

# Bri Baker

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## EDUCATION

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**Master of Environmental Science and Management** (Expected June 2022)

**Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB)**

Specialization: Conservation Planning

Focus: Strategic Environmental Communication and Media

Highlighted Coursework: Advanced Data Analysis, Science and Management for Forest Sustainability, Environmental Writing, Computing for Environmental Science, Conservation Planning (completed by 6/21)

**Bachelor of Arts in Biology, Environmental Science Emphasis, Magna cum Laude, 3.89 GPA** (Dec 2018)  
**Occidental College – Los Angeles, CA**

Honors/Awards: Geology minor, Phi Beta Kappa, Roberts Research Fellowship in Environmental Sciences

Senior Project: *Application of Vegetation Fire Response Modeling to SMM Chaparral Restoration*

Study Abroad: Organization for Tropical Studies – Skukuza, MP, ZA (8/17–12/17); courses included Conservation & Management in Protected Areas and Field Research in Savanna Ecology

Highlighted Coursework: Computational Biology, Field Ecology, GIS, Ecosystem Restoration

## WILDFIRE & RESTORATION EXPERIENCE

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**Biological Science Technician**

**National Park Service (NPS)/Santa Monica Mountains Resource Conservation District (SMMRCD),**  
Santa Monica Mountains National Recreation Area (SAMO), CA

***Project Management***

- Formalized documentation of field operations for Rancho Sierra Vista (RSV) native plant restoration nursery; created a 20-page standards and protocols document and standardized spatial data collection to enable continuity and consistency in the seed collection and seed banking programs
- Crafted 3 forms for seed collection, seed cleaning, and field summaries and built 2 digitized datasheet templates in Google Sheets to track plant locations and seed collection
- Developed an intuitive filing system by integrating paper field data and Google Drive files for 4 RSV nursery field and restoration projects
- Devised project protocols, including methods of data collection, data digitization, and dissemination of spatial data for 150+ points on population locations to 1-4 field crews, for ongoing Milkweed Monitoring and Restoration Project (Milkweed MAP) and Oak Sapling Assessment & Assistance Project (Oak SAAP)
- Wrote 5+ page project summaries for above 2 projects, outlining protocols, metadata, background research, and expected timelines
- Planned 100+ locations at 6 general locations for field crews to collect seed and herbarium specimens from; used GoogleEarth, collections data, and collection target species to identify locations with adequate and desirable populations for conservation collection of seed

***Technical and Field Skills***

- Managed RSV restoration nursery inventory database by overhauling formatting and clarity of 4 forms (Accession, Sowing, Potting, and Restoration Planting) and reconciling both seed and plant inventories in Microsoft Access database, thus easing seed collection and restoration planting event planning
- Mapped and monitored species composition, distribution, % cover, and extent of 100+ noxious weed treatment sites in 96,949 acre Woolsey Fire burn area on park and partner agency property in ArcCollector
- Manually, mechanically, and chemically treated 15+ noxious weeds such as *Ailanthus altissima*, *Centaurea solstitialis*, *Foeniculum vulgare*, *Phalaris aquatica*, *Salsola australis*, and *Spartium junceum* in the Woolsey Fire burn area on park and partner agency property using tools listed below
- Operated and maintained 4x4s, hand tools, brush cutters, water pumps, and backpack sprayers
- Maintained a positive demeanor in inclement weather including heat, wind, and rain, often carrying heavy loads (full backpack sprayers, brush cutter, or noxious weeds and hand tools) ranging from 10-60 lbs

## **WILDFIRE & RESTORATION EXPERIENCE (Continued)**

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### **Biological Science Technician (SAMO)**

