

Tal Avgar, Ph.D.

Assistant professor of Wildlife Movement Ecology

Department of Wildland Resources and Ecology Center, Utah State University, Logan, Utah

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Research Interests

Animal movement and space-use ecology, consumer-resource interactions, ecological modelling and biometry.

Current Research Program

Density-dependent wildlife space-use ecology: investigating the relationship between population-level processes and individual-level habitat-selection and movement behaviors.

Education

2008 – 2013

Ph.D. research under the supervision of Prof. John Fryxell. Integrative Biology program, University of Guelph, Ontario, Canada. Thesis title: From diffusion to cognition: analytical, statistical and mechanistic approaches to the study of animal movement.

2004 – 2007

M.Sc. research under the supervision of Prof. Ran Nathan. Environmental Science program, The Hebrew University of Jerusalem, Israel. Graduated magna cum laude. Thesis title: Linking foraging traits of seed-eating ants to spatial patterns of surviving seeds.

2001 – 2004

B.Sc. in Geology and Biology, The Hebrew University of Jerusalem, Israel.

Significant Awards and Honours

2021 QCNR Undergraduate Research Mentor of the Year. Utah State University, USA.

2015 The Banting Postdoctoral Fellowship. Federal government, Canada.

2013 The Killam Postdoctoral Fellowship. University of Alberta, Canada.

2009 NSERC Vanier Canada Graduate Scholarship. Federal government, Canada.

Publications (* signifies mentees)

- Fieberg, J., J. Signer, B. Smith*, and **T. Avgar** (2021) A 'How-to' guide for interpreting parameters in resource- and step-selection analyses. *Journal of Animal Ecology*, in press.
- Avgar, T.**, G. Betini, and J. Fryxell (2020) Habitat selection patterns are density-dependent under the Ideal Free Distribution. *Journal of Animal Ecology*, 89: 2777-2787
- Garland, L., E. Neilson, E. Bayne, **T. Avgar**, and S. Boutin (2020) Random encounter and staying time model testing with human volunteers. *Journal of Wildlife Management*, 84: 1179-1184.
- Fryxell, J., **T. Avgar**, L. Boyan, A. Rodgers, J. Shuter, I. Thompson, D. Reid, A. Kittle, A. Mosser, S. Newmaster, G. Street, G. Brown, B. Patterson, and J. Baker (2020) Anthropogenic disturbance and population viability of Woodland Caribou in Ontario. *Journal of Wildlife Management*, 84: 636-650.
- Betini, G., X. Wang, **T. Avgar**, M. Guzzo, and J. Fryxell (2020) Food availability modulates temperature-dependent effects on growth, reproduction, and survival in *Daphnia magna*. *Ecology and Evolution*, 10: 756-762.
- Broadley*, K., C. Burton, **T. Avgar**, and S. Boutin (2020) Density-dependent space use affects interpretation of camera detection-rate indices. *Ecology and Evolution*, 9: 14031-14041.
- Dickie*, M., S. McNay, G. Sutherland, M. Cody, and **T. Avgar** (2020) Corridors or risk? Movement along, and use of, linear features vary predictably among large mammal predator and prey species. *Journal of Animal Ecology*, 89: 623-634.
- Betini, G., **T. Avgar**, K. McCann, and J. Fryxell (2019) Temperature triggers a non-linear response in resource-consumer interaction strength. *Ecosphere*, 10: e02787.
- Signer, J., J. Fieberg, and **T. Avgar** (2019) Animal Movement Tools (amt): R package for managing tracking data and conducting habitat selection analyses. *Ecology and Evolution*, 9: 880-890.
- Ladle*, A., **T. Avgar**, G. Stenhouse, M. Wheatley, S. Nielsen, and M.S. Boyce (2019) Grizzly bear response to spatio-temporal variability in human recreational activity. *Journal of Applied Ecology*, 56: 375-386.
- Viejou*, R., **T. Avgar**, G.S. Brown, B. Patterson, D. Reid, *et al.* (2018) Woodland caribou habitat selection patterns in relation to predation risk and forage abundance depend on reproductive state. *Ecology and Evolution*, 8: 5863-5872.
- Street, G.M., **T. Avgar**, and L. Börger (2018) Net displacement and temporal scaling: model fitting, interpretation, and implementation. *Methods in Ecology and Evolution*, 9: 1503-1517.
- Scrafford*, M., **T. Avgar**, R. Heeres, and M.S. Boyce (2018) Roads elicit negative movement and habitat-selection responses by wolverines (*Gulo gulo luscus*). *Behavioral Ecology*, 29: 534-542.
- Tucker, M.A., K. Böhning-Gaese, W.F. Fagan, J.M. Fryxell, B. Van Moorter, *et al.* (2018) Global reductions in terrestrial mammalian movements in human-dominated landscapes. *Science*, 359: 466-469.
- Neilson*, E., **T. Avgar**, C. Burton, K. Broadley, and S. Boutin (2018) Animal movement affects interpretation of occupancy models from camera trap surveys of unmarked animals. *Ecosphere*, 9: e02092.

