

Olivia V. Sanderfoot, Ph.D.

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Education

Ph.D. in Environmental and Forest Sciences | University of Washington | 2021

- Dissertation: *Fire, Smoke, and Song: Impacts of fine particulate matter on the health, behavior, and detection of birds and other wildlife*
- Committee: Beth Gardner, Julia Parrish, Sarah Converse, Peter Hodum, Joel Kaufman
- Coursework in ecology, advanced statistics, linear modeling, and community science (3.94 GPA)
- Provided expert testimony for the House Environment & Energy Committee in 2019

M.S. in Environment & Resources | University of Wisconsin – Madison | 2017

- Thesis: *A bird's-eye view of air pollution: The impacts of health-damaging air pollutants on avifauna*
- Committee: Tracey Holloway, Ben Zuckerberg, Paul Robbins
- Coursework in ornithology, atmospheric science, ecology, and environmental policy (3.94 GPA)

B.S. in Biology and Spanish | University of Wisconsin – Madison | 2015

- Minored in environmental studies
- Honors in the liberal arts (3.72 GPA)

Current Appointment

Postdoctoral Scholar | Department of Ecology and Evolutionary Biology

University of California, Los Angeles

Research on the impacts of wildfire smoke on birds in the western United States. June 2022 to Present.

Advisor: Morgan Tingley

Fellowships & Grants

AWARD	YEAR	ROLE	AMOUNT
UCLA La Kretz Center for California Conservation Science Postdoctoral Fellowship	2023	Fellow	\$148,000
UCLA Institute for Digital Research and Education Postdoctoral Fellowship	2022	Fellow	\$5,000
National Geographic Society Research Grant	2022	Collaborator (PI: Jamie Cornelius)	\$98,550
McIntire-Stennis Cooperative Forestry Research Program Grant	2019	Collaborator (PI: Beth Gardner)	\$98,086
National Science Foundation Graduate Research Fellowship	2016	Fellow	\$138,000

Selected Awards & Honors

AAAS Science & Technology Policy Fellowship Finalist (declined) • 2022

BioOne Ambassador Award Nominee • 2022

University of Washington (UW) Graduate School Medal Nominee • 2021

UW Husky 100 • 2020

AAAS Catalyzing Advocacy in Science & Engineering Sponsorship • 2019

UW College of the Environment Graduate Dean's Medalist Nominee • 2019
UW School of Environmental & Forest Sciences Student of the Year Nominee • 2018, 2019, 2020
Ford Foundation Fellowship Predoctoral Competition Honorable Mention • 2018

Peer-Reviewed Publications

6. Ayars, A., Emmet, R. L., Bassing, S. B., **Sanderfoot, O. V.**, Raby, S., Karambelas, A., James, E. P., Ahmadov, R. & Gardner, B. (In Review). Camera traps link population-level activity patterns with wildfire smoke events for mammals in Eastern Washington State. In *Fire Ecology*.
5. **Sanderfoot, O. V.**, Kaufman, J. D. & Gardner, B. (2022). Drivers of avian habitat use and detection of backyard birds in the Pacific Northwest during COVID-19 pandemic lockdowns. In *Scientific Reports* (Vol. 12). <https://doi.org/10.1038/s41598-022-16406-w>^Ψ
4. **Sanderfoot, O. V.**, Bassing, S. B., Brusa, J. L., Emmet, R. L., Gillman, S. J., Swift, K. & Gardner, B. (2022). A review of the effects of wildfire smoke on the health and behavior of wildlife. In *Environmental Research Letters* (Vol. 16, Issue 12). <https://doi.org/10.1088/1748-9326/ac30f6>^Ψ
3. **Sanderfoot, O. V.** & Gardner, B. (2021). Wildfire smoke affects detection of birds in Washington State. *Ornithological Applications*, (Vol. 123, Issue 3). <https://doi.org/10.1093/ornithapp/duab028>^{Ψ,*}
2. Holloway, T. & **Sanderfoot, O. V.** (2019). Intercontinental air pollution transport: Links to environmental health. In *Encyclopedia of Environmental Health*.
1. **Sanderfoot, O. V.** & Holloway, T. (2017). Air pollution impacts on avian species via inhalation exposure and associated outcomes. In *Environmental Research Letters* (Vol. 12, Issue 8). <https://doi.org/10.1088/1748-9326/aa8051>^{Ψ,**}

