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Andrew Farnsworth, Ph.D.

Migration Ecologist | Cornell Lab of Ornithology (Cornell University)
Profiles: Google Scholar|ORCID|ResearchGate

Education

Cornell University — Ithaca, NY **2007**
Ph.D., Ecology and Evolutionary Biology

Clemson University — Clemson, SC **2001**
M.S., Zoology

Cornell University — Ithaca, NY **1995**
B.S., Natural Resources

Professional Experience

Cornell Lab of Ornithology, Cornell University — Ithaca, NY
Aug 2002–Present
Migration Ecologist

- Visiting Scientist (2023–Present): Media outreach, grant writing, and research direction for BirdCast and additional migration ecology programs.
- Senior Research Associate (2020–2023): Lead scientist; budgeting and personnel; grant writing; research direction for BirdCast and additional migration ecology programs.
- Research Associate (2010–2020): Lead scientist for BirdCast; research and applications supporting Center for Avian Population Studies and Conservation Science, Information Science, and Bioacoustics Research Programs.
- Developed the Cornell Lab aeroecology program while supporting peer-reviewed science, grant writing (approx. $6MM), and donor development.
- Postdoctoral Fellow (2007–2010): Research and operations for Department of Defense Legacy Resource Management acoustic and citizen-science monitoring programs; led acoustic field campaigns and authored grants/white papers.
- Graduate Teaching and Research Assistant (2002–2007): Taught lab and lecture courses (Ecology & Evolutionary Biology); research assistantships for Ivory-billed Woodpecker monitoring; preparation support for Volume 4 of Handbook of the Birds of the World.

Independent Consulting — New York, NY Jul 2019–Present
Field Surveys, Collision Mitigation, Experimental Design, Research & Development

- Research and application development for the study of bird migration and distribution.
- Weekly and monthly bird surveys quantifying numbers of individuals, documenting species presence/absence, monitoring landscape conditions, and recommending survey and maintenance methods.

Actions @ EBMF — New York, NY Oct 2015–Present
Trustee and Grants Administration

- Defined mission; hired executive director; coordinated impact investment; performed site visits for grantees; research grantees and opportunities.
- Approx. $1.0–1.5MM distributed annually in support of mission; several grantees now in year 3 of 5-year granting cycles.

Leadership, Service & Professional Activities

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

Service and Memberships

American Ornithological, Wilson Ornithological, and 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 collaborations and partnerships with 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 and Editorial: Reviewed 3,875 manuscripts since 2011; Associate Editor for Ibis; reviewer for Science, Nature, Current Biology, Ecology, Ornithological Advances/Applications, Biometeorology, Frontiers in Ecology and the Environment, Bulletin of the American Meteorological Society, Wilson Journal of Ornithology, The Journal of Field Ornithology, Ecological Applications, Ecological Modelling, Ecology Letters, Nature Ecology & Evolution, Science Advances, Bioacoustics, Ardea, PLoS One, Avian Biology Research.
- Additional Outreach: Lights Out Texas engagement; NYC City Council presentations; Landmark Preservation Committee hearings; regular public presentations and appearances across print, television, cinematic, and internet media.
- Mentoring: Elementary (54), high school (71), undergraduate (68), graduate (51), and postdoctoral (19) mentees to date; through East Hampton, 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

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 and 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, and symposia; energy infrastructure impacts on migrating birds; Neotropical conservation; light pollution; aeroecology; avian zoonotic disease. birdcast.info provides real-time bird migration forecasts.
3. Education: Mentoring elementary students to postdoctoral fellows; eCornell (Cornell) and eCampus (William & Mary).
4. Outreach: Public and amateur presentations; media outreach; 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.

Selected Publications (2021-present)

1. Heiser, E. R., Farnsworth, A., Tietz, J. R., Iliff, M. J., & Van Doren, B. M. (2025). Shared origins of six songbird species occurring as vagrants in California. Ornithology, ukaf057. https://doi.org/10.1093/ornithology/ukaf057
2. Curley, S. R., Farnsworth, A., White, T. P., Shamoun-Baranes, J., & Dokter, A. M. (2025). Differences between terrestrial and offshore bird migration: Implications for offshore wind energy. Journal of Applied Ecology, 62(10), 2800–2813.
3. Van Doren, B. M., DeSimone, J. G., Firth, J. A., Hillemann, F., Gayk, Z., Cohen, E., & Farnsworth, A. (2025). Social associations across species during nocturnal bird migration. Current Biology, 35(4), 898–904.
4. Nussbaumer, R., Van Doren, B. M., Hochachka, W. M., Farnsworth, A., La Sorte, F. A., Johnston, A., & Dokter, A. M. (2024). Nocturnal avian migration drives high daily turnover but limited change in abundance on the ground. Ecography, 2024(9), e07107.
5. Lostanlen, V., Cramer, A., Salamon, J., Farnsworth, A., Van Doren, B. M., Kelling, S., & Bello, J. P. (2024). BirdVoxDetect: Large-scale detection and classification of flight calls for bird migration monitoring. IEEE/ACM Transactions on Audio, Speech, and Language Processing.
6. Liu, S., Townshend, T., Farnsworth, A., Alexander, D., Tian, H., & Hua, F. (2024). Monitoring bird migration using nocturnal flight calls on the East Asian–Australasian Flyway: a case from Beijing. Bird Conservation International, 34, e19.
7. Lees, A. C., Farnsworth, A., Curley, S. R., & Gilroy, J. (2024). An unprecedented arrival of Nearctic landbirds in Britain and Ireland in September 2023. British Birds, 117(6), 292–307.
8. Williams, K. A., Gulka, J., Cook, A. S., Diehl, R. H., Farnsworth, A., Goyert, H., Hein, C., Loring, P., Mizrahi, D., Petersen, I. K., & Peterson, T. (2024). A framework for studying the effects of offshore wind energy development on birds and bats in the Eastern United States. Frontiers in Marine Science, 11, 1274052.
9. Farnsworth, A., Horton, K. G., & Marra, P. P. (2024). To mitigate bird collisions, enforce the Migratory Bird Treaty Act. Proceedings of the National Academy of Sciences, 121(9), e2320411121.
10. Chen, K., Kross, S. M., Parkins, K., Seewagen, C., Farnsworth, A., & 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.
11. Van Doren, B. M., Farnsworth, A., Stone, K., Osterhaus, D. M., Drucker, J., & Van Horn, G. (2024). Nighthawk: Acoustic monitoring of nocturnal bird migration in the Americas. Methods in Ecology and Evolution, 15(2), 329–344.

