

Tyler N. McFadden

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Education

- 2021 **Ph.D. in Ecology and Evolutionary Biology,**
Department of Biology, Stanford University, Stanford, CA
Dissertation: *Can working lands work for conservation? Maintaining biodiversity and ecosystem function in Chilean timber plantations*
Advisor: Dr. Rodolfo Dirzo
- 2014 **B.S. in Fisheries and Wildlife Science**
Oregon State University, Corvallis, OR
Thesis: *Effects of nesting waterbirds on nutrient levels in mangroves, Gulf of Fonseca, Honduras.*
Advisor: Dr. J. Boone Kauffman

Languages

English – Native speaker
Spanish – Full professional proficiency

Academic and Professional Employment

- 2022- *Program Coordinator*, Environmental Sciences Undergraduate Program, College of Earth, Ocean, and Atmospheric Sciences, Oregon State University
- 2022- *Instructor*, Environmental Sciences Undergraduate Program, College of Earth, Ocean, and Atmospheric Sciences, Oregon State University
- 2021-22 *Lecturer*, Department of Biology, Stanford University
- 2016-21 *Graduate Research Fellow* (PhD Candidate), Department of Biology, Stanford University
- 2020 *Visiting Scholar*, Universidad Austral de Chile
- 2015-16 *Crew Leader*, Bird Ecology Lab, Universidad Austral de Chile
- 2015 *Avian Biologist*, Harris Environmental Group, Inc., Portland, OR
- 2015 *Lab Technician*, Swiss Needle Cast Group, Oregon State University
- 2014 *Wildlife Management Intern*, Hancock Forest Management, Independence, OR
- 2014 *Research Experience for Undergraduates* (Costa Rica), Matthew Betts Lab, Oregon State University

- 2013-14 *Field Technician* (Honduras & Mexico), J. Boone Kauffman Lab, Oregon State University
 2012 *Field Assistant* (Mexico), Villanova University

Honors and Fellowships

- 2021-22 H&S Dean's Fellow, Stanford University
 2021 Norman K. Wessells Award (department's highest teaching award), Dept. of Biology, Stanford University. \$1000
 2017-21 NSF Graduate Research Fellowship
 2016-21 Stanford Graduate Fellowship, Stanford University
 2014 Outstanding Senior, Dept. of Fisheries and Wildlife, Oregon State University. \$500
 2013 Outstanding Undergraduate, Oregon Chapter, The Wildlife Society
 2013 Chairman's Leadership Award, Dept. of Fisheries and Wildlife, Oregon State University

Grants (Total funded: ~\$359,000)

For Research

- 2022 Accelerator Projects in Sustainability, Stanford University (Senior personnel / Co-author), *Accelerating 30x30 Through a Collaborative Regional Prioritization Partnership*. \$100,000
 2020 Office of International Affairs, Stanford University (Co-PI), *Avian physiological responses to drought within a Northern California nature reserve*. \$12,310
 2017-20 Field Research Travel Grants, Center for Latin American Studies, Stanford University (PI). \$2,500
 2018 Graduate Research Opportunities Worldwide (GROW), National Science Foundation (PI). \$5,000
 2017 NSF Graduate Research Fellowship. \$132,000
 2013 Miscellaneous internal grants for undergraduate research. ~\$4000

For Teaching and Outreach

- 2020 NSF Research Coordination Networks in Undergraduate Biology Education (Steering Committee / Co-author). *San Francisco Bay RCN for Student Opportunities in Avian Research (SOAR)*. \$74,157
 2019-20 Planet Granite (PI), *MERO Science Program*. \$2,200
 2019 Rotary Club of Palo Alto (PI), *MERO Science Program*. \$10,000
 2018 Community Engagement Grant, Stanford University (Co-PI), *Evaluating the outcomes of local conservation strategies on bird communities through long-term avian monitoring*. \$3,500
 2017-18 Philanthropic Ventures Foundation (Co-PI), *MERO Science Program*. \$8,500

- 2017 Community Engagement Grant, Stanford University (PI), *MERO Science Program*. \$3,500
- 2017 Hass Center for Community Service, Stanford University (PI), *MERO Science Program*. \$1,000

