

MARTHA ZILLIG (WOHLFEIL)

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EDUCATION

Current: PhD Candidate, **University of California, Davis**, Graduate Group in Ecology
Expected completion date: October 2021

B.A Biology, Magna Cum Laude, **Carleton College**, Northfield, MN, 2013

DOCTORAL RESEARCH

University of California, Davis
Graduate Group in Ecology

September 2016-Present

Member of Dr. Erica Fleishman's Lab

Research on biogeography and movement ecology of passerines in the Great Basin

- Conduct field work during avian breeding season in western Great Basin
- Data collection includes: point count surveys, nest searching/monitoring, vegetation identification and measurements, climate data collection, insect collection
- Analysis of field data using ArcGIS, R, and Bayesian modeling frameworks
- Extensive knowledge of Great Basin bird life history, phenology, and identification using visual and vocal cues
- Proficient in statistical modeling of data using Bayesian frameworks

Student leader in statistical and programming literacy

November 2017-Present

Extensive experience teaching and assisting graduate students in programming with R

- Instructor for R-DAVIS, a graduate level intro to R course (2019-2020)
- Co-leader of Davis R Users Group, a student run club focused on assisting graduate students with R; 2017-Present
- Founder of statistical modeling group for students in the Graduate Group in Ecology; Winter 2019 - Present
- Data Carpentries certified instructor and assistant in multiple carpentries courses taught at UC Davis
- Affiliate of the UC Davis DataLab

FAA Certified Drone Pilot

January 2020-Present

Drone pilot specializing in flights for scientific research

- Attended FAA-certified course on Small Unmanned Aircraft Systems
 - Received FAA Remote Pilot Certificate with an sUAS rating airman knowledge test
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TEACHING EXPERIENCE

Teaching Assistant for ECL200A "Ecological Principles and Applications"

September – December 2020

Instructor of "R- DAVIS: R Data Analysis and Visualization in Science"

January 2018 – Feb 2020

Co-instructor of graduate-level introduction to R course, required course for Ecology grad students

Teaching Assistant for ESP001 "Environmental Analysis"

September – December 2019

SCIENTIFIC PUBLICATIONS

Fogarty, F., **Zillig, M.W.**, and Fleishman, E. Conditions under which occurrence models based on point count data accurately predict locations and environmental associations of nests. *In review, IBIS*.

Hendrix, A.N., Fleishman, E., **Zillig, M.W.**, and Jennings, E.D. 2021. Relations between abiotic and biotic environmental variables and occupancy of delta smelt (*Hypomesus transpacificus*) in autumn. *In Review. Estuaries and Coasts*

Mahood, A.L., Fleishman, E., Balch, J.K., Fogarty, F., Horning, N., Leu, M., **Zillig, M.W.**, and Bradley, B. Cover-based allometric estimates of aboveground biomass of a non-native, invasive annual grass (*Bromus tectorum L.*) in the Great Basin, USA. *Journal of Arid Environments* 193:104582 (2021).

Horning, N., Fleishman, E., Erts, P.J, Fogarty, F.F., and **Zillig, M.W.** 2020. Mapping of land cover with open-source software and ultra-high resolution imagery acquired with unmanned aerial vehicles. *Remote Sensing in Ecology and Conservation* 6(4): 487-497.

Williamson, M.A., Fleishman, E., MacNally, R.C., Chambers, J.C., Bradley, B.A., Dobkin, D.S., Board, D.I, Fogarty, F.A., Horning, N., Leu, M., **Zillig, M.W.** 2020. Fire, livestock grazing, topography, and precipitation affect occurrence and prevalence of cheatgrass (*Bromus tectorum*) in the central Great Basin, USA. *Biological Invasions* 22:663-680.

Carter, S. K., Fleishman, E. Leinwand, I. F., Flather, C.H., Carr, N.B., Fogarty, F., Leu, M., Noon, B.R., **Wohlfeil, M.** & Wood, D.J.A. 2019. Quantifying ecological integrity of terrestrial systems to inform management of multiple-use public lands in the United States. *Environmental Management* 64:1, 1-9.