- Avgar, T.**, S.R. Lele, J.L. Keim, and M.S. Boyce (2017) Relative Selection Strength: quantifying effect size in habitat- and step-selection inference. *Ecology and Evolution*, 7: 5322–5330.
- Signer*, J., J. Fieberg, and **T. Avgar** (2017) Estimating utilization distributions from fitted step-selection functions. *Ecosphere*, 8: e01771.
- Betini, G., **T. Avgar**, K.S. McCann, and J.M. Fryxell (2017) Daphnia inhibits the emergence of spatial pattern in a simple consumer-resource system. *Ecology*, 98: 1163-1170.
- Scrafford*, M., **T. Avgar**, B. Abercrombie, J. Tigner, and M.S. Boyce (2017) Wolverine habitat selection in response to anthropogenic disturbance in the western Canadian boreal forest. *Forest Ecology and Management*, 395: 27-36.
- Kittle, A.M., M. Anderson, **T. Avgar**, J.A. Baker, G.S. Brown, *et al.* (2017) Landscape-level wolf space use is correlated with prey abundance, ease of mobility and the distribution of prey habitat. *Ecosphere*, 8: e01783.
- Prokopenko*, C., M.S. Boyce, and **T. Avgar** (2017) Characterizing wildlife behavioural responses to roads using integrated step selection analysis. *Journal of Applied Ecology*, 54: 470-479.
- Ladle*, A., **T. Avgar**, M. Wheatley, and M.S. Boyce (2017) Predictive modeling of ecological patterns along linear-feature networks. *Methods in Ecology and Evolution*, 8: 329-338.
- Betini, G., **T. Avgar**, and J.M. Fryxell (2017) Why are we not evaluating multiple competing hypotheses in Ecology and Evolution? *Royal Society Open Science*, 4: e160756. [F1000Prime recommended].
- Prokopenko*, C., M.S. Boyce, and **T. Avgar** (2017) Extent-dependent habitat selection in a migratory large herbivore: road avoidance across scales. *Landscape Ecology*, 32: 313-325.
- Street, G.M., A.R. Rodgers, **T. Avgar**, L.M. Vander Vennen, and J.M. Fryxell (2017) Comparing resource selection and demographic models for predicting animal density. *Journal of Wildlife Management*, 81: 16-25.
- Avgar, T.**, J.R. Potts, M.A. Lewis, and M.S. Boyce (2016) Integrated step selection analysis: bridging the gap between resource selection and animal movement. *Methods in Ecology and Evolution*, 7: 619-630.
- McGreer*, M.T., E.E. Mallon, L.M. Vander Vennen, P.A. Wiebe, **T. Avgar**, *et al.* (2015) Selection for forage and avoidance of risk by woodland caribou (*Rangifer tarandus caribou*) at coarse and local scales. *Ecosphere*, 6: e288.
- Street, G.M., L.M. Vander Vennen, **T. Avgar**, A. Mosser, M. Anderson, A.R. Rodgers, and J.M. Fryxell (2015) Habitat selection following recent disturbance: model transferability with implications for management and conservation of moose (*Alces alces*). *Canadian Journal of Zoology*, 93: 813-821.
- Avgar, T.**, J.A. Baker, G.S. Brown, J. Hagens, A.M. Kittle, *et al.* (2015) Space-use behavior of woodland caribou based on a cognitive movement model. *Journal of Animal Ecology*, 84: 1059-1070.
- Kittle, A.M., M. Anderson, **T. Avgar**, J.A. Baker, G.S. Brown, *et al.* (2015) Wolves adapt territory size, not pack size to local habitat quality. *Journal of Animal Ecology*, 84: 1177-1186.
- Street, G.M., A.R. Rodgers, **T. Avgar**, and J.M. Fryxell (2015) Characterizing demographic parameters across environmental gradients: a case study with Ontario moose. *Ecosphere*, 6: e138.