Ψ In the top 5% of all research outputs scored by Altmetric

* Selected as an "Editor's Choice"

** Selected as a "Highlight of 2017"

Selected Public Writing

- Sanderfoot, O. V.**, Siegel, M., and H. Spina. Opinion: One simple rule could save the birds that migrate over L.A. *The Los Angeles Times*. May 9, 2023.
- Sanderfoot, O. V.** Guest Blog: Air Quality Affects Birds. *Merge*. Apr. 18, 2023.
- Sanderfoot, O. V.**, & Siegel, M. Wildfires are on the ballot this fall. *CDLS Climate Currents*. Nov. 4, 2022.
- Sanderfoot, O. V.**, & Ryan, M. A clean fuels standard is a win for our health and the wildlife that bring us joy. *The Spokesman-Review*. Mar. 23, 2021.
- Sanderfoot, O. V.** Letter to the Editor: Re "E.P.A. Plans Limit on Evidence Used for Health Rules." *The New York Times*. Nov. 12, 2019.
- Sanderfoot, O. V.** Letter to the Editor: Re "Interior's Plan for Softening Wildlife Shield." *The New York Times*. Jul. 24, 2018.

Selected Talks

- Sanderfoot, O. V.** Fire, Smoke, and Song: Effects of wildfire smoke on the health, behavior, and detection of birds in the Pacific Northwest. April 2023. Sunriver Nature Center & Observatory. Public Lecture.
- Sanderfoot, O. V.** When Smoke Gets in Your Eyes: Effects of smoke on the health, behavior, and detection of birds. January 2023. Los Angeles Birders. Public Lecture.
- Sanderfoot, O. V.** Connecting earth science disciplines to safeguard birds. December 2022. Ignite@AGU. Invited Talk.
- Sanderfoot, O. V.** Avian habitat use and detection of backyard birds in the Pacific Northwest during COVID-19 lockdowns. August 2022. International Ornithological Congress. Invited Talk.

Sanderfoot, O. V. Up In Smoke: How will birds respond to smoke pollution in the age of megafires? July 2022. Pilchuck Audubon Society. Public Lecture.

Sanderfoot, O. V. Wildfires and animals in the age of megafires. June 2022. Trilogy Birders. Public Lecture.

Sanderfoot, O. V. Wildfires and animals in the age of megafires. January 2022. UW School of Environmental & Forest Sciences. Guest Lecture.

Sanderfoot, O. V. Wildlife ecology in the Pacific Northwest. November 2021. UW School of Environmental & Forest Sciences. Guest Lecture.

Sanderfoot, O. V. Detecting birds in hazy skies: Effects of air pollution on bird observations. November 2021. UW School of Aquatic & Fishery Sciences. Invited Seminar.

Sanderfoot, O. V., Schrimpf, M., Koper, N., & Gardner, B. Effects of COVID-19 lockdowns on migratory and backyard birds: A review of research approaches and comparative results. August 2021. Joint Meeting of the American Ornithological Society and the Society of Canadian Ornithologists. Invited Talk.

Sanderfoot, O. V. Birding for Cleaner Skies: Leveraging community science to learn about how air pollution impacts birds. May 2021. Sun Prairie Rotary Club. Public Lecture.

Sanderfoot, O. V. Tuning Into Birdsong: The science and solace of birding. May 2021. UW School of Music. Guest Lecture.

Sanderfoot, O. V. Join the Flock! Learn how ornithologists use community science data and how to get involved. April 2021. King County Library System. Public Lecture.

