Erica F. Stuber

Assistant Unit Leader & Assistant Professor
USGS Utah Cooperative Fish and Wildlife Research Unit
Department of Wildland Resources
Utah State University, Logan, UT 84322
Email: erica.stuber@usu.edu

EDUCATION

2015 Max Planck Institute for Ornithology; Ludwig-Maximilians University of Munich
PhD in Organismal Biology (magna cum laude)
2011 Interdepartmental Graduate Program in Ecology; Penn State University
M.S. in Ecology. GPA: 3.94 /4
2009 Penn State University
B.S. Wildlife and Fisheries Science; *Minor: Biology.* GPA: 3.63 /4

PROFESSIONAL APPOINTMENTS

Assistant Unit Leader (01/2021-present), USGS Cooperative Fish and Wildlife Research Unit, Utah State University
Research Associate (10/2019-12/2020), Cornell University, Cornell Lab of Ornithology
Research Associate (09/2018-10/2019), Yale University, Max Planck – Yale Center for Biodiversity Movement and Global Change
Research Assistant Professor (05/2016-09/2018), University of Nebraska-Lincoln, School of Natural Resources
Spatial Ecology Postdoctoral Research Associate (09/2015-5/2016), University of Nebraska-Lincoln, School of Natural Resources

PhD Research Fellow (2011-2015), Max Planck Institute for Ornithology, Dept. Behavioral Ecology and Evolutionary Genetics
Mentors: Jakob Mueller, Bart Kempenaers, Niels Dingemanse
Dissertation: *Phenotypic, environmental, and genetic variation as sources of intraspecific differences in behavioral sleep in wild great tits (Parus major)*
Graduate Research Assistant (2009- 2011). Penn State University; Dept. of Poultry Science
Mentor: Paul Bartell
Thesis: *Fat and migration: relationship between seasonal regulation of Adipokines and behavior*

PUBLICATIONS

designates student mentee

<u>In-review</u>

Van Tatenhove, A.*, C. Rushing, and **E.F. Stuber**. Realized environmental niche varies by biological level in a broadly distributed migratory waterbird species. *Ornithology – In Review*

Landry, S.*, **E.F. Stuber**, S. Espinosa, and D. Dahlgren. Population-scale breeding surveys and density of dusky grouse in Nevada's Great Basin Sky Islands, USA. *Wildlife Biology – In Review*

Landry, S.*, B. Smith, **E.F. Stuber**, S. Espinosa, and D. Dahlgren. Dusky grouse seasonal resource selection in Great Basin isolated mountain ranges of Nevada, USA. *Wildlife Biology – In Review*

2025

Gould, E., H. Fraser, T. Parker, S. Nakagawa, S. Griffith, P. Vesk, F. Fidler … **E. Stuber**… et al. 2025. Same data, different analysts: variation in effect sizes due to analytical decisions in ecology and evolutionary biology. *BMC Biology - Registered Report –**23**, 35* *https://doi.org/10.1186/s12915-024-02101-x*

C. Roberts., A. Ludwig, D. Fogarty, **E. Stuber**, D. Uden, T. Walker, D. Twidwell. 2025. Population increases of the threatened American burying beetle (Nicrophorus americanus) linked to large-scale collaborations in a working lands ecoregion. *Biological Conservation* – 301:110865

2024

N.A. Pershyn*, E.M. Gese, **E. Stuber**, and B.M. Kluever. 2024. Coyotes in the Great Basin Desert Do Not Exhibit a Spatial Response Following Removal of Anthropogenic Water Sources. *Journal of Arid Environments* – 220:105097

N.A. Pershyn*, E.M. Gese, **E. Stuber**, and B.M. Kluever. 2024. Kit Foxes demonstrate characteristics of safety and resource matching under intraguild predation pressure by Coyotes in the Great Basin Desert. *Scientific Reports* 14(1), 14446

Van Tatenhove, A.*, J. Neill, R. Norvell, **E. Stuber**, and C. Rushing. 2024. Scale-dependent population drivers inform avian management in a declining saline lake ecosystem. *Ecological Applications – 34(7): e3021. https://doi.org/10.1002/eap.3021*

2023

Stillman, A., P. Howell, G. Zimmerman, E. Bjerre, B. Millsap, O. Robinson, D. Fink, **E. Stuber**, and V. Ruiz-Gutierrez. Leveraging the strengths of citizen science and structured surveys to achieve scalable inference on population size. *Journal of Applied Ecology* – 60(11): 2389-2399

2022

Stuber, E, O. Robinson, E.R. Bjerre, M.C. Otto, B.A. Millsap, G.S. Zimmerman, M. G. Brasher, K. M. Ringelman, A.M.V. Fournier, A. Yetter, J.E. Isola, V. Ruiz-Gutierrez. (2022) The potential of semi-structured citizen science data as a supplement for conservation decision-making: Validating the performance of eBird against targeted avian monitoring efforts. *Biological Conservation* – 270: 109556

Stuber, E., B. Carlson*, and B. Jesmer. (2022) Spatial Personalities: a meta-analysis of consistent individual differences in spatial behavior. *Behavioral Ecology* – 33(3): 477-86 Invited Review - https://doi.org/10.1093/beheco/arab147

Stuber, E, B. Carlson*, and B. Jesmer. (2022) Many avenues for spatial personality research: a response to comments on Stuber et al. 2022. *Behavioral Ecology* – 33(3): 492-3 https://doi.org/10.1093/beheco/arac018.

