# Education

**Cornell University** Ithaca, NY

Ph.D. Ecology and Evolutionary Biology 2007

**Clemson University** Clemson, SC

M.S. Zoology 2001

**Cornell University** Ithaca, NY

BS Natural Resources 1995

# Cornell Lab of Ornithology

**Recent Experiences**

Ithaca, NY

City, State

**Migration Ecologist** August 2002-June 2023

* *Senior Research Associate*, 2020-2023 – lead scientist, extensive media outreach, budgeting and personnel, grant writing, research direction for BirdCast and numerous additional migration ecology programs
  + *Managed research, development, outreach, and operations of a diverse multi-disciplinary science, public relations, technological development, and administrative team*
* *Research Associate*, 2010-2020 – lead scientist, BirdCast; research and application for Center for Avian Population Studies and Conservation Science, Information Science, and Bioacoustics Research Programs
  + *Developed Cornell Lab of Ornithology aeroecology program while supporting peer-reviewed science, grant writing (~$6MM in funds), and donor development.*
* *Postdoctoral Fellow*, 2007-2010 – research and operations for Department of Defense Legacy Resource Management acoustic and citizen science monitoring programs
  + *Wrote grants and white papers, developed and led acoustic field campaigns.*
* *Graduate Teaching and Research Assistant*, 2002-2007
  + Taught lab, lecture courses, Dept. Ecology & Evolutionary Biology; research assistantships for Ivory-billed Woodpecker monitoring, preparation of Vol. 4 of Handbook of the Birds of the World

**Actions @ EBMF** New York, NY

**Trustee and Grants Administration** October 2015-present

* Defined mission, hired executive director, coordinated impact investment, performed site visits for grantees.
  + Approximately $1-1.5MM distributed annually in support of mission.
  + Several grantees now in 3rd year of 5 year granting cycles.

# Additional Leadership & Activities

**Role** 1994-present

* 2023-present, 2009-2014: Board Member, Jocotoco Foundation
* 2022-present: Advisory Council, Rainforest Trust
* 2020-present: Director, Doré Fasola Management Company
* 2020-present: Elective Fellow Member, American Ornithologists’ Union.
* 2018-present: Trustee, Earle Brown Music Foundation Charitable Trust
* 2015-present: Advisory Council, New York City Audubon
* 2014-present: Advisory Council, Fundación de Conservación Jocotoco (Ecuador)
* 2010-2015: Board Member, New York City Audubon
* 2010-present: Faculty Fellow, Atkinson Center for a Sustainable Future, Cornell University.
* 2006-2012: Association of Field Ornithologists, Council member
* 2006-2012: Research Associate, Powdermill Avian Research Center
* 2001-2002: Audubon Science Fellow, National Audubon Society, New York, NY
* 1999-2001: Research Assistant, Radar Ornithology Laboratory, Clemson University
* 1995-2008: Tour Leader, Victor Emanuel Nature Tours, Inc., Austin, TX
* 1994-1995: Teaching Assistant, Cornell University

**Service and Memberships:** American Ornithological, Wilson Ornithological, Cooper Ornithological Societies; Association of Field Ornithologists, AAAS, AGU, American Society of Naturalists, Ecological Society of America.

*- Additional Committees*: RWSC Bird & Bat Subcommittee, Assessing Risks and Impacts to Migrating Birds from Wind Energy; Lights Out Coalition.

*- Collaborative Teams:* PI/co-PI, NSF, Belmont Forum, National Fish & Wildlife Foundation, European Network for Radar surveillance of Animal Movement, DoD, DoI, NYSERDA, USFWS, and BOEM with Oregon State University, University of Michigan, University of Massachusetts Amherst, New York University, Rice University, Colorado State University, University of Illinois Urbana-Champaign, Swiss Ornithological Institute, Cape May Bird Observatory among others

*- Review*: 2654 manuscripts since 2011 for Ibis (Associate Editor), Science, Nature, Current Biology, Ecology, Ornithological Advances/Applications, Biometeorology, Frontier in Ecology and the Environment, Bulletin of the American Meteorological Society, Wilson Journal of Ornithology, The Journal of Field Ornithology, Ecological Applications, Ecological Modeling, Ecology Letters, Nature Ecology & Evolution, Science Advances, Bioacoustics, Ardea, PLoS One, Avian Biology Research

*- Additional Outreach*: Lights Out Texas engagement; NYC City Council presentations; participation in Landmark Preservation Committee hearings; regular presentations and appearances for public; and to print, television, cinematic, internet media

