



Olivia V. Sanderfoot, Ph.D.



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Education

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

- Coursework in ecology, advanced statistics, linear modeling, and community science (3.94 GPA)

Master of Science in Environment & Resources | University of Wisconsin — Madison | 2017

- Coursework in ornithology, atmospheric science, ecology, and environmental policy (3.94 GPA)

Bachelor of Science in Biology and Spanish | University of Wisconsin — Madison | 2015

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

Selected Awards & Honors

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

Husky 100 • 2020 • Recognizes 100 UW undergraduate & graduate students for their discovery mindset, capacity for leadership, and commitment to inclusive community.

AAAS Catalyzing Advocacy in Science & Engineering (CASE) Sponsorship • 2019 • One of five students awarded a full sponsorship to a multi-day national science policy workshop in Washington, D.C., which included advocating for federal funding for science on the Hill.

Ford Foundation Fellowship Predoctoral Competition Honorable Mention • 2018

National Science Foundation Graduate Research Fellowship • 2016

Professional Experience

Postdoctoral Scholar | Department of Ecology and Evolutionary Biology, UCLA | Starts June 2022

Doctoral Researcher | UW School of Environmental & Forest Sciences | Aug. 2017 – Dec. 2021

- Managed multiple independent and collaborative research projects investigating avian responses to urban air pollution and wildfire smoke
- Designed studies, collected and managed data, supervised field technicians and volunteers, and conducted complex statistical analyses
- Peer reviewed manuscripts, grant applications, and presentations
- Developed lectures, seminars, and multimedia materials to share research with multi-generational, technical and non-technical audiences
- Supervised and mentored undergraduate students in the Quantitative Ecology Lab
- Provided expert testimony for the House Environment & Energy Committee in 2019
- Interviewed by *National Geographic*, *Discover Magazine*, *Audubon Magazine*, *Popular Science*, *The Seattle Times*, *The Washington Post*, and several local radio and TV stations

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 more than 850 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
- 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

- Supported curriculum development by writing weekly lesson plans for each cohort of students and designing 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 on Wisconsin flora and fauna for children ages 3 to 15
- Collaborated with community partners to teach lessons and lead field trips

Graduate Researcher | Nelson Institute for Environmental Studies | May 2015 – May 2017

- Published M.S. thesis, a comprehensive topical review on the impacts of inhalation exposure to air pollution on birds
- Provided peer review of manuscripts, grant applications, and presentations
- Mentored undergraduate students

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

Professional Service

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

**including Biological Conservation, Global Biology & Biogeography, and Current Biology*

Senator | UW Graduate & Professional Student Senate | Oct. 2019 – Aug. 2020

Officer | UW School of Environmental & Forest Sciences Student Council | Nov. 2019 – Jun. 2020

Equity & Accountability Committee | UW Graduate & Professional Student Senate | Jan. 2018 – Mar. 2019

Community Engagement

Volunteer | Seattle Audubon | Aug. 2017 – Present

Leadership Team | Science-A-Thon | October 2021

Volunteer | Madison Audubon Society | Mar. 2015 – May 2017

Student Board Member | Friends of the Lakeshore Nature Preserve | Jan. 2013 – Apr. 2015

Publications

Sanderfoot, O. V., Bassing, S. B., & Gardner, B. (in prep). **Large-scale bioacoustics survey demonstrates impact of weather and air pollution on biophony.**

Sanderfoot, O. V., Kaufman, J. D., & Gardner, B. (in review). **Drivers of avian habitat use and detection of backyard birds in urban areas during COVID-19 lockdowns.**

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.** *Environmental Research Letters*, 16(123003).

Sanderfoot, O.V. (2021). **Fire, Smoke, and Song: Impacts of fine particulate matter on the health, behavior, and detection of birds and other wildlife.** (Order No. 28774248). Available from Dissertations & Theses @ University of Washington WCLP; ProQuest Dissertations & Theses Global. (2627362379).

Sanderfoot, O. V., & Gardner, B. (2021). **Wildfire smoke affects detection of birds in Washington State.** *Ornithological Applications*, 123(3).*

** selected as an "Editor's Choice"*

Holloway, T., & Sanderfoot, O. V. (2019). **Intercontinental Air Pollution Transport: Links to Environmental Health.** *Encyclopedia of Environmental Health*, vol. 3, pp. 688–694.

Sanderfoot, O. V., & Holloway, T. (2017). **Air pollution impacts on avian species via inhalation exposure and associated outcomes.** *Environmental Research Letters*, 12(083002).*

** selected as a "Highlight of 2017"*

Other Writing

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*. March 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*. November 12, 2019.

Sanderfoot, O. V. Letter to the Editor: **Re "Interior's Plan for Softening Wildlife Shield."** *The New York Times*. July 24, 2018.

