

BRIAN C. WEEKS

University of Michigan
School for Environment and Sustainability
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EDUCATION

Columbia University

Ph.D. in Ecology, Evolution and Environmental Biology	2017
Advisors: Shahid Naeem and Joel Cracraft	
M.Phil. in Ecology, Evolution and Environmental Biology	2014
M.A. in Ecology, Evolution and Environmental Biology	2013

Brown University

B.A., with honors, in Human Biology: Ecology and Evolution	2006
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EMPLOYMENT

- Assistant Professor, School for Environment and Sustainability, University of Michigan, September 2019 – present
- Affiliated Researcher, Department of Ornithology, University of Michigan Museum of Zoology, 2020 – present
- Affiliated Faculty, Michigan Institute for Data Science, University of Michigan, 2023-present
- Postdoctoral Researcher, Department of Ecology and Evolutionary Biology, University of Michigan, 2017-2019
- Pacific Programs Manager, Center for Biodiversity and Conservation, American Museum of Natural History, July 2010-July 2011
- Production Manager, Network of Conservation Educators and Practitioners, Center for Biodiversity and Conservation, American Museum of Natural History, August 2007-July 2010

AWARDS AND FELLOWSHIPS

Packard Fellowship for Science and Engineering. 2022. David & Lucile Packard Foundation.
George Mercer Award. 2022. Ecological Society of America.
Katma Award. 2019. American Ornithological Society.
Graduate Research Fellowship Program. 2011-2015. NSF

PUBLICATIONS

Lab members are underlined, *Senior Author

In Review/Revision

1. **Weeks, B.C.**, C. Harvey, J.A. Tobias, C. Sheard, Z. Zhou, D.F. Fouhey. Skeletal morphology of bird wings is determined by thermoregulatory demand for heat dissipation in warmer climates.

2. Pegan, T.M., A.A. Kimmitt, B.W. Benz, **B.C. Weeks**, Y. Aubry, T.M. Burg, J. Hudon, A.W. Jones, J.J. Kirchman, K. Ruegg, and B.M. Winger. Population genetic consequences of the seasonal migration of birds.
3. Ma, D., B. Abrahms, J.E. Allgeier, T. Newbold, **B.C. Weeks**, and N. Carter. Global expansion of human-wildlife overlap in the 21st Century.
4. DuBay, S. **B.C. Weeks**, P.E. Davis-Kean, C. Fuldner, N.C. Harris, S. Hughes, B.O'Brien, M. Perkins, and C. Weyant. Measuring historical pollution: natural history collections as tools for public health and environmental justice research.
5. Smith, I.M., M.C. Klemz, C.M. Probst, S. Yanco, M.M. Most, M. Ziebell, M. Zimova, J. Foufopoulos, and **B.C. Weeks***. *In situ* warming has a positive effect on fledgling growth in American robins (*Turdus migratorius*).
6. Gyllenhaal, E.F., L.B. Klicka, L.H. DeCicco, **B.C. Weeks**, R.G. Moyle, and M.J. Andersen. Phylogeographic inference is biased by island-mediated gene flow.

Published or in press

7. Zimova, M., **B.C. Weeks***, S. Giery, D.E. Willard, and B.M. Winger*. 2023. Body size predicts the rate of contemporary morphological change in birds. *PNAS*. 120(20): e2206971120.
8. **Weeks, B.C.**, Z. Zhou, B.K. O'Brien, R. Darling, M. Dean, T. Dias, G. Hassena, M. Zhang, and D. Fouhey. 2023. A deep neural network for high throughput measurement of functional traits on museum skeletal specimens. *Methods in Ecology and Evolution*. 14(2): 347-359
9. **Weeks, B.C.**, M. Klemz, H. Wada, R. Darling, T. Dias, B.K. O'Brien, M. Zhang, and M. Zimova. 2022. Temperature, size and developmental plasticity in birds. *Biology Letters*. 18(12): 20220357.
10. **Weeks, B.C.**, B.K. O'Brien, C.A. Sheard, S. Claramunt, J.J. Chu, and J.A. Tobias. 2022. Morphological adaptations linked to flight efficiency and aerial lifestyle determine natal dispersal distance in birds. *Functional Ecology*. 36(7): 1681-1689.

