Jesse S. Lewis

Assistant Professor
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PROFESSIONAL INTERESTS

Broad Research Interests: I apply ecological theory and quantitative methods to research questions in wildlife ecology and conservation to understand the distribution, abundance, and conservation of species and their habitat across multiple spatial and temporal scales, particularly in relation to human influences (e.g., urbanization and roads) and ecological disturbance (e.g., wildfire and invasive species).

Specific Research Interests:

- Population ecology and occupancy modeling
- Patterns of animal movement, migration, and space use
- Habitat relationships and community interactions for plants and animals
- Effects of roads, urbanization, and habitat fragmentation on wildlife populations
- Connectivity conservation considering historical, current, and future landscape patterns

EDUCATION

Ph.D., Colorado State University, Fort Collins 2008 - 2014
Dissertation: The effects of urbanization on felid populations, interactions, and pathogen dynamics

M.S., University of Idaho, Moscow 2004 - 2007
Thesis: The effects of human influences on black bear habitat selection and movement patterns within a highway corridor

B.S., University of Montana, Missoula 1997 - 2003
Majors: 1. Wildlife Biology (honors) 2. Plant Biology (high honors)

PROFESSIONAL APPOINTMENTS

Assistant Professor 2017 – Present
Arizona State University, Mesa, AZ

Post Doctoral Researcher 2014 – 2017
Conservation Science Partners, Fort Collins, CO

WORK EXPERIENCE

Assistant Professor 2017 - Present
Arizona State University, Mesa, AZ

- Tenure track position focused on research and teaching
- Advise undergraduate and graduate (M.S. and Ph.D) students and post doctoral researchers on research projects
- Teach 2 classes each semester (undergraduate and graduate level)
- Senior Sustainability Scholar with ASU Wrigley Institute
- Scientist with Central Arizona Phoenix Long Term Ecological Research (CAP LTER) project evaluating ecological processes across the Phoenix Valley.

Postdoctoral Research Scientist 2014 – 2017
Conservation Science Partners, Fort Collins, CO

- Conducted broad-scale analyses evaluating how population density of wild pigs across their global distribution is related to biotic and abiotic landscape factors. Using this information, we are creating predictive maps of wild pig population density across the world to understand current and future patterns
- Designed, coordinated, and implemented research projects for study areas in California (Tejon Ranch) and Florida (MacArthur Ranch, University of Florida Research Facility), including the deployment of motion-activated cameras and capturing and marking of wild pigs with GPS and VHF collars, colored collar bands, and ear tags
- Conducted fine-scale analyses in 2 study areas that included evaluating wild pig population density, space use patterns and home range size, social interactions, and habitat relationships
- Evaluating landscape connectivity of wild pig habitat to understand the potential for the spread of this invasive species
- Interacted with a diverse group of collaborators, including personnel with USDA Veterinary Services, USDA Wildlife Services, Colorado State University, University of Florida, Tejon Ranch Conservancy in California, and University of Saskatoon (Saskatchewan, Canada)

Ph.D Graduate Research 2008 - 2014
Colorado State University, Fort Collins (Advisor: Dr. Kevin Crooks)

- Project objectives included evaluating: (1) population density and occupancy of bobcats and mountain lions in relation to urbanization; (2) interspecific interactions of sympatric felids; (3) intraspecific interactions and contact networks within bobcat populations; (4) habitat selection of bobcats in relation to landscape characteristics; and (5) the effects of population density, animal interactions, and landscape characteristics on pathogen dynamics in bobcat populations
- Captured, immobilized, and collared 45 bobcats (2009 to 2011)
- Designed, implemented, and maintained grids of 80 motion-activated camera stations across 2 study sites (2009 to 2011)
- Conducted statistical analyses using program R computer software
- Analyzed animal location data and habitat layers using GIS software (ArcGIS 10)

- Worked with a large collaborative team comprised of field crews, city and state resource managers, Colorado Parks and Wildlife, the US Forest Service, and the Bureau of Land Management

Instructor for Landscape Ecology Course Spring 2008 Semester
University of Idaho, Moscow

- Lead instructor for upper-level undergraduate Landscape Ecology course (RNGE 429; 3 credits) in the College of Natural Resources, University of Idaho
- Created and presented 2 weekly lectures (70 minutes each) and assisted with weekly computer lab exercises (120 minutes; teaching assistant helped conduct labs)
- Developed and graded home-work exercises, end of semester research paper and presentation, and three exams
- Facilitated topic discussions and opportunities for student questions both during and outside of class

M.S. Graduate Research 2004 – 2007
University of Idaho, Moscow (Advisor: Dr. Janet Rachlow)

- Project objectives included evaluating: (1) the effects of habitat on GPS collar performance; (2) black bear habitat selection in relation to roads, timber harvest, and human development; (3) bear movements and habitat selection for crossing locations along a major highway; and (4) how different GPS telemetry time intervals influenced habitat selection results
- Captured, immobilized, and collared 30 black and grizzly bears (2005 and 2006)
- Visited winter dens to replace GPS collars (winters of 2005, 2006, 2007)
- Sampled shrub abundance, forest canopy cover, and roadway characteristics
- Analyzed animal location data and habitat layers using GIS software (ArcView 3 and ArcGIS 9)
- Conducted statistical analyses using SAS 9.0 computer software

Biological Technician May – August 2004
Kenai National Wildlife Refuge, Soldotna, Alaska

- Deployed and checked bear/carnivore hair snagging stations
- Assisted with song bird point counts and traveled to sampling sites via helicopter
- Deployed leg-hold traps and assisted with processing of captured wolves
- Captured and radio-tracked harlequin ducks

Biological Technician / Volunteer August 2003 – March 2004
Mexican Gray Wolf Reintroduction Project (USFWS), Alpine, Arizona

- Tracked collared wolves using radio telemetry
- Assisted in setting leg-hold traps, checking trap-lines, and processing captured animals
- Surveyed for wolf sign and wolf-killed ungulate carcasses
- Interacted with ranchers, hunters, campers, and the public regarding wolves

Biological Technician June – August 2003
Kootenai National Forest, Troy, Montana

- Surveyed for northern goshawks and flammulated owls using electronic calls

- Surveyed old-growth forest stands and recorded stand measurements
- Electroshocked trout species in mountain streams

Wildlife Biological Technician May – August 2002
Innoko National Wildlife Refuge, McGrath, Alaska
- Crew leader for 7 other employees
- Located song birds by sight and sound and conducted vegetation transects at bird locations
- Assisted in banding of white-fronted geese
- Implanted radio transmitters into sheefish to track spawning migration
- Live-trapped small mammals
- Operated boats and carried shotguns daily

Wildlife Biological Technician May – August 2001
Bitterroot National Forest, Sula, Montana
- Conducted lynx survey: set up transect stations and collected hair
- Captured boreal owls at nest boxes
- Observed peregrine falcon nest and recorded fledgling success
- Delineated old-growth stands using maps, aerial photos, and field surveys

Lab Assistant October 2001 – May 2003
Wild Trout and Salmon Genetics Lab, University of Montana, Missoula
- Worked with cutthroat, rainbow, and bull trout microsatellites
- Extracted DNA from fin-clips, ran PCR and gels to obtain genetic data
- Snorkeled and assisted in capture of mountain whitefish

Biological Technician June – October 2000
Humboldt-Toiyabe National Forest, Wells, Nevada
Assisted PhD student, Jeff Beck, in evaluating elk carrying capacity in Jarbidge Mountains of northeastern Nevada
- Tracked elk using radio telemetry
- Assisted in vegetation transects
- Collected habitat data using GPS, compass, clinometer, cover pole, and maps
- Operated 4–wheel drive trucks and rode horses
- Volunteered on project for 2 weeks during summer of 1999

Volunteer January 1996
Mountain lion study, southern Idaho, Idaho State University
- Tracked mountain lions with and without radio telemetry in winter conditions
- Fitted lions with radio collars and assisted in collecting capture information
- Recorded habitat data at deer kill sites

*PUBLICATIONS **

*Underlined names are undergraduate, graduate student, or post-doctoral fellow authors

I. MANUSCRIPTS IN PREPARATION

Dwyer, J. and **J.S. Lewis**. *In Preparation*. Urban association of bats varies seasonally in relation to plant productivity and water.

