

# Lydia Bailey

Find me online at: [LydiaBaileyEcology.weebly.com](http://LydiaBaileyEcology.weebly.com)

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**Research Focus:** Applied ecology, arid lands, plant-soil relationships

## Education

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### Northern Arizona University

PhD Candidate, Forestry

Flagstaff, AZ

Spring 2022

Dissertation: *Plants, Soils and the Biocrust Between: Advances in Mojave Desert Restoration*

Dissertation Committee: Drs. **Matthew Bowker**, **Anita Antoninka**, Margaret Moore, Seth Munson

### Whitman College

BA, Environmental Studies-Biology

Walla Walla, WA

2010-2014

Thesis: *Limited utility of functional trait data in post-restoration community dynamics*

## Mentorship & Outreach

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### Louis Stokes Alliance for Minority Participation

Graduate Student Mentor, Spring 2018-Fall 2021

### Hooper Undergraduate Research Award, Mentor

**Casey Hensen.** *Advancing cultivation of the endangered Las Vegas Bearpoppy (*Arctomecon californica*) using biological soil crusts.* 2019-2020.

**Landon Sawaya.** *Restoration of Endemic Gypsophiles in the Mojave Desert using Soil Communities and Nurse Plants.* 2018-2019

### Research Experience for Undergraduates, Mentor

**Jenni Hedin.** *Bulk Culturing Biocrusts for the Pre-Restoration of Utility- Scale Solar Arrays in the Mojave Desert.* Summer 2018

**Nataila Morales López.** *Establishment of endangered gypsum forbs of the Mojave Desert with the help of soil communities.* Summer 2021

### NAU/NASA Space Grant Mentor Research Program, Mentor

**Robin Heide**, *Investigating novel seed preparation methods for cultivation of the Las Vegas Bearpoppy (Arctomecon californica)*. 2021-2022

Doris Duke Conservation Scholars Program, Northern Arizona University

Invited Speaker, 2018

### Media Features

*Monuments Exhibition* - Nick Adams, Checko Salgado. Sahara West Library Las Vegas, NV: Friends of Gold Butte, Friends of Basin & Range. 2018

“*Gold Butte: Nevada’s National Monument stuck between a rock and a hard place*” - Nick Adams. Etched Magazine. 2018

### **Professional Service**

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Women in Soil Ecology, Mentorship Program Coordinator, 2021-Present

Facilitating mentorship relationships between over 80 members of different career stages

Coordinating conference sessions and virtual meetings to amplify underrepresented voices in soil ecology and foster collaboration

### **Professional Presentations**

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**Bailey, L.**, Antoninka, A., Bowker, M.A. 2022. *Providing Context for Advancements in Arctomecon Californica Conservation Using Biocrust: A Comprehensive Literature Review with Case Studies*, 16th Biennial Conference of Science & Management on the Colorado Plateau & Southwest Region, Flagstaff, AZ

**Bailey, L.**., Bowker, M.A. 2022. *Recipes for restoration: adding moss to the treatment mix in Washington sagebrush*, Botany 22, Anchorage, AK.

**Bailey, L.**, Antoninka, A., Bowker, M.A. 2022. *Plants, Soils and the Biocrust Between: Advances in Mojave Desert Restoration*, Invited speaker for the Mojave Desert Native Plant Program Spring Webinar Series, virtual

**Bailey, L.**, Antoninka, A., Bowker, M.A. 2022. *Plants, Soils and the Biocrust Between: Advances in Mojave Desert Restoration*, Invited speaker for the Mojave Desert Native Plant Program Spring Webinar Series, virtual

**Bailey, L.**, Antoninka, A., Bowker, M.A. 2018, 2019, 2021. *Biocrust restoration in the Mojave: Annual update*, Presented to the Las Vegas BLM office, Las Vegas, NV

**Bailey, L.**, Antoninka, A., Bowker, M.A. 2021. *Reviving soil in the Mojave Desert: Biocrust Restoration*, ARCS Foundation Phoenix Scholar Awards, Phoenix, AZ

**Bailey, L.**, Antoninka, A., Bowker, M.A. 2021. *Successful inoculation of biocrust on gypsum soils does not influence vascular plant establishment*, Ecological Society of America, virtual

