

## EDUCATION

Amherst College, Amherst, MA

B. A. in Biology and Environmental Studies (Double Major) | *Magna cum laude* | GPA: 3.98/4.0

May, 2022

## EXPERIENCE

**Resource Ecology and Ecosystem Modeling Program, AFSC, NOAA** | *Research Scientist*

September 2022–Present

- Conduct stomach content analysis for Alaskan groundfishes (3,000 scans annually).
- Perform taxonomic identification of prey items; data contributes to NOAA's groundfish trophic interactions database.
- Maintain lab procedures including formalin neutralization and disposal, sample storage, and inventory.
- Participate in RACE Summer Bottom Trawl Groundfish Surveys in the Gulf of Alaska and Aleutian Islands.
  - Collect environmental, population, and biological data; conduct stomach scans at sea (5-6 hauls per day); assist in calibrating environmental data collection instruments.
- Spearheaded an independent research project on Bering Sea Walleye Pollock diet patterns, developing generalized additive models (GAMs) and applying bioenergetics models in RStudio.

**Sierra Field Crew, UC Davis / US Forest Service, Southern Sierra Nevada** | *Assistant Crew Lead*

June–September 2022

- Surveyed 10 remote giant sequoia groves and additional mixed conifer sites (5-10 plots per site), collecting data on post-fire recovery, regeneration, and bark beetle infestations
- Assisted in: location of and navigation to plots; identification of plant species; determination of vegetation type, tree density, basal area, canopy cover, and landscape condition (grove location, health, and condition of the overstory, seedlings and saplings, covers, and fuels)
- Used Microsoft Excel/Access for data entry and QA/QC

**Department of Environmental Studies, Amherst College, Amherst** | *Honors Thesis Student*

May 2021–May 2022

*Principal Investigator:* Dr. Rebecca Hewitt

- Investigated nitrogen availability as a constraint to growth of white spruce trees at the arctic treeline in Alaska and implications of treeline migration on carbon cycling
- Verified ID and analyzed root traits of 84 white spruce samples using WinRhizo and point-intersect methods.
- Assessed the effect of nitrogen availability on root traits and ectomycorrhizal colonization of white spruce trees using RStudio to construct mixed effects models and run a Principal Component Analysis

**Book & Plow Farm, Amherst College, Amherst** | *Farmer*

March 2022–May 2022

- Assisted in seeding, potting, and planting flowers and vegetables; co-led workshops on sustainable farming techniques.
- Prepped and planted potatoes and onions, maintained greenhouse, and tested soil nutrient concentrations.

**Department of Environmental Studies, Amherst College, Amherst** | *Laboratory Research Assistant*

January 2021–May 2022

*Principal Investigator:* Dr. Rebecca Hewitt

- Explored the role of plant-fungal interactions in carbon and nitrogen cycling, community assembly after disturbance, and landscape patterns of vegetation change, primarily in Arctic tundra and boreal ecosystems of Alaska and Siberia
- Created a database of literature on the effect of warming on below-ground processes, root traits, and mycorrhizal fungi

**Department of Biology, Amherst College, Amherst** | *Laboratory Research Assistant*

February 2019–November 2020

*Principal Investigator:* Dr. Alexandra Purdy

- Aided in research projects exploring gene regulation in *Vibrio* pathogens and symbionts that affects host and bacterial metabolism.
- Developed an online lab inventory and conducted remote Bioinformatics work during the COVID-19 pandemic.

## PUBLICATIONS

“Disrupting the minga: How Payments for Environmental Services have ignored

*Ecological Economics* March 2023

Indigenous visions to replace reciprocity with employment and subsistence with commodification in the Ampiyacu-Apayacu watershed of Loreto, Peru” | *Co-Author*

*Principal Investigator:* Dr. Ashwin Ravikumar

“Mycorrhizal fungi impact nutrient limitation of growth at treeline in Alaska’s Brooks Range”

Abstract accepted to *AGU* for Fall 2022 Meeting

*First Author:* Dr. Rebecca Hewitt

## NATIONAL SOCIETIES, AWARDS & HONORS

**The Jan E. Dizard Price in Environmental Studies, Amherst College**

May 2022

**The Sawyer Price, Amherst College**

May 2020

## LEADERSHIP

**Food Justice Alliance, Amherst College, Amherst** | *Co-Chair & Founder*

August 2021–May 2022

- Created student-run Food Recovery Program to help relieve food insecurity in Amherst (town) and reduce food waste at the College
- Led weekly meetings on topics like dining hall workers’ rights, food security, and environmental consciousness.

## OUTREACH & COMMUNITY ENGAGEMENT

**Students Explore Aquatic Sciences (SEAS), University of Washington, Seattle** | *Member*

Fall 2022–Present

**Lab Tours / Job Shadowing, Alaska Fisheries Science Center, NOAA, Seattle** | *Organizer & Host*

June 2023–Present

**UW Aquatic Sciences Open House, University of Washington, Seattle** | *Activity Booth Host, Translator*

May 2023, May 2024

**GeekGirlCon, Seattle** | *Activity Booth Host*

October 2023

## SKILLS

*Lab:* Taxonomic ID using dichotomous keys, fish stomach dissection, formalin neutralization, PCR genome sequencing, streaking, Western Blot, protein purification, soil incubations, and measuring mycorrhizal colonization of fine roots

*Analysis/Research:* R/R Studio, Microsoft Excel/Google Sheets/Microsoft Access, ITIS, Oracle, BLAST, and literature databases

*Communication:* Fluent in Spanish (reading, writing, speaking), Zoom/Google Meet, Slack, good scientific communication, writing, and presenting skills