Schlichting, P.E., R.K. Boughton, K.C. VerCauteren, R.S. Miller, and **J.S. Lewis**. *In Preparation*. Activity patterns based on wildlife camera and telemetry data of invasive wild pigs.

Boughton, R.,W. Anderson, B. Wight, P.E. Schlichting, **J.S. Lewis,** K. VerCauteren, R. Miller. *In Preparation*. Rooting damage of invasive wild pigs in relation to environmental factors.

Schell, C.J. . . . **J.S. Lewis** (25 total authors). *In Preparation*. The effects of Covid-19 on wildlife activity patterns in North America.

Kays, R. . . . **J.S. Lewis** (25 total authors). *In Preparation*. Wildlife habitat selection patterns as measured by remote wildlife cameras across North America.

Lewis, J.S., E. Boydston, L. Lyren, S. VandeWoude, and K.R. Crooks. *In Preparation*. Bobcat habitat selection and connectivity models across a gradient of urbanization in Colorado and California.

Lewis, J.S., J.L. Rachlow, E. Strand, J. Horne, O. Garton, W. Wakkinen, J. Hayden, P. Zager. *In Preparation*. Black bear habitat selection in relation to anthropogenic landscape influences.

II. MANUSCRIPTS IN REVIEW

Schlichting, P.E., R. Boughton, W. Anderson, B. Wight, K. VerCauteren, R. Miller, and **J.S. Lewis**. *In Review*. Seasonal variation in space use and territoriality in an invasive large mammal (Sus scrofa). Scientific Reports.

III. SCIENTIFIC PUBLICATIONS

Lewis, J.S., L. LeSueur, J. Oakleaf, and E.S. Rubin. *Accepted*. Mixed-severity wildfire shapes habitat use of large herbivores and carnivores. Forest Ecology and Management.

O'Bryan, C.J., N.R. Patton, J. Hone, **J.S. Lewis**, D. Risch, V. Berdejo-Espinola, M.H. Holden, and E. McDonald-Madden. *Accepted*. Invasive wild pigs (Sus scrofa) as a human-mediated source of soil carbon emissions: uncertainties and future directions. Global Change Biology.

Kay, C.M., A.T. Rohnke, H. Sander, T. Stankowich, M. Fidino, M.H. Murray, **J.S. Lewis**, I. Taves, E. Lehrer A.J. Zellmer, C.J. Schell, S. Magle. *Accepted*. Barriers to building wildlife-inclusive cities: insights from a joint summit of urban ecologists, urban planners, and landscape designers. People and Nature.

Magle, S., M. Fidino, H. Sander, A.T. Rohnke, K.L. Larson, T. Gallo, C.A.M. Kay, E.W. Lehrer, M.H. Murray, S.A. Adalsteinsson, A.A. Ahlers, W.J.B. Anthonysamy, A.R. Gramza, A.M. Green, M.J. Jordan, **J.S Lewis**, R.A. Long, B. MacDougall, M.E. Pendergast, K. Remine, K.C. Simon, C.C. St. Clair, T. Stankowich, A.J. Zellmer, C.J. Schell. 2021. Wealth and urbanization shape mammalian communities across North America. Global Change Biology 27: 5446-5459.

Bates, A.E., R.B. Primack, PAN-Environment Working Group (. . . **J.S. Lewis**, J. Haight . . . 350 co-authors), and C.M. Duarte. 2021. Global COVID-19 lockdown highlights humans as both threats and custodians of the environment. Biological Conservation 263: 109175.

O'Bryan, C.J., V. Berdefo, J. Hone, **J.S. Lewis**, N.R. Patton, D. Risch, M.H. Holden, and E. McDonald-Madden. 2021. Unrecognized threat to global soil carbon by a widespread invasive species. Global Change Biology DOI: 10.1111/gcb.15769.

Suraci, J.P., K.M. Gaynor, M.L. Allen, P. Alexander, J.S. Brashares, S. Cendejas-Zarelli, K. Crooks, L.M. Elbroch, T. Forester, A.M. Green, J. Haight, N.C. Harris, M. Hebblewhite, F. Isbell, B. Johnston, R. Kays, P.E. Lendrum, **J.S. Lewis**, A. McInturff, W. McShea, T.W. Murphy, M.S. Palmer, A. Parsons, M.A. Parson, M.E. Pendergast, C. Pekins, L. Prugh, K.A. Sager-Fradkin, S. Schuttler, C.H. Sekercioglu, B. Shepherd, L. Whipple, J. Whittington, G. Wittemyer, and C.C. Wilmers. 2021. Disturbance type and species life history predict mammal response to humans. Global Change Biology 27: 3718-3731.

Lewis, J.S., S. Spaulding, H. Swanson, W. Keeley, A.R. Gramza, S. VandeWoude, and K.R. Crooks. 2021. Human activity influences wildlife populations and activity patterns: implications for spatial and temporal refuges. Ecosphere 12: e03487.

Teton, B.S., **J.S. Lewis**, W.T. Christina, M. White, and H. Young. 2020. Using natural pelt patterns to estimate population abundance with mark-resight models. Wildlife Society Bulletin 44: 695-704.

Tabak, M.A, M.S. Norouzzadeh, D.W. Wolfson, E.J. Newton, R.K. Boughton, K.C. VerCauteren, J.S. Ivan, E.A. Odell, E.S. Newkirk, R.K. Brook, R.Y. Conrey, A.J. Davis, **J.S. Lewis**, D.P. Walsh, J.C. Beasley, J. Clune, and R.S. Miller. 2020. Improving the accessibility and transferability of machine learning algorithms for identification of animals in camera trap images: MLWIC2. Ecology and Evolution 10:10374–10383.

Zellmer, A.J., E. Wood, T. Surasinghe, B.J. Putman, G. Pauly, S. Magle, **J.S. Lewis**, C. Kay, and M. Fidino. 2020. What can we learn from wildlife sightings during the COVID-19 global shutdown? Ecosphere 11: e03215.

Schlichting, P.E., J.C. Beasley, R.K. Boughton, A.J. Davis, K.M. Pepin, M.P. Glow, R.S. Miller, K.C. VerCauteren, and **J.S. Lewis**. 2020. A rapid population assessment method for wild pigs using baited camera sites. Wildlife Society Bulletin 44: 372-382.

Lewis, J.S., K. VerCauteren, R. Denkhaus, and J. Mayer. 2020. Wild pig populations along the urban gradient. Book Chapter, in Invasive Wild Pigs in North America, edited by K. VerCauteren, J.C. Beasley, S.S. Ditchkoff, J.J. Mayer, G.J. Roloff, and B.K. Strickland. CRC Press, Boca Raton, FL, USA.

Wilber, M.Q., S.M. Chinn, J. C. Beasely, R. Boughton, R.K. Brook, S.S. Ditchkoff, J.W. Fischer, S.B. Hartley, L.K. Holmstrom, J.C. Kilgo, **J.S. Lewis**, R.S. Miller, N.P. Snow, K.C. VerCauteren, C.T. Webb, and K.M. Pepin. 2020. Predicting functional responses in agro-ecosystems from animal movement data to improve management of invasive species. Ecological Applications 30: e02015

Windell, R.M., **J.S. Lewis**, A.R. Gramza, and K.R. Crooks. 2019. Carnivore carrying behavior as documented with wildlife camera traps. Western North American Naturalist: 79: 471-480

Lewis, J.S., J.L. Corn, J.J. Mayer, T.R. Jordan, M.L. Farnsworth, C.L. Burdett, K.C. VerCauteren, S.J. Sweeney, R.S. Miller. 2019. Historical, current, and potential population size estimates of invasive wild pigs (*Sus scrofa*) in the United States. Biological Invasions 21: 2373-2384.

