

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 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"

Public Writing

- Sanderfoot, O. V.**, & Siegel, M. Wildfires are on the ballot this fall. *CDLS Climate Currents*. Nov. 4, 2022.
- Sanderfoot, O. V.** Wildfire smoke influences detection of birds. *Oregon Birds*. Fall 2021.
- 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.** Leveraging community science to monitor local birds during COVID-19 lockdowns. *Oregon Birds*. Fall 2020.
- 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.** 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