in a human-dominated landscape. Wildlife Society, Reno (Oral Presentation)

Thompson, C*., **Benson, J.F.**, Patterson, B. 2019. Using Step Selection Analysis to Identify Movement Corridors for Eastern Wolves. Wildlife Society, Reno (Poster)

Keiter, D.A.*., **Benson, J.F.**, Rodgers, A.R., Patterson, B.R. 2019. Human shield or ecological trap? Anthropogenic effects on caribou in an island ecosystem. Wildlife Society, Reno (Poster)

Benson, J.F., *Oliveira, T., Thompson, C., Patterson, B.R. 2019. Resource selection at den and rendezvous sites in a wolf-coyote hybrid zone. American Society of Mammalogists, Washington D.C. (Oral Presentation).

Benson, J.F., Sikich, J.A., S.P.D. Riley. 2019. Survival and competing mortality risks of mountain lions in a major metropolitan area. International Urban Wildlife Conference, Portland (Oral presentation).

Benson, J.F., Mahoney, P.J., Wickers, T. W. et al. 2018. Extinction vortex dynamics of top predators isolated by urbanization. Wildlife Society, Cleveland (Oral presentation)

Benson, J.F., Found, R., B.R. Patterson. 2018. Dietary niche overlap between wolves, coyotes, and hybrids in 3-species hybrid zone. International Wolf Symposium, Minneapolis, MN (Oral presentation)

*Keiter, D.A., **Benson, J.F.**, Rodgers, A.R., Patterson, B.R. 2018. Do novel scavenging opportunities or risk of interspecific killing by wolves influence occupancy and activity patterns of smaller carnivores? International Wolf Symposium, Minneapolis, MN (Poster)

*Keiter, D.A., **Benson, J.F.**, Rodgers, A.R., Patterson, B.R. 2018. Can a Large Carnivore Subsist on an Abundant, but Seasonally Available Prey Species? Wildlife Society, Cleveland, OH (Poster)

Benson, J.F., J.A. Sikich, D. Fraser, R. K. Wayne, H. B. Ernest, S.P.D. Riley. 2017. Too close for comfort? Inbreeding dynamics in a small, isolated mountain lion population. Wildlife Society, Albuquerque, NM (Oral presentation)

Benson, J.F., J.A. Sikich, S.P.D. Riley. 2017. Where do mountain lions kill deer in the greater Los Angeles area? International Urban Wildlife Conference, San Diego, CA (Oral presentation).

Benson, J.F., P.J. Mahoney, J.A. Sikich, L.E.K. Serieys, J. P. Pollinger, H. B. Ernest, S.P.D. Riley. 2017. Interactions between demography, genetics, and landscape connectivity increase

John F. Benson C.V.

extinction probability for a small mountain lion population in a major metropolitan area. 12 Mountain Lion Workshop, Estes Park, CO (Oral presentation)

Benson, J.F., P.J. Mahoney, J.A. Sikich, L.E.K. Serieys, J. P. Pollinger, H. B. Ernest, S.P.D. Riley. 2016. Interactions between demography, genetics, and landscape connectivity for a small population of large carnivores in a major metropolitan area. Wildlife Society, Raleigh, NC (*Invited* Oral Presentation).

Benson, J.F., K.M., Loveless, L.Y. Rutledge, B.R. Patterson. 2016. Ungulate predation and ecological roles of canid top predators in eastern North America. Wildlife Society, Raleigh, NC (Oral Presentation).

Benson, J.F., B.R. Patterson. 2016. Canis hybridization dynamics in Ontario: implications for eastern wolf conservation. Eastern Wolf Summit, South Salem, NY. (*Invited* Oral Presentation).

Benson, J.F., P.J. Mahoney, J.A. Sikich, L.E.K. Serieys, J. P. Pollinger, H. B. Ernest, S.P.D. Riley. 2015. Into the vortex: demography and genetics interact to elevate extinction risk for urban top predators. Wildlife Society Colorado Chapter (Oral Presentation).