12. Ress, E. M., Farnsworth, A., Morris, S. R., Lanzone, M., & Van Doren, B. M. (2024). Magnolia Warbler flight calls demonstrate individuality and variation by season and recording location. Ornithology, 141(1), ukad056.
13. Nilsson, C., Dokter, A., Bauer, S., Horton, K. G., & Farnsworth, A. (2023). Advances in weather radar monitoring of bird movement. In Advances in Weather Radar, Volume 3: Emerging applications (pp. 241–280). Institution of Engineering and Technology.
14. Li, H., Farnsworth, A., & Liang, D. (2023). Eco-metropolis: Re-interpreting ecological conservation in the context of innovative agglomeration. Environmental Science and Ecotechnology, 19, 100342.
15. Loss, S. R., Li, B. V., Horn, L. C., Mesure, M. R., Zhu, L., Brys, T. G., Dokter, A. M., Elmore, J. A., Gibbons, R. E., Homayoun, T. Z., Horton, K. G., Inglet, P., Jones, B. J., Keys, T., Lao, S., Loss, S. S., Parkins, K. L., Prestridge, H. L., Riggs, G. J., Riding, S. S., Sweezey, K. R. I., Vallery, A. C., Van Doren, B. M., Wang, J., Zuzula, C., & Farnsworth, A. (2023). Citizen science to address the global issue of bird–window collisions. Frontiers in Ecology and the Environment. https://doi.org/10.1002/fee.2614
16. Abbott, A. L., Deng, Y., Badwey, K., Farnsworth, A., & Horton, K. G. (2023). Inbound arrivals: Using weather surveillance radar to quantify the diurnal timing of spring trans-Gulf bird migration. Ecography, e06644.
17. 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. https://doi.org/10.1111/1365-2664.14342
18. Shamoun-Baranes, J., Bauer, S., Chapman, J. W., Desmet, P., Dokter, A. M., Farnsworth, A., van Gasteren, H., Haest, B., Koistinen, J., Kranstauber, B., & Liechti, F. (2022). Meteorological data policies needed to support biodiversity monitoring with weather radar. Bulletin of the American Meteorological Society, 103(4), E1234–E1242.
19. La Sorte, F. A., Johnston, A., Rodewald, A. D., Fink, D., Farnsworth, A., Van Doren, B. M., Auer, T., & 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), 992–1009.
20. 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., & Dokter, A. M. (2022). Extreme uncertainty and unquantifiable bias do not inform population sizes. Proceedings of the National Academy of Sciences, 119(10), e2113862119.
21. Van Doren, B. M., Willard, D. E., Hennen, M., Horton, K. G., Stuber, E. F., Sheldon, D., Sivakumar, A. H., Wang, J., Farnsworth, A., & Winger, B. M. (2021). Drivers of fatal bird collisions in an urban center. Proceedings of the National Academy of Sciences, 118(24).
22. Shamoun-Baranes, J., Bauer, S., Chapman, J. W., Desmet, P., Dokter, A. M., Farnsworth, A., Haest, B., et al. (2021). Weather radars' role in biodiversity monitoring. Science, 372(6539), 248.
23. Clipp, H. L., Buler, J. J., Smolinsky, J. A., Horton, K. G., Farnsworth, A., & Cohen, E. B. (2021). Winds aloft over three water bodies influence spring stopover distributions of migrating birds along the Gulf of Mexico coast. Ornithology, 138(4), ukab051. https://doi.org/10.1093/ornithology/ukab051
24. Horton, K. G., Van Doren, B. M., Albers, H. J., Farnsworth, A., & Sheldon, D. (2021). Near-term ecological forecasting for dynamic aeroconservation of migratory birds. Conservation Biology, 35, 1777–1786. https://doi.org/10.1002/cobi.13740
25. 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. https://doi.org/10.1111/1365-2664.13971
26. Elmore, J. A., Riding, C. S., Horton, K. G., O'Connell, T. J., Farnsworth, A., & Loss, S. R. (2021). Predicting bird-window collisions with weather radar. Journal of Applied Ecology, 58, 1593–1601. https://doi.org/10.1111/1365-2664.13832
27. Cohen, E. B., Horton, K. G., Marra, P. P., Clipp, H. L., Farnsworth, A., Smolinsky, J. A., Sheldon, D., & 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