Tabak M.A, M.S. Norouzzadeh, D.W. Wolfson, S.J. Sweeney, K.C. VerCauteren, N.P. Snow, J.M. Halseth, P.A. Di Salvo, **J.S. Lewis**, M.D. White, B. Teton, J.C. Beasley, P.E. Schlichting, R.K. Boughton, B. Wight, E.S. Newkirk, J.S. Ivan, E.A. Odell, R.K. Brook, P.M. Lukacs, A.K. Moeller, E.G. Mandeville, J. Clune, and R.S. Miller. 2019. Machine learning to classify animal species in camera trap images: Applications in ecology. Methods in Ecology and Evolution 10: 585-590.

White, M., K. Kauffman, **J.S. Lewis**, R. Miller. 2018. Wild pigs breach farm fence through harvest time in southern San Joaquin Valley. California Agriculture 72: 120 – 126.

Lewis, J.S., K. Logan, M. Alldredge, S. VandeWoude, and K.R. Crooks. 2017. The effects of demographic, social, and environmental characteristics on pathogen exposure in wild felids across a gradient of urbanization. PLoS ONE 12: e0187035

Kellner, A., S. Carver, A. Gramza, **J.S. Lewis**, S. VandeWoude, and K.R. Crooks. 2017. Outdoor recreation at the wildland-urban interface: examining human activity patterns and compliance with dog management policies. Natural Areas Journal 37: 515 – 529.

Lewis, J.S., M. Farnsworth, C. Burdett, D. Theobald, M. Gray, and R. Miller. 2017. Biotic and abiotic factors predicting the global distribution and population density of an invasive large mammal. Nature: Scientific Reports 7: DOI: 10.1038/srep44152

Lewis, J.S., D. Theobald, S. VandeWoude, and K.R. Crooks. 2017. Contact networks reveal potential for interspecific interactions of sympatric wild felids driven by space use. Ecosphere 8: Article e01707

Davis, A.J., M.B. Hooten, R.S. Miller, M.L. Farnsworth, **J.S. Lewis**, M. Moxcey, and K.M. Pepin. 2016. Inferring invasive species abundance using removal data from management actions. Ecological Applications 26: 2339-2346.

Lewis, J.S., L. Bailey, S. VandeWoude, and K.R. Crooks. 2015. Interspecific interactions between wild felids vary across scales and levels of urbanization. Ecology and Evolution 5: 5946-5961.

Carver, S, S.N. Bevins, M.R. Lappin, E.E. Boydston, L.M. Lyren, M.W. Alldredge, K.A. Logan, L.L. Sweanor, S.P.D. Riley, L.E. Klein Serieys, R.N. Fisher, T.W. Vickers, W.M. Boyce, R. McBride, M.C. Cunningham, M. Jennings, **J.S. Lewis**, T. Lunn, K.R. Crooks, S. VandeWoude. 2015. Pathogen exposure varies widely among sympatric populations of wild and domestic felids across the United States. Ecological Applications 26: 367-381.

Lewis, J.S., K.A. Logan, M. Alldredge, L. Bailey, S. VandeWoude, and K.R. Crooks. 2015. The effects of urbanization on population density, occupancy, and detection probability of wild felids. Ecological Applications 25: 1880-1895.

Lewis, J.S. 2014. The effects of urbanization on felid populations, interactions, and pathogen dynamics, Dissertation, Colorado State University, Fort Collins.

Cushman, S.A., **J.S. Lewis**, E.L. Landguth. 2014. Why did the bear cross the road? Comparing the performance of multiple resistance surfaces and connectivity modeling methods. Diversity 6: 844-854.

Shannon, G, **J.S. Lewis**, B.D. Gerber. 2014. Recommended survey designs for occupancy modelling using motion-activated cameras: insights from empirical wildlife data. PeerJ 2:e532; DOI 10.7717/peerj.532.

Troyer, R.M., J.A. Beatty, K.R. Stutzman-Rodriguez, S. Carver, C.C. Lozano, J.S. Lee, M.R. Lappin, S.P.D. Riley, L.E.K. Serieys, K.A. Logan, L.L. Sweanor, W.M. Boyce, T.W. Vickers, R. McBride, K.R. Crooks, **J.S. Lewis**, M.W. Cunningham, J. Rovnak, S.L. Quackenbush, S. VaneWoude. 2014. Novel gammaherpesviruses in North American domestic cats, bobcats and pumas: identification, prevalence risk factors. Journal of Virology doi:10.1128/JVI.03405-13.

Cushman, S.A., **J.S. Lewis**, E.L. Landguth. 2013. Evaluating the intersection of a regional wildlife connectivity network with highways. Movement Ecology 1:12.

Lagana, D.M., J.S. Lee, **J.S. Lewis**, S.N. Bevins, S. Carver, L.L. Sweanor, R. McBride, C. McBride, K.R. Crooks, and S. VandeWoude. 2013. Characterization of regionally associated feline immunodeficiency virus (FIV) in bobcats (*Lynx rufus*). Journal of Wildlife Diseases 49: 718-722.

Lewis, J.S., K.R. Crooks, L.L. Bailey, L.L. Sweanor, B. Dunne, S. VandeWoude, K.A. Logan. 2011. Conceptual framework for estimating mountain lion density with motion-activated cameras. Proceedings of the 10th Mountain Lion Workshop 10: 131-138.

Lewis, J.S. and J.L. Rachlow. 2011. Activity patterns of black bears related to sex, season, and daily movement rates. Western North American Naturalist 71: 388-395.

Lewis, J.S., J.L. Rachlow, J.S. Horne, E.O. Garton, W.L. Wakkinen, J. Hayden, and P. Zager. 2011. Identifying habitat characteristics to predict highway crossing areas for black bears in a human-modified landscape. Landscape and Urban Planning 101: 99-107.

Cushman, S.A. and **J.S. Lewis**. 2010. Movement behavior explains genetic differentiation in American black bears. Landscape Ecology 25: 1613-1625.

Lewis, J.S. 2007. The effects of human influences on black bear habitat selection and movement patterns within a highway corridor, Thesis, University of Idaho, Moscow.

Horne, J.S., E.O. Garton, S.M. Krone, and **J.S. Lewis**. 2007. Analyzing animal movements using Brownian bridges. Ecology 88: 2354-2363.

Lewis, J.S., J.L. Rachlow, E.O. Garton, and L.A. Vierling. 2007. Effects of habitat on GPS collar performance: using data screening to reduce location error. Journal of Applied Ecology 44: 663-671.

*SCIENTIFIC PRESENTATIONS**

*Underlined names are undergraduate, graduate student, or post-doctoral fellow authors

Magle, S., M. Fidino, H. Sander, A.T. Rohnke, K. Larson, T. Gallo, C. Kay, E. Lehrer, M. Murray, S. Adalsteinsson, A. Ahlers, W. Anthonysamy, A. Gramza, A. Green, M. Jordan, **J.S. Lewis**, R. Long, B. MacDougall, M. Pendergast, K. Remine, K. Simon, C. St. Clair, C. Shier, T. Stankowich, C. Stevenson, A. Zelmer, C. Schell. 2021. Wealth and urbanization shape mammalian communities across North America. The Wildlife Society National Conference (Virtual conference) (paper).

Lewis, J.S. 2021. Bottom-up and top-down factors influence large mammal populations across a gradient of fire severity. Ecological Society of America, Long Beach, CA (Virtual conference) (paper).

Dwyer, J. and **J.S. Lewis**. 2021. Habitat use of bat species along a gradient of urbanization varies seasonally in relation to forage and water availability. Ecological Society of America, Long Beach, CA (Virtual conference) (paper).

Hamilton, K.M., T. Bommarito, and **J.S. Lewis**. 2021. Spatial and temporal factors influencing wildlife use of overpass crossing structures on an Arizona canal. Ecological Society of America, Long Beach, CA (Virtual conference) (poster).

Haight, J., S. Magle, M. Fidino, C. Kay, UWIN partners, S.J. Hall, **J.S. Lewis**. 2021. Continental variation in distributions of mammal communities across urban-rural gradients. International Urban Wildlife Conference (Virtual conference) (paper).

J.S. Lewis, M. Fidino, J. Haight, C. Kay, C. Mowry, A. Belaire, C. Higgins, L. Lehrer, T. Gallo, L. Hartley, C. St. Clair, C. Stevenson, C. Schell, T. Ryan, J. Angstmann, C. Salsbury, B. Macdougall, T. Stachowich, A. Ahlers, D. Minier, A. Zellmer, D. Will, A. Green, K. Niniger, L. Wayne, M. Jordan, R. Long, W. Anthonysamy, J. Williamson, S. Magle. 2021. Coyote response to urbanization varies within and among cities in North America. International Urban Wildlife Conference (Virtual conference) (paper).