Chambers, S., M. L. Villarreal, O. Duane, S. M. Munson, **E. Stuber**, G. Tyreef, E. K. Waller, and M.C. Duniway. Conflict of Energies: Mapping Mule Deer's Caloric Expenditure in Response to Oil and Gas Development. *Landscape Ecology 37(11): 2947-2961*

O. Robinson, J. Socolar, **E. Stuber**, T. Auer, A. Berryman, P. H. Boersch-Supan, D. Brightsmith, A. Burbidge, S. Butchart, C. L. Davis, A. M. Dokter, A. S. Di Giacomo, A. Farnsworth, D. Fink, W. M. Hochachka, P. E. Howell, F. A. La Sorte, A. C. Lees, S. Marsden, R. Martin, R. O. Martin, J. F. Masello, E. T. Miller, Y. Moodley, A. Musgrove, D. Noble, V. Ojeda, P. Quillfeldt, J. A. Royle, V. Ruiz-Gutierrez, J. L. Tella, P. Yorio, C. Youngflesh, A. Johnston. (2022) Extreme uncertainty and unquantifiable bias do not inform population sizes. *Proceedings of the National Academy of Sciences* 119(10): e2113862119

Simonsen, V.*, **E. Stuber**, and J.J. Fontaine. (2022) Examining the effects of patch size and nest density on artificial nest survival. *The Wilson Journal of Ornithology* - 134(2): 182–192

2021

Corral, L.*, **E. Stuber**, T. Frink, A. Bishop, and J.J. Fontaine. Can scale-dependent land cover relationships explain canid community composition independent of intraguild occupancy? *Landscape Ecology* – 37:249–266. https://doi.org/10.1007/s10980-021-01350-3

Mirochnitchenko, N.*, **E. Stuber**, and J.J. Fontaine. (2021) Biodiversity scale-dependence, and opposing multi-level covariance lead to mismatches among taxonomic, phylogenetic, and functional diversity. *Journal of Biogeography* – 48:2989– 3003. https://doi.org/10.1111/jbi.14248

Van Doren, B.M., D.E. Willard, M. Hennen, K.G. Horton, **E. Stuber**, D. Sheldon, A.H. Sivakumar, J. Wang, A. Farnsworth, and B.M. Winger. (2021) Drivers of fatal bird collisions in an urban center. *Proceedings of the National Academy of Sciences*, 118(24).

Ruiz-Gutierrez, V., E. Bjerre, M. Otto, G. Zimmerman, B. Millsap, D. Fink, **E. Stuber,** M. Strimas-Mackey, and O. Robinson. (2021) A pathway for citizen-science data to inform policy: a case study using eBird data for defining low-risk collision areas for wind energy development. *Journal of Applied Ecology* – 58:1104– 1111. https://doi.org/10.1111/1365-2664.13870

2020

Stuber, E., and L. Gruber. (2020) Recent methodological solutions to identifying scales of effect in multi-scale modelling. *Current Landscape Ecology Reports* Invited Review 5:127-139

Wszola, L.*, L. Gruber, **E. Stuber**, L. Messinger*, C. Chizinski, and J.J. Fontaine. (2020) Use and expenditures on public access hunting lands. *J. Outdoor Recreation and Tourism* 29:100256-100269

Wszola, L.*, A. Madsen*, **E. Stuber**, C. Chizinski, J. Lusk, J. Taylor, K. Pope, and J.J. Fontaine. (2020) Public access for pheasant hunters: understanding an emerging need. *J. Wildlife Management* – 84: 45-55. https://doi.org/10.1002/jwmg.21785

2019

Stuber, E., and J.J. Fontaine. (2019) How characteristic is the species characteristic selection scale? *Global Ecology and Biogeography* – 28:1839-1854 DOI: 10.1111/geb.12998

Messinger, L.*, **E. Stuber**, C.J. Chizinski, and J.J. Fontaine. (2019) Mortality, perception, and scale: understanding how predation shapes space use in a wild prey population. *PLoS One* 14(9) DOI: 10.1371/journal.pone.0222272

Fontaine, J.J., A. Fedele, L. Wszola*, L. Messinger*, J. Lusk, K. Decker, J. Taylor, and **E. Stuber**. (2019) Hunters and their perceptions of public access: a view from afield. *J. Fish and Wildlife Management* 10:589-601 DOI: 10.3996/082018-JFWM-077

Wszola, L.*, **E. Stuber**, C. Chizinski, J. Lusk, and J.J. Fontaine. (2019) Prey availability and accessibility drive hunter movement. *J. Wildlife Biology* 2019(1) DOI: 10.2981/wlb.00526

Gruber, L., **E. Stuber**, L. Wszola*, and J.J. Fontaine. (2019) Estimating the Use of Public Lands: Integrated Modeling of Open Populations with Convolution Likelihood Ecological Abundance Regression. *Bayesian Analysis* 14:1173-1199 DOI: 10.1214/19-BA1152.

2018

Stuber, E., L. Gruber, and J.J. Fontaine. (2018) Predicting species-habitat relationships: Does body size matter? *Landscape Ecology* 33:1049-1060 DOI: 10.1007/s10980-018-0648-6.

Stuber, E., and J.J. Fontaine. (2018) Ecological neighborhoods as a framework for umbrella species selection. *Biological Conservation* 223:112-119 DOI: 10.1016/j.biocon.2018.04.026.

Abbey-Lee, R., Y. Araya-Ajoy, A. Mouchet, **E. Stuber**, B. Kempenaers, and N. Dingemanse. (2018) Does perceived predation risk affect patterns of extra-pair paternity? A field experiment in a passerine bird. *Functional Ecology* 32:1001-1010 DOI: 10.1111/1365-2435.13052.

2017

Stuber, E., L. Gruber, and J.J. Fontaine. (2017) A Bayesian method for assessing multiscale species-habitat relationships. *Landscape Ecology* 32:2365-2381 DOI: 10.1007/s10980-017-0575-y.

Wszola, L.S.*, V. Simonsen*, **E. Stuber**, C. Gillespie, L.N. Messinger*, K.L. Decker, J.J. Lusk, C.F. Jorgensen, A.A. Bishop, and J.J. Fontaine. (2017) Translating statistical wildlife-habitat models to interactive decision support tools. *PLoS ONE* 12(12) DOI: 10.1371/journal.pone.0188244.

Stuber, E., N. Dingemanse, and J.C. Mueller. (2017) Temperature increase affects frequency but not rhythmicity of nocturnal awakenings in free-living great tits. *Animal Behaviour* 128:135-141 DOI: 10.1016/j.anbehav.2017.03.004.

Fontaine, J.J., C.F. Jorgensen, **E. Stuber,** L.F. Gruber, A. Bishop, J.J. Lusk, E. Zach, and K.L. Decker. (2017) Species distribution models in wildlife planning: agricultural policy and wildlife management in the Great Plains. *Wildlife Society Bulletin* 41:194-204 DOI: 10.1002/wsb.763.

Zink, B., and **E. Stuber**. (2017) No relationship between brain size and risk of being shot in hunted birds: a response to Møller and Erritzøe (2016). Biology Letters 13:20160946 DOI: 10.1098/rsbl.2016.0946.