#### ***Crew Dynamics/Leadership***

- Initiated discussion of field crew dynamics in COVID-19-impacted workplace to ease tension between field lead and crew members funded through another agency
- Trained 2 volunteers, 10 interns and 5 nursery employees on GPS use, field collection of seed and herbarium specimens, data collection, GoogleEarth, and Microsoft Access database use
- Taught 12 college-age SAMO Youth and 3 Community Nature Connection program participants in, sessions of up to 6 members, GPS use, field data collection, and vegetation monitoring techniques to allow them to continue projects with little supervision
- Participated actively in park-unit level discussion of Diversity, Equity, and Inclusion (DEI)

#### **Nursery and Restoration Intern**

**National Park Service (NPS), Santa Monica Mountains National Recreation Area (SAMO), CA**

#### ***Technical/Field Skills***

- Installed, monitored, and maintained 500+ native plants at 2 restoration sites to restore degraded wetland, sage-scrub, and grassland in former ranchland and noxious-weed infested burn scars
- Drove mountain roads in a 4x4 loaded with plants, 350 gal water tank, or tools to restoration sites
- Contributed to long-term inventory and monitoring of native vegetation, sensitive species, and exotic noxious weed species within Woolsey Fire burn area
- Performed QA/QC on vegetation monitoring data in ArcMap by reconciling 50+ paper data sheets with the relevant data layer's attribute table
- Scouted populations of 50+ target native species including fire followers like *Astragalus brauntonii*, *Astragalus trichopodus*, *Ehrendorferia ochroleuca*, and *Phacelia grandiflora* using GPS and knowledge of habitat to assist RSV nursery seed conservation collection program

#### ***Native Plant Horticulture Skills***

- Collected plant propagules of 50+ native plant species using restoration collection procedure to grow and accession into conservation collection seedbank for long-term storage
- Cleaned and organized native plant seed of 25+ species including *Eriogonum fasciculatum*, *Deinandra fasciculata*, *Hazardia squarrosa*, and *Phacelia cicutaria*, to store in seedbank and in restoration nursery
- Inventoried and organized 1000+ accessions of native plant seeds in seedbank to initiate overhaul of database management and reconciliation of seedbank inventory
- Propagated plants for restoration by sowing seed, sticking cuttings, transplanting, weeding, and watering,

### **Biological Science Technician**

**National Park Service (NPS), Sequoia Kings Canyon National Park (SEKI), CA**

#### ***Technical and Field Skills***

- Performed invasive species control and monitoring while stationed at a remote backcountry cabin from 5/4/19–9/17/19; hiked to worksites up to 10 miles away to monitor and control velvetgrass (*Holcus lanatus*) by hand, with hand tools, and with herbicide
- Collected and managed monitoring and treatment data in Avenza, ArcCollector, and Excel and on paper
- Prepared drafts of 5-page cabin supply inventory and 150+ site descriptions including general location, landmarks, and % cover of *H. lanatus* for end-of-season report of Kern Velvetgrass Project that would be used to inform future seasons and track project progress
- Maintained native plant nursery by cleaning AC units, levelling floors, and fixing overhead sprinkler system
- Assisted in nursery occasionally to help park horticulturist transplant seedlings and clean seed
- Restored wetland with a degraded streambed in a day using backfill techniques and installing 100+ plants
- Chemically treated noxious weeds such as *Rubus armeniacus*, *Rubus laciniatus*, and *Vinca major*

#### ***Crew Dynamics***

- Assessed and mitigated risk of inclement weather, air quality, fauna, and terrain through regular discussion with the crew to create a safe work environment
- Lived in close quarters with 3-person field crew for 3 months, cooking dinner together nightly and communicating with one another effectively to keep positive crew dynamics

## ADDITIONAL EXPERIENCE

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### **Student Assistant – The Tague Team Lab**

University of California, Santa Barbara (UCSB), Santa Barbara, CA

- Redesign lab website using Wordpress, changing website theme, increasing Search Engine Optimization, and improving overall site interface
- Communicate lab research results, goals, and research questions by collaborating with Lab Manager to create and post content
- Determine sources of funding targeted for specific project goals and outcomes