Magle, S., M. Fidino, H. Sander, A.T. Rohnke, K. Larson, T. Gallo, C. Kay, E. Lehrer, M. Murray, S. Adalsteinsson, A. Ahlers, W. Anthonysamy, A. Gramza, A. Green, M. Jordan, **J.S. Lewis**, R. Long, B. MacDougall, M. Pendergast, K. Remine, K. Simon, C. St. Clair, C. Shier, T. Stankowich, C. Stevenson, A. Zelmer, C. Schell. 2021. Wealth and urbanization shape mammalian communities across North America. International Urban Wildlife Conference (Virtual conference) (paper).

Haight, J.D., S.J. Hall, and **J.S. Lewis**. 2021. Wildlife communities respond to urban landscape characteristics across the Phoenix Metropolitan Area. Central Arizona Phoenix Long Term Ecological Research (CAP LTER) All Scientist Meeting annual conference, Tempe, AZ (Virtual conference) (poster).

Lewis, J.S., K. Weiss, Z. Ziebarth. 2021. Wildlife populations in relation to urbanization and landscape features along the Salt River Valley, Arizona. Central Arizona Phoenix Long Term Ecological Research (CAP LTER) All Scientist Meeting annual conference, Tempe, AZ (Virtual conference) (poster).

Cocroft, A., J. Brown, J. Haight, Z. Snyder, G. Goncalves, B. Thomas, J. Paredes-Sanchez, Kelli Larson, **J.S. Lewis**, S. Lerman, and S. Hall. 2021. Assessing the influence of income and ethnicity on wildlife in residential neighborhoods. Central Arizona Phoenix Long Term Ecological Research (CAP LTER) All Scientist Meeting annual conference, Tempe, AZ (virtual) (poster).

Dwyer, J.M. and **J.S. Lewis**. 2021. Urban association of bats varies seasonally in relation to forage and water availability. Joint Annual Meeting (JAM) of the AZ/NM American Fisheries Society and the Wildlife Society (Virtual conference) (poster).

Hamilton, K.M., T. Bommarito, and **J.S. Lewis**. 2021. Wildlife use of overpass crossing structures on the Central Arizona Project Canal. Joint Annual Meeting (JAM) of the AZ/NM American Fisheries Society and the Wildlife Society (Virtual conference) (poster).

Haight, J.D., S.J. Hall, and **J.S. Lewis**. 2021. Wildlife communities respond to urban landscape characteristics across the Phoenix Metropolitan Area. Joint Annual Meeting (JAM) of the AZ/NM American Fisheries Society and the Wildlife Society (Virtual conference) (paper).

White, L.M., J.W. Cain, F. Abadi, **J.S. Lewis**, and R.R. Parmenter. 2021. Effects of wildfire and forest management on large mammal distribution, habitat use, and co-occurrence in the Jemez Mountains of New Mexico. Joint Annual Meeting (JAM) of the AZ/NM American Fisheries Society and the Wildlife Society (Virtual conference) (paper).

Fedirchuk, G.B., M.B. Schrimpf, J.D. Haight, **J.S. Lewis**, and N. Koper. 2020. The impacts of COVID-19 on birds and mammals. The University of Manitoba's Undergraduate Research Poster Competition (poster).

Lewis, J.S., J. Haight, R. Faust. 2020. Urbanization influences population abundance and community composition of scorpion species across an ecological gradient. Ecological Society of America, Salt Lake City, Utah (Virtual conference) (paper).

Haight, J.D., S.J. Hall, and **J.S. Lewis**. 2020. Urban Wildlife Communities in Relation to Ecology and People in a Desert City. Ecological Society of America, Salt Lake City, Utah (Virtual conference) (paper).

Lewis, J.S. 2020. Wildlife populations across ecological gradients: case studies in urbanization and fire ecology. College of Integrative Sciences and Arts Seminar Series, Arizona State University, Mesa, AZ (Virtual conference) (invited paper).

Wilber, M.Q., S.M. Chinn, J.C. Beasley, R.K. Boughton, R.K. Brook, S.S. Ditchkoff, J.W. Fischer, S.B. Hartley, L.K. Holmstrom, J.C. Kilgo, **J.S. Lewis**, R.S. Miller, N.P. Snow, K.C. VerCauteren, S.M. Wisely, C.T. Webb, K.M. Pepin. 2020. Understanding crop use and preferences of wild pigs in agro-ecosystems. International Wild Pig Conference, Jacksonville, FL (Virtual conference) (paper).

Lewis, J.S. 2020. Wildlife populations across ecological gradients: case studies in urbanization and fire ecology. Arizona Game and Fish Department Seminar Series, Phoenix, AZ (invited paper).

Lewis, J.S. 2020. Fire and landscape factors influence large mammal populations. Joint Annual Meeting (JAM) of the AZ/NM American Fisheries Society and the Wildlife Society, Prescott, AZ (paper).

Haight, J.D., S.J. Hall, and **J.S. Lewis**. 2020. Species richness of mammals and terrestrial birds across the gradient of urbanization in Central Arizona. Joint Annual Meeting (JAM) of the AZ/NM American Fisheries Society and the Wildlife Society, Prescott, AZ (poster).

Dwyer, J.M. and **J.S. Lewis**. 2020. Bat habitat use across the gradient of urbanization in the Phoenix Valley. Joint Annual Meeting (JAM) of the AZ/NM American Fisheries Society and the Wildlife Society, Prescott, AZ (poster).

Lewis, J.S., J. Haight, R. Faust. 2020. The distribution and abundance of the scorpion community across the gradient of urbanization in the Phoenix Valley, Arizona. Central Arizona Phoenix Long Term Ecological Research (CAP LTER) All Scientist Meeting annual conference, Tempe, AZ (poster).

Faust, R., J. Haight, and **J.S. Lewis**. 2020. The effects of urbanization on scorpion populations, reproduction, and predation in the Phoenix Valley, Arizona. Central Arizona Phoenix Long Term Ecological Research (CAP LTER) All Scientist Meeting annual conference, Tempe, AZ (poster).

Dwyer, J.M. and **J.S. Lewis**. 2020. Bat habitat use across the gradient of urbanization in a single season. Central Arizona Phoenix Long Term Ecological Research (CAP LTER) All Scientist Meeting annual conference, Tempe, AZ (poster).

Haight, J.D., S.J. Hall, and **J.S. Lewis**. 2020. Species richness of mammals across the gradient of urbanization in Central Arizona. Central Arizona Phoenix Long Term Ecological Research (CAP LTER) All Scientist Meeting annual conference, Tempe, AZ (poster).

Faust, R., J. Haight, and **J.S. Lewis**. 2019. The effects of urbanization on scorpion populations, reproduction, and predation in the Phoenix Valley, Arizona. College of Integrative Sciences and Arts Undergraduate Research Symposium, Mesa, AZ. (poster)

Lewis, J.S. 2019. Wildlife habitat use in response to fire severity in the White Mountains of Arizona. Association for Fire Ecology, Tucson, AZ. (poster)

Lewis, J.S. and J. Haight. 2019. Predicting Habitat Quality For Mammal Species Across a Gradient of Urbanization to Reduce Human Conflict and Promote Wildlife Conservation. The Wildlife Society annual meeting, Reno, NV. (paper)

Schlichting, P.E., D.W. Wolfson, B.S. Teton, M.D. White, R.K. Boughton, M. Farnsworth, K. VerCauteren, R.S. Miller, and **J.S. Lewis**. 2019. Comparison of abundance indices and density estimates in wild pigs using camera traps. The Wildlife Society annual meeting, Reno, NV. (paper)

Schlichting, P.E., R. Boughton, K. VerCauteren, R.S. Miller, and **J.S. Lewis**. 2019. Seasonal variation in space use and territoriality in an invasive large mammal (Sus scrofa). American Society of Mammalogists annual meeting, Washington D.C. (paper).

