





**Spencer R. Keyser**

Cornell Lab of Ornithology  
Cornell University  
159 Sapsucker Woods Rd  
Ithaca, NY 14850

 (954)707-3926  
 [srk252@cornell.edu](mailto:srk252@cornell.edu)  
 [github.com/skeyser](https://github.com/skeyser)  
 [skeyser.github.io](https://skeyser.github.io)

**Education**

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**Ph.D., Wildlife Ecology** 2020 – 2024

Department of Forest and Wildlife Ecology  
University of Wisconsin-Madison – Madison, WI

**M.S., Marine Science** 2017 – 2019

Marine Science Institute  
University of Texas at Austin – Austin, TX

**B.S., Wildlife Ecology** 2013 – 2017**Certificate in Environmental Studies**

Department of Forest and Wildlife Ecology  
University of Wisconsin-Madison – Madison, WI

**Professional Appointments**

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**Postdoctoral Researcher** 2024 – Present

K. Lisa Yang Center for Conservation Bioacoustics  
Cornell Lab of Ornithology  
Cornell University – Ithaca, NY

**Peer-reviewed Publications**

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**Keyser S. R.**, Pauli J. N., Fink D., Radeloff V. C., and B. Zuckerberg. Hotspots in cold climates: Mapping and evaluating the conservation of cold-adapted biodiversity across the United States. In-review: *Diversity and Distributions*.

**Keyser S. R.**, Pauli J. N., Fink D., Radeloff V. C., Pigot A. L., and B. Zuckerberg. Seasonality structures avian functional diversity and niche packing across North America. 2024. *Ecology Letters*. <https://doi.org/10.1111/ele.14521>

**Keyser S. R.**, Fink D., Gudex-Cross D., Radeloff V. C., Pauli J. N., and B. Zuckerberg. Snow cover dynamics: An overlooked yet important feature of overwinter bird occurrence and abundance across the United States. 2022. *Ecography*. <https://doi.org/10.1111/ecog.06378>

Gilbert N. A., McGinn K., Nunes L., Shipley A., Bernath-Plaisted J., Clare J., Murphy P., **Keyser S. R.**, Thompson K., Maresh Nelson S., Cohen J., Widick I., Bartel S., Orrock J., and B. Zuckerberg. Diel activity patterns as an emerging means to explore

ecological processes. 2022. *Trends in Ecology and Evolution*.  
<https://doi.org/10.1016/j.tree.2022.10.008>

Oke T., Zhang S., **Keyser S. R.**, and L. A. Yeager. Sea-surface temperature anomalies mediate changes in fish richness and abundance in Atlantic and Gulf of Mexico estuaries. 2022. *Journal of Biogeography*. <https://doi.org/10.1111/jbi.14451>

Gudex-Cross D., Zhu L., **Keyser S. R.**, Zuckerberg B., Pauli J. N., and V. C. Radeloff. Winter conditions structure extratropical patterns of species richness of amphibians, birds, and mammals globally. 2022. *Global Ecology and Biogeography*.  
<https://doi.org/10.1111/geb.13511>

Gudex-Cross D., **Keyser S. R.**, Zuckerberg B., Fink D., Pauli J. N., and V. Radeloff. 2021. Winter Habitat Indices (WHIs) for the contiguous US and their relationship with winter bird diversity. *Remote Sensing of Environment*, 255, 112309.  
<https://doi.org/10.1016/j.rse.2021.112309>

Yeager L. A., Estrada J., Holt K., **Keyser S. R.**, and T. Oke. 2020. Are habitat fragmentation effects stronger in marine systems? A review and meta-analysis. *Current Landscape Ecology Reports*, 5, 58-67. <https://doi.org/10.1007/s40823-020-00053-w>

Biggs C. R., Yeager L. A. Bolser D. G., Bonsell, C., Dichiera A. M., Hou Z., **Keyser S. R.**, Khursigara A. J., Lu K., Muth A., Negrete B., and B. Erisman. 2020. Does functional redundancy affect ecological stability and resilience? A meta-analysis. *Ecosphere*, 11(7), e03184. <https://doi.org/10.1002/ecs2.3184>

### ***Contributed Presentations (Oral)***

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\***Keyser, S. R.**, Pauli, J. N., Fink, D., Pigot, A., and B. Zuckerberg. "Seasonal patterns and drivers of North American functional diversity." American Ornithological Society-Society for Canadian Ornithologists Joint Conference. London, Ontario. August 2023.

Zuckerberg, B., **Keyser, S. R.**, Gudex-Cross, D., Radeloff, V. C., Fink, D. and J. N. Pauli. "Applying Sustainable Development Goals to the conservation of winter environments and cold-adapted species in a warming world." NASA Biodiversity Ecological Forecasting Meeting. College Park, MD. September 2022.

Gudex-Cross D., **Keyser S. R.**, Zuckerberg B., Fink D., and V. C. Radeloff. "Winter Habitat Indices (WHIs) for the contiguous US and their relationship with winter bird biodiversity." Ecological Society of America annual meeting. August 2020.

**Keyser S. R.**, J. Cruz, C. Giri, and L. A. Yeager. "Impacts of regional climate change and climate-mediated vegetation shifts on coastal avian community dynamics." Ecological Society of America annual meeting. Louisville, KY. August 2019.

Yeager L. A., Estrada J., Holt J., **Keyser, S. R.**, and O. Oke. "Are effects of habitat fragmentation stronger in marine systems? A literature review and meta-analysis." Ecological Society of America annual meeting. Louisville, KY. August 2019.