Benson, J.F., J.A. Sikich, S.P.D. Riley. 2015. Where do mountain lions kill deer along the urban-wildland interface? Predator-Prey Interactions, GRC Conference, Ventura, CA (Poster)

Benson, J.F., P.J. Mahoney, J.A. Sikich, L.E.K. Serieys, J. P. Pollinger, R. K. Wayne H. B. Ernest, S.P.D. Riley. 2015. Synergistic demographic and genetic influences on population viability of mountain lions in a fragmented landscape. Wildlife Society, Winnipeg, MB (Oral Presentation).

Benson, J.F., P.J. Mahoney, J.A. Sikich, L.E.K. Serieys, J. P. Pollinger, R. K. Wayne, H. B. Ernest, S.P.D. Riley. 2015. Modeling population viability and inbreeding dynamics of a small, isolated mountain lion population adjacent to Los Angeles. International Urban Wildlife Conference, Chicago, IL (Oral Presentation).

Benson, J.F., B.R. Patterson. 2014. Hybridization dynamics between wolves and coyotes in Ontario, Canada. International Conference on Hybridization between Wild and Domestic Mammals as Conservation Threat and Opportunity, Grosseto, Italy (*Invited* Oral Presentation, guest of the European Union).

Benson, J.F., B.R. Patterson. 2014. Territoriality and ungulate predation by sympatric eastern coyotes, eastern wolves, and wolf-coyote hybrids. Symposium: Ecology and Management of Coyotes in Eastern North America, Wildlife Society, Pittsburgh, PA (*Invited* Oral Presentation).

Benson, J.F., B.R. Patterson. 2014. Hybridization dynamics between wolves and coyotes in Ontario: implications for recovery of wolves in the Northeastern United States. Northeast Wolf Coalition Conference, Lincoln, MA (*Invited* Oral Presentation).

John F. Benson C.V.

Benson, J.F., P.J. Mahoney, B.R. Patterson. 2014. Are functional responses to human disturbance adaptive? Spatiotemporal variation in selection of roads influences mortality risk of canids in a 3-species hybrid zone. The Wildlife Society, Pittsburgh, PA (Poster).

Benson, J.F., K.J. Mills, P.J. Mahoney, B.R. Patterson. 2014. Resource selection of canids in central Ontario: behavioral responses to roads and selection of den and rendezvous sites. Mid-West Wolf Stewards Annual Meeting, Sault Ste. Marie, Ontario (via Skype, *Invited*).

Prugh, L.R., R.D. Boertje, D.D. Young, M.E. McNay, G.L. Gardner, K.A. Kellie, M.A. Keech, P. Valkenburg, C.T. Seaton, **J.F. Benson**. 2014. Escape from the predator pit: 30 years of high wolf and moose densities following wolf control in interior Alaska. Ecological Society of America, Annual Meeting, Sacramento, CA (*Invited* Oral Presentation).

Benson, J.F. 2014. Predator-prey dynamics between moose, wolves, and bears in Interior Alaska. Predator-Prey Interactions, GRC Conference, Ventura, CA (Poster).

Benson, J.F., B.R. Patterson. 2013. Interspecific territoriality and spatial segregation in a *Canis* hybrid zone. International Wolf Symposium, Duluth, MN (Oral).

Benson, J.F., B.R. Patterson, T.J. Wheeldon. 2012. Spatial genetic structure, morphology and landscape associations in a *Canis* hybrid zone. The Wildlife Society, Portland, OR, (Oral).

Benson, J.F. and B.R. Patterson. 2012. Genotype-specific survival of wolves and coyotes in a 3-species hybrid zone. 2012. American Society of Mammalogists, Reno, Nevada (Oral)

Benson, J.F., T.J. Wheeldon, B.R. Patterson. 2012. Spatial genetic structure, morphology and landscape associations in a *Canis* hybrid zone. Wolf and Carnivore Conference, Thompson, Manitoba, (via Skype, *Invited*).