Peer-reviewed Publications

7. Biscarra G, **McFadden TN**, Donoso P, Ponce DB, Ruiz J, Navedo JG. 2021. Short-term avian responses to experimental variable density thinning: pre-treatment stand structure and composition outweigh effects of management. *Forest Ecology and Management* 502:119711
6. Freeland M*, Navedo JG, **McFadden TN**. 2020. Pollination patterns by Green-backed Firecrown hummingbirds. *Journal of Emerging Investigators* 3:1-7.
* Lead author M. Freeland completed this work in 8th and 9th grade under my mentorship.
JEI is a peer-reviewed journal for papers lead-authored by middle and high school students.
5. **McFadden TN**, Biscarra G, Ruiz J, Navedo JG. 2019. Recommended band sizes and a novel technique for sexing immature Green-backed Firecrown hummingbirds (*Sephanoides sephanioides*). *Ornitología Neotropical* 30:179-184.
4. **McFadden TN**, Dirzo RD. 2018. Opening the silvicultural toolbox: a new framework for conserving biodiversity in Chilean timber plantations. *Forest Ecology and Management* 425:75-84.
3. **McFadden TN**, Herrera AG, Navedo JG. 2017. Waterbird responses to regular passage of a birdwatching tour boat: implications for wetland management. *Journal for Nature Conservation* 40:42-48.
2. **McFadden TN**, Kauffman JB, Bhomia R. 2016. Effects of nesting waterbirds on nutrient levels in mangroves, Gulf of Fonseca, Honduras. *Wetlands Ecology and Management* 24(2):217-229.
1. Bhomia RK, Kauffman JB, **McFadden TN**. 2016. Ecosystem carbon stocks of mangrove forests along the Pacific and Caribbean coasts of Honduras. *Wetlands Ecology and Management* 24(2):187-201.

Manuscripts Submitted or In Preparation (available upon request)

Losapio G*, Genes L*, Knight CJ*, **McFadden TN***, Pavan P*. Monitoring and modelling the effects of ecosystem engineers on ecosystem functioning. *In review, Functional Ecology*.

*All authors contributed equally

McFadden TN, Dirzo RD. Harnessing multilayer networks to predict metacommunity responses to global environmental change. *In revision for submission to Frontiers in Ecology and Evolution.*

McFadden TN, Navedo JG, Biscarra G, Dirzo R. Current spatiotemporal configuration of tree plantations exacerbates negative impacts on Chilean forest birds. *In revision for submission to Forest Ecology and Management.*

McFadden TN, Navedo JG, Biscarra G, Dirzo R. Widespread occurrence of a generalist hummingbird conceals true cost of native forest conversion to tree plantations. *In preparation.*

University Teaching

* Indicates course I designed or re-developed

Oregon State University

- ENSC 101 **Environmental Science Orientation** (F22)
- ENSC 452 / GEOG 452/552 **Environmental Assessment** (F22 Ecampus)
- ENSC 479 **Environmental Case Studies*** (F22 Ecampus)

Stanford University

- BIO 101 **Science for Conservation Policy***: Meeting California's Pledge to Protect 30% by 2030 (W21)
 - View student research projects and policy briefs at science4conservation.org
- BIO 121/221 **Ornithology*** (Sp19, Sp20, Sp21, Sp22)
- BIO 81 **Introduction to Ecology** (TA; F17)
- BIO 144 **Conservation Biology**: A Latin American Perspective (TA; Sp17)

Students advised

2021-present	Jules Wyman, BS thesis in Biology (primary advisor) <i>Climate and urbanization impacts to Sonoran Desert lizard communities</i>
2020-2022	Julien Ueda, BS/MS thesis in Biology (primary advisor) <i>Long-term avian responses to climate change and urbanization in the San Francisco Bay Area</i> (Link to full text) *Recipient of Firestone Award, honoring the best 10% of theses at Stanford
2018-20	Martin Freeland, high school research project (primary advisor) <i>Pollination patterns by Green-backed Firecrown Hummingbirds</i>

K-12 Teaching

- 2017-2022 **Founder and Director,**
Menlo-Atherton Ecology Research Outdoors (MERO)
Award-winning* year-round afterschool environmental education program that engages high school English Language Learners in hands-on ecological research, outdoor activities, and long-term mentorship. Info at www.meroscience.org
- *Awards:
- 2021: recognized by the Organization for Biological Field Stations when awarding its [Human Diversity Award](#) to our partner Jasper Ridge Biological Preserve
- 2018: [Bay Area Inspire Award](#) for innovation in community service
- 2016-present **K-12 Presentations**
I regularly present guest lessons at local high schools (4-5 times per year). Example lessons include:
- “Environmental Degradation and Social Conflict”
 - “Biodiversity Loss in Latin America”
 - “World Geography for English Language Learners”
 - “Ethical Action and Advocacy in Response to the Amazon Fires”
 - Culminated in visit to Stanford campus where high school students presented their “[Guidelines for Ethical Action, Service, and Outreach](#)” to Stanford students and faculty.
- 2018 & 2019 **Trip Leader,** International Educational Trips
Co-led week-long spring break educational trips to Ecuador (2018) and Panama (2019) for 15 high school students, with focus on cultural and nature immersion.
- 2018 **Co-PI,** EXPLORA Los Ríos ‘Opening Our Laboratories’ project
Co-advised two middle school students on a research project investigating hummingbird foraging and territoriality as part of a Chilean initiative to engage young people in science.