**Keyser S. R.** and L. A. Yeager. "Impacts of climate change on coastal avian biodiversity." Graduate Climate Conference. Seattle, Washington. November 2018.

**Keyser S. R.** and J. Chaves. "Neighbor-Stranger recognition and song alteration in White-eared Ground - sparrows (*Melospiza leucotis*)." CIEE Tropical Ecology and Conservation Spring 2016 Research Symposium. Monteverde, Costa Rica. May 2016.

Allstadt A., Caraco T., Korniss G., and **S. R. Keyser**. "Kinetic roughening theory predicts properties of ecological fronts in a variety of systems and spatial scales." Ecological Society of America annual meeting. Baltimore, MD. August 2015.

*\*Presentation selected for award*

### ***Contributed Presentations (Poster)***

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**Keyser, S. R.**, Fink, D., Gudex-Cross, D., Radeloff, V. C., Pauli, J. N., and B. Zuckerberg. "Assessing conservation gaps for U.S. winter biodiversity." American Geophysical Union. Chicago, IL. December 2022.

**Keyser, S. R.**, Fink, D., Gudex-Cross, D., Radeloff, V. C., Pauli, J. N., and B. Zuckerberg. "Snow cover dynamics as a key ecological filter for species distributions." NASA Biodiversity & Ecological Forecasting Meeting. College Park, MD. September 2022.

**Keyser, S. R.**, Fink, D., Gudex-Cross, D., Radeloff, V. C., Pauli, J. N., and B. Zuckerberg. "Snow cover dynamics as a key ecological filter for species distributions." Midwest Climate Adaptation Science Center Annual Meeting. Madison, WI. August 2022.

**Keyser, S. R.**, Fink, D., Gudex-Cross, D., Radeloff, V. C., Pauli, J. N., and B. Zuckerberg. "Snow cover dynamics as a key ecological filter for species distributions." American Geophysical Union. New Orleans, LA. December 2021.

**Keyser, S. R.** and Yeager, L. A. "Impacts of climate-mediated mangrove expansion on avian community dynamics." International Ornithological Congress. Vancouver, British Columbia. August 2018.

**Keyser, S. R.** and Yeager, L. A. "Impacts of climate-mediated mangrove expansion on avian community dynamics." Benthic Ecology Meeting. Corpus Christi, TX. March 2018.

### ***Invited Public Talks***

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**Keyser, S. R.** "Winter warriors: How birds survive the elements." Lake/Cook Audubon Society. Virtual Seminar. January 2021.

**Keyser, S. R.**, Cruz, J., Giri, C., and L. A., Yeager. "Impacts of climate change on bird biodiversity across the Gulf of Mexico." Coastal Bend Audubon Society. Corpus Christi, TX. November 2019.

### ***Fellowships & Grants***

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NASA FINESST Fellowship	2023
GCA Francis M Peacock Scholarship for Native Bird Habitat	2019
Coastal Bend Audubon Society Bird Conservation Research Award	2018

## ***Awards***

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AOS Best Student Presentation Award	2023
University of Texas Marine Science Institute Graduate Travel Award	2019
Coastal Bend Audubon Society Bird Conservation Research Award	2018
Graduate Climate Conference Presenter Travel Award	2018

## ***Professional Training***

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<b>Structural Equation Modeling: Advanced Techniques</b>	2018
Ecological Society of America Annual Meeting Workshop Louisville, KY	
<b>Introduction to Applied Bayesian Statistics</b>	2018
Department of Statistics and Data Sciences University of Texas at Austin, Austin, TX	
<b>Applied Hierarchical Linear Modeling</b>	2018
Department of Statistics and Data Sciences, University of Texas at Austin, Austin, TX	

## ***Teaching & Mentoring***

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<i>Teaching Assistant</i>	2021-2023
Department of Forest and Wildlife Ecology University of Wisconsin-Madison <b>INTEGSCI 110: BioHouse Seminar: Biology for the 21<sup>st</sup> Century</b>	
<i>Teaching Assistant</i>	2019
Department of Marine Science University of Texas at Austin <b>MNS 120L: Field Studies in Marine Ecology</b>	
<i>Teaching Assistant</i>	2018
Department of Marine Science University of Texas at Austin <b>MNS 307: Introduction to Oceanography</b>	

## ***Professional Experience***

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<i>Wildlife Field Technician</i>	2017
Kentucky Department of Fish and Wildlife	

*Undergraduate Technician* **2016-2017**  
SILVIS Lab  
University of Wisconsin-Madison

*Spotted Owl Field Technician* **2016**  
Peery Lab  
University of Wisconsin-Madison

### ***Professional Affiliations***

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American Ornithological Society **2023-present**  
American Geophysical Union **2020-2023**  
Ecological Society of America **2017-2020**  
International Ornithologists' Union **2017-2019**  
The Waterbird Society **2017-2019**  
The Wildlife Society **2015-2017**

### ***Professional Service***

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*Scientific Journal Service*  
Reviewer for *Global Ecology and Biogeography*  
Reviewer for *Conservation Biology*  
Reviewer for *Oikos*  
Reviewer for *Oecologia*  
Reviewer for *Proceedings to the Royal Society B*

*University Service*  
Graduate Representative **2022-2024**  
Dept. Forest and Wildlife Ecology Justice, Diversity,  
Equity and Inclusion (JEDI) Committee

Board Member **2018-2019**  
UT Marine Science Graduate Student Association

### ***Community Outreach***

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*Summer Science Instructor* **2019**  
University of Texas Marine Science Institute

*Science Fair Judge* **2018**  
Olsen Elementary School, Port Aransas, TX