

KARI E. A. NORMAN

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EDUCATION

University of California, Berkeley 8/2016–12/2021

Ph.D., Environmental, Science, Policy, and Management

Dissertation: *Synthesis approaches to quantifying biodiversity change, tools and applications*

Advisor: Dr. Carl Boettiger

Utah State University 8/2012–5/2016

B.S. Statistics, B.S. Conservation and Restoration Ecology with Honors

Minor in Biomathematics, *Magna cum Laude*

Thesis: *Biodiversity Prioritization: A Comparison of Data Types*

Advisor: Dr. Ethan White

PROFESSIONAL APPOINTMENTS

University of Montreal 4/2022 – Present

BIOS² Postdoctoral Fellow

Department of Biological Sciences

Mentor: Dr. Timothée Poisot

SCHOLARSHIP

Career interruption: My productivity reflects a 2-month period of maternity leave and 9 months of full-time caretaking responsibility during the COVID-19 pandemic.

Total number of citations: 26 | h-index: 4

Accessed from Google Scholar 27 Sept 2022

Peer-Reviewed Publications

1. Halpern, BS, C Boettiger, MC Dietze, JA Gephart, P Gonzalez, NB Grimm, PM Groffan, J Gurevitch, SE Hobbie, KJ Komatsu, KJ Kroeker, HJ Lahr, D Lodge, CJ Lortie, JSS Lowndes, F Micheli, HP Possingham, MH Ruckelshaus, C Scarborough, CL Wood GC Wu and 2021

NCEAS Future of Synthesis Summit Participants (including **KEA Norman**). *In Press at Ecosphere*. Priorities for synthesis in ecology and environmental science.
Contribution: conceptual development, writing

2. Lapeyrolerie, M, MS Chapman, **KEA Norman**, C Boettiger. 2022. Deep Reinforcement Learning for Conservation Decisions. *Methods in Ecology and Evolution* 00:1–14.
Contribution: writing
3. Li, D, S Record, ER Sokol, ME Bitters, MY Chen, YA Chung, MR Helmus, R Jaimes, L Jansen, MA Jarzyna, MG Just, JM LaMontagne, B Melbourne, W Moss, **KEA Norman**, S Parker, N Robinson, B Seyednasrollah, C Smith, S Spaulding, T Surasinghe, S Thomsen, P Zarnetske. 2022. Tidy NEON organismal data for biodiversity research. *Ecosphere* 13 (7): e4141 *Contribution: conceptual development, analysis, writing*
4. Jarzyna, MA., **KEA Norman**, JM LaMontagne, MR Helmus, D Li, SM Parker, M Perez Rocha, S Record, ER Sokol, PL Zarnetske, and TD Surasinghe. 2022. Ecosystem stability is related to animal diversity dynamics at a continental scale. *Ecosphere* 13 (3): e3970.
Contribution: conceptual development, analysis, writing
5. Nagy, RC, JK Balch, EK Bissell, ME Cattau, NF Glenn, BS Halpern, N Ilangakoon, B Johnson, MB Joseph, S Marconi, C O’Riordan, J Sanovia, TL Swetnam, WR Travis, LA Wasse, PL Zarnetske and 2019 NEON Science Summit Participants (including **KEA Norman**; 118 authors). 2021. Harnessing the NEON data revolution to advance open environmental science with a diverse and data-capable community. *Ecosphere* 12 (12): e03833. *Contribution: conceptual development*
6. **Norman, KEA**, S Chamberlain, and C Boettiger. 2020. Taxadb: A High-Performance Local Taxonomic Database Interface. *Methods in Ecology and Evolution* 11 (9): 1153–9.
Contribution: conceptual development, software development, writing

Preprints and in Progress, drafts available upon request

Norman, KEA, P de Valpine, C Boettiger. *In review*. Evaluating the evidence of widespread maintenance of functional structure in bird and mammal communities.
Contribution: conceptual development, analysis, writing

Norman, KEA & EP White. 2019. *Preprint*. Implications of data type for biodiversity prioritization. *bioRxiv*. : <https://doi.org/10.1101/685735> *Contribution: conceptual development, analysis, writing*

SOFTWARE

Taxadb R Package (<https://github.com/ropensci/taxadb>)

GRANTS

BIOS² Postdoctoral Fellowship for Persistence	2022-2023
Project: Large-scale ecosystem modeling for biodiversity monitoring, \$35,000	
Department of Energy Computational Science Graduate Fellowship	2017-2021
Project: Development of multi-taxa joint species distribution models, \$150,000	
National Science Foundation Graduate Fellowship 2016 (deferred)	2016
Project: Development of multi-taxa joint species distribution models \$96,000	
NSF NRT Fellowship, Data Science for the 21st Century, \$20,000	2016-2017
Undergraduate Research and Creative Opportunities Grant	2014
Project: Climate change impacts on the Uinta Ground Squirrel, \$2,000	
Undergraduate Research Fellowship, \$4000	2012-2016
Quinney Scholar Fellowship, \$16,000	2012-2016
Utah State University Presidential Scholar, \$12,000	2012-2016
State of Utah Regents Scholar, \$6,000	2012-2014

AWARDS

Utah State University College Honors	2016
Outstanding Statistics Undergraduate	2016