- Mosser, A., **T. Avgar**, G.S. Brown, C.S. Walker, and J.M. Fryxell (2014) Towards an energetic landscape: broad-scale accelerometry in woodland caribou. *Journal of Animal Ecology*, 83: 916-922.
- Avgar, T.**, G. Street, and J.M. Fryxell (2014) On the adaptive benefits of mammal migration. *Canadian Journal of Zoology*, 92: 481-490.
- Fagan, W.F., M.A. Lewis, M. Auger-Methe, **T. Avgar**, S. Benhamou, *et al.* (2013) Spatial memory and animal movement. *Ecology Letters*, 16: 1316-1329.
- Avgar, T.**, R. Deardon, and J.M. Fryxell (2013) An empirically parameterized individual based model of animal movement, perception and memory. *Ecological Modelling*, 251: 158-172.
- Kuefler, D., **T. Avgar**, and J.M. Fryxell (2013) Density- and resource-dependent movement characteristics in a rotifer. *Functional Ecology*, 27: 323-328.
- Avgar, T.**, A. Mosser, G.S. Brown, and J.M. Fryxell (2013) Environmental and individual drivers of animal movement patterns across a wide geographical gradient. *Journal of Animal Ecology*, 82: 96-106.
- Fryxell, J.M., and **T. Avgar** (2012) Animal migration: catching the wave. *Nature*, 490: 182-183.
- Berger-Tal, O., and **T. Avgar** (2012) The glass is half-full: overestimating the quality of a novel environment is advantageous. *PLoS ONE*, 7: e34578.
- Kuefler, D., **T. Avgar**, and J.M. Fryxell (2012) Rotifer population spread in relation to food, density and predation risk in an experimental system. *Journal of Animal Ecology*, 81: 323-329.
- Avgar, T.**, D. Kuefler, and J.M. Fryxell (2011) Linking rates of diffusion and consumption in relation to resources. *American Naturalist*, 178: 182-190. [F1000Prime recommended].
- Mari, L., R. Casagrandi, M. Gatto, **T. Avgar**, and R. Nathan (2008) Movement strategies of seed predators as determinants of plant recruitment patterns. *American Naturalist*, 172: 694-711.
- Avgar, T.**, I. Giladi, and R. Nathan (2008) Linking traits of foraging animals to spatial patterns of plants: social and solitary ants generate opposing patterns of surviving seeds. *Ecology Letters*, 11: 224-234.
- Avgar, T.**, N. Horvitz, L. Broitman, and R. Nathan (2008) How movement properties affect prey encounter rates of ambush versus active predators: a comment on Scharf *et al.* *American Naturalist*, 172: 593-595.

Manuscripts under review or undergoing revision

- Prokopenko*, C., **T. Avgar**, A. Ford, and E. Vender Wal. Trait-mediated functional response: antipredator traits drive prey switching in multi-prey systems. *Ecology*.
- Betini, G., **T. Avgar**, E. Miller, and J.M. Fryxell. Body size mediates the effects of external environmental conditions on *Daphnia* movement rates. *Ecology*.

Grants Awarded (bold text signifies lead PI)