2016

Stuber, E., N. Dingemanse, B. Kempenaers, and J. C. Mueller. (2016) Genetic correlates of individual differences in sleep behavior of free-living great tits (*Parus major*). *G3 Genes | Genomes | Genetics* 6:599-607 DOI: 10.1534/g3.115.024216.

2015

Stuber, E., K. J. Mathot, B. Kempenaers, N. Dingemanse, and J. C. Mueller. (2015) Sex-specific association between sleep and basal metabolic rate in great tits. *Animal Behaviour* 109:15-22 DOI: 10.1016/j.anbehav.2015.08.004.

Stuber, E., N. Dingemanse, B. Kempenaers, and J. C. Mueller. (2015) Sources of intraspecific variation in sleep behaviour of wild great tits (*Parus major*). *Animal Behaviour* 106:201-221 DOI: 10.1016/j.anbehav.2015.05.025.

2014

Stuber, E., M. Grobis*****, R. Abbey-Lee, B. Kempenaers, J. C. Mueller, and N. Dingemanse. (2014) Perceived predation risk affects sleep behaviour in free-living great tits (*Parus major*). *Animal Behaviour* 98:157-165 DOI: 10.1016/j.anbehav.2014.10.010.

2013

Stuber, E. Y. Araya-Ajoy, K. Mathot, A. Mutzel, M. Nicolaus, J. Wijmenga, J. Mueller, and N. Dingemanse. (2013) Slow explorers take less risk: a problem of sampling bias in ecological studies. *Behavioral Ecology* 24:1092-1098 DOI: 10.1093/beheco/art035.

Stuber, E., and P. Bartell. (2013) Seasonal differences in behavior patterns of the migratory white-throated sparrow. *J. Ethology* 31:151–158 DOI: 10.1007/s10164-013-0361-5.

Stuber, E., J. Verpeut*****, M. Horvat-Gordon, R. Ramachandran, and P. Bartell. (2013) Differential Regulation of Adipokines May Influence Migratory Behavior in the White-throated Sparrow (*Zonotrichia albicolis*). *PLoS One* 8 DOI: 10.1371/journal.pone.0059097

Book Chapters:

Stuber, E., C. Chizinski, J. Lusk, and J.J. Fontaine. (2019) Multivariate Models and Analyses. Book Chapter In: *Quantitative Analyses in Wildlife Science*, eds.: Marcot, B., A. Tri, and L. Brennan. Johns Hopkins University Press.

Data Publications:

Van Tatenhove, A.M., **Stuber, E.**, Neill, J., Norvell, R., and Rushing, C. (2024) Colony counts and environmental covariates of the American white pelican colony on Gunnison Island, UT, USA: U.S. Geological Survey data release, https://doi.org/10.5066/P9T41I3X. Data from: Scale-dependent population drivers inform avian management in a declining saline lake ecosystem.

Stillman, A., P. Howell, G. Zimmerman, E. Bjerre, B. Millsap, O. Robinson, D. Fink, **E. Stuber**, and V. Ruiz-Gutierrez. 2023. Software and Data from: Leveraging the strengths of citizen science and structured surveys to achieve scalable inference on population size. Version 1.0.0: U.S. Geological Survey software release. Reston, Va. https://doi.org/10.5066/P9LY5F6R and Dryad https://doi.org/10.5061/dryad.dfn2z357x

Stuber, E, B. Carlson*, and B. Jesmer. (2021) Data from: Spatial Personalities: a meta-analysis of consistent individual differences in spatial behavior. *Dryad*, Dataset doi:10.5061/dryad.pc866t1pw

Mirochnitchenko, N*, **E. Stuber**, and J Fontaine. (2021) Data from: Biodiversity scale-dependence and opposing multi-level correlations underlie differences among taxonomic, phylogenetic, and functional diversity, *Dryad*, Dataset, https://doi.org/10.5061/dryad.bg79cnpbb

TEACHING AND LEADERSHIP EXPERIENCE

Utah State University, Wildland Resources Department

Landscape Ecology (WILD 6710) (Instructor of Record) Fall 2022-present

3cr. lecture/lab – Designed and taught graduate course emphasizing causes and consequences of spatial patterns on focal organisms and processes. Includes lecture, discussion, and practical sessions, culminates in student-driven inquiry-based project.

Yale University, Ecology and Evolutionary Biology Department

Global Biodiversity Change Research (EEB 713) (Co-Instructor) Spring 2019

1cr. lecture/lab – Designed and co-taught an undergraduate/graduate computer lab based course familiarizing students with new technologies, data, methods, and conceptual advances in global biodiversity research.

University of Nebraska – Lincoln, School of Natural Resources

Natural Resources Diversity Initiative Leadership Team member (1/2018-9/2018)

Initiated University group to support and enhance diversity and inclusion in the field of natural resources; developed mission statement and objectives, brainstormed and organized workshops and events.

Spatial Ecology in R (NRES 898) (Instructor of Record) Summer 2017

3cr. lecture/lab – Designed and taught a graduate course emphasizing fundamental theories of spatial ecology, spatial modelling in R with R as a GIS, and application of spatial ecology theory to current environmental problems.

Trends in Ecological Applications (NRES 898) (Co-Instructor) Fall & Spring 2015-2018

2cr. seminar – Graduate course to develop and communicate research programs.

Readings in Ecology (NRES 898) (Co-Instructor) Fall & Spring 2015-2018
1cr. seminar – Graduate seminar course contrasting current and historical ecological readings. Semester length topics included: Behavioral Ecology, Game Theory

Field crew supervisor. 2016-2018. University of Nebraska-Lincoln
Hiring field technicians, implementing training, and coordinating logistics and data collection for Nebraska statewide avian population monitoring program.