Fogarty, F., **Wohlfeil, M.**, Fleishman, E. 2018. Response to Horns et al. 2018: ‘Using opportunistic citizen science data to estimate avian population trends. *Biological Conservation* 221, 151–159.

Savoca, M., **Wohlfeil, M.**, Ebeler, S., Nevitt G. 2016, Marine plastic debris emits a keystone infochemical for olfactory foraging seabirds. *Science Advances* 2(11): e1600395.

OUTREACH

President of “Kids into Discovering Science (KiDS)”

January 2016-Present

Graduate student run non-profit teaching underrepresented elementary age children place-based ecology

- President of KiDS, 2018-Present
- Weekly volunteer in fifth grade classroom teaching lessons
- Coordinator and volunteer of Field Day, the field trip that culminates the program each year
- Responsible for organization of the program, management of volunteers, coordination of Field Day

Member of Davis Chapter of Society for Conservation Biology

2016-Present

Co-President of “Davis R Users Group”

2017- Present

Club that meets once a week to assist fellow graduate students, undergraduates, and post-docs with R related problems.

- Proficient in assisting members with a multitude of R-related quandaries
- Taught a lesson once a term on an R-related topic
- Organized presentations and speakers, managed listserv and website

Co-Founder and President of “Statistical Support Group for Ecologists”

2019- Present

Group that offers weekly statistical presentations and a work-group environment to graduate students working on statistical analyses

- Co-founded group with three other graduate students in 2019
- Present/teach on a statistical topic once per term
- Manage listserv, website, coordinate presenters and group activities for weekly meetings

SCIENTIFIC PRESENTATIONS

Zillig, M.W. August 9-13. Elevational shifts of Great Basin birds over the past two decades. North American Ornithological Conference, Zoomland.

Zillig, M.W. August 3-6, 2020. Elevational movements of songbird species within the breeding season: How resource availability and climate drive movement patterns. Ecological Society of America Conference, Zoomland

Zillig, M.W. August 12th, 2020. Effects of resource availability and climate on elevation movements of passerine species within the breeding season. North American Ornithological Conference, Zoomland.

Wohlfeil, M.E. March 9th, 2019. Potential mechanism responsible for within-season movements of birds in the Great Basin. 2019 Wildlife Professional Development Conference. University of California, Davis. Davis, CA.

Wohlfeil, M.E. February 20, 2018. Potential mechanism responsible for within-season movements of birds in the Great Basin. 10th Annual Graduate Student Symposium in Ecology. University of California – Davis. Davis, CA

Wohlfeil, M.E. and Fleishman, E. May 18 2017. Potential mechanisms responsible for within-season elevational movements of passerine species. Great Basin Bird Conference, Reno, NV.

Savoca, M.S., **Wohlfeil, M.E.**, Ebeler, S.E. and G.A. Nevitt. 15 February 2014. Marine plastic debris as an olfactory trap for procellariiform seabirds. 7th Annual Graduate Student Symposium in Ecology. University of California – Davis. Davis, CA

Wohlfeil, M.E. 28 January 2013. The continuum of sex determination: Transitions between sex determining mechanisms in non-avian reptiles. Senior Thesis Presentation, Carleton College. Northfield, MN

AWARDS

Henry A. Jastro Research Fellowship **2017-2019**

Best Oral Presentation: Graduate Group in Ecology Symposium **2018**
UC Davis

Frances M. Peacock Scholarship for Native Bird Habitat **2018**

The Charles Redd Center for Western Studies: Summer Award **2018**
for Upper Level Division and Graduate Students

Graduate Group in Ecology Fellowship **2018**

William J. Hamilton III Memorial Fund Scholarship **2019**

PROFESSIONAL EXPERIENCE

Research Assistant
Molecular Biology and Biotechnology

December 2015-April 2016

Monsanto, Woodland, CA
Climate Change Indicators Intern
Office of Environmental Health and Hazards Assessment
California EPA, Sacramento, CA

September 2015- December 2015

Field Research Technician
University of Minnesota

May 2014-July 2014

Sensory Ecology Research Assistant
UC Davis

July 2013-September 2014