

Will Brinkerhoff

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Education

University of California, Berkeley

2017 - 2021 (exp.)

B.S. with Honors in Molecular Environmental Biology, minor in Food Systems, **GPA: 3.7**

Honors Thesis: *Turning Back the Clock: Soil Health Outcomes from Converting Monoculture Cropland into Short-Term Grazed Perennial Pasture*

Advisor: Dr. Timothy Bowles

Relevant Coursework: Soil Microbial Ecology, Microbial Ecology, Rangeland Ecology and Management, California Plant Life with Laboratory, General Microbiology, Agroecology, Science of Soils, Biochemistry of Plants, Cellular Biology with Laboratory, Organic and Inorganic Chemistry with Laboratory

Research Interests

Agroecology, Sustainable Food Systems, Soil Microbial Ecology, Rangeland Ecology, Social & Ecological Outcomes of Livestock Management, Integrated Crop-Livestock Systems, Biogeochemistry

Awards & Honors

Sponsored Projects for Undergraduate Research (\$1870)

Summer

2021

- Received funding for my honors thesis research under mentorship of Dr. Timothy Bowles

Sponsored Projects for Undergraduate Research (\$500)

Spring

2020

- Received funding for research assisting UC Berkeley ESPM PhD candidate Paige Stanley

CNR Photo Contest Award Recipient

- 1st Place in the College of Natural Resources Photo Competition

Spring

2021

Research & Field Experience

University of California, Berkeley | Bowles Agroecology Lab | PI: Dr. Timothy Bowles

2019 -

present

- For my honors thesis, I investigated the efficacy of short-term perennialization/grazing on previously monoculture corn/soybean fields as a way to restore beneficial soil properties while simultaneously producing protein. I completed my sampling in SE Michigan on a conventional farm that was converted into perennial pasture with adaptive multi-paddock (AMP) grazing for 5 seasons. I used two fenceline neighbors, who still maintain conventional monocultures, as controls.

In order to understand the full picture of soil health, I did a microbial biomass analysis along with water infiltration, bulk density, and soil sampling.

- In the Berkeley Agroecology lab, I dried and sieved my samples, then did a textural analysis on all samples to ensure that I could track soil C/N change as a function of the treatment without soil texture intervening. I fractionated my soil samples by size, and analyzed the carbon and nitrogen contents on both the POM and MAOM fractions in order to understand how each of the soil carbon pools are reacting to this short term treatment.
- Assisting doctoral candidate Paige Stanley, I spent Spring 2020 on 8 different ranches in California sampling soils and conducting biodiversity surveys of grassland species. Her project's aim was to understand the differences in soil carbon stocks on rangelands that were managed with continuous grazing versus AMP grazing. We sampled soils extensively along 50m transects, often down to 1m, after conducting quadrat surveys and point counts of grassland plant species. We used the equivalent soil mass procedure in the field and included soil water potential measurements.

University of California, Berkeley | Wang Landscape Genetics Lab | PI: Dr. Ian Wang
2019

2017 -

- During this Undergraduate Research Apprenticeship Program, I completed DNA extraction, PCR amplification, gel electrophoresis, and sequencing protocols.
- We investigated whether genetic differences between different locales of *Pseudacris regilla* was great enough to assign them as a subspecies, or as an entirely different species.
- In a subsequent project, we investigated the effects of wildlife corridors on the genetic diversity of *Taricha torosa* populations in the bay area.

University of California, Berkeley | Ecology and Biology Field Lab
2018

Spring

- During the Biology 1B Field Lab course, myself and a team of other students developed and executed a research project which used benthic macroinvertebrates as bioindicators of water quality. We sampled streams and creeks in Berkeley, Oakland, and Richmond CA, by capturing invertebrates in a standardized amount of time with constant netting protocols. After identifying individuals we collected, we were able to assign each class of invertebrates to a pollution tolerance category.
- We used arcGIS to quantify the percentage of creek-adjacent land area that was impermeable, and found a significant negative correlation between percentage of impermeable surface and pollution-intolerant invertebrates. We presented our findings at a department-wide poster session.

Operation Wallacea
2018

Summer 2014 | Summer 2016 | Summer

- In 2018, I traveled to the island of Buton in Sulawesi, Indonesia to join a team of field researchers on a rapid biodiversity assessment of a previously unexplored region. We set up a field camp for mesofauna, herpetofauna, bat, plant ecology, and bird researchers, and then spent 4 weeks conducting daily field surveys. My team was responsible for plant ecology research, and our main assignment was measuring virgin forest biomass to corroborate NASA's lidar calculations for forest biomass. We measured tree diameter, height, and species in 100-m quadrats.

- In 2016, I traveled to Sulawesi to complete a different rapid biodiversity assessment. On this expedition, I was primarily a member of the herpetofauna and bat research teams. We conducted nightly stream walks to search for a variety of flying frog species, and used mist netting and harp trapping to understand the diversity of bat species in the area. During a short trip to a nearby village during the holiday of Eid, we conducted a survey adjacent to town that yielded an incredible array of both fruit and insect eating bats, one of which, *Megaderma spasma*, was the first of its kind to be found in the region.
- In 2014, I traveled to Cusuco National Park, Honduras, to join a team of researchers and to understand their field work techniques. While I was there, I spent most of my time on herpetofauna surveys, recording treefrog species and the presence or absence of chytrid in their systems. I also aided dissertation students in collections of treefrog and tadpole specimens.

Short Courses & Certifications

Groundwork Regenerative Agriculture	Summer 2020
Junior Master Gardener Certification, University of Michigan	Spring
2014	

Professional Experience

Real Good Greens Marketing and Supply Chain present	Feb. 2021 -
Chez Panisse Kitchen Intern and Prep Cook 2021	Summer 2019 and Summer
White Oak Pastures Farm Operations Intern 2021	Nov. 2020 - Jan.
The FarmLink Project Farm Research Team Lead 2020	May 2020 - Aug.
Imperfect Foods Photographer 2020	Feb. 2020 - May
WOOF Australia Oranje Tractor Winery, Windaboo Farm, Mullumbimby Permaculture Retreat 2019	Fall
Operation Wallacea Indonesia Volunteer Organizer 2018	Jun. - Jul.
Brinkerhoff Photography LLC Business Owner present	2016 -

Skills

- Portrait and landscape photography
- Proficient in Excel, Powerpoint, Word, Outlook
- Adobe Creative softwares (photoshop, lightroom, premiere pro, acrobat)
- Proficient in Python
- Field Work (12+ hour days), maintaining a positive attitude