Benson, J.F., J. H. Hostetler, D P. Onorato, E.D. Land, W. E. Johnson, M. K. Oli. 2009. Influence of genetic introgression on survival and cause-specific mortality of adult and sub-adult Florida panthers. The Wildlife Society, Monterey, California (Oral).

Benson, J.F. 2006. Den site selection by female Florida Panthers. American Society of Mammalogists, Amherst, MA. (Oral).

Benson, J.F., M.J. Chamberlain. 2005. Influence of landscape and reproductive status on space use of Louisiana black bears. American Society of Mammalogists, Springfield, MO (Oral).

Benson, J.F., M.J. Chamberlain. 2004. Space-use and movement patterns of reintroduced Louisiana black bears. The Wildlife Society, Calgary, Canada (Oral)

Benson, J.F., M.J. Chamberlain, B.D. Leopold. 2004. Land tenure and home range replacement in bobcats. The Wildlife Society, Calgary, Canada (Poster)

Benson, J.F., M.J. Chamberlain. 2004. Genetic relatedness of Louisiana black bears in the Tensas River basin population. ESOS Conference IX, New Orleans, LA, October, 2004 (Poster).

SELECTED INVITED UNIVERSITY SEMINARS

Benson, J.F. 2021. Carnivore conservation for a new world: the science of small populations. Caesar Kleberg Wildlife Research Institute, Texas A & M University – Kingsville.

Benson, J.F. 2021. Social behavior, spatial ecology, and population dynamics of top predators. Ecology, Evolution, and Behavior Seminar, Department of Biological Sciences. Virginia Tech.

Benson, J.F. 2020. Social behavior, spatial ecology, and population dynamics of top predators. School of Natural Resources, University of Nebraska.

Benson, J.F. 2018. Dynamics and conservation of small populations of large carnivores. Department of Biological Sciences, University of Nebraska.

Benson, J.F. 2017. Dynamics and Conservation of Small Populations of Large Carnivores. CIBIO-InBIO (Research Institute and Graduate Studies), University of Porto, Portugal.

Benson, J.F. 2016. Wildlife Ecology in a Changing World: Linking Demography, Behavior, Genetics, and Landscapes. University of Missouri.

Benson, J.F. 2016. Wildlife Ecology for a Changing World: Linking Demography, Behavior, Genetics, and Landscapes. University of Nebraska-Lincoln.

Benson, J.F. 2015. Wildlife Ecology for a Changing World: Linking Habitat Relationships, Individual Fitness, and Population Dynamics. Quantitative Wildlife Ecology Seminar, University of California, Davis.

Benson, J.F. 2015. Conservation of Small Populations of Large Mammals. Education for Sustainable Living Lecture Series, Institute of the Environment and Sustainability, University of California, Los Angeles.

Benson, J.F. 2015. Integrative Wildlife Ecology: Linking Habitat Relationships, Individual Fitness, and Population Dynamics. Wildlife Ecology Seminar, University of Maine, Orono.

Benson, J.F., B.R. Patterson. 2013. Hybridization Dynamics between Wolves and Coyotes. Life Sciences Seminar, Institute of Arctic Biology, University of Alaska, Fairbanks.

Watch presentation here: http://media.iab.uaf.edu/2013-10-18_LSSS_Benson/2013-10-18_LSSS_Benson_files/play_echo360.html

SELECTED GUEST LECTURES FOR UNIVERSITY COURSES

“Hybridization Dynamics between Wolves and Coyotes”, in *Philosophy and Wildlife*, Program for Animal-Human Interactions, University of Redlands, Fall 2017.

John F. Benson C.V.

“Using Molecular Approaches to Address Questions in Ecology and Conservation” in *Ecology*, Department of Biology, Pepperdine University. Fall 2015.

“Conservation of Large Carnivores in Human-Altered Landscapes” in *Conservation of Biodiversity*, Department of Ecology and Evolutionary Biology, UCLA. Spring 2015.