*- Mentoring*: to date, elementary (33), high school (57), undergraduate (56), graduate (40), and postdoctoral (17) research through Eastchester, Taconic, White Plains, Pelham, and, LaGuardia High Schools, Marymount science mentoring programs, STSS, Cornell, Columbia, Oklahoma, Rutgers, Oxford, USNM, Towson, and Fordham Universities

*- Teaching*: Migration Ecology, Columbia (2010, 2011, 2014, 2019), Sound Analysis Workshop, Cornell University (2008-present), MIGRATE 2008 (NSF-DIOS 0541740), Young Birders’ Event (2009-present)

**Areas of Expertise (Keywords):** bird migration,aeroecology, radar ornithology, migration ecology, artificial light, remote sensing, climate change, phenology, distribution, animal behavior, bioacoustics, meteorology, climatology, machine learning

**Synergistic Activities**

1. Research: PI/co-PI NSF 1125098, 1633206, 1927743, 141379; NFWF, DoD, USGS, NYSERDA, BOEM awards; publications, datasets; applications include light pollution and aircraft strike hazard mitigation and ecological forecasting; additional funding from Leon Levy Foundation, Lyda Hill Foundation, and Amon G. Carter Foundation.

2. Engagement: advisory committees, workshops, symposia; energy infrastructure impacts on migrating birds; Neotropical conservation; light pollution; aeroecology, avian zoonotic disease. birdcast.info provides real-time bird migration forecasts, with some visitation and audience details [here](https://datastudio.google.com/u/0/reporting/625bb085-c5b8-47c4-8519-f6b579e181a7/page/ctMvB).

3. Education: mentoring elementary students to postdoctoral fellows, also eCornell (Cornell) and eCampus (William & Mary)

4. Outreach: public and amateur presentations; media outreach; numerous onscreen appearances in public education and cinematic productions; science talent search.

5. Service: community building for Cornell, EuropaBON, Convention on Migratory Species, New York City Audubon, Lights Out Texas, Cornell Migrations Taskforce, NYC Visioning Initiative; editorial duties; NASEM, NSF, NASA panels; professional memberships include AAAS, AOU, AGU; city council and landmark preservation presentations and testimony.

**Select Refereed Publications from 2021-present:** [**Cornell Research Page**](https://www.birds.cornell.edu/home/staff/andrew-farnsworth/)[**Google Scholar**](https://scholar.google.com/citations?hl=en&user=ipk79FsAAAAJ&view_op=list_works&sortby=pubdate)[**Researchgate**](https://www.researchgate.net/profile/Andrew_Farnsworth)

- Farnsworth, A., Horton, K.G. and Marra, P.P., 2024. To mitigate bird collisions, enforce the Migratory Bird Treaty Act. *Proceedings of the National Academy of Sciences*, *121*(9), p.e2320411121.

- Chen, K., Kross, S.M., Parkins, K., Seewagen, C., Farnsworth, A. and Van Doren, B.M., 2024. Heavy migration traffic and bad weather are a dangerous combination: Bird collisions in New York City. *Journal of Applied Ecology*.

- Van Doren, B.M., Farnsworth, A., Stone, K., Osterhaus, D.M., Drucker, J. and Van Horn, G., 2024. Nighthawk: Acoustic monitoring of nocturnal bird migration in the Americas. *Methods in Ecology and Evolution*, *15*(2), pp.329-344.

- Ress, E.M., Farnsworth, A., Morris, S.R., Lanzone, M. and Van Doren, B.M., 2024. Magnolia Warbler flight calls demonstrate individuality and variation by season and recording location. *Ornithology*, *141*(1), p.ukad056.

- Li, H., Farnsworth, A. and Liang, D., 2023. Eco-metropolis: Re-interpreting ecological conservation in the context of innovative agglomeration. *Environmental Science and Ecotechnology*, *19*, pp.100342-100342.

- S R Loss,  B V Li,  L C Horn,  M R Mesure,  L Zhu,  T G Brys,  A M Dokter,  J A Elmore,  R E Gibbons,  T Z Homayoun,  K G Horton,  P Inglet, B J Jones,  T Keys,  S Lao,  S S Loss,  K L Parkins,  H L Prestridge, G J Riggs,  S S Riding,  K RI Sweezey,  A C Vallery,  B M Van Doren,  J Wang,  C Zuzula,  and A Farnsworth. 2023. Citizen science to address the global issue of bird–window collisions. Frontiers in Ecology and the Environment. doi.org/10.1002/fee.2614

- Abbott, A.L., Deng, Y., Badwey, K., Farnsworth, A. and Horton, K.G., 2023. Inbound arrivals: using weather surveillance radar to quantify the diurnal timing of spring trans‐Gulf bird migration. *Ecography*, p.e06644.

