Gavin J. Sutter

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Education

M.S. Candidate Biology. Cal Poly Humboldt. Arcata, CA. *Microbial & Community Ecology.* GPA: 4.0.	2023 - Present
B.S. Biology. Cal Poly Humboldt. Arcata, CA. Microbiology and Science Education Emphasis. *Summa Cum Laude* GPA: 3.93.	2021 - 2023
A.A. Outdoor Recreation Leadership. Feather River College. Quincy, CA.	2019 - 2020
Studied MCD Biology. University California Santa Cruz. Santa Cruz, CA.	2017 - 2018

Research Interests

Community ecology, population ecology, microbial ecology, host-microbe interactions, range shifts, species distribution modeling, demography, phylogenetic systematics, conservation, fire ecology, bioinformatics, meta-community and population ecology.

I am interested in using bioinformatics to understand how ecological processes, such as environmental variability, dispersal, and disturbance, influence community structure, species distributions, and ecosystem-services. My research frequently interacts at the population and community level and strives to bridge the gap between ecological theory and real-world biological systems, with the goal of supporting effective management, restoration, and conservation.

Professional Positions

Biology Graduate Student Association President. Cal Poly Humboldt.	2024 - Present
Lab Instructor. Department of Biological Sciences. Cal Poly Humboldt, Arcata CA.	2023 - Present
Botany – 5 Sections || Microbiology 1 – Section	
Research Assistant. Cal Poly Humboldt. Arcata, CA. Cuellar-Gempeler Lab.	2023 - Present
Biology Graduate Student Association Vice President. Cal Poly Humboldt.	2023 - 2024
Whitewater Guide. Center Activities, Cal Poly Humboldt. Arcata, CA.	2021 - 2023
Wilderness Director. Wilderness Augusta. Nevada City, CA.	2018 – 2022
Supervised and hired a team coordinating multiweek backcountry expeditions.	
Professional Guiding. Private and Commercial Trips.	2017 - Present
Rock climbing, whitewater, backcountry skiing, and expeditionary trips.	
300+ Field Days || 5037 Participant Days	
Teaching Assistant. Del Oro High School. Loomis, CA. Biology and Chemistry	2016 – 2017
Professional Photographer. Self Employed.	2016 - Present
Clients: Lennar Homes, Taylor Morrison, Visit Sacramento, Outside Magazine, et al.	

Volunteer and Service

Drop-in Coding. Biocomputing Facility, Cal Poly Humboldt.	2023 - Present
Coding (python and R) and statistical methods assistance.	
SpaPy Geospatial Package – Rasterize Function.	2023
Contributed a "rasterize" function to the SpaPy open-source geospatial python package. Allows users to easily convert a vector to raster file. More info at SpaPy.org.	
Among Giants. Cal Poly Humboldt. Arcata, CA.	2022 - 2023
A place-based learning initiative focused on giving first-year botany, zoology, and biology students hands on lab and field experience.	
Southwest Field Course. Del Oro High School.	2019 – 2024

The Southwest field course is a 34-day, educational program open to high school students interested in the history, accessibility, and impact of water use in the American Southwest.   2016 - Present
Field Guide. Quincy Watershed Education Program - Plumas Unified School District. Outdoor-based science program taught to the sixth grades across Plumas County.

Skills

Computational Biology: github.com/gavsut
- **Coding Languages:** Python, R, Bash, CSS, and HTML.
- **Bioinformatics:** git**,** tidyverse, dada2, qiime2, phyloseq, vegan, biostrings, rstan.
- **Phylogenetic Systematics:** FastQC, BBtools, IGV, samtools, mafft, aliview, Paup, FigTree, IQTree, Mr. Bayes, Beauti & the Beast, Astral-pro3, phytools.
- **Geospatial Analysis:** QGIS, ArcGIS suite, Google Earth Engine, SpaPy, gdal, sf, raster, maptools, numpy, scipy, shapely.
- **Statistical Methods:**
  - Frequentist – ANOVA Family, GLMs, GLMMs, etc.
  - Bayesian – MCMC, stan models, BayesFactor.
  - Spatial – Kriging, PCNMs, MEMs, Variograms, Multivariate Spatial Dependence.
- **Other:** Adobe Suite, Microsoft Office, Unix and MS-DOS Systems.

Laboratory and Field:
- **Lab:** Aseptic technique, PCR, qPCR, DNA purification and quantification, gel electrophoresis, enzyme assays, bacterial and fungal plating, spectrophotometry, etc.
- **Field:** Wilderness first responder, logistics and group safety, permitting, transect & quadrat surveys, California Floristic Province Plant Identification, data management.

Certifications and Awards

Swift Water Rescue. Sierra Rescue International.	2023
Avalanche 2. American Institute for Avalanche Rescue and Education.	2021
Avalanche Rescue. American Institute for Avalanche Rescue and Education.	2021
Apprentice Rock Guide. American Mountain Guide Association	2020 – Present
Dedication to the Program. Feather River College ORL Program.	2020
Whitewater Raft Guide Course. Feather River College ORL Program.	2019
Avalanche 1. American Institute for Avalanche Rescue and Education.	2019
Wilderness First Responder. NOLS – National Outdoor Leadership School.	2018 – Present
Certified Lifeguard. American Red Cross.	2018 – Present
First Aid and CPR. NOLS – National Outdoor Leadership School.	2018 – Present
Single Pitch Climbing Instructor. American Mountain Guide Association.	2017 – Present

Member Associations

Ecological Society of America, American Mountain Guide Association, Access Fund, Mono Lake Committee, American Alpine Club, Protect American River Canyon, Placer County Land Trust, Northwest California Climbing Coalition