AWARDS, FELLOWSHIPS, & SCHOLARSHIPS

Holling

Benson, J.F. 2014-16. Population viability of mountain lions in the Santa Monica Mountains: demography, genetic variation, and habitat connectivity in a highly fragmented landscape. National Park Service-UCLA La Kretz Center Postdoctoral Research Fellowship (**\$94,000**)

Ph.D. Fellowship in the S.J. & J.E. Quinney College of Natural Resources, Utah State University, 2007 (**\$80,000**, *declined*)

Excellence Award for Outstanding M.S. Student, School of Renewable Natural Resources, Louisiana State University, 2005 (**\$500**)

Outstanding Undergraduate Wildlife Student of the Year, Wildlife Department, Humboldt State University, 2001

NSERC Vanier Scholarship Nominee from Trent University 2008, I was nominated as the single Ph.D. student from Trent University to compete in the National Competition.

French-American Scholarship (Merit Based), ENLS, Trent University 2012 (**\$2,500**)

Membership in Phi Kappa Phi Honor Society 1998-2001

Mark P. Bush Scholarship (Merit-based), Wildlife Dept., Humboldt State Univ., 2001 (**\$2000**)

Joan E. Brenson Scholarship (Merit-based), Wildlife Dept, Humboldt State Univ., 2000 (**\$450**)

GOVERNMENT REPORTS

Benson, J.F., Mahoney, P.J., Rutledge, L.Y., Thompson, C.Y., and B.R. Patterson. 2019. A spatially-explicit model of population viability and hybridization dynamics of Algonquin wolves. Species at Risk Fund for Ontario and Ontario Ministry of Natural Resources and Forestry, Peterborough, Ontario, Canada.

Benson, J.F., and K.M. Loveless. 2010. A Management plan for the Eastern Wolf (*Canis lupus lycaon*) in Canada. *Species at Risk Act* management plan series, contracted by federal government of Canada. SARA responsible agency, Ottawa, Canada.

John F. Benson C.V.

Benson, J.F., M. Cunningham, D. Land, M. Lotz, and D. Onorato. 2006. Annual Report on the Research and Management of Florida Panthers: 2005-2006. Florida Fish and Wildlife Conservation Commission, Naples, Florida, USA.

Benson, J.F., and D. Onorato. 2006. Effects of Habitat Type and Collar Position on Performance of GPS Radiocollars. Florida Fish and Wildlife Commission, Naples, Florida, USA.

SCIENTIFIC SERVICE

Regular technical reviewer: Ecology, Journal of Animal Ecology, Proceedings of Royal Society B, Ecography, American Naturalist, Molecular Ecology, Animal Behaviour, Journal of Wildlife Management, Scientific Reports, Journal of Mammalogy, Bioscience, Ecosphere, Biological Conservation, Journal of Heredity, PLOS-ONE, Ethology, Canadian Journal of Zoology, Ecology and Evolution, Wildlife Biology, Environmental Research Letters, Urban Ecosystems, Mammalia, Mammalian Biology, Journal of Natural History, Current Zoology, Arctic, European Journal of Wildlife Research, Wildlife Research and Management, Human-Wildlife Conflicts, Southwestern Naturalist, Canadian Field Naturalist, Mammal Study, Environmental Conservation, Science & Technology (Biodiversity Management & Forestry), Animals, Sage-Open

Peer reviewer, Species Status Assessment (Red Wolves). 2017. US Fish & Wildlife Service.

Scientific advisor, Ontario Recovery Strategy for Algonquin wolf (threatened). 2016-2017.

Contributed papers session moderator. 2019. Wildlife Society International Conference.

Contributed papers session moderator. 2015. Wildlife Society International Conference.

Contributed papers abstract reviewer. 2015. Wildlife Society International Conference.

- Bird surveys, worked alone and lived in tent for 10 days at a time

SELECTED MEDIA COVERAGE

Humans are the leading cause of death for California's mountain lions. 2023. LA Times Feature article about our statewide mountain lion mortality paper in PNAS.