Selected Talks

Sanderfoot, O. V. Wildfires and animals in the age of megafires. January 27, 2022. Forests, Fire, & Society: Past/Present/Future, UW School of Environmental & Forest Sciences. Seattle, WA. (Guest Lecture)

Sanderfoot, O. V. Wildlife ecology in the Pacific Northwest. November 23, 2021. Sustaining Pacific Northwest Ecosystems, UW School of Environmental & Forest Sciences. Seattle, WA. (Guest Lecture)

Sanderfoot, O. V. Detecting birds in hazy skies: Effects of air pollution on bird observations. November 5, 2021. UW School of Aquatic & Fishery Sciences. Seattle, WA. (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 11, 2021. Joint Meeting of the American Ornithological Society and the Society of Canadian Ornithologists. (Conference Presentation)

Sanderfoot, O. V. **Birding for Cleaner Skies: Leveraging community science to learn about how air pollution impacts birds.** May 25, 2021. Sun Prairie Rotary Club. Sun Prairie, WI. (Public Lecture)

Sanderfoot, O. V. **Tuning Into Birdsong: The science and solace of birding.** May 11, 2021. Music, Birdsong, and the Limits of the Human, UW School of Music. Seattle, WA. (Guest Lecture)

Sanderfoot, O. V. **Join the Flock! Learn how ornithologists use community science data and how to get involved.** April 3, 2021. King County Library System. Seattle, WA. (Public Lecture)

Sanderfoot, O. V. **Canary in a Coal Mine, Revisited: Emerging evidence of air pollution as an overlooked threat to birds.** December 7, 2020. Washington Ornithological Society. Seattle, WA. (Public Lecture)

Sanderfoot, O. V. **Song & Sky: Investigating air pollution impacts on bird communities.** July 9, 2020. Wildlife in the Modern World, UW School of Environmental & Forest Sciences. Seattle, WA. (Guest Lecture)

Sanderfoot, O. V. **Impacts of air pollution on birds in a rapidly changing climate.** January 27, 2020. Wildlife in the Modern World, UW School of Environmental & Forest Sciences. Seattle, WA. (Guest Lecture)

Sanderfoot, O. V. **Canary in the coal mine: Quantifying the impact of exposure to health-damaging air pollutants on avian communities.** October 7, 2019. Biology & Conservation of Birds, UW School of Environmental & Forest Sciences. Seattle, WA. (Guest Lecture)

Sanderfoot, O. V., & Gardner, B. **Smoke Signals: How elevated particulate levels during the wildfire season impacted bird observations in Washington State.** October 3, 2019. American Fisheries Society & The Wildlife Society Joint Conference. Reno, NV. (Conference Presentation)

Selected Symposia & Panels

The “Anthropause” as a natural experiment: Leveraging ornithological studies during COVID-19 lockdowns to develop conservation strategies for a post-pandemic world. August 2022. Symposium at the 2022 International Ornithological Congress. (Co-organizer & Moderator)

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

Lessons Learned In Lockdown: Impacts of the COVID-19 Pandemic on Birds. August 11, 2021. Symposium at the 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 14, 2021. Panel hosted by Seattle Audubon and West Coast Birders. Seattle, WA. (Co-organizer & Moderator)

Selected Media & Print Appearances

- [Birding in the wintertime.](#) UW College of the Environment. March 11, 2022.
- [Incendios generan drásticos cambios en la migración de los gansos en California.](#) Telemundo 48. January 4, 2022.
- [New Study Is First to Explore How Wildfire Smoke Derails Bird Migration.](#) *Audubon Magazine*. October 22, 2021.
- [Wildfire smoke pushes migrating birds hundreds of miles out of their way.](#) *High Country News*. October 21, 2021.
- [How does wildfire smoke affect wildlife? Here’s what we know.](#) *National Geographic*. October 20, 2021.
- [Outside/In\[box\]: Is Wildfire Smoke Impacting Bird Migration?](#) New Hampshire Public Radio. October 14, 2021.
- [What Scientists Know About Wildfire Smoke and Its Impact on Wild Animal Health.](#) *Discover Magazine*. September 13, 2021.
- [Birding 101: You don’t need fancy binoculars to be a bird nerd.](#) KUOW. July 8, 2021
- [Study: How smoke affects birds in Washington ... and our ability to see them.](#) KNKX. July 7, 2021.

- [Wildfire smoke impacts what birds we see, hear according to UW study.](#) *The Spokesman-Review*. July 5, 2021.
- [Birds Need Clean Air Safeguards Just as Much as We Do. Here's Why.](#) *Living Bird*. June 25, 2021.
- [How birds in the Pacific Northwest experienced the pandemic.](#) *Crosscut*. May 26, 2021.
- [Thousands of dying birds out West could reveal an even bigger environmental tragedy.](#) *Popular Science*. September 18, 2020.
- [Seattle is in smoke. What's happening to the birds?](#) *The Seattle Times*. September 17, 2020.
- [As Wildfire Smoke Blots Out the Sun in Northern California, Many Ask: 'Where Are the Birds?'](#) *Inside Climate News*. September 11, 2020.
- [How wildfires impact birds.](#) *Audubon Magazine*. September 11, 2020.
- [Volunteers help researchers track bird populations during pandemic.](#) KGW8. August 1, 2020.
- [Amid the coronavirus pandemic, people are paying more attention to tweets. And not the Twitter kind.](#) *The Washington Post*. May 22, 2020.
- [You could be the citizen scientist the world needs right now.](#) *Crosscut*. May 18, 2020.
- [A New Study Aims to Learn the Impacts of Social Distancing on Birds in the Pacific Northwest.](#) *The Portland Monthly*. April 9, 2020.
- [Trapped at home? You can help UW study bird responses to social distancing.](#) KUOW. April 3, 2020.
- [Endangering the Endangered Species Act.](#) WORT 89.9 FM. August 19, 2019.
- [Birds Studied for Reaction to Wildfire Smoke.](#) Spokane Public Radio. August 21, 2018.
- [What Can Birds Tell Us About Pollution?](#) *Audubon Magazine*. September 1, 2017.