- 2021 California Department of Fish and Wildlife: \$167,071 granted to **Tal Avgar** (in collaboration with Mary Conner and Tom Stephenson) by the Sierra Nevada Bighorn Sheep Recovery Program. Title: *Sierra Nevada Bighorn space-use ecology*. Start date: 05/01/2021. End date: 05/01/2024.
- 2020 USDA-NIFA: \$495,230 granted to **Kari Veblen**, Tal Avgar, and Mike Duniway (in collaboration with Eric Thacker, Juan Villalba, Matt Garcia, and Sasha Reed) by USDA-NIFA. Title: *Criollo cattle as a strategy to maintain output of ecosystem services under a changing climate*. Start date: 06/01/2021. End date: 12/31/2025.
- State grant: \$124,825 granted to **Tal Avgar** and **Larissa Yocom** by the Utah Division of Wildlife Resources. Title: *Wildlife space-use and post-fire habitat dynamics*. Start date: 01/01/2021. End date: 12/31/2023.
- Mississippi State University: \$111,000 granted to **Tal Avgar** (in collaboration with Dr. Garrett Street) by the High Performance Computing Collaboratory. Title: *Using camera traps to monitor deer density at high resolution through space and time*. Start date: 09/01/2020. End date: 08/31/2022.
- State grant: \$171,300 granted to **Tal Avgar** (in collaboration with Kent Hersey and Daniel Olson) by the Utah Division of Wildlife Resources. Title: *Understanding and mapping mule deer migration across Utah*. Start date: 07/01/2020. End date: 06/30/2024.
- State grant: \$86,144 granted to **Tal Avgar** (in collaboration with Daniel Olson) by the Utah Division of Wildlife Resources. Title: *Quantifying the impacts of anthropogenic movement barriers on ungulate space-use patterns in Utah*. Start date: 07/01/2020. End date: 06/30/2022.
- State contract: \$8,000 granted to **Tal Avgar** by Utah Division of Wildlife Resources. Title: *Demonstrating the utility of wildlife cameras in monitoring deer and elk demographic parameters*. Start date: 07/01/2020. End date: 12/31/2020.
- Utah State University's Public Lands Initiative grant: \$58,642 granted to **Tal Avgar** (in collaboration with Eric Thacker and Daniel Olson) by the Utah Agricultural Experiment Station. Title: *Pronghorn space-use ecology in Utah: a key to effective management and conservation*. Start date: 07/01/2020. End date: 06/30/2022.
- 2019 Utah State University's Research Catalyst seed grant: \$20,000 granted to **Tal Avgar** by the Office of Research. Title: *Coupling individual and population perspectives to enhance understanding and management of wildlife space-use pattern*. Start date: 01/01/2019. End date: 12/31/2019.
- 2018 Moose Stewardship Study Program: \$230,000 granted to **Eric Vander Wal**, Tal Avgar, and Garrett Street by Manitoba Hydro. Title: *Disentangling the effects of local and regional factors that promote occupancy and abundance of moose*. Start date: 09/01/2018. End date: 08/31/2022.

Grants Not Awarded (bold text signifies lead PI)

- 2020 Federal grant: \$986,508 not granted to **Tal Avgar** by the National Science Foundation. Title: Biased learning as an adaptive foraging mechanism shaping animal behavior in the face of environmental changes.
- 2019 National Geographic Exploration Grant: \$30,000 not granted to **Brian Smith***, Tal Avgar, and Daniel MacNulty by the National Geographic Society. Title: *Understanding the effects of prey density and multiple predators on prey space use*.
- Utah State University's Research Catalyst seed grant: \$20,000 not granted to **Doug Ramsey**, Tal Avgar, and Simona Picardi by the Office of Research. Title: *Anthropogenic effects on ungulate migrations in the intermountain West*.
- Utah State University's Public Lands Initiative: \$60,000 not granted to **Tal Avgar** and Julie Young by the Utah Agricultural Experiment Station. Title: *Pronghorn space-use ecology in Utah: a key to effective management and conservation*.

Graduate Students

- Randall McBrid (MSc; USU). Tentative thesis title: *Spatial interactions between elk, cattle, and hunters*. Start date: September 2018. Estimated end date: August 2021.
- Jennifer Hogg (MSc; Memorial University of Newfoundland; joint supervision with Dr. Eric Vander Wal & Dr. Garrett Street). Tentative thesis title: *Reconstructing the random encounter and staying time model to determine the mean and variance of species density*. Start date: May 2019. Estimated end date: April 2021.
- Brian Smith (PhD; USU; joint supervision with Dan MacNulty). Tentative thesis title: *The influence of prey density on the effects of predation in natural systems*. Start date: September 2019. Estimated end date: August 2023.
- Ronan Hart (MSc; USU). Tentative thesis title: *Quantifying the impacts of anthropogenic movement barriers on ungulate space-use patterns in Utah*. Start date: September 2020. Estimated end date: August 2022.
- Veronica Winter (MSc; USU). Tentative thesis title: *Pronghorn space-use ecology in Utah: a key to effective management and conservation*. Start date: September 2020. Estimated end date: August 2022.
- Danielle Berger (PhD; USU; Quinney Fellow). Tentative thesis title: *Spatially explicit population viability of Sierra Nevada bighorn sheep*. Start date: September 2020. Estimated end date: August 2024.
- Courtney Check (MSc; USU). Tentative thesis title: *Using camera traps to monitor deer density at high resolution through space and time*. Start date: January 2021. Estimated end date: December 2022.
- John Huang (PhD; USU). Tentative thesis title: *Understanding and mapping mule deer migration across Utah*. Start date: January 2021. Estimated end date: December 2024.
- Megan Whetzel (MSc; USU; joint supervision with Larissa Yocom). Tentative thesis title: *Wildfire-herbivore interactions*. Start date: January 2021. Estimated end date: December 2022.