TEACHING EXPERIENCE

Teaching Assistant

<i>Reproducible and Collaborative Data Science (ESPM 288)</i>	2017
Led weekly lab sessions, developed teaching resources for a class with varied coding background	

Python Tutor

<i>Self Employed (Utah State University)</i>	2014-2016
Developed exercises for teaching basic to intermediate Python concepts	

Training

Professional Preparation: Teaching in Environmental Science, Policy, and Management, Semester-long course	2016
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SEMINARS & CONFERENCE PRESENTATIONS

Invited Seminars

Oakridge National Lab	2018
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Invited Symposia

- “Evaluating the evidence of widespread maintenance of functional diversity in vertebrate communities” 2022
Functional Traits Across Scales
 Unifying Ecology Across Scales Gordon Research Seminar
- “A computational approach to biodiversity change” 2021
 Computational Science Graduate Fellowship Program Review
- “Ecosystem stability is related to animal diversity dynamics at a continental scale” 2021
Leveraging FAIR data to discover new connections in ecology Symposium
 Ecological Society of America Meeting

Contributed Talks

- KEA Norman, P. de Valpine, and C Boettiger, “Evaluating the evidence of widespread maintenance of functional diversity in vertebrate communities”, Ecological Society of America, Montréal, CA, August 2022.
- KEA Norman and C Boettiger, “Global functional diversity trends, a lens for detecting biodiversity change”, Ecological Society of America, Salt Lake City UT, August 2020.
- KEA Norman and L Aubry, “Demographic Consequences of Climate Change in a Hibernator, the Uinta Ground Squirrel”, Utah State Student Research Symposium, Utah State University, April 2015.
- KEA Norman and S Null, “Modeling Streamflow in the Wasatch Mountain Region with Climate Change”, iUtah Cohort Session, Salt Lake City, August 2013.

Contributed Posters

- KEA Norman and A Boyer, “Measuring biodiversity change: does function follow richness?”, International Biogeography Society Conference, January 2019.
- KEA Norman and E White, “Biodiversity Prioritization: A comparison of data types”, Gordon Research Conference: Unifying Ecology Across Scales, University of New England, July 2016.
- KEA Norman and L Aubry, “Demographic Consequences of Climate Change in the Uinta Ground Squirrel”, Research on Capitol Hill, Salt Lake City, January 2016.
- KEA Norman and E White, “Biodiversity Prioritization: A comparison of data types”, Ecological Society of America, Baltimore, August 2015.
- KEA Norman and E White, “Biodiversity Prioritization: A comparison of data types”, National Conference of Undergraduate Research, Spokane, April 2015.

RESEARCH POSITIONS

- Research Fellow, Oakridge National Lab**, PI: Dr. Alison Boyer 2018
 Synthesized and standardized functional trait databases, developed a cloud-based workflow for calculating functional diversity null models.
- Botanist, US Forest Service**, PI: Mike Duncan 2016

Established long-term range land quality monitoring system, completed ground-truthing for development of a state-wide vegetation map.

Undergraduate Research Fellow, Utah State University, PI: Dr. Ethan White 2014-2016
Created biodiversity maps of bird species in North America using PostgreSQL and Python programming language, code found at www.github.com/weecology/diversity-conservation

Undergraduate Research Fellow, Utah State University, PI: Dr. Lise Aubry 2014-2016
Performed surveys of Uinta Ground Squirrel populations, assessed demography using Capture-Mark-Recapture Robust Design model in RMark

DAAD Rise Research Intern, University of Göttingen, PI: Dr. Benjamin Saefken 2014
Developed model to predict forest biomass from LiDAR data using mixed effects and nonparametric modeling approaches

PROFESSIONAL SERVICE

University

ESPM Student Grant Review Panel 2017

Vice President, USU Chapter, Society for Range Management, 2015-2016

Wildland Dept. Rep., Natural Resources Student Council, 2013-2016

Founding Member, Ecology Club, 2014

Peer Review

Conservation Biology, Plant Diversity, Proceedings of the Royal Society B, ROpenSci Package Review

External

Organizational Committee Chair, Expanding Your Horizons Network, 2016 - 2020

PROFESSIONAL SOCIETIES, WORKING GROUPS, WORKSHOPS

Working Groups

BON in the Box, GEO BON Initiative 2022 -Present

Identifying priority sampling locations for local food webs in Canada, BIOS² 2021-Present

Ecological Forecasting Initiative NEON Forecasting Challenge Planning 2020-Present

Tidy NEON organismal data, pipeline and application 2019-2021

Society Membership

Ecological Society of America, International Biogeography Society

Meetings Attended

Ecological Society of America 2011, 2020-2022

Gordon Research Conference: Unifying Ecology Across Scales 2016, 2022

International Biogeography 2019
Society for Conservation Biology, California 2017

Training & Workshops

Future of Synthesis in Ecology Virtual Workshop 2021
NEON Science Summit 2019
Data Science for the 21st Century NSF Research Traineeship 2016-2018

REFERENCES

Dr. Timothée Poisot, Postdoctoral Mentor
Associate Professor
Email: timothee.poisot@umontreal.ca

Dr. Carl Boettiger Doctoral Advisor
Associate Professor
Email: cboettig@berkeley.edu

Dr. Perry de Valpine Dissertation Committee Member, Collaborator
Professor
Email: pdevalpine@berkeley.edu