- Van Doren, B. M.,  Lostanlen, V.,  Cramer, A.,  Salamon, J.,  Dokter, A.,  Kelling, S.,  Bello, J. P., &  Farnsworth, A. (2023).  Automated acoustic monitoring captures timing and intensity of bird migration. Journal of Applied Ecology,  00,  1– 12. <https://doi.org/10.1111/1365-2664.14342>

- Shamoun-Baranes, J., Bauer, S., Chapman, J.W., Desmet, P., Dokter, A.M., Farnsworth, A., van Gasteren, H., Haest, B., Koistinen, J., Kranstauber, B. and Liechti, F., 2022. Meteorological data policies needed to support biodiversity monitoring with weather radar. Bulletin of the American Meteorological Society, 103(4), pp.E1234-E1242.

- La Sorte, F.A., Johnston, A., Rodewald, A.D., Fink, D., Farnsworth, A., Van Doren, B.M., Auer, T. and Strimas‐Mackey, M., 2022. The role of artificial light at night and road density in predicting the seasonal occurrence of nocturnally migrating birds. Diversity and Distributions, 28(5), pp.992-1009.

- Robinson, O.J., Socolar, J.B., Stuber, E.F., Auer, T., Berryman, A.J., Boersch-Supan, P.H., Brightsmith, D.J., Burbidge, A.H., Butchart, S.H., Davis, C.L. and Dokter, A.M., 2022. Extreme uncertainty and unquantifiable bias do not inform population sizes. Proceedings of the National Academy of Sciences, 119(10), p.e2113862119.

- Farnsworth, A., K. Horton, K. Heist, E. Bridge, R. Diehl, W. Frick, J. Kelly, P. Stepanian. 2021. The Role of Regional-Scale Weather Variables in Predicting Bat Mortality and Bat Vocalizations: Potential for Use in the Development of Smart Curtailment Algorithms. AWWI Technical Report. Washington, DC. Available at www.awwi.org. ©2021 American Wind Wildlife Institute. This report is a product of the Wind Wildlife Research Fund.

- Van Doren, B M., D E. Willard, M Hennen, K G. Horton, E F. Stuber, D Sheldon, A H. Sivakumar, J Wang, A Farnsworth, and B M. Winger. "Drivers of fatal bird collisions in an urban center." Proceedings of the National Academy of Sciences 118, no. 24 (2021).

- Shamoun-Baranes, J, S Bauer, J W. Chapman, P Desmet, A M. Dokter, A Farnsworth, B Haest et al. "Weather radars' role in biodiversity monitoring." Science 372, no. 6539 (2021): 248-248.

- Hannah L Clipp, Jeffrey J Buler, Jaclyn A Smolinsky, Kyle G Horton, Andrew Farnsworth, Emily B Cohen, Winds aloft over three water bodies influence spring stopover distributions of migrating birds along the Gulf of Mexico coast, Ornithology, 2021;, ukab051, <https://doi.org/10.1093/ornithology/ukab051>

- Horton KG, Van Doren BM, Albers HJ, Farnsworth A, Sheldon D. Near-term ecological forecasting for dynamic aeroconservation of migratory birds. Conservation Biology. 2021;35:1777–1786.https://doi.org/10.1002/cobi.13740

- Nilsson, C.,  La Sorte, F. A.,  Dokter, A.,  Horton, K.,  Van Doren, B. M.,  Kolodzinski, J. J.,  Shamoun-Baranes, J., & Farnsworth, A. (2021).  Bird strikes at commercial airports explained by citizen science and weather radar data. Journal of Applied Ecology,  00,  1– 11. <https://doi.org/10.1111/1365-2664.13971>

- Elmore, JA, Riding, CS,  Horton, KG,  O'Connell, TJ,  Farnsworth, A,  Loss, SR.  Predicting bird-window collisions with weather radar. J Appl Ecol.  2021; 58: 1593– 1601. <https://doi.org/10.1111/1365-2664.13832>

- Clipp, H.L., Buler, J.J., Smolinsky, J.A., Horton, K.G., Farnsworth, A. and Cohen, E.B., 2021. Winds aloft over three water bodies influence spring stopover distributions of migrating birds along the Gulf of Mexico coast. The Auk, 138(4), p.ukab051.

- Cohen, E.B., Horton, K.G., Marra, P.P., Clipp, H.L., Farnsworth, A., Smolinsky, J.A., Sheldon, D. and Buler, J.J. (2021), A place to land: spatiotemporal drivers of stopover habitat use by migrating birds. Ecology Letters, 24: 38-49. <https://doi.org/10.1111/ele.13618>