Postdoctoral Fellows

Dr. Sean Boyle (Memorial University of Newfoundland; joint supervision with Dr. Eric Vander Wal & Dr. Garrett Street)

Undergraduate Trainees

Emily Bonbrake (recipient USU's Undergraduate Research and Creative Opportunities grant). Start date: September 2020. Estimated end date: December 2021.

Emily Lowrimore. Start date: February 2021. Estimated end date: December 2021.

Jeremy Alder. Start date: February 2021. Estimated end date: December 2021.

Lab Alumni

Tatum Del Bosco (MSc; USU; September 2018 - December 2020). Thesis title: *An Eulerian perspective on spring migration in mule deer*. Currently employed as an analyst with California Fish and Game.

Steven Handtke (undergraduate research; September 2019 – December 2020; recipient of QCNR's Undergraduate Research and USU's Undergraduate Research and Creative Opportunities grants). Thesis title: *Vegetation Green Up: Ground-truthing NDVI data using wildlife cameras*.

Graduate Students Committees

Justin Schwabedissen (MSc; USU). Start date: January 2018. Estimated end date: December 2020.

Ben Stout (PhD; USU). Start date: January 2018. Dropped: December 2019.

Stephanie Landry (PhD; USU). Start date: May 2018. Estimated end date: April 2021.

Binod Borah (PhD; USU). Start date: September 2018. Estimated end date: August 2021.

Lauren Ricci (PhD; USU). Start date: September 2018. Estimated end date: August 2021.

Andi Stewart (MSc; USU). Start date: September 2018. Estimated end date: August 2021.

Bonnie McDonald (MSc; USU). Start date: September 2018. Estimated end date: April 2021.

Emma Doden (MSc; USU). Start date: May 2019. Estimated end date: April 2021.

Luke McDonald (PhD; USU). Start date: September 2019. Estimated end date: August 2023.

Daniel Taylor (MSc; USU). Start date: September 2019. Estimated end date: August 2021.

Brianna Johnson (MSc; USU). Start date: September 2019. Estimated end date: August 2021.

David German (MSc; Oregon State University). Start date: September 2019. Estimated end date: August 2021.

Colton Wise (MSc; Oregon State University). Start date: September 2019. Estimated end date: August 2021.

Martinique Chavez (MSc; USU). Start date: September 2019. Estimated end date: August 2021.

Teaching Activities at USU

- 2021 Delivering a graduate course titled "Space-Use Ecology" [WILD 6900; 19 students].
- 2020 Delivered a graduate course titled "Space-Use Ecology" [WILD 6900; 5 students].
Developed and delivering (together with Kezia Manlove) a graduate course titled "Conceptual Ecology" [WILD 6900; 17 students].
Delivering an undergraduate BLS course titled "Ecology of our World" [WILD 2200; 72 students].
Attended a CIDI "Hybrid Face-to-face Teaching" workshop.
Active member in 12 graduate student committees.
Supervising four URCO research projects.
Member of the 'Quant Nerd' faculty group for improving quantitative skills across the curriculum.
- 2019 Developed and delivered a graduate course titled "Space-Use Ecology" [13 students].
Attended a full day teaching conference: the 6th annual Empowering Teaching Excellence Conference.
Attended the WILD graduate student retreat.
Active member in seven graduate student committees.
Attended the Undergraduate Research Orientation.
Supervising undergraduate research projects.
Attended the "Planetary Thinking" workshop and implemented sustainability teaching in WILD 2200.
Developed and delivering an undergraduate BLS course titled "Ecology of our World" [WILD 2200; 66 students]
Developed and delivered guest lectures in WILD 2400 and LAEP 6110.
- 2018 Attended a full day teaching workshop: Foundations of USU Teaching.
Attended a full day teaching conference: the 5th annual Empowering Teaching Excellence Conference.
Attended the WILD graduate student retreat.
Attended four Tenure Academy sessions dealing with various aspects of teaching at USU.