Workshops
Mobilizing Museum Collections and Citizen Science Data to Predict Species Distributions (Instructor) Summer 2019 - Yale University
Half-day workshop – Integrated Digitized Biocollections (iDigBio) Digital Data Conference

AniMove (Co-organizer) Summer 2019 - Yale University

STUDENT & POSTDOC ADVISING

Postdoctoral Scholars:
Dr. Binod Borah (USU, 2024-present)

Major advisor (current):
Jack Rasmussen (PhD USU, Ecology, 2021-present)
Mallory Lambert (PhD USU, Ecology, 2023-present)
Trischa Thorne (MNR USU, 2022-present)
Kyle Christensen (MNR USU, 2022-present)
Dallon Christensen (MNR USU, 2022-present)

Major advisor (graduated):
Aimee Van Tatenhove (PhD USU, Ecology, 2021-2024)
Stephanie Landry (PhD USU, Ecology, 2023)
Amanda Hayes-Puttfarcken (MS USU, Wildlife Biology, 2021-2024)
Jaylin Solberg (MS USU, Ecology, 2021-2023)
Nadejda Mirochnitchenko (MS UNL, Natural Resource Science, 2016-2018, co-chair)

Committee member (current):
Tom Doolittle (MS USU WATS, 2024-present)
Sharon Montecino (MS USU WILD, 2024-present)
Austin Garner (MS USU WATS, 2024-present)
Lori McCurdy (MS USU WILD, 2024-present)
Lane Arthur (MS USU ENVS, 2024-present)
Sierra Pederson (MS USU WILD, 2024-present)
Sebastian Schreiber-Pan (PhD USU WILD, 2023-present)
Ruger Carter (PhD USU WILD, 2023-present)
Neville Taraporevala (MS USU WILD, 2022-present)
Syrena Silva (MNR USU, 2022-present)

Erika Blomdal (PhD USU WILD, 2021-present)
Emily Jencso (MS OSU, 2021-present)

Committee member (graduated):

Kaeli Mueller (MS USU, Geography, 2021-2022)
Nadine Pershyn (MS USU, Ecology, 2021-2023)
Christine Sandbach (MS USU, Ecology, 2021-2023)
Christine Ruskamp (MS UNL, Natural Resource Science, 2016-2018)

Undergraduate Student Mentoring (current)

Stephen Bunnell (BS, USU, 2024-present)
Eliza Wesemann (BS, USU, 2023-present)

Student Mentoring (past)

Alexander Hutfluss (BS, Honors Thesis Max Planck Institute for Ornithology, 2014)
Veronica Gomez-Pourroy (MS, Erasmus Mundus Program Max Planck Institute for Ornithology, 2013)
Miya Pan (MS, Erasmus Mundus Program Max Planck Institute for Ornithology, 2013)
Amanda Navas Faria (MS, Research Rotation Max Planck Institute for Ornithology, 2012)
Matt Grobis (post-BS, Fulbright Scholar Max Planck Institute for Ornithology, 2012-2013)
Alexandra Herestofa (BS, Penn State, 2009-2011)
Jessica Verpeut (BS, Penn State, 2009-2011)

GUEST LECTURES

"Bayesian latent indicator scale selection for multi-scale analyses" in *Stats Hour* (EEB 697). Department of Biological Sciences, Boise State University. Fall 2023.

“Big Data Citizen Science for Ecology” in *Ecology of our Changing World* (WILD 2200). Wildland Resources Department, Utah State University. Fall 2021

“Hierarchical Occupancy Modeling” in *R Coding Club*. Cornell Lab of Ornithology, Cornell University. Fall 2019

“Vocal Communication” in *Avian Biology* (BIOS 475/875). School of Biological Sciences, University of Nebraska-Lincoln. Spring 2018

“An introduction to behavioral ecology” in *Applied Ecology Graduate Seminar* (NRES 891). School of Natural Resources, University of Nebraska-Lincoln. Fall 2017

“Bayesian inference in ecological research” in *Analytics in R* (NRES 891). School of Natural Resources, University of Nebraska-Lincoln. Spring 2016

GRANTS

Total External funds to USU as PI: $1,238,000

Submission Year

2024

Stuber, E. (*PI*). Research Grant. 2024-2029. CAREER: Defining drivers and scaling algorithms for multi-scale species-environment relationships. The National Science Foundation – (total to USU: $600,000)

Stuber, E. (*PI*). Research Grant. 2024-2026. The impact of Utah's Watershed Restoration Initiative projects on seasonal space use and migration patterns of Mule Deer across Utah. USU Agricultural Experiment Station, Public Lands Initiative (total to USU: $37,180)

T.J. Clark-Wolf, and **Stuber, E.** (*Co-PI*). Research Grant. 2024-2026. Shifting frontiers: understanding species' abundance range shifts for informed conservation strategies. The U.S. Geological Survey Climate Adaptation Program – (total to USU: $310,019)

T.J. Clark-Wolf, Dahlgren, D, and **Stuber, E.** (*Co-PI*). Research Contract. 2025-2028. Evaluating drivers of Great Salt Lake waterbird populations to facilitate future management strategies. The Utah Division of Wildlife Resources – (total to USU: $371,409.49)

2023

Stuber, E. (*PI*). Non-Assistance Cooperative Agreement. 2023-2024. Curation, Digitization, and Databasing of Bee Specimens in the US National Pollinating Insects Collection. U.S. Department of Agriculture- Agricultural Research Service – (total to USU: $86,637)

2022

Stuber, E. (*PI*). Research Grant. 2022-2024. Implementation of Utah's White-nose Syndrome Protocol and Expansion of NABat. Utah Division of Wildlife Resources – (total to USU: $65,000)

Stuber, E. (*PI*). Research Contract. 2022-2024. Education and training in the proper Application of Species Distribution Models to the Management and Conservation of Plant and Animal Species. U.S. Geological Survey – (total to USU: $21,000)

Stuber, E. (*PI*) and Avgar, T.. Research Contract. 2022-2025. Understanding and mapping mule deer migration across Utah. Utah Division of Wildlife Resources (total to USU: $111,187)

2021

Stuber, E. (*PI*), J. Koch (Co-PI), R. Hatfield, J. Sauder. Research Contract. 2021-2023. Investigating habitat associations of native bumble bees to inform and direct conservation actions in Idaho, Oregon, and Washington. Idaho Department of Fish and Game (total to USU: $90,073)

Stuber, E. (*PI*), K. Hersey, D. Summers. Research Contract. 2021-2024. Identifying "Good Neighborhoods" for Watershed Restoration Initiative Treatments for Mule Deer. Utah Division of Wildlife Resources (total to USU: $97,388)

Stuber, E. (*PI*), K. Hersey, D. Summers. Research Contract. 2021-2024. Watershed Restoration Initiative Treatment Effects on Mule Deer Space Use in Utah. Utah Division of Wildlife Resources (total to USU: $97,388)

Stuber, E. (*PI*). Grant. 2021-2023. Comprehensive analysis of 5-year Utah Integrated Monitoring of Bird Conservation Regions dataset for land management partners. USU Agricultural Experiment Station, Public Lands Initiative (total to USU: $33,700)