Sanderfoot, O. V. Canary in a Coal Mine, Revisited: Emerging evidence of air pollution as an overlooked threat to birds. December 2020. Washington Ornithological Society. Public Lecture.

Sanderfoot, O. V. Song & Sky: Investigating air pollution impacts on bird communities. July 2020. UW School of Environmental & Forest Sciences. Guest Lecture.

Sanderfoot, O. V. Impacts of air pollution on birds in a rapidly changing climate. January 2020. UW School of Environmental & Forest Sciences. Guest Lecture.

Sanderfoot, O. V. Canary in the coal mine: Quantifying the impact of exposure to health-damaging air pollutants on avian communities. October 2019. UW School of Environmental & Forest Sciences. Guest Lecture.

Sanderfoot, O. V., & Gardner, B. Smoke Signals: How elevated particulate levels during the wildfire season impacted bird observations in Washington State. October 2019. American Fisheries Society and The Wildlife Society Joint Conference. Invited Talk.

Selected Symposia & Panels

Advanced Research Computing (ARC) Applications: Perspectives from IDRE Fellows. January 2023. UCLA Institute for Digital Research and Education. Panelist.

The “Anthropause” as a natural experiment: Leveraging ornithological studies during COVID-19 lockdowns to develop conservation strategies for a post-pandemic world. August 2022. International Ornithological Congress. Co-chair.

A global review of the impacts of COVID-19 lockdowns on birds. August 2022. International Ornithological Congress. Co-organizer.

Lessons Learned In Lockdown: Impacts of the COVID-19 Pandemic on Birds. August 2021. Joint Meeting of the American Ornithological Society and the Society of Canadian Ornithologists. Co-chair.

Not Just Powered by Sugar: The Energetic Strategies of Hummingbirds. April 2021. Panel hosted by Seattle Audubon and West Coast Birders. Moderator.

Selected Media & Print Appearances

- Birds, Wildfires, and Smoke with Olivia Sanderfoot. American Birding Podcast. November 2022.

- [How did human activity during the COVID-19 lockdowns impact birds?](#) *The Wildlife Society*. August 2022.
- [How dramatic pandemic shifts affected Northwest birds.](#) KUOW. August 2022.
- [New UW study shows how COVID lockdowns affected Northwest birds.](#) *The Seattle Times*. August 2022.
- [Wildfire Smoke Is Terrible for You. But What Does It Do to Cows?](#) *Wired*. July 2022.
- [Incendios generan drásticos cambios en la migración de los gansos en California.](#) Telemundo 48. January 2022.
- [New Study Is First to Explore How Wildfire Smoke Derails Bird Migration.](#) *Audubon Magazine*. October 2021.
- [Wildfire smoke pushes migrating birds hundreds of miles out of their way.](#) *High Country News*. October 2021.
- [How does wildfire smoke affect wildlife? Here's what we know.](#) *National Geographic*. October 2021.
- [Outside/In\[box\]: Is Wildfire Smoke Impacting Bird Migration?](#) New Hampshire Public Radio. October 2021.
- [What Scientists Know About Wildfire Smoke and Its Impact on Wild Animal Health.](#) *Discover Magazine*. September 2021.
- [Birding 101: You don't need fancy binoculars to be a bird nerd.](#) KUOW. July 2021.
- [Wildfire smoke impacts what birds we see, hear according to UW study.](#) *The Spokesman-Review*. July 2021.
- [Birds Need Clean Air Safeguards Just as Much as We Do. Here's Why.](#) *Living Bird*. June 2021.
- [How birds in the Pacific Northwest experienced the pandemic.](#) *Crosscut*. May 2021.
- [Thousands of dying birds out West could reveal an even bigger environmental tragedy.](#) *Popular Science*. September 2020.
- [Seattle is in smoke. What's happening to the birds?](#) *The Seattle Times*. September 2020.
- [As Wildfire Smoke Blots Out the Sun in Northern California, Many Ask: 'Where Are the Birds?'](#) *Inside Climate News*. September 2020.
- [How wildfires impact birds.](#) *Audubon Magazine*. September 2020.
- [Volunteers help researchers track bird populations during pandemic.](#) KGW8. August 2020.
- [Amid the coronavirus pandemic, people are paying more attention to tweets. And not the Twitter kind.](#) *The Washington Post*. May 2020.
- [You could be the citizen scientist the world needs right now.](#) *Crosscut*. May 2020.
- [Trapped at home? You can help UW study bird responses to social distancing.](#) KUOW. April 2020.
- [Endangering the Endangered Species Act.](#) WORT 89.9 FM. August 2019.
- [Birds Studied for Reaction to Wildfire Smoke.](#) Spokane Public Radio. August 2018.
- [What Can Birds Tell Us About Pollution?](#) *Audubon Magazine*. September 2017.