RECOGNITION: In top 10% most downloaded papers published in *Functional Ecology* in 2022.

11. **Weeks, B.C.**, S. Naeem, J.R. Lasky, and J.A. Tobias. 2022. An inverse relationship between diversity and extinction risk at a global scale. *Ecology Letters*. 25(3): 697-707.

PRESS: Covered in 13 new outlets, including *Science*.

12. Tobias, J.A...**B.C. Weeks**...*et al.* 2022. AVONET: Functional traits for the world's birds. *Ecology Letters*. 25(3): 581-597.

RECOGNITION: ISI Highly Cited paper.

13. Allgeier, J.E., **B.C. Weeks**, K.S. Munsterman, N. Wale, S.J. Wenger, V. Parravicini, N.M.D. Schiettekatte, S. Villéger, D.E. Burkepille. 2021. Phylogenetic conservatism drives nutrient dynamics of coral reef fishes. *Nature Communications* 12: 5432.

14. Zimova, M., D.E. Willard, B.M. Winger*, and **B.C. Weeks***. 2021. Widespread shifts in bird migration phenology are decoupled from parallel shifts in morphology. *Journal of Animal Ecology*. 90(10): 2348-2361.
15. Zhou, Z., G. Mohammed, **B.C. Weeks**, D. Fouhey. 2021. Quantifying bird skeletons. *CV4Animals: Computer Vision for Animal Behavior Tracking and Modeling at Computer Vision and Pattern Recognition 2021*.
16. Cowles, S.A., **B.C. Weeks**, L. Perrin, N. Chen, and J.A.C. Uy. 2021. Small estimated population sizes of the two Kolombangara White-eye *Zosterops* species suggest need for stringent conservation efforts. *Emu – Austral Ornithology*. 121(1-2): 45-54.
17. Anujan, K., S.A. Heilpern, C.M. Prager, **B.C. Weeks**, S. Naeem. 2021. Trophic complexity alters the diversity-multifunctionality relationship in experimental grassland mesocosms. *Ecology and Evolution*. 11(11): 6471-6479.
18. **Weeks, B.C.**, S. Naeem, B.M. Winger, and J. Cracraft. 2020. The relationship between morphology and behavior in mixed-species flocks of island birds. *Ecology and Evolution*. 10(19): 10593-10606.
19. Oliver, R.Y., P.J. Mahoney, E. Gurarie, N. Krikun, **B.C. Weeks**, M. Hebblewhite, G. Liston, and N. Boelman. 2020. Dynamic responses to the local environment are a mechanism for shifting migratory phenology. *Environmental Research Letters*. 15(4): 045003.
20. **Weeks, B.C.**, D. Willard, M. Zimova, M. Hennen, M. Witynski, A. Ellis, S. Florida, and B.M. Winger. 2020. Shared morphological consequences of global warming in North American migratory birds. *Ecology Letters*. 23(2): 316-325.

RECOGNITION: Awarded the Ecological Society of America's 2022 George Mercer Award for an outstanding paper written by a young ecologist.

PRESS: Covered in 156 news outlets, including *Science*, *The Wall Street Journal*, *The Washington Post*, *BBC News*, *Le Monde*, *El País*, and additional outlets from over 10 countries. Higher altmetric score (1,571) than 99.98% of the 20 million papers ever tracked by altmetric (as of April 2022). Also interviewed about this work on nationally syndicated radio shows in Canada and the US and for a Vox YouTube video viewed over 710,000 times.

21. Pigot, A.L., C. Sheard, E.T. Miller, T.P. Bregman, B.G. Freeman, U. Roll, N. Seddon, D. Swindlehurst, **B.C. Weeks**, and J.A. Tobias. 2020. Macroevolutionary convergence connects morphological form to ecological function in birds. *Nature Ecology and Evolution*. 4: 230-239.

RECOGNITION: ISI Highly Cited paper.

22. Winger, B.M., **B.C. Weeks**, A. Jones, and D. Willard. 2019. Light and flight calls interact to determine building collision frequency in migratory birds. *Proceedings of the Royal Society B: Biological Sciences* 286(1900): 20190364.