Stuber, E. (*PI*), R. Norvell. Research Contract. 2021-2022. Comprehensive analysis of 5-year Utah Integrated Monitoring of Bird Conservation Regions dataset for land management partners. Utah Endangered Species Mitigation Fund (total to USU: $50,000)

Stuber, E. (*PI*). Research Work Order. 2021-2022. Chronic Wasting Disease in Utah – development of a risk based CWD surveillance system with updates for the statewide CWD management plan. U.S. Fish and Wildlife Service (total to USU: $19,360)

2018

Rushing, C., and **E. Stuber.** (*Co-PI*). Fritz Knopf Doctoral Fellowship Award. 2019-2023. Demography, Movement, and Population Dynamics of White Pelicans on the Great Salt Lake. Utah State University (total to USU: $133,000)

2017

Stuber, E. (*PI*), K. Decker, G. Steinauer, J.J. Fontaine. Research Contract. 2017-2018. Ecological Systems Mapping for Habitat Assessment and Species Conservation. US Fish and Wildlife Service ($48,000)

Fontaine, J.J., **E. Stuber** (*Co-PI*). 2017-2019. Consequences of multiscale habitat decisions on survival and reproduction in pheasants. Nebraska Game and Parks Commission ($1,173,818)

2016

Fontaine, J.J., **E. Stuber** (*Co-PI*). 2016-2018. Use and satisfaction of public hunting opportunities. Nebraska Game and Parks Commission ($700,157)

2012

Research Grant. 2012. Max Planck Institute for Ornithology. (€5,000)

2008

Undergraduate Research Grant. Fall 2008. Spring 2009. Penn State University College of Agricultural Sciences ($8,000)

FELLOWSHIPS, AND AWARDS

Faculty Competitive Travel Award. 2018. Institute of Agriculture and Natural Resources. University of Nebraska-Lincoln. ($800)

Travel Award. 2013-2014. Max Planck Institute for Ornithology IMPRS. (€3,000)

Best Student Paper Award. 2013. Max Planck Institute for Ornithology IMPRS. (€200)

Max Planck Society Doctoral Research Fellowship. 2011-2015. Max Planck Institute for Ornithology (€84,000)

Graduate Student Travel Award. 2010. Penn State University Department of Poultry Science. University Park, PA. ($500)

Graduate Research Assistantship. 2009-2011. Penn State University. University Park, PA ($48,000)

Ferguson-Cope Scholarship. 2008-2009. Merit-based: academic achievement, character, and professional promise. Penn State University. University Park, PA

Third Place Gamma Sigma Delta College of Agricultural Sciences Research Expo. 2009. Penn State University. University Park, PA

Academic Achievement Award. 2006-2007. Organic Chemistry. Penn State University. Berks, PA
Dean's List 2006-2009. Penn State University. Berks and University Park, PA

MANAGEMENT DECISION SUPPORT

Stuber, E.F., E. Bjerre, B. Millsap, M. Otto, O. Robinson, V. Ruiz-Gutierrez, and G. Zimmerman. Part 2: Methods for integrating eBird relative abundance data with population size data to produce spatially explicit estimates of eagle density. In: U.S. Fish and Wildlife Service. 2020. Final Report: Bald Eagle Population Size: 2020 Update. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Washington, D.C. U.S.A. <*https://www.federalregister.gov/d/2022-02040*> & < https://www.fws.gov/sites/default/files/documents/2020-bald-eagle-population-size-report.pdf>

Wszola, L., C. Gillespie, **E. Stuber,** L. Messinger, L. Corral, V. Simonsen, J. Fontaine. 2016. Pheasant Habitat Simulator. Shiny App. < *https://pheasant.shinyapps.io/pheasanthabitatsimulator/* >

PRESENTATIONS

Invited:

2024

Stuber, E., R. Norvell, and L. Gruber. Oct. 2024. Integrating IMBCR and semi-structured eBird data to improve distribution modeling for under-sampled species, and species of conservation concern. *The American Ornithological Society* Annual Meeting; Symposium: Collaborative sampling and analysis to inform avian conservation across scales. Estes Park, CO.

Stuber, E., R. Norvell, and L. Gruber. Jan. 2024. Integrating IMBCR's time-removal surveys, and eBird's continuous-time analog to improve population estimates: a case study in Utah. *The Bird Conservancy of the Rockies Integrated Monitoring of Bird Conservation Regions* Annual Winter Meeting. Fort Collins, CO.

2023

Stuber, E. Nov. 2023. "The 'evolution' of multi-scale studies in ecology: organism-environment relationships in the remote-sensing age" *Department of Biological Sciences Seminar Series*. Boise State University, Boise, ID, USA.

Van Tatenhove, A.M.*, **Stuber, E.**, and C.S. Rushing. October 2023. "Modeling survival and connectivity of a migratory waterbird in a continuous-time framework" *The Waterbird Society Annual Meeting*, Fort Lauderdale, FL, USA.

Rasmussen, J.*, and **E. Stuber.** August 2023. "Effects of restoration on Mule deer space in Utah" *Nevada Mule Deer Summit*. Winnemucka, NV, USA.

2022

Stuber, E., O. Robinson, E. R. Bjerre, M. C. Otto, B. A. Millsap, G. S. Zimmerman, and V. Ruiz-Gutierrez. June 2022. The potential of semi-structured citizen science data as a supplement for

conservation decision-making: Validating the performance of eBird against targeted avian monitoring efforts. *Joint Meeting of the American Ornithological Society & BirdsCaribbean:* Symposium: Using citizen-science data to inform policy and increase resilience of bird populations across the Western Hemisphere. Puerto Rico, USA.

Stuber, E. March 2022. "Citizen Science has the potential to transform research, conservation, and management" *Animal Science Seminar Series*. The Pennsylvania State University, University Park, PA, USA.

2021

Stuber, E. April 2021. "The evolution of multi-scale studies in ecology" *Spatial Multiscale Analytics, Applied Research, & Technology Seminar Series*. Univ. of Maryland, Baltimore, MD, USA.

Stuber, E. Jan. 2021. "Traditional and non-traditional approaches to enable holistic wildlife conservation and management frameworks" *USU UDWR Brown Bag Series*. Utah Division of Wildlife Resources, Salt Lake City, Utah, USA.