Haight, J.D., S.J. Hall, and **J.S. Lewis**. 2019. Under-representation of community approaches in the study of urban small mammals. International Wildlife Urban Conference, Portland, OR (poster).

Lewis, J.S. and P.E. Schlichting. 2019. Applications for management of wild pigs across national and local scales in the US. National Wildlife Research Center, Fort Collins, CO (invited seminar).

Lewis, J.S., J.D. Haight, S.J. Hall, and J. Dwyer. 2019. The effects of urbanization on the wildlife community across the Phoenix Valley. Central Arizona Phoenix Long Term Ecological Research (CAP LTER) annual conference, Tempe, AZ (poster).

Dwyer, J. and **J.S. Lewis**. 2019. Bat habitat use along the gradient of urbanization in the Phoenix Metropolitan Area. Central Arizona Phoenix Long Term Ecological Research (CAP LTER) annual conference, Tempe, AZ (poster).

Lewis, J.S., J. Corn, J. Mayer, T. Jordan, M. Farnsworth, C. Burdett, K. VerCauteren, S. Sweney, and R. Miller. 2018. Historic, current, and potential population size estimates of invasive wild pigs in the United States. International Wild Pig Conference, Oklahoma City, OK (paper).

Schlichting, P.E., K.C. VerCauteren, R.K. Boughton, M. White, M. Glow, S.J. Sweeney, R.S. Miller, and **J.S. Lewis**. 2018. Estimating population parameters of invasive wild pigs from baited camera sites. International Wild Pig Conference, Oklahoma City, OK (paper).

Miller, R.S., M. Joseph, A.J. David, K.M. Pepin, D.W. Wolfson, M.A. Tabak, and **J.S. Lewis**. 2018. Estimating feral swine abundance at the national, state, and county scales for the United States using agency removal data. International Wild Pig Conference, Oklahoma City, OK (paper).

Lewis, J.S., J. Moreno, C. Loberger, J. Schipper, and S. Sprague. 2018. Morning and afternoon conference workshop – Use of wildlife cameras in research projects: camera set up, study design, and photo storage. Joint Annual Meeting (JAM) of AZ and NM chapters of TWS, Flagstaff, AZ (workshop organizer).

Lewis, J.S. 2018. Use of the Colorado Parks and Wildlife (CPW) photo database in wildlife ecology studies. Joint Annual Meeting (JAM) of AZ and NM chapters of TWS, Flagstaff, AZ (invited paper).

Lewis, J.S., H.L. Bateman, K.C.B. Weiss, and S.J. Hall. 2018. Patterns of the wildlife community across the gradient of urbanization in the Phoenix Valley. Central Arizona Phoenix Long Term Ecological Research (CAP LTER) annual conference, Tempe, AZ (poster).

Lewis, J.S., M Farnsworth, D. Theobald, C. Burdett, M. Gray, and R. Miller. 2017. Risks of wild pig invasion: predicting the population density of an invasive large mammal in the United States. The Wildlife Society annual meeting, Albuquerque, NM (paper).

Teton, B.S., **J.S. Lewis**, C.T. Wright, M. White, and H. Young. 2017. Identifying unique individuals using natural pelt patterns to estimate population abundance with mark resight models. The Wildlife Society annual meeting, Albuquerque, NM (paper).

Lewis, J.S., M Farnsworth, D. Theobald, C. Burdett, M. Gray, and R. Miller. 2017. Landscape factors predicting the population density of an invasive large mammal globally and in the United States. Ecological Society of America, Portland, OR (paper).

Lewis, J.S., M Farnsworth, D. Theobald, C. Burdett, M. Gray, and R. Miller. 2017. Biotic and abiotic factors predicting the global distribution and population density of an invasive large mammal. The American Society of Mammalogists, Moscow, ID (paper).

Much, R., **J. Lewis**, A. Gramza, and K. Crooks. 2016. Prey carrying behavior by mammalian carnivores varies with species, body size, and urban proximity. The Wildlife Society annual meeting, Raleigh, NC (poster).

Lewis, J.S., M. Farnsworth, D. Theobald, C. Burdett, M. Gray, and R. Miller. 2016. Population density of wild pigs (Sus scrofa) in relation to landscape characteristics across the United States. International Wild Pig Conference, Myrtle Beach, SC (paper).

Lewis, J.S., M Farnsworth, R. Miller, D. Grear, R. Boughton, M. White, D. Orthmeyer, and K. VerCauteren. 2016. Development of a comprehensive wild pig field study: population dynamics, space-use patterns, and behavioral interactions. International Wild Pig Conference, Myrtle Beach, SC (paper).

Lewis, J.S., L. Bailey, S. VandeWoude, and K.R. Crooks. 2015. Interactions between mountain lions and bobcats across a gradient of urbanization. International Urban Wildlife Conference, Chicago, IL (invited paper).

Lewis, J.S., K.A. Logan, M. Alldredge, L. Bailey, S. VandeWoude, and K.R. Crooks. 2014. Population density and occupancy of wild felids across a gradient of urbanization. The Society for Conservation Biology annual meeting, Missoula, MT (paper).

Lewis, J.S., A. Gramza, S. VandeWoude, K.R. Crooks. 2014. The effects of human recreation on wildlife activity patterns, occupancy, and behavior. Front Range Student Ecology Symposium, Fort Collins, CO (paper).

Lewis, J.S., L. Bailey, S. VandeWoude, K.R. Crooks. 2013. The effects of urbanization on interactions between wild felids. The Society for Conservation Biology annual meeting, Baltimore, MD (poster).

Lewis, J.S., L. Bailey, S. VandeWoude, K.R. Crooks. 2013. Population density of bobcats across wildland, exurban development, and urban-interface habitat. Front Range Student Ecology Symposium, Fort Collins, CO (paper).

Lewis, J.S., L. Bailey, S. VandeWoude, K.R. Crooks. 2012. Inter-specific interactions between bobcats and mountain lions in relation to urbanization. The Wildlife Society annual meeting, Portland, OR (poster).

Lewis, J.S., S. VandeWoude, K.R. Crooks. 2012. The effects of species interactions, density, and landscape configuration on pathogens in wild felid populations. Ecology and Evolution of Infectious Disease NSF Conference, Berkeley, California (poster).

Lewis, J.S., K. Crooks, L. Bailey, L. Sweanor, B. Dunne, S. VandeWoude, K. Logan. 2012. Estimating mountain lion density with motion-activated cameras using mark-resight. Front Range Student Ecology Symposium, Colorado State University, Fort Collins, CO (poster).

Lewis, J.S., J.L. Rachlow, J.S. Horne, E.O. Garton, W.L. Wakkinen, J. Hayden, P. Zager. 2011. Identifying habitat characteristics to predict highway crossing areas for black bears in a human-modified landscape. The Wildlife Society national meeting, Waikoloa, HI (invited paper).

Lewis, J.S., K. Crooks, L. Bailey, L. Sweanor, B. Dunne, S. VandeWoude, K. Logan. 2011. Estimating mountain lion density with motion-activated cameras using mark-resight. The Wildlife Society national meeting, Waikoloa, HI (poster).

Lewis, J.S., K. Crooks, L. Bailey, L. Sweanor, B. Dunne, S. VandeWoude, K. Logan. 2011. Estimating mountain lion density on the Uncompahgre Plateau with motion-activated cameras. Colorado Parks and Wildlife Research Day, Montrose, CO (invited paper).

Lewis, J.S., K. Crooks, L. Bailey, L. Sweanor, B. Dunne, S. VandeWoude, K. Logan. 2011. Estimating mountain lion density with motion-activated cameras using Mark-resight. 10th Mountain Lion Workshop, Bozeman, Montana (paper).

Lewis, J.S., S. VandeWoude, K.R. Crooks. 2011. The effects of urban fragmentation on interactions, movements, and pathogen transmission in sympatric felid populations. Ecology and Evolution of Infectious Disease NSF Conference, Madison, Wisconsin (poster).

Lewis, J.S., J.S. Horne, H. Sawyer. 2010. Applying the Brownian bridge movement model to animal locations: considerations, interpretations, and use in wildlife ecology. The Wildlife Society national meeting, Snowbird, Utah (paper).