PRESS: *Science*, *The Chicago Tribune*, Audubon, and 14 other outlets.

23. Winger, B.M., G. Auteri, T.M. Pegan, and **B.C. Weeks**. 2019. A long winter for the red queen: rethinking the evolution of seasonal migration. *Biological Reviews*. 94(3): 737-752.

RECOGNITION: Katma Award, American Ornithological Society

24. Heilpern, S., **B.C. Weeks**, and S. Naeem. 2018. Predicting ecosystem vulnerability to biodiversity loss from community composition. *Ecology*. 99(5): 1099-1107.
25. **Weeks, B.C.**, J. Diamond, P. Sweet, C. Smith, G. Scoville, and C.E. Filardi. 2017. New behavioral, ecological, and biogeographic data on the montane avifauna of Kolombangara, Solomon Islands. *The Wilson Journal of Ornithology*. 129(4): 676-700.
26. Lasky, J., T.H. Keitt, **B.C. Weeks**, and E.P. Economo. 2017. A hierarchical model of whole assemblage island biogeography. *Ecography*. 40(8): 982-990.
27. **Weeks, B.C.**, N. Gregory, and S. Naeem. 2016. Bird assemblage vulnerability depends on the diversity and biogeographic histories of islands. *PNAS*. 113(36): 10109-10114.
28. Naeem, S., C. Prager, **B.C. Weeks**, A. Varga, D. Flynn, K. Griffin, R. Muscarella, S. Wood, and W. Schuster. 2016. Biodiversity as a multidimensional construct: a review, framework, and case study of herbivory's impact on plant biodiversity. *Proceedings of the Royal Society B: Biological Sciences*. 283: 20153005.
29. **Weeks, B.C.**, S. Claramunt, and J. Cracraft. 2016. Integrating systematics and biogeography to disentangle the roles of history and ecology in biotic assembly. *Journal of Biogeography*. 43(8): 1546-1559.
30. **Weeks, B.C.** and S. Claramunt. 2014. Dispersal has inhibited avian diversification in Australasian archipelagoes. *Proceedings of the Royal Society B: Biological Sciences*. 281: 20141257.
31. **Weeks, B.C.** and C.E. Filardi. 2011. Community is key to REDD success. *Nature* 474: 450.
32. Alexander, C., N. Bynum, L. Johnson, U. King, T. Mustonen, P. Neofotis, N. Oetllé, C. Rosenzweig, C. Sakakibara, M. Vicarelli, J. Waterhouse, and **B.C. Weeks**. 2011. Linking indigenous and scientific knowledge of climate change. *BioScience* 61(6): 477-484.
33. **Weeks, B.C.**, S.P. Hamburg, and M.A. Vadeboncoeur. 2009. Ice storm effects on the canopy structure of a northern hardwood forest after 8 years. *Canadian Journal of Forest Research* 39(8): 1475-1483.
34. Bynum, N., E.J. Sterling, **B.C. Weeks**, A. Gomez, K. Roosenburg, E. Vintinner, F. Arengo, M. Domroese, and R. Pearson. 2009. Emerging topics in the study of life on earth: systems approaches to biological and cultural diversity. *Science Education and Civic Engagement: An International Journal* 2(1): 38-55.

FUNDING

Total Funding: \$1,274,500 (\$1,024,500 as PI)

Climate change adaptation: From pattern to process and prioritization. 2022-2027. **Packard Fellowship for Science and Engineering, The David and Lucile Packard Foundation (\$875,000).**

Forecasting climate-driven changes in human-wildlife interactions. Co-PI. 2022-2025. **Institute for Global Change Biology, University of Michigan (\$250,000)**

Predicting the limits to adaptive shifts in range and phenology in migratory birds. 2019-2021. PI. **Institute for Global Change Biology, University of Michigan (\$149,500).**

TEACHING

Master's Thesis Development, University of Michigan

Conservation Biology, University of Michigan

An Introduction to R, University of Michigan

Keys to a Successful Thesis, University of Michigan

MENTORING

PhD Primary Advisor: Charlotte Probst (UM; 2022-), Tiffany Dias (UM; 2020-)

MS Thesis Advisor: Isaiah Clark (UM; 2023-), Isaac Smith (UM; 2022-), Ena Humphries (UM; 2022-2024), Summer Mengarelli (UM; 2022-2024), Madeleine Klemz (UM; 2020-2022), Mingyu Zhang (UM 2020-2022), Morgan Dean (UM 2020-2022)

Undergraduate Research Advisor: Isabelle Relyea (UM; 2024-), Zejun Li (UM; 2024-), Jessica Falls (UM; 2023-), Mark Ziebell (UM; 2022-), Sophie Barlow (UM; 2019), Madeleine Klemz (UM; 2019), Megan Trapp (UM; 2017-2018).

