Kaili Brande

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EDUCATION

PhD in Environmental Science and Management, 3.95 GPA (June 2025)
Bren School of Environmental Science & Management – University of California, Santa Barbara (UCSB)

Dissertation: Fire Ecology and the Effects of Prescribed Fire in California Foothill Oak Woodlands
Highlighted Coursework: Environmental Modeling, Landscape Ecology, Advanced Forest Mngmt

BS in Environmental Science and Management, 3.87 GPA (March 2016)
University of California, Davis

Emphasis: Ecology, Biodiversity, and Conservation
Honors Thesis: "Threats to Survival and Recovery Strategies in Endangered Species Act Recovery Plans for California Birds and Mammals"
Study Abroad: UC Education Abroad Program, Lund University, Lund, Sweden (8/14–12/14)
Highlighted Coursework: Environmental Analysis, Introduction to Ecology, Restoration Ecology

TEACHING EXPERIENCE

Visiting Assistant Professor, Biology & Environmental Science Department, Pacific University, OR (August 2026-present)

- Teaching the following undergraduate courses:
  - Sustainability Science (fall 2026)
  - Geospatial Analysis using GIS (fall 2026)
  - Sustainable Use: Soil & Water (spring 2027)
  - Fire Ecology (spring 2027)

Instructor for "Fire and Natural Disturbances" course, Department of Geography, University of Oregon, OR (January-March 2026)

- Instructor for graduate/undergraduate course of approximately 15 students
- Taught lectures on fire science, fire ecology, global fire patterns, fire management, and other disturbances (e.g. insect invasion, wind, hurricanes)
- Designed all assignments, proctored exams, managed course page on Canvas system

Guest Lecture for "Plant Ecology" course, Ecology, Evolution, and Marine Biology Department, UCSB, CA (March 10, 2025)

- 1 hour lecture for approximately 40-student class on "Fire-Adapted Traits, Burn Severity, and Recovery in Plants" as part of the course's Fire-themed week

Teaching Assistant for "Environmental Negotiation" course, Bren School of Environmental Science & Management, UCSB, CA (January-March 2025)

- Graded weekly writing assignments and managed the course website for Master's (MESM) student course in the Bren School
- Facilitated in-person negotiation sessions, where students practiced negotiation strategies and enacted different roles (e.g. NGOs, government officials, business owners) in real-world examples of international negotiations (e.g. Global Plastics Treaty, EV Car Manufacturing agreement, Colorado River water diversion agreement)

Teaching Assistant for "Introduction to Environmental Studies" course, Environmental Studies Program, UCSB, CA (August-September 2024)

- Led three weekly in-person discussion sections for approximately 60 undergraduate students in the summer course
- Proctored in-person writing assignments and facilitated interactive group activities during sections

- As the only TA, graded all assignments and managed the course gradebook and website (Canvas platform)

Teaching Assistant for graduate level "Landscape Ecology" course, Bren School of Environmental Science & Management, UCSB, CA (January-March 2021; January-March 2022)

- Graded assignments and assisted conceptual discussions in Landscape Ecology course (ESM 215) for Master's (MESM) and PhD students in the Bren School
- Aided students with exercises in Google Earth, ArcGIS, Fragstats, Circuitscape, Linkage Mapper, and LANDIS-II modeling programs
- Led LANDIS-II modeling lab session

Teaching Assistant for "Introduction to the Social and Cultural Environment" course, Environmental Studies Program, UCSB, CA (March-June 2021)

- Led three weekly discussion sections over Zoom for approximately 70 undergraduate students in the Introduction to the Social and Cultural Environment course (ES 3)
- Graded assignments and final essays

GRAD 210 "College and University Teaching, from Theory to Practice" Course UCSB, CA (Spring 2024)

- Completed course for graduate students pursuing careers in college and university teaching, which covered pedagogical theories, evidence-based teaching practices, and ways to implement these in course design, assessment, and evaluation
- Presented a sample lecture on a topic of interest to the class and received written feedback
- Produced draft of a course syllabus, a teaching portfolio website, and other materials

CITRAL Community of Practice on Course Design for Equity, UCSB, CA (Fall 2023-Winter 2024)

- Attended regular meetings of graduate students as part of the Community of Practice (CooP), led by staff from the Center for Innovative Teaching, Research, and Learning (CITRAL)
- Discussed research-based approaches, tools, and practices that facilitate more equitable and inclusive teaching
- Drafted a course syllabus and other teaching materials for review from CITRAL staff

MENTORING EXPERIENCE

Student Research Mentor, Department of Geography, University of Oregon, OR (October 2025-present)

- Mentored Environmental Studies undergraduate student to assist postdoctoral research project using landscape ecological modeling to evaluate fuel treatment effectiveness in restoring sagebrush steppe ecosystems
- Taught student foundational concepts about modeling and the utility of the LANDIS-II model
- Together managed project files and shared data organization methods with the student
- Student conducted literature review of tree and shrub species life history traits to parameterize the model

Student Research Mentor, Earth Research Institute, UCSB, CA (September-December 2023)

- Hired undergraduate student from the BEL Mentorship Program (below) to assist PhD research project on prescribed fire effects in oak woodlands and savannas in California
- Conducted fieldwork at Sedgwick Reserve and taught undergraduate student fieldwork methods, forest measurement techniques, and mapping skills in ArcGIS Pro
- Applied together and received the Schmidt Family Foundation Research Mentorship Award to fund student stipend and cover field equipment expenses
- Attended Environmental Science Communications Workshop for graduate students as part of the Award; assisted undergraduate student in preparing public oral presentation for an Environmental Solutions Open House hosted by the Schmidt Family Foundation at UCSB