Lewis, J.S., J.L. Rachlow, K.R. Crooks. 2010. Activity patterns of black bears related to sex, season, and daily movement rates: applications in wildlife ecology and conservation. American Society of Mammalogists national meeting, Laramie, WY (paper).

Lewis, J.S., R. Alonso, A. Gramza, S. VandeWoude, Kevin R. Crooks. 2010. The response of wild and domestic felids to urbanization. NSF Ecology and Evolution of Infectious Diseases, Atlantic City, NJ (poster).

Lewis, J.S., J.L. Rachlow, E.O. Garton, P. Zager W. Wakkinen, J. Hayden. 2008. The effects of GPS location interval on results of habitat selection. The Wildlife Society national meeting, Miami, FL (paper).

Lewis, J.S., J.L. Rachlow, J. Horne, W. Wakkinen, J. Hayden, P. Zager. 2008. Identifying highway crossing areas for black bears in northern Idaho. Wildlife linkages associated with state and federal highways workshop, ITD District 1 Office, Coeur d'Alene, Idaho (invited paper).

Lewis, J.S., J.L. Rachlow, E. Strand, J. Horne, O. Garton, W. Wakkinen, J. Hayden, P. Zager. 2007. Black bear habitat selection in relation to roads, timber harvest, and human development. International Bear Association meeting, Monterrey, Mexico (paper).

Lewis, J.S., J.L. Rachlow, J. Horne, W. Wakkinen, J. Hayden, P. Zager. 2007. Black bears and highways: identifying road crossing habitat characteristics to predict crossing areas. The Wildlife Society national meeting, Tucson, AZ (paper).

Lewis, J.S., J.L. Rachlow, E.O. Garton, L.A. Vierling. 2006. Effects of habitat on GPS collar performance: using data screening to reduce location error. The Wildlife Society national meeting, Anchorage, AK (poster).

Lewis, J.S., J.S. Horne, J.L. Rachlow. 2006. Bears and highways: identifying road crossing habitat characteristics using the Brownian bridge. The Wildlife Society Northwest Section annual meeting, Boise, ID (paper).

GRANTS

I. PENDING FUNDING

2022 – 2027 **Project title**: CAREER: The role of fire disturbance in driving top-down and bottom-up forces within plant and animal ecological communities.
Principle Investigator. Arizona State University.
Funder: National Science Foundation: CAREER
Amount: $874,089

II. FUNDED GRANTS

2021 **Project title**: Comparing wildlife occupancy and AZGFD public reporting data across the gradient of urbanization during the Covid-19 pandemic.
Principle Investigator. Arizona State University.
Funder: Arizona State University CAP LTER and the National Science Foundation (NSF) research experience for undergraduates (REU) research grant.
Amount: $4,000

2021 **Project title:** The effects of wildfire on wildlife populations and community interactions.
Principle Investigator. Arizona State University.
Funder: Arizona State University College of Integrative Sciences and Arts summer research award.
Amount: $5,000

2021 **Project title**: Comparing wildlife occupancy and AZGFD public reporting data across the gradient of urbanization during the Covid-19 pandemic.

Principle Investigator. Arizona State University.
Funder: Arizona State University CAP LTER Faculty summer research grant
Amount: $1,500

2021 – 2024 **Project title:** Elements: Spatial Ecology Gateway
Co-Principle Investigator. Arizona State University.
Funder: National Science Foundation: Cyberinfrastructure for Sustained Scientific Innovation (CSSI)
Amount: $600,000

2020 **Project title:** The effects of wildfire on wildlife populations and community interactions.
Principle Investigator. Arizona State University.
Funder: Arizona State University College of Integrative Sciences and Arts summer research award.
Amount: $5,000

2019 – 2022 **Project title**: Factors influencing wildlife use of canal crossing structures in Arizona.
Principle Investigator. Arizona State University.
Funder: US Bureau of Reclamation
Amount: $88,426

2019 – 2020 **Project title**: Implement methods to estimate United States feral swine population size, recovery rates after removal events, effects on wildlife populations and damage to cattle resources.
Principle Investigator. Arizona State University.
Funder: USDA cooperative agreement research grant.
Amount: $50,000

2019 **Project title**: The distribution, diversity, and abundance of scorpions in relation to urbanization and landscape characteristics across the CAP LTER study area.
Principle Investigator. Arizona State University.
Funder: Arizona State University CAP LTER Faculty summer research grant
Amount: $4,500

2019 **Project title**: The distribution, diversity, and abundance of scorpions in relation to urbanization and landscape characteristics across the CAP LTER study area.
Principle Investigator. Arizona State University.
Funder: Arizona State University CAP LTER and the National Science Foundation (NSF) research experience for undergraduates (REU) research grant.
Amount: $5,000

2019 **Project title**: The effects of wildfire on wildlife populations and community interactions.

Principle Investigator. Arizona State University.
Funder: Arizona State University College of Integrative Sciences and Arts summer research award.
Amount: $5,000

2018 – 2019 **Project title**: Implement methods to estimate United States feral swine population size and occupancy status, regional habitat and space use patterns.
Principle Investigator. Arizona State University.
Funder: USDA cooperative agreement research grant.
Amount: $116,003

2018 **Project title**: The effects of urbanization on mammal communities across the Phoenix Valley at CAP 200 survey locations.
Principle Investigator. Arizona State University.
Funder: Arizona State University CAP LTER Faculty summer research grant.
Amount: $4,500

2018 **Project title**: The effects of urbanization on species composition and activity patterns of the bat community across the Phoenix Valley.
Principle Investigator. Arizona State University.
Funder: Arizona State University CAP LTER and the National Science Foundation (NSF) research experience for undergraduates (REU) research grant.
Amount: $5,100

2018 **Project title**: The effects of wildfire on wildlife populations and community interactions.
Principle Investigator. Arizona State University.
Funder: Arizona State University College of Integrative Sciences and Arts summer research award.
Amount: $5,000

2018 – 2022 **Project title**: LTER: CAP IV – Investigating urban ecology and sustainability through the lens of urban ecological infrastructure
Co-Investigator. Arizona State University.
Funder: National Science Foundation (NSF) long term ecological research grant.
Amount: $4,507,998

2018 – 2020 **Project title**: Wildlife communities across the gradient of urbanization in the Phoenix Valley.
Principle Investigator. Arizona State University.
Funder: Urban Wildlife Information Network (UWIN) equipment support of wildlife cameras and supplies for research.
Amount: $8,000

2018 – 2020 **Project title**: Wildlife communities across the gradient of urbanization in the Phoenix Valley.
Principle Investigator. Arizona State University.
Funder: Arizona State University CAP LTER equipment support of wildlife cameras and supplies for research.
Amount: $5,000

2017 – 2018 **Project title**: Implement methods to estimate United States feral swine population size and occupancy status, regional habitat and space use patterns.
Principle Investigator. Arizona State University.
Funder: USDA cooperative agreement research grant.
Amount: $118,250

2014 **Project title**: Evaluating bobcat habitat selection in relation to relation to recreational activities.
Co-Investigator. Colorado State University.
Funder: Open Space and Mountain Parks for the City of Boulder, CO research grant.
Amount: $6,498

2013 **Project title**: Day and night recreational use of open space properties and effects on wildlife.
Co-Investigator. Colorado State University.
Funder: Open Space and Mountain Parks for the City of Boulder, CO, Research grant.
Amount: $4,568

2013 **Project title**: Day and night recreational use of open space properties and effects on wildlife.
Co-Investigator. Colorado State University.
Funder: Boulder County Parks and Open Space, Boulder, CO Research grant.
Amount: $4,610

2011 **Project title**: Human recreation effects on wildlife along the Front Range, Boulder, CO.
Co-Investigator. Colorado State University.
Funder: National Science Foundation (NSF) research experience for undergraduates (REU) research grant.
Amount: $7,500

2011 **Project title**: Dynamics in Relation to Urbanization and Human Activities on the Front Range.
Co-Investigator. Colorado State University.
Funder: Boulder County Parks and Open Space, Boulder, CO Research grant.
Amount: $8,780