Postdoctoral Research Fellow Advisor: Scott Yanco (UM; 2023-), Jacob Berv (UM; 2023-), Marketa Zimova (UM; 2019-2021)

PhD Committee Member: Tristan Schramer (UM; 2024-), Matthew Heck (UM; 2022-), Katrina Munsterman (UM; 2020-), Kristen Wacker (UM; 2020-), Tilahun Fikadu (UM; 2021-), Andrew Barnard (UM; 2021-2024)

Faculty Advisor, Michigan Internship Learning Environment, 2019

Mentor for the AMNH Student Research Mentorship Program (2 HS students), 2016-2017
Rebecca Lewis, HS student, Measuring bird wings of the world, Summer 2014

FIELD WORK

2023 Nest warming experiment, Northern Michigan

2021 Nest warming experiment, Southeastern Michigan

2021 Ornithological collection, Northern Michigan

2018 Ornithological collection, Upper Peninsula, Michigan

2017 Ornithological collection, Kyrgyzstan and Upper Peninsula, Michigan

2016 Migratory bird GPS tagging, Northern Canada; Mixed-species flock observation, Solomon Islands

2013 Ornithological collection and ecological observation, Solomon Islands

2012 Ornithological collection and ecological observation, Australia and Solomon Islands

2011 Conservation and education programmatic support, Solomon Islands

2010 Conservation and education programmatic support, Solomon Islands

2009 Conservation and education programmatic support, Solomon Islands

- 2005 Canopy foliage-height profile research at Hubbard Brook Forest, NH.
2004 Soil nutrient study at the Hubbard Brook Experimental Forest, NH.

PROFESSIONAL SERVICE

Associate Editor, *Evolutionary Ecology*, 2022-present

Initiated and run an internal fellowship and grant review program for the NextGen Scholars participants within SEAS, 2023-present

Reviewer: *Science*, *Science Advances*, *Nature Ecology and Evolution*, *Nature Communications*, *Ecology Letters*, *Global Change Biology*, *Evolution*, *The American Naturalist*, *Molecular Ecology*, *Ecological Applications*, *Journal of Avian Biology*, *Communications Biology*, *Global Ecology and Biogeography*, *Biological Journal of the Linnean Society*, *Biology Letters*, *Journal of Biogeography*, *Ecology and Evolution*, *Avian Research*, *Emu: Austral Ornithology*, *The Wilson Journal of Ornithology*, *New Phytologist*, *Global Ecology and Conservation*, *Biodiversity Conservation*

Specimen collection and preparation from expeditions to: Solomon Islands (multiple), Kyrgyzstan, Australia, Boreal North America (multiple)

OpEd contributor to The Hill. Radio/Video interviews: NPR's Science Friday and All Things Considered, Canadian Broadcast Corporation's Quirks and Quarks (nationally syndicated show with >800,000 listeners), Vox Magazine, and Vox YouTube (my interview has been viewed >700,000 times). Provided interviews for articles about my work that appeared in >100 newspapers, including: New York Times, Wall Street Journal, el País, etc. I estimate I have given roughly 50 interviews about this work, and while I lost track of exactly where I interviewed, my work on climate change impacts on birds has been featured in at least 148 news outlets and 10 blogs in well over 10 countries.