### **Collection Curator – Occidental College Cosman Shell Collection; Los Angeles, CA**

- Curated, organized, and digitized 1000+ physical shell specimens from 2 separate private collectors with different collection protocol to create database records in Microsoft Excel of each accession and allow seamless analysis and display curation
- Developed and documented methods of best practice for Microsoft Access databases, GIS visualization, and biodiversity analyses

### **Student Researcher – Occidental College; Los Angeles, CA**

- Conducted independent research about the effect of microenvironment on resistance of Coast Live Oak (*Quercus lobata*) to boring beetles and fungal pathogens to determine impact of campus watering patterns
- Developed, planned, and executed project on urban tree ecology with little direction from supervisor utilizing tree demographic and spatial data from Campus Facilities
- Utilized field research and computational techniques including ArcGIS and forestry survey methods to build water availability models and determine growth patterns
- Presented findings visually as a research poster, orally at Undergraduate Research Conference, and in written form as a 6-page report

### **Interpretative Program Staff – Philmont Scout Ranch; Cimarron, NM**

- Ran thistle removal site and timber stand improvement site, instructing participants on ecological importance, plant identification, and tool use including loppers and bowsaws
- Participated on backcountry search and rescue crews; hiked up to 10 miles in an afternoon; used first aid, risk assessment, and backcountry radio operation; assisted distressed participants to safety, relayed pertinent information to dispatch, and reassured onlookers
- Presented to large groups of up to 75 participants ages 13-65 daily in nightly evening program that included historical interpretation, storytelling, and musical performance
- Interacted with participants and coworkers of diverse ages and backgrounds as a member of a living history camp, relating life in 1908, researched using primary documents accurately portray Rose Spinner.
- Performed maintenance and livestock care

## VOLUNTEER & LEADERSHIP EXPERIENCE

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### **Website Manager – Boundless Brilliance, Los Angeles, CA (1/18–Present)**

Redesigned website (2018), awarded *Most Innovative* by founder and Executive Director Audrey Shawley (2018), launched webstore for 3-day fundraiser (2020)

### **Biology Club Executive Board – Occidental College, Los Angeles, CA (2/17-12/18)**

Organized club posters, Google Drive records, and calendar as Secretary (2017); planned digital outreach on Instagram and email, ran weekly board meetings as Vice President (2018)

### **Women in STEM Executive Board – Occidental College, Los Angeles, CA (2/16-12/18)**

Managed programs such as museum trips as Director of Internal Affairs (2016-2017); kept intuitive and effective notes for weekly meetings and organized club calendar as Secretary (2018)

### **Scouting – Girl Scouts and Venture Scouts (Boy Scouts of America) (2003-2017)**

Planned and led weekly meetings as crew President (2 yr) and Vice President (1 yr); earned Girl Scout Bronze Award for building a school garden and Silver Award for local youth event; led leadership camps; Participated in Roving Outdoor Conservation School, a 30-day science and conservation backpacking trip

## **SKILLS & CERTIFICATIONS**

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### **Data Management and Analysis**

ArcGIS (including ArcCollector), Avenza, Google Suite, R in RStudio, Github

### **General Computer Skills**

Microsoft Suite (Advanced Word, Excel, and Access), Photoshop, Lightroom, Squarespace, Wordpress

### **Field**

Field mapping (using paper, drone, and GPS), vegetation plots, vegetation field measurements (including identification with dichotomous key, use of DBH tape/calipers/rangefinder, and herbivory/damage estimation), photography (documentary and artistic), herbicide, mechanical invasives control, extensive California native plant and target weed species ID

### **Outdoor**

Well-developed general outdoor and backpacking skills. Experienced in rugged conditions, comfortable working in inclement weather, strong sense of outdoor/backcountry risk assessment, able to hike long distances with a heavy pack, rock climbing. JMT through hike (2015) and 300-mile solo PCT section hike (2019).

### **Certifications**

Wildland Fire READ (2020)

First-Aid & CPR (2019)

Wilderness First Aid (2020)