TEACHING EXPERIENCE

I. INSTRUCTOR FOR COURSE

Introduction to Wildlife Management (ABS 274), undergraduate course, 4 credits.
Lead Instructor. Arizona State University, Mesa. Fall 2019, 2020, 2021.
Enrollment: 30 – 40 students

Wildlife Ecology (ABS 376), undergraduate course, 3 credits.
Lead Instructor. Arizona State University, Mesa. Spring 2018, 2019, 2020, 2021.
Enrollment: 15 – 25 students

Big Game Habitat Management (ABS 476), undergraduate course, 3 credits.
Lead Instructor. Arizona State University, Mesa. Fall 2017, 2018, 2019, 2020, 2021.
Enrollment: 20 – 30 students

Applied Population and Habitat Ecology (ABS 494/598), graduate/undergraduate course, 3 credits.
Lead Instructor. Arizona State University, Mesa. Spring 2019, 2020, 2021.
Enrollment: 5 - 15 students

Sampling Plant and Animal Populations (ABS 394), undergraduate course, 4 credits.
Co-lead Instructor. Arizona State University, Mesa. Fall 2018.
Enrollment: 10 students

Conservation Biology (FW 555), graduate course, 3 credits.
Co-Lead Instructor. Colorado State University, Fort Collins. Spring 2011.
Enrollment: 15 students

Landscape Ecology (RNGE 429), undergraduate course, 4 credits.
Lead Instructor. University of Idaho, Moscow. Spring 2008
Enrollment: 12 students

II. TEACHING ASSISTANT

Principles of Wildlife Management (FW 260), undergraduate course, 3 credits
Teaching Assistant. Colorado State University, Fort Collins. 2012, 2013, 2014.

Large Mammal Ecology and Conservation (FW 469), undergraduate course, 3 credits.
Teaching Assistant. Colorado State University, Fort Collins. 2013.

Wildlife Habitat Use and Management (FW 477), undergraduate course, 3 credits.
Teaching Assistant. Colorado State University, Fort Collins. 2012.

Advanced Wildlife Population Ecology (WLF 543), graduate course, 4 credits.

University of Idaho, Moscow. 2007.

Wildlife Population Ecology (WLF 448), undergraduate course, 4 credits.
University of Idaho, Moscow. 2007.

III. GUEST LECTURES

Wildlife Dynamics (ABS 555), graduate course.
Arizona State University, 2020, 2021.
Guest lecture on "Occupancy modeling in wildlife populations"

Wildlife Habitat Ecology (REWM 5830), graduate course.
University of Wyoming, Laramie, 2013.
Guest lecture on "Black bear highway crossings and bobcat population density"

Wildlife Data Collection and Analysis (FW 471), undergraduate course.
Colorado State University, Fort Collins, 2010, 2011, 2012, 2013, 2014, and 2016.
Guest lecture on "Introduction, estimation, and application of the home range in Wildlife Ecology"

Exploring Natural Resources (NR 101) and **Wildlife Ecology** (WLF 315), undergraduate courses.
University of Idaho, Moscow. NR 101: 2005, 2006 and WLF 315: 2006, 2007.
Guest lectures in labs about "Wildlife telemetry and animal capture in wildlife science"

ADVISING EXPERIENCE

I. GRADUATE ADVISOR

Current Students

2021 – 2024 Olivia Nguyen, M.S. student, Arizona State University.
Topic: Occupancy and activity patterns of wildlife populations in response to Covid-19 restrictions.

2020 – 2022 Mark Williamson, M.S. student, Arizona State University.
Topic: Wolf depredations in relation to time and space

2020 – 2023 Kaela Hamilton, M.S. student, Arizona State University.
Topic: Factors promoting wildlife use of overpass and underpass crossing structures along a major water canal system.

2019 – 2022 Brianna Russo, M.S. student, Arizona State University
Topic: Mule deer habitat selection in relation to vegetation, water, and urbanization in a desert ecosystem

2018 – 2023 Jeffrey Haight, PhD student, Arizona State University (co-advised with Dr. Sharon Hall).
Topic: Response of the wildlife community to the gradient of urbanization across local and broad scales.

Graduated Students

2018 – 2021 Jessica Dwyer, M.S. student, Arizona State University.
Topic: Biodiversity of bats across a gradient of urbanization in an arid ecosystem.

II. POST DOCTORAL ADVISOR

Current Post Docs

Finished Post Docs

2017 – 2020 Peter Schlichting, post doctoral researcher, Arizona State University.
Topic: Implement Methods to Estimate United States Feral Swine Population Size and Occupancy Status, Regional Habitat and Space Use Patterns.

III. MEMBER OF ACADEMIC GRADUATE COMMITTEE

Current Graduate Committees

2021 – 2023 Hayden Hutcherson, M.S. student, Arizona State University.
Topic: Bat ecology, physiology, and microhabitat selection during hibernation.

2021 – 2023 Annika Enloe, M.S. student, Arizona State University.
Topic: Environmental and social factors influencing rattlesnake removals and habitat use.

2020 – 2022 Aleigh Cocroft, M.S. student, Arizona State University.
Topic: Influence of income and ethnicity on wildlife in residential neighborhoods.

2020 – 2023 Leah White, M.S. student, New Mexico State University.
Topic: Influence of wildfire and forest management on large mammal distribution, habitat use, and co-occurrence in the Jemez Mountains of New Mexico.

2017 – 2022 Kate Weiss, PhD student, Arizona State University.
Topic: Socio-ecological drivers of mammalian community structure and function in urban drylands.

Graduate Committees of Former Students

2018 – 2019 Sam Baraoidan, M.S. student, University of Florida.
Topic: Coyote ecology and behavior on Florida rangelands.

2018 – 2019 Bradford Milbrandt, M.S. student, Arizona State University.
Topic: Bat use of different gate types at cave and mine entrances.

2017 – 2019 Cheyenne Herzog, M.S. student, Arizona State University.
Topic: Wildlife communities across native and invasive plant communities in Arizona.

2016 – 2018 Ben Teton, M.S. student, University of California – Santa Barbara.
Topic: Estimating wild pig abundance using naturally marked animals.

IV. UNDERGRADUATE RESEARCH ADVISOR

2021 – 2022 Olivia Nguyen, Director for Honors Project. Barrett Honor's College, Arizona State University. Project title: The effect of Covid-19 restrictions on human and wildlife activity across an urban gradient.

2021 – 2022 Olivia Nguyen, NSF Research Experience for Undergraduate (REU) program with CAP LTER. Project title: The effect of Covid-19 restrictions on human and wildlife activity across an urban gradient.

2019 - 2020 Ryan Faust, NSF Research Experience for Undergraduate (REU) program with CAP LTER. Project title: Urbanization influences population abundance and community composition of scorpion species across an ecological gradient.

2019 - 2020 Lena Mooney, Director for Honors Project. Barrett Honor's College, Arizona State University. Project title: Picture book for educators about wildlife conservation and human impacts on the environment.

2018 Jessie Dwyer, NSF Research Experience for Undergraduate (REU) program with CAP LTER. Project title: Bat communities across the gradient of urbanization.

2018, Fall Lena Mooney, Honors Contract. Barrett Honor's College, Arizona State University. Project title: Flash cards for educators of large mammal species in North America.

2018, Spring Lena Mooney, Honors Contract. Barrett Honor's College, Arizona State University. Project title: population density of wildlife populations.

2018, Spring Gabriela Garcia, Honors Contract. Barrett Honor's College, Arizona State University. Project title: population density of wildlife populations.

2014 – 2016 Rebecca Much, Senior Honors Undergraduate Student, Colorado State University. Co-advised with Dr. Kevin Crooks. Honors Thesis: An analysis of items carried in the mouths of carnivores.

2014 Sam Peterson, Senior Honors Undergraduate Student, Colorado State University. Co-advised with Dr. Kevin Crooks. Honors Thesis: After the floods: analysis of the impact of human recreation on wildlife activity at Bobcat Ridge Natural Area.

2014 Ian Smith, Senior Honors Undergraduate Student, Colorado State University. Co-advised with Dr. Kevin Crooks. Honors Thesis: Habitat fragmentation and corridors in the developing world: a jaguar case study.