PRESENTATIONS

1. **Weeks, B.C.** 2023. Predicting human impacts on the biosphere using birds (invited). Packard Fellow 35th Annual Reunion, Packard Foundation.
2. **Weeks, B.C.**, M. Zimova, and B.M. Winger. 2023. Patterns and predictors of global warming-driven morphological change in North American birds (invited). Mercer Award talk, Annual Meeting of the Ecological Society of America.
3. **Weeks, B.C.**, C. Harvey, C. Sheard, and J. Tobias. 2022. Cryptic evidence of Allen's Rule: heat dissipation demand links temperature and structure in bird wings. Annual meeting of the Ecological Society of America.
4. **Weeks, B.C.** 2022. The power and promise of specimen collections as windows into contemporary responses to global change (invited). Annual meeting of the International Ornithologists' Union.
5. **Weeks, B.C.** 2022. Global change biology (invited). Eton Academy.
6. **Weeks, B.C.** 2021. Skelevision: Understanding temperature-driven morphological variation across space and time using bird skeletal specimens and computer vision (invited). Dept. of Ecology and Evolutionary Biology Seminar Series, University of Michigan.
7. **Weeks, B.C.** 2021. What can 70,000 bird specimens tell us about the impacts of climate change on migratory birds? Rocky Point Bird Observatory.

8. **Weeks, B.C.** 2020. Using 70,000 bird specimens to understand 40 years of warming-driven morphological change (invited). Kellogg Biological Station, Michigan State University.
9. **Weeks, B.C.** 2020. The relationship between morphology and behavior in mixed-species flocks of island birds (invited). Andersen Lab, University of New Mexico.
10. **Weeks, B.C.** and J. Tobias. 2019. The impacts of diversity and assembly on community vulnerability (invited). Annual meeting of the American Ornithological Society.
11. Pegan, T., **B.C. Weeks**, and B. Winger. 2019. How do dispersal and migration influence range expansion in birds? Annual meeting of the American Ornithological Society.
12. Winger, B., **B.C. Weeks**, et al. 2019. Nocturnal flight-calling behaviour predicts vulnerability to artificial light in migratory birds. Annual meeting of the American Ornithological Society.
13. **Weeks, B.C.** 2018. A role for history in biodiversity-ecosystem function relationships. Early professional mini talks. Annual meeting of the American Ornithological Society.
14. **Weeks, B.C.** 2018. Moving to the mainland: Expanding assessment of the impacts of biodiversity and biogeography on assemblage vulnerability. Annual meeting of the American Ornithological Society.
15. Heilpern, S., **B.C. Weeks**, and S. Naeem. Predicting ecosystem vulnerability to biodiversity loss from community composition. 2018. Annual meeting of the Ecological Society of America.
16. Anujan, K., S. Heilpern, C. Prager, **B.C. Weeks**, S. Bruner, and S. Naeem. 2018. Trophic level structure alters the diversity-multifunctionality effect in experimental grassland mesocosms. Annual meeting of the Ecological Society of America.
17. **Weeks, B.C.** 2014. Origins of avian diversity in the South Pacific, community assembly, and contemporary ecology. Invited seminar, Jetz lab at Yale University.
18. **Weeks, B.C.**, E.R. Fischer, N. Gregory, H. Jaris, A. Klavans, D.L. Kriensky, A. Varga, and S. Naeem. 2014. Diversity and the robustness of avian assemblages in the Solomon Archipelago. Annual Meeting of the Ecological Society of America. Sacramento, CA.
19. Naeem, S., **B.C. Weeks**, C.M. Prager, A.T. Varga, S.A. Wood, and R. Muscarella. 2014. Herbivore-induced dissolution of the dimensional structure of biodiversity's association with ecosystem functioning: Impacts of deer exclusion on biodiversity and ecosystem functioning in a temperate forest. Annual Meeting of the Ecological Society of America. Sacramento, CA.
20. Cracraft, J.L., **B.C. Weeks**, and S. Claramunt. 2012. Reconstructing the history of ecological assemblages at different spatiotemporal scales: an evolutionary approach. Presented as a keynote talk at the Association for Tropical Biology and Conservation's 49th Annual Meeting. Bonito-MS, Brazil.
21. Filardi, C.E. and **B.C. Weeks**. 2011. Pan-Pacific evolutionary scale, regional policy, and meeting the challenges of local conservation action in the Solomon Islands. Presented at the Smithsonian National Museum of Natural History's Evolution of Life on Pacific Islands and Reefs: Past, Present, and Future. Honolulu, HI.

LANGUAGES

R, Solomon Islands Pijin