Additional Service and Outreach

- 2020-21 **Invited expert,** Workshop series to develop management plan for newly formed Llancahue Nature Reserve, Chile
- 2017-21 **Lead organizer,** Stanford/UCSC Species Interactions Workshop (annual one-day conference)
- 2017-21 **Lab coordinator,** Dirzo Lab, Stanford University
- 2017-20 **Peer mentor** for first-year PhD students, Stanford University
* 4 students I mentored on NSF GFRP applications were awarded the fellowship

2017-18	Invited participant , Wonderfest Science Envoy Program (year-long communication training program for early-career researchers)
2013-14	Board Member (student rep.), Oregon Chapter of The Wildlife Society
2012-13	President , Oregon Student Chapters of The Wildlife Society and American Fisheries Society
Ongoing	Peer Reviewer Data in Brief; Journal for Nature Conservation; Landscape and Ecological Engineering; Methods in Ecology and Evolution; Oecologia; PNAS; Science of the Total Environment

Public presentations and popular articles

2020	Blog post , Blog Endémico. “Tragedia de los animales comunes: no solo los pandas y rinocerontes marchan hacia la extinción” [English translation: “Tragedy of the common animals: pandas and rhinos aren’t the only ones marching towards extinction”]. Link
2019	Invited panelist , Family Film Festival of Napa Valley, St. Helena, CA. Discussion following screening of <i>The Serengeti Rules</i> . Link
2019	Invited public talk , Blue River Technology, Sunnyvale, CA. “It’s all connected: network perspectives on ecology, conservation, and education”. Link
2018	Radio interview , by DJ Marilyn Fowler. "Scintillating Science." Poor People's Radio, KPOO-FM 89.5, San Francisco, CA. Link
2017	Invited public talk , Ask-a-Scientist, SoMa StrEat Park, San Francisco, CA. “Plantations, Pinochet, and a Paradigm Shift: Navigating ecology, history, and politics to solve Chile’s largest environmental conflict”. Link
2017	Blog post , Gradhacker Blog, “Communicating science to a general audience: 7 strategies I learned from teaching English Language Learners”. Link

Invited Academic Presentations

McFadden TN. Can working lands work for conservation? Assessing biodiversity and ecosystem function in human-dominated landscapes. 2022 March 8, Department of Environmental Studies, San José State University.

Invited panelist for panel on Science Outreach. Stanford Biology Surf 'n' Turf Symposium; 2021 Oct 30, Stanford University.

McFadden TN. Birds in a Changing Bay Area: Long-term Trends at Jasper Ridge Biological Preserve. Birdy Hour Speaker Series; 2021 May 6, San Francisco Bay Bird Observatory. Recording available: <https://youtu.be/9A41wxRwPHE>

McFadden TN. Using birds to assess biodiversity change and engage students at Jasper Ridge. Evening Lecture Series; 2020 Oct. 13, Jasper Ridge Biological Preserve.

McFadden TN. Harnessing multilayer networks to predict metacommunity-wide responses to global environmental change. Ecology and Evolution Lunch Seminar; 2020 Jan. 14, Stanford University.

McFadden TN. Ecological networks under global environmental change: a multilayer approach. Ecology and Evolution Lunch Seminar; 2018 Dec. 4, Stanford University.

McFadden TN. Effects of nesting waterbirds on nutrient levels in mangroves, Gulf of Fonseca, Honduras. Avian Ecology Study Group (AVES) Seminar Series, Oregon State University; 2013 Dec. 5, Corvallis, Oregon.

Conference Presentations (first-authored only)

McFadden TN, Dirzo R. Harnessing multilayer networks to predict metacommunity-wide responses to global environmental change. Ecological Society of America Annual Meeting; 2020 Aug. 3-6, Virtual meeting due to COVID-19.

McFadden TN. Ecological networks under global environmental change: a multilayer approach. 16th Annual Stanford/UCSC Species Interactions Workshop; 2018 Dec. 1, University of California at Santa Cruz.

McFadden TN, McFadden AM. Menlo-Atherton Ecology Research Outdoors: A new science outreach program for English Language Learners. Poster presented at: Young Environmental Scholars Conference; 2017 Nov. 6, Stanford University.

McFadden TN, Bhomia R, Kauffman JB. Effects of nesting waterbirds on nutrient levels in mangroves, Golfo de Fonseca, Honduras. Poster presented at: 2nd International Symposium on Mangroves as Fish Habitat; 2014 April 7-12, Mazatlán, México.