Conference Presentations and Invited Talks (2012-present)

- 2020 Webinar, Canadian Section of The Wildlife Society
Keynote lecture, The 3rd Moving2Gather workshop, Rennes, France.
- 2019 Full day workshop, TWS National Annual Conference, Reno, Nevada, USA.
Short lecture, TWS National Annual Conference, Reno, Nevada, USA.
Short lecture, The MacArthur Academy Meeting, USU, Logan, Utah, USA.
Invited lecture, the WILD seminar series, USU, Logan, Utah, USA.
Invited lecture, the Applied Math seminar series, USU, Logan, Utah, USA.
Invited lecture, UDWR's Brown-Bag seminar series, UDWR main office, Salt-Lake City, Utah, USA.
- 2018 Invited short lecture, the Interdisciplinary Research Forum, the Ecology Center, USU, Logan, Utah, USA.
Invited short lecture, The Statistical Society of Canada annual meeting, McGill University, Montreal, Quebec, Canada.
Short lecture, the 13th CSEE Annual Meeting, Guelph, Ontario, Canada.
Short lecture, NACCB, Toronto, Ontario, Canada.
- 2017 Invited lecture, Department of Wildland Resources, Utah State University, Logan, Utah, USA.
Invited lecture, Department of Natural Resource Sciences, McGill University, Montreal, Quebec, Canada.
Poster presentation, Living on the Precipice: Interdisciplinary Conference on Resilience in Complex Natural and Human Systems, Waterloo, Ontario, Canada.
Poster presentation, Gordon Research Conference on the Movement Ecology of Animals, Ventura, California, USA.
Invited lecture, The University of Alberta Ecology and Evolution Seminar Series, Edmonton, Alberta, Canada.
- 2016 Invited lecture, workshop on Measuring and Analyzing Interactions among Mobile Entities, University of Texas-Austin, Austin, Texas, USA.
Invited lecture, National Wildlife Research Center, Carleton University, Ottawa, Ontario, Canada.
Short lecture and invited lecture, the 11th CSEE Annual Meeting, St John's, Newfoundland, Canada.
- 2015 Invited seminar, Statistical Physics and Anomalous Dynamics of Foraging Advanced Study Group, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany.
Short lecture and an organised symposium, the 22nd TWS Annual Conference, Winnipeg, Manitoba, Canada.
Invited lecture, The University of Alberta Ecology and Evolution Seminar Series, Edmonton, Alberta, Canada.
Invited lecture and an organised symposium, the 10th CSEE Annual Meeting, Saskatoon, Saskatchewan, Canada.

- 2014 Short lecture and a tutorial, The Symposium on Animal Movement and the Environment, Raleigh, North Carolina, USA.
Invited lecture, The University of Alberta Mathematical Biology Seminar Series, Edmonton, Alberta, Canada.
- 2013 Plenary lecture, Movement and Dispersal Conference, Aberdeen, Scotland.
Short lecture, the 8th CSEE Annual Meeting, Kelowna, British Columbia, Canada.
- 2012 Invited lecture, the Animal Movement and Memory Focused Research Group, the Banff International Research Station for Mathematical Innovation and Discovery, Banff, Alberta, Canada.
Short lecture, the 14th International Behavioral Ecology Congress, Lund, Sweden.
Poster presentation, post-congress symposium: The Behavioural Ecology of Animal Movement, the 14th International Behavioral Ecology Congress, Lund, Sweden.
Invited short lecture, CNEFR Woodland Caribou Research Workshop, Barrie, Ontario, Canada.

Journal Review Activities

- American Naturalist (3)
- Animal Behaviour (4)
- Animal Conservation (1)
- Behavioral Ecology (5)
- Biological Conservation (2)
- Biological Reviews (1)
- Conservation Biology (1)
- Ecology (4)
- Ecology Letters (10)
- Ecology and Evolution (1)
- Ecological Applications (1)
- Ecological Modelling (1)
- Ecological Monographs (2)
- Forest Ecology and Management (1)
- Functional Ecology (3)
- Global Ecology and Conservation (1)
- Israeli Journal of Ecology and Evolution (1)
- Journal of Animal Ecology (10)
- Journal of Applied Ecology (1)
- Journal of Biological Research (1)
- Journal of Ecology (1)
- Journal of Mammalogy (1)
- Journal of Mathematical Biology (1)
- Journal of Wildlife Management (1)
- Methods in Ecology and Evolution (6)
- Movement Ecology (4)
- Oecologia (3)
- Oikos (2)
- PLoS ONE (2)
- Royal Society Open Science (2)
- Science (1)
- Scientific Reports (3)
- Theoretical Ecology (1)
- Wildlife Biology (1)

Funding Review Activities

- 2021 National Science Foundation panelist
- 2020 National Science Foundation panelist
- 2019 Undergraduate Research and Creative Opportunities grants, Utah State University
- 2018 Deutsche Forschungsgemeinschaft (German Research Foundation)