2020 & earlier

Stuber, E. April 2020. "Organism-environment relationships in the remote-sensing age: satellites and citizen scientists as sensors of multi-scale ecology" *Department of Wildlife Seminar*. Humboldt State University, Arcata, CA, USA.

Stuber, E. January 2020. "Organism-environment relationships in the remote-sensing age: satellites and citizen scientists as sensors of multi-scale ecology" *Department of Ecology, Evolution, and Organismal Biology Seminar*. Kennesaw State University, Kennesaw, GA, USA.

Stuber, E. September 2019. "Multi-scale and integrated hierarchical models: re-understanding organism-environment relationships in the remote-sensing age" *Cornell Lab of Ornithology Seminar*. Cornell University. Ithaca, NY, USA.

Stuber, E. February 2019. "Wildlife-habitat ecology through a hierarchical lens: integrating information across scales to guide ecology, conservation, and management" *Wildlife, Fish, and Conservation Biology Department Seminar*. University of California - Davis. Davis, CA, USA.

Stuber, E. January 2019. "Organism-environment relationships in the remote-sensing age: understanding scale-dependence 'at scale'" *Fish, Wildlife, and Conservation Biology Department Seminar*. Colorado State University. Fort Collins, CO, USA.

Stuber, E., N. Dingemanse, B. Kempenaers, and J. C. Mueller. October 2018. "Variation in sleep behavior in wild birds: rhythmicity, plasticity, and individual differences" *Wild Clocks Symposium*. Max Planck Institute for Ornithology. Seewiesen, Germany.

Stuber, E., and J.J. Fontaine. July 2018. "Using ideal avian neighborhoods to maximize multi-species spatial planning targets for conservation" *Spatial Reserve Design Symposium*. Yale University, CT, USA.

Stuber, E., L. Wszola, L. Gruber, J.J. Fontaine. July 2018. "Sportspersons across the landscape: where do they come from, where do they go?" *Sportsperson Summit*. Nebraska City, NE, USA.

Stuber, E., and J.J. Fontaine. February 2018. "Navigating trade-offs when managing for multi-species avian communities" *Rainwater Basin Joint Venture Information Seminar*. Grand Island, NE, USA.

Gruber, L.F., L. Wszola, and **E. Stuber**. December 2017. "Estimation of open populations from multiple structurally different data sets: a statistical analysis of the Nebraska Hunter Survey" *Statistics Department Seminar*. Duke University, Durham, NC, USA.

Stuber, E. and J.J. Fontaine. October 2017. "Multi-scale habitat selection: characteristic scales and scaling relationships" *Biology Department. Behavioural Ecology Group Seminar*. Ludwig-Maximilians University of Munich. Munich, Germany.

Contributed:

Van Tatenhove, A.*, **E Stuber,** and C Rushing. 2024. Modeling survival and connectivity of a migratory waterbird using a continuous-time, multi-state approach. *American Ornithological Society Annual Meeting*. Estes Park, CO. 1-5 Oct., 2024

Solberg, J.*, K. Hersey, D. Summers, and **E. Stuber**. 2023. Accounting for Ecological Neighborhoods to Understand Mule Deer Abundance on Restored Habitat in Utah. *The Wildlife Society Annual Meeting*. Louisville, KY, USA.

Hayes-Puttfarcken, A. L.*, **E. Stuber**. August 2023. How does habitat quality affect avian occupancy and determine species resilience? *Association of Field Ornithologists Annual Meeting*. Gramado, Brazil.

Jesmer, B., **E. Stuber**, B. Carlson, R. Larsen, and B. McMillan. July 2023. Incidence and implications of consistent individual differences in spatial behavior. *American Society of Mammalogists Annual Meeting*. Anchorage AK, USA.

Rasmussen, J.*, K. Hersey, D. Summers, and **E. Stuber**. July 2023. Mule deer (Odocoileus hemonius) space-use on Utah restored lands. *American Society of Mammalogists Annual Meeting*. Anchorage AK, USA.

Stuber, E., R. Norvell, and L. Gruber. Mar. 2023. Data integration to Inform Species' Status and Trend Estimates Using Structured Surveys and eBird Observations. *Utah Chapter of The Wildlife Society* Annual Conference. Grand Junction, CO.

Van Tatenhove*, A.M., **E. Stuber**, and C.S. Rushing. Mar. 2023. Scale-Dependent Population Drivers Inform Waterbird Management in an Imperiled Saline Lake Ecosystem. *Utah Chapter of The Wildlife Society* Annual Conference. Grand Junction, CO.

A. L. Hayes-Puttfarcken*, R. Norvell, and **E. Stuber**. Mar. 2023. Estimating Avian Occupancy Patterns Across Gradients of Habitat Change. *Utah Chapter of The Wildlife Society* Annual Conference. Grand Junction, CO.

Rasmussen, J.*, K. Hersey, D. Summers, and **E. Stuber**. Mar. 2023. Effects of restoration on mule deer (Odocoileus hemionus). *Utah Chapter of The Wildlife Society* Annual Conference. Grand Junction, CO.

A. L. Hayes-Puttfarcken*, R. Norvell, and **E. Stuber**. Nov. 2022. Avian Resilience: Estimating Occupancy Patterns Across Gradients of Habitat Quality. *The Wildlife Society* Annual Conference. Spokane, WA.

J. Solberg*, K. Hersey, D. Summers, and **E. Stuber**. Nov. 2022. Accounting for Ecological Neighborhoods to Understand Mule Deer Abundance on Restored Habitat in Utah. *The Wildlife Society* Annual Conference. Spokane, WA. (poster)

A. Van Tatenhove*, K.G. Horton, C.S. Rushing, and **E. Stuber**. June 2022. Weather radar as a tool to quantify local airspace-use of a large migratory waterbird. *Joint Meeting of the American Ornithological Society and BirdsCarribean*. Puerto Rico, USA – **WON Best Student Presentation Award

A. L. Hayes-Puttfarcken*, R. Norvell, and **E. Stuber**. June 2022. Avian resilience to land-use change. *Joint Meeting of the American Ornithological Society and BirdsCarribean*. Puerto Rico, USA

A. Van Tatenhove*, K.G. Horton, C.S. Rushing, and **E. Stuber**. June 2022. Weather radar as a tool to quantify local airspace-use of a large migratory waterbird. *The Waterbird Society* Annual Meeting. Corpus Christi, TX, USA – **WON Best Student Presentation Award

Stuber, E., and TJ Fontaine. March 2022. "Precision conservation and management: scale-explicit analyses for organism-environment relationships" *The Utah Chapter of the Wildlife Society* Virtual Conference.