World's Largest Wildlife Bridge Could Save Mountain Lions. 2021. **Scientific American** article about how our mountain lion research led to a project to build wildlife highway crossing <https://www.scientificamerican.com/article/worlds-largest-wildlife-bridge-could-save-mountain-lions/>

LA. Times, Scientific American, Huffington Post, US News & World Report, ABC, NBC, KQED (NPR) 2019-2020 Print, TV, Radio, Web stories about our Mountain Lion Research

John F. Benson C.V.

What's Killing the West Coast's Young Great White Sharks? 2018. **National Geographic** web article about our Pacific white shark research.

White Shark Researchers Tap Data from Electronic Tags to Gain Insights into Survival Rates. 2018. **Science Daily** article about our white Shark research in California and Mexico.

Southern California Public Radio (KPCC). 2016 news interview and podcast about our population viability modeling with mountain lions in the Santa Monica Mountains
<http://www.scpr.org/news/2016/08/30/64132/will-the-mountain-lions-of-the-santa-monica-mounta/>

CBS News Radio Los Angeles (KNX). 2016 news interview about our population viability model for mountain lions in the Santa Monica Mountains.

LA Times, LA Daily News, LA Weekly, the Atlantic and other outlets. 2016. All ran stories on our population viability modeling of mountain lions in the Santa Monica Mountains

Take-Two, Southern California Public Radio (KPCC). 2016. Live NPR radio interview about my research with mountain lions in the Los Angeles Area.
http://media.scpr.org/audio/upload/2016/07/18/SHOW_0718-26b05f0c.mp3?uuid=e6c7eda7-035e-47db-b003-62f01e54f2fb (mountain lion segment at 68:08:30)

To avoid conflict, LA mountain lions choose separate hunting grounds. 2016. **LA Times** article on our paper about mountain lion predation on deer, print (Sunday edition) and online.

Meet the Coywolf (Documentary). 2013-14. **PBS-Nature & Canadian Broadcasting Company**. View online: <http://video.pbs.org/video/2365159966/>

Canadian Broadcasting Company (CBC) Radio One. 2013. Radio interview on prime-time national news about my eastern coyote-moose predation study.

Wolf-Coyote Hybrid. 2011. **Discovery Channel** prime-time TV feature on my PhD research.

Wolves in Coyote Clothing. 2011. **Canadian Wildlife Magazine**. Feature article, PhD research.

Bears on the Move. 2005. **Turner South Broadcasting**. TV documentary about bears in Louisiana featuring footage of my fieldwork and interviews about my research

EARLIER PROFESSIONAL EXPERIENCE

Scientific Technician --- January 2002-April 2002
University of Maine Lynx Project, Orono, ME

- Radio-telemetry, lynx snow tracking, vegetation sampling, data entry

Wildlife Biologist --- October 2001- December 2001

Polar Bear Project, United States Geological Survey, Anchorage, AK

- Polar bear capture, aerial telemetry, processing of biological samples, data entry

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Wildlife Biologist --- May 2001-August 2001

Sea Duck Project, United States Geological Survey, Anchorage, AK

- Duck capture, nest searching, telemetry, lived in tent in remote roadless areas in Alaska

Field Technician --- April 2001-May 2001

Redwood National Park Mountain Lion Project, Humboldt State University, Arcata, CA

- Located mountain lions with ground-based radio telemetry

Field Technician --- December 2000-January 2001

UC Berkeley-Lassen Carnivore Research Project, Mineral, CA

- Ground-based radio telemetry, scat and prey remains collection, and snow tracking

Field Technician --- May 2000-August 2000

Sea Bird Project, University of California, Berkeley, Berkeley, CA

- Bird surveys on Pacific Ocean by boat, collecting sonar data, data entry

Wildlife Biologist --- May 1999-August 1999

Marbled Murrelet Project, Natural Resources Management Corporation, Eureka, CA