Professional Service

Co-organizer | EEB Arts Showcase Planning Committee | January 2023 – Present

Co-organizer | Voces en EEB | September 2022 – Present

Ad Hoc Journal Peer Review | Various publications* | Jun. 2020 – Present

*including *Biological Conservation*, *Global Biology & Biogeography*, *Current Biology*, *Environmental Science & Technology*, and *iScience*

Senator | UW Graduate & Professional Student Senate (GPSS) | Oct. 2019 – Aug. 2020
Officer | UW School of Environmental & Forest Sciences Student Council | Nov. 2019 – Jun. 2020
Equity & Accountability Committee | UW GPSS | Jan. 2018 – Jun. 2019

Community Engagement

Volunteer | Seattle Audubon | Aug. 2017 – May 2022
Leadership Team | Science-A-Thon | Oct. 2021
Scientist | Science-A-Thon | Jul. 2017, Oct. 2018, Oct. 2019, Oct. 2021
Volunteer | Madison Audubon Society | Mar. 2015 – May 2017

Other Employment

Project Coordinator | UW Lockdown Birding Study | Mar. 2020 – Dec. 2021

- Launched a community science project to monitor birds during COVID-19 lockdowns
- Recruited and trained ~900 volunteers from four states and British Columbia
- Created e-newsletters to share project updates with volunteers and other stakeholders

Teaching Assistant, Introduction to Probability and Statistics | UW | Jan. 2020 – Mar. 2020

- Supported curriculum development by writing lab assignments and quizzes
- Led a weekly lab section of 40 students and tutored students one-on-one during office hours
- Graded assignments and exams

Research Assistant | UW College of the Environment | Jun. 2018 – Oct. 2019

- Helped launch an international seabird research project in French Polynesia
- Collaborated on development of study design and sampling and survey protocols
- Coordinated and participated in a multi-week field season abroad

Educator | Seattle Audubon Nature Camp | Jun. 2019 – Aug. 2019

- Designed new games and activities for active and experiential learning
- Led small groups of students in nature-based educational activities and outdoor exploration

Interim Director of Education | Madison Audubon Society | May 2017 – Aug. 2017

- Oversaw all aspects of the organization's summer programming, which served over 500 children
- Developed new curricula to introduce pre-K and K-12 students to Wisconsin flora and fauna
- Collaborated with community partners to teach lessons and lead field trips

Outreach Assistant, Energy Analysis and Policy Program | UW – Madison | May 2015 – Jul. 2016

- Coordinated efforts to connect students, alumni, and other stakeholders

Communications Coordinator | NASA Air Quality Applied Sciences Team | May 2015 – May 2016

- Wrote articles and created video content to share team's research with the public

Student Programs Director | UW – Madison Office of Sustainability | May 2014 – May 2015

- Collaborated with office staff, campus administration, and community partners to develop and implement campus-wide sustainability initiatives targeting student engagement
- Participated in strategic planning, managed interns and volunteers, and organized events