Stuber, E. August 2021. "Validating Citizen Science Data to Underlie Decision Making" *American Ornithological Society* Virtual Conference.

Van Tatenhove*, A.M., C.S. Rushing, and **E. Stuber**. 2021. Local versus broad-scale population drivers: A Bayesian state-space analysis of long-term American white pelican colony dynamics. *The Waterbird Society* Annual Meeting, Virtual Conference.

Stuber, E. September 2020. "Using citizen science data to drive decision making" *Association of Fish and Wildlife Agencies* Virtual Conference.

Sica, Y., **E. Stuber**, A. Ranipeta, C. Marsh, D. Elis Soto, N. Pitman, W. Jetz. July 2020. High-resolution biodiversity maps as tools to support conservation and management. *North American Congress for Conservation Biology* Virtual Conference.

Stuber, E., and W. Jetz. August 2019. "Towards a global, high resolution map of biodiversity" *Ecological Society of America* Conference. Louisville, KY.

Gruber, L.F., **E. Stuber**, L. Wszola, and J.J. Fontaine. June 2018. "Estimating the use of public lands: Integrated modeling of open populations with convolution likelihood ecological abundance regression" *International Society for Bayesian Analysis*. Edinburgh, Scotland.

Stuber, E., and J.J. Fontaine. April 2018. "Human-induced rapid environmental change and spatial mismatches in species distribution" *International Association for Landscape Ecology* Annual Meeting. Chicago, IL, USA.

Stuber, E., and J.J. Fontaine. March 2018. "Human-induced rapid environmental change and spatial mismatches in species distribution" *Central Mountains and Plains Section of the Wildlife Society* Annual Meeting. Kearney, NE, USA.

Simonsen, V.***, E. Stuber**, and J.J. Fontaine. March 2018. "Large or small patches? How patch size and nest density influence nest survival and conservation in grasslands" *Central Mountains and Plains Section of the Wildlife Society* Annual Meeting. Kearney, NE, USA.

Wszola, L.*, **E. Stuber**, L. Gruber, J.J. Fontaine. February 2018. Hunter distribution in a unique public access landscape. *The Wildlife Society Annual Meeting* – South Dakota Chapter. Oacoma, SD, USA.

Mirochnitchenko, N.*, **E. Stuber**, and J.J. Fontaine. 2018. "Spatial mismatches between phylogenetic and functional diversity in Nebraska grassland bird communities." *Society for Integrative and Comparative Biology*. San Francisco, CA, USA.

Burnett, J., L.S. Wszola*, N.A. Mirochnitchenko*, **E. Stuber**, C.R. Allen, M.B. Brown, D. Twidwell, and J.P. Carroll. August 2017. "Gray partridge distribution in North America: Changing landscapes and environment for an introduced species." *International Union of Game Biologists.* Montpellier, France.

Stuber, E., and J.J. Fontaine. 2017. "The value of scale in optimizing umbrella species." and **Stuber, E.** "Considering the spatial scale of processes in theoretical and applied questions in ecology" - Early Professionals Symposium. *American Ornithological Society*. East Lansing, MI, USA.

Mirochnitchenko, N.*, **E. Stuber**, and J.J. Fontaine. 2017. "Influence of environmental gradients on the relationship between taxonomic and functional diversity in grassland birds." *American Ornithological Society*. East Lansing, MI, USA. (poster)

Stuber, E., and J.J. Fontaine. 2017. "The importance of scale in evaluating the effectiveness of umbrella species." *Midwest Fish & Wildlife Conference*. Lincoln, NE, USA.

Mirochnitchenko, N.*, **E. Stuber**, and J.J. Fontaine. 2017. "How would the definition of biodiversity change where we prioritize conservation?" *Midwest Fish & Wildlife Conference*. Lincoln, NE, USA. (poster)

Stuber, E., L. Gruber, and J.J. Fontaine. 2016. "Assessing multiscale species-habitat relationships: finding the right scale for a given metric." *North American Ornithological Conference.* Washington, DC, USA.

Bartell, P., and **E. Stuber**. 2016. "Is the Zugunruhe Oscillator Related to MASCO?" *Society for Research on Biological Rhythms.* Palm Harbor, FL, USA.

Stuber, E. 2015. "Phenotypic, environmental, and genetic variation as sources of intraspecific differences in behavioral sleep in wild great tits (*Parus major*)." Ludwig-Maximilians U. of Munich, Germany.

Stuber, E., N. Dingemanse, B. Kempenaers, and J. C. Mueller. 2015. "Phenomics of sleep: individual variation in sleep, repeatability, and syndrome structure in great tits." *Animal Behavior Society*. U. of Anchorage. Alaska, USA.

Stuber, E. 2015. "Structural equation models for behavioral characters in sleep." Max Planck Inst. for Ornithology, Seewiesen, Germany.

Stuber, E., K. J. Mathot, B. Kempenaers, N. Dingemanse, and J. C. Mueller. 2014. "Sex-specific association between sleep and metabolic rate in great tits (*Parus major*)." *Intnl. Society for Behavioural Ecology*. New York U. New York, USA.

Stuber, E. 2013. "Individual differences in habitat selection in Great tits: Who gets the better box?" AniMove. Max Planck Inst. for Ornithology and Smithsonian-Mason School of Conservation. Radolfzell, Germany.

Stuber, E., K. J. Mathot, B. Kempenaers, N. Dingemanse, and J. C. Mueller. 2013. "Sleep and metabolic rate in Great tits: highlighting a role for biological clocks." *Intnl. Conference in Individual Differences*. Groningen, The Netherlands.

Stuber, E., N. Dingemanse, and J. C. Mueller. 2012. "Sensitivity towards novel objects: a problem of sampling bias." *Deutsche Zoologische Gesellschaft Conference*. U. of Konstanz. Konstanz, Germany.

Stuber, E. and P. Bartell. 2010. "The role of biological clocks in regulating migratory conditions." Ecology Colloquium. Penn State University. University Park, PA.