2012 – 2013 Lauren Heck, Honors Undergraduate Research Scholar, Colorado State University. Co-advised with Dr. Kevin Crooks. Project: Evaluating human activities along recreation trails on the Front Range, CO.

2012 – 2013 Rachel Larson, Honors Undergraduate Research Scholar, Colorado State University. Co-adviser with Dr. Kevin Crooks. Project: Bobcat diet across a gradient of urbanization.

2012 John Foster, undergraduate, Colorado State University. Co-advised with Dr. Kevin Crooks. Independent research project: Frequency of cottontail rabbit photos from motion-activated cameras across three cover types.

2011 Nicole McDaniel, Senior Honors Undergraduate Student, Colorado State University. Co-advised with Dr. Kevin Crooks. Honors thesis: Comparisons of recreation in urban and rural natural areas in Colorado via remote cameras.

V. UNDERGRADUATE RESEARCH EXPERIENCE

2021 Experience in working with wildlife cameras and processing data on species identification in wildlife camera Microsoft Access database.
Undergraduate students: Savage Hess, Olivia, Nguyen, Zach Ziebarth

2020 Experience in working with wildlife cameras and processing data on species identification in wildlife camera Microsoft Access database.
Undergraduate students: Candace Briggs (UMA), Fedirchuk Grace (UMA), Rochelle Johnson (UMA), Emily Keister (ASU), Jeremy Price (UMA), Myka Steinbeisser (ASU), Zach Ziebarth (ASU)

2019 Experience in working with wildlife cameras and processing data on species identification in wildlife camera Microsoft Access database.
Undergraduate students: Rachel Livingston (ASU), Allison Meaney (ASU), Zac Snyder (ASU), Elizabeth Taylor (ASU), Zac White (ASU)

OUTREACH

I. PUBLIC PRESENTATIONS

Hamilton, K., T. Bommarito, and J.S. Lewis. 2021. Wildlife habitat connectivity across multiple scales: from the Phoenix Valley to the CAP canal. CAZCA White Tank Mountains regional connectivity Initiative Speaker Series—What's at stake: a Sonoran Desert legacy (invited presentation).

Lewis, J.S. 2020. Wildlife conservation across the gradient of urbanization. Pinal Partnership Open Space and Trails Committee (PPOSTC) meeting, Florence Community Center, Florence, AZ (invited presentation).

Lewis, J.S. 2020. Wildlife conservation across the gradient of urbanization. Superstition Area Land Trust (SALT) Speaker Series, Multigenerational Center, Apache Junction, AZ (invited presentation).

Lewis, J.S. 2020. Wildlife conservation across the gradient of urbanization. Central Arizona Conservation Alliance (CAZCA), Desert Botanical Garden, Phoenix, AZ (invited presentation).

Lewis, J.S. and K.R. Crooks. 2014. Influences of human recreation and urbanization on bobcat and puma populations. Parks and Open Space Advisory Committee, Boulder, CO (invited presentation).

Lewis, J.S. and K.R. Crooks. 2013. Bobcats, mountain lions, and black bears in Colorado: photos and videos from motion-activated cameras. Student Wildlife Society Meeting, Fort Collins, CO (invited presentation).

Lewis, J.S. and K.R. Crooks. 2012. Felids on the Front Range: effects of urbanization on movements, behavior, and pathogens. Boulder City Mountain Parks and Open Space Council, Boulder, CO (invited presentation).

Lewis, J.S. and K.R. Crooks. 2012. Felids on the Front Range: effects of urbanization on movements, behavior, and pathogens. Parks and Open Space Advisory Committee, Boulder, CO (invited presentation).

Lewis, J.S. and K.R. Crooks. 2011. Felids on the Front Range: effects of urbanization on movements, behavior, and pathogens. Boulder County Parks and Open Space research seminar, Boulder, CO (invited presentation).

Lewis, J.S. and K.R. Crooks. 2010. Bobcats in Colorado: Interactions of sympatric felids in relation to urbanization. Boulder County Commissioners Public Meeting, Boulder, CO (invited presentation).

Lewis, J.S. and K.R. Crooks. 2009. Interactions of sympatric felids in relation to urbanization. Ridgway, CO (invited presentation).

Lewis, J.S., J.L. Rachlow, J. Horne, W. Wakkinen, J. Hayden, P. Zager. 2007. Black bears of the Purcell Mountains. Good Grief, Idaho (invited presentation).

II. MEDIA COVERAGE

Silverman, Amy. 4 March 2021. A field guide to Phoenix Wildlife. Phoenix Magazine (Magazine article: https://www.phoenixmag.com/2021/03/04/a-field-guide-to-phoenix-wildlife/).

Gerst, Sidney. 25 September 2020. Wildlife friendly cities in the face of Covid-19. NSF LTER Network Stories (Online article: https://lternet.edu/stories/wildlife-friendly-cities-in-the-face-of-covid-19/)

Tucker, Mike. 16 January 2012. CSU researcher finds unusual behavior in Colorado bobcats. CBS Denver Evening News (Television news story and on-line article).

Snider, Laura. 15 January 2012. CSU research tracks Boulder-area bobcats on long-distance journeys. Boulder Daily Camera (Newspaper article).

Price, Deborah. 10 November 2011. Bobcats have a home in Colorado. Reporter-Herald (Newspaper article).

Chesnutt, Jack. 26 January 2011. Critter cams capture wildlife. NBC Nightly News (On-line video news story).

Schepman, Doug. 4 January 2011. Critter cams capture Boulder wildlife: cameras spot bobcats, mountain lions, more. ABC 7 News (Television news story and on-line article).

Snider, Laura. 3 January 2011. Cameras give rare view of wildlife in Boulder County. Denver Post (Newspaper article).

Day, Paul. 3 January 2011. Camera gives rare look at wildlife in foothills. CBS Channel 4 News Denver (Television news story and on-line article).

Snider, Laura. 2 January 2011. Critter cams capture menagerie of Boulder County wildlife. Boulder Daily Camera (Newspaper article).

Snider, Laura. 24 May 2010. CSU researcher plans Boulder bobcat study. Boulder Daily Camera (Newspaper article).

Coulter, Sara. 3 June 2009. Bobcat's survival skills the topic of next living with wildlife public meeting. The Watch (Newspaper article).

III. PUBLIC EDUCATION AND SERVICE

- Worked with 6th graders at Boltz Middle School (Fort Collins, CO) in both field and classroom settings to provide field experience through maintaining grids of motion-activated cameras on trails at Pineridge Open Space property and learn about wildlife ecology, 2012 – 2013.

PROFESSIONAL ACTIVITIES

I. PEER REVIEWER

- **Reviewed manuscripts for** Acta Theriologica, Animal Conservation, Behavioral Ecology, Biology, Biodiversity and Conservation, Biological Conservation, Biological Invasions, Canadian Journal of Zoology, Conservation Biology, Ecography, Ecological Applications, Ecology, Ecology and Evolution, Ecoscience, Ecosphere, Environmental Monitoring and Assessment, Evolutionary Applications, Frontiers in Ecology and the Environment, Global Ecology and Conservation, Human-Wildlife Interactions, International Journal of Tropical Biology, Journal of Animal Ecology, Journal of Applied Ecology, Journal of Mammalogy, Journal of Wildlife Management, Landscape Ecology, Landscape and Urban Planning, Mammal Research, Movement Ecology, PeerJ, PlosOne, Prairie Naturalist, Preventative Veterinary Medicine, Royal Society Open Science, Scientific Reports, Western North American Naturalist, Wildlife Society Bulletin, Urban Ecosystems, Ursus

- **Reviewed abstracts** for the Society for Conservation Biology conference in Denver, CO, USA, 2020.

- **Reviewed abstracts** for the Society for Conservation Biology conference in Toronto, Ontario, Canada, 2018.

- **Reviewed abstracts** for the Society for Conservation Biology conference in Madison, WI, USA, 2016.

II. PROFESSIONAL MEMBERSHIP

- Association for Fire Ecology
- Ecological Society of America
- International Bear Association
- North American Society for Bat Research
- Society for Conservation Biology
- Wild Felid Association
- The Wildlife Society