Bowker, M.A., **Bailey, L.**, Antoninka, A., 2021 *Using Biocrust in Mojave Desert Restoration*. Eastern Mojave Restoration Working Group, virtual

**Bailey, L.**, Antoninka, A., Bowker, M.A. 2020. *Biocrust based restoration in Washington Sagebrush Communities*. Washington Native Plant Society, virtual

Hensen, C., Antoninka, A, **Bailey, L.** 2020. *Exploring the novel use of soil biota to germinate the Las Vegas bear poppy*. Northern Arizona University Undergraduate Research Symposium, Flagstaff, AZ

**Bailey, L.**, Antoninka, A., Bowker, M.A. 2019. *Effects of herbicide on Mojave Desert biological soil crusts*. 15th Biennial Conference of Science & Management on the Colorado Plateau & Southwest Region, Flagstaff, AZ

**Bailey, L.**, Antoninka, A., Bowker, M.A. 2019. *Effects of herbicide on Mojave Desert biological soil crusts*. 4<sup>th</sup> International Workshop of Biocrusts in North Stradbroke Island, Australia

**Bailey, L.**, Antoninka, A., Bowker, M.A. 2019. *Advances in cultivating the endangered Las Vegas Bearpoppy (*Arctomecon californica*)*. Botany Society of America in Tucson, AZ

Sawaya, L., Antoninka, A., **Bailey, L.**, Bowker, MA. 2019. *Restoration of endemic gypsophiles in the Mojave Desert using soil communities and nurse plants*. Botany, Tucson, AZ

Bowker, M.A., Antoninka, A., Doherty, K. Durham, R., Tucker, C., **Bailey, L.**, Grover, H., Young, K., Reed, S. 2018. *Restoring biocrusts: a general strategy and an overview of emerging results*. Society of Ecological Restoration-European Conference, Reykjavik, Iceland.

**Bailey, L.**, Antoninka, A., Bowker, M.A. 2018. *Using soil organisms in Mojave Desert Restoration*. Society for Ecological Restoration, Southwest Chapter Conference, Flagstaff, AZ

**Bailey, L., Antoninka, A., Bowker, M.A.** 2018. *Using soil organisms in Mojave Desert restoration*, Arizona-Nevada Academy of Science, Las Vegas, NV

## **Scholarships & Awards**

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2021 - ARCS Fellowship Ponce Scholar, Phoenix Chapter, \$8,500

2021 - Josephine Soulen Forestry Scholarship, Northern Arizona University, \$2,500

2019 - Wally Covington Student Travel Award, Northern Arizona University, \$750

2013 - Art Rempel Scholarship for Natural History, Blue Mountain Audubon Society, \$1000

## **Grants**

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Bowker, Antoninka and Bailey. Restoration of sensitive plants and their habitat quality. BLM Nevada. 2021-2023 (\$96,379)

## **Work History**

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**Idaho Research Coordinator** Great Basin Institute: Ecological Monitoring Program  
Idaho Falls, ID | March-August 2017

**Crew Lead** Great Basin Institute: Assessment Inventory and Monitoring Program  
Vale, OR | April-October 2016  
Susanville, CA | April -October 2015

**Field Research Assistant** Joshua Tree pollination and genetics. PI: Dr. Chris Smith  
Tikaboo Valley, NV: March 2016 & March-April 2015

**Biological Science Technician** National Park Service  
Rocky Mountain National Park, CO | May-September 2014

**Resource Management Technician** Ash Meadows National Wildlife Refuge  
Pahrump, NV | June-August 2013

**Field Biology Intern** The Nature Conservancy, Zumwalt Prairie  
Enterprise, OR | June-August 2012

**Greenhouse Manager** Whitman College  
Walla Walla, WA | August 2013-May 2014

## References

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Dr. Matt Bowker, Graduate Advisor  
Associate Professor at NAU School of Forestry  
[Matthew.Bowker@nau.edu](mailto:Matthew.Bowker@nau.edu), 928-523-6600

Dr. Anita Antoninka, Graduate Advisor  
Assistant Research Professor at NAU School of Forestry  
[Anita.Antoninka@nau.edu](mailto:Anita.Antoninka@nau.edu), 928-523-2669

Lara Kobelt, Research Project Partner  
Natural Resource Specialist, BLM Southern Nevada District Office  
[lkobelt@blm.gov](mailto:lkobelt@blm.gov), 702-515-5022