Stuber, E., J. Verpeut*****, M. Horvat-Gordon, R. Ramachandran, and P. Bartell. 2010. Role of Adiponectin Signaling in Regulation of Avian Migration. *Society for Behavioral Neuroendocrinology Conference*. Toronto, Canada.

Verpeut, J.*****, **Stuber, E.**, M. Horvat-Gordon, R. Ramachandran, and P. Bartell. 2010. The Use of Adiponectin as an Indicator of Fat Stores in a Migratory Bird. *Graduate Research Exhibition; Gamma Sigma Delta Research Exhibition*. Penn State University, University Park, PA.

Stuber, E., J. Verpeut*****, M. Horvat-Gordon, R. Ramachandran, and P. Bartell. 2010. Role of Adiponectin Signaling in Regulation of Avian Migration. *Graduate Research Exhibition; Gamma Sigma Delta Research Exhibition*. Penn State University, University Park, PA.

Stuber, E., and P. Bartell. 2009. Migratory Restlessness in the White-throated Sparrow. Third Place: Undergraduate- Biological Sciences. *Gamma Sigma Delta Research Exhibition*. Penn State University, University Park, PA.

Stuber, E., and P. Bartell. 2009. Migratory Restlessness in the White-throated Sparrow. *Graduate and Undergraduate Research Exhibition*. Penn State University, University Park, PA.

OUTREACH MEDIA FEATURES

Utah Public Radio. July 2023. American White Pelican colony abandons Great Salt Lake nesting site. By: Erin Lewis, Aimee Van Tatenhove

Utah State Today. July 2022. Flying the Friendly Skies: Working to Reduce Bird-Airplane Collisions. By: Daniel Carolan

Utah State Today. May 2022. Poll the Audience: Using Data From Citizen Science to Keep Wild Birds in Flight. By: Lael Gilbert

Living Bird magazine. June 2021. More Than 316,000 Bald Eagles Live in the Lower 48, New Estimate Says. By: Gustave Axelson

Field Museum Press Release. June 2021. "Turning off lights can save migrating birds from crashing into buildings".

Chicago Tribune. June 2021. "Turning off just half the lights at McCormick Place could reduce the mortality rate of migratory birds by 60%". By: Morgan Greene.

Scientific American. April 2021. Ecologists Saved Bald Eagles with Helicopter Parenting. By: Susan Cosier

Cornell Chronicle e-Magazine. March 2021. "Bald eagle count quadruples, thanks in part to eBird data boost". By Gustave Axelson.

SERVICE

Utah State University CAREER Academy. Introduction to the NSF CAREER. Panelist 2025

Utah Wildlife Action Plan Working Group – Species of Greatest Conservation Need committee, Conservation Opportunity Areas subcommittee, Landscape & Regional Focus committee, Habitat Connectivity committee, & Integration of Plants and Insects committee, Member. 2022-present

Sageland Collaborative Rosy Finch Working Group, Member. 2022-present

Utah State University New WILD Graduate Student Retreat, Co-Organizer. 2022- present

Utah State University High Performance Computing Faculty Leadership Team, Quinney College of Natural Resources Representative. 2021- present

National Aeronautics and Space Administration ROSES Ecological Conservation Applications – Panel Reviewer. 2023.

National Science Foundation Graduate Research Fellowship Program – Reviewer. 2022-2023

Yale Institute for Biospheric Studies Small Grants reviewer. 2019

Conservation Planning Workgroup (Rainwater Basin Joint Venture) – (member 2017 - 2018)
Outdoor Discovery Program Volunteer, Habitat = Home $4^{th}/5^{th}$ grade activity leader, NE Game and Parks Commission. 2017
Wild Jobs Café Volunteer (resume writing advice), Midwest Fish and Wildlife Society Conference. 2017
EnvironMentors Judge, University of Nebraska-Lincoln School of Natural Resources. 2017
Search Committee member, University of Nebraska-Lincoln School of Natural Resources. 2016
Science Literacy Poster Contest judge, University of Nebraska-Lincoln School of Natural Resources. 2016
North American Ornithological Conference Student mentor. 2016
Undergraduate Creative Activities and Research Experience grant application reviewer, University of Nebraska-Lincoln. 2016
Poster contest judge, University of Nebraska-Lincoln School of Natural Resources. 2016

Invited Reviewer. Acta Ethologica; American Naturalist; Animal Behaviour; Behavioral Ecology; Behavioral Ecology and Sociobiology; Biological Conservation, Conservation Physiology; Current Landscape Ecology Reports; Diversity & Distributions; Ecography; Ecological Applications; Ecological Informatics; Ecology and Evolution; Ecosystems; Environmental Pollution; Global Ecology and Biogeography; J. of Animal Ecology; J. of Biogeography; J. of Experimental Zoology; Landscape and Urban Planning; Nature Ecology & Evolution; PLoS ONE; Royal Society Open Science, Scientific Reports

PROFESSIONAL DEVELOPMENT

Faculty Proposal Writing Institute (USU, 2022)
Faculty Proposal Writing Seminar (USU, 2021)
Inclusive Pedagogy Workshop (USU, 2021)
Introduction to Structured Decision Making and Spatial Planning (The Nature Conservancy, 2018)
SciComm (UNL, 2018)
Teaching and Learning Symposium (UNL, 2018)
Bayesian integrated population modeling using BUGS and JAGS (Swiss Ornithological Institute, Oct. 2017)
Write winning grant proposals (UNL, 2017)
Topographic, geomorphic, and vegetation analysis with lidar (NEON, NSF 2016)
Postdoc mentoring workshop (UNL, 2015)
Species distribution modeling (USGS Cooperative Fish and Wildlife Research Unit, 2015)
Dealing with missing data (NE Academy for Methodology, Analytics and Psychometrics, 2015)
Genomic sequence data handling and analysis (Max Planck Institute for Ornithology, 2015)
Statistical and conceptual approaches towards multivariate phenotypes (Max Planck Institute for Ornithology, 2015)
Generalized linear models and generalized mixed models with R (Oikostat, 2014)
Alternative hypotheses and AIC model selection (David Anderson, 2014)
Scientific writing for advanced students (Max Planck Institute for Ornithology, 2014)
Practical computing and data management for biologists (Max Planck Inst. for Ornithology, 2014)
AniMove- Animal movement and remote sensing for conservation (Smithsonian-Mason School of Conservation, 2013)

Linear models and linear mixed models with R (Oikostat, 2013)