Undergraduate Student Mentor, Bren Environmental Diversity Leaders (BEL) Mentorship Program, Bren School of Environmental Science & Management, UCSB, CA (June-September 2023)

- Mentored an underrepresented undergraduate student in STEM to assist ongoing research project focused on wildfire resilience and supporting Southern California Edison's funding initiatives
- Managed undergraduate student's schedule, conducted fieldwork and computer work together
- Attended Center for Science and Engineering Partnerships (CSEP) trainings on becoming an effective and inclusive graduate student mentor

Student Research Mentor, Earth Research Institute, UCSB, CA (September-December 2022)

- Hired and mentored an undergraduate student to assist PhD research project on prescribed fire effects in oak woodlands and savannas in California
- Conducted fieldwork at Sedgwick Reserve and taught undergraduate student fieldwork methods and forest measurement techniques; managed data and shared graduate-level data organization methods

PhD Student Advisor to Master's Group Project, Bren School, UCSB, CA (March-June 2022)

- Project and client: "*Evaluating Regional Conservation Opportunities for the Gaviota Region based on Stakeholder preferences",* The Nature Conservancy
- Attended weekly meetings and major review sessions; provided constructive guidance to Master's students on project framing and data management with faculty advisor Kelly Caylor (Dept. Geography)

RESEARCH EXPERIENCE

Postdoctoral Research Associate – Terrestrial Ecosystem Ecology and Landscapes Lab, Department of Geography, University of Oregon, OR (June 2025-August 2026)
PI: Melissa Lucash (Research Assistant Professor, Depts. of Geography and Environmental Studies)

- Funded by the Joint Fire Sciences Program with collaborators from University of Oregon, Oregon State University, and US Department of Agriculture Agricultural Research Service (USDA ARS Reno)
- Using the landscape simulation model LANDIS-II and geospatial data processing in ArcGIS and R to assess the efficacy of fuel treatments in restoring sagebrush steppe ecosystems in the Great Basin
- Parameterizing the model with FIA and remotely-sensed geospatial datasets; calibrating and validating model outputs

Graduate Student Researcher – Earth Research Institute (ERI), UCSB, CA
PI: Frank W. Davis (Distinguished Emeritus Professor, Bren School) (February 2022-March 2025)

- Received CALFIRE Forest Health Research Program Grant for graduate students
- Researched relationships between biophysical forest structure, fire behavior, and burn severity before and after prescribed burns in foothill oak woodland, grassland, and coastal sage scrub habitats
- Led field team in data collection before and after prescribed fire events (including Training Exchange, or "TREX" program events)
- Built thermocouple temperature sensors and deployed data loggers, analyzed fire behavior data
- Used ArcGIS Pro to manage geospatial data and document fire behavior and burn severity across fine and large spatial scales
- Linked remotely-sensed (LiDAR) data with field data to better document fire effects on fuel structure
- Managed budget and purchased field supplies; submitted quarterly reports to CALFIRE

Graduate Student Researcher – La Kretz Research Center, Sedgwick Reserve, UCSB, CA
(September-December 2020; July-December 2021)

- Conducted research on oak demographic patterns in relation to climate change and drought, and measured bark thickness and allometry of three resident oak species
- Collected and analyzed fire behavior data from fuel manipulation experiments in foothill grassland from Sedgwick Reserve's first prescribed burn events (Fall 2020 and Spring 2021)
- Assisted with (UAV) drone imagery operation and data collection

- Collected field data prior to prescribed burn event at Sedgwick Reserve's neighbor property, the Midland School

Senior Honors Thesis, UC Davis, CA (Completed Spring 2016)
Supervisor: Marcel Holyoak (Professor, Environmental Science and Policy)

- Completed thesis titled "*Threats to Survival and Recovery Strategies in Endangered Species Act Recovery Plans for California Birds and Mammals*"
- Conducted literature review and statistical analysis on the use of restoration as a conservation strategy, comparing listed threats and strategies. Evaluated across endangered and threatened species, birds and mammals, and multi- and single-species plans

Tree Cores Research Assistant – John Muir Institute of the Environment, UC Davis, CA (January–April 2016)

- Supported research of climate change effects on competing pine species in the Great Basin, Nevada
- Mounted, scanned, and analyzed tree cores using dendrochronology software; measured seedlings in drought and common garden experiments at USDA Forest Institute of Genetics, Placerville, CA

Grasslands Restoration Research Assistant – Truman Young Lab, UC Davis, CA (January–March 2016)

- Assisted grasslands restoration project evaluating seed diversity in 'control' and restored areas of a California Central Valley grassland. Weighed vegetation samples and identified seeds by species

Tree Swallow Research Assistant – Patricelli Lab, UC Davis, CA (March–June 2016)

- Supported research evaluating anthropogenic noise effects on Tree Swallows
- Recorded data on nest development within nest boxes, measured nestlings and adults for body growth, took blood samples, cross-fostered eggs across nest boxes, set-up noise playback equipment

Woodrat Spatial Ecology Research Assistant – John Muir Institute of the Environment, UC Davis, CA (June–September 2015)

- Supported research evaluating woodrat populations' spatial ecology in response to environmental change at UC Quail Ridge Ecological Reserve.
- Set traps and captured woodrats to apply tags and radio collars; collected ear tissue samples; and changed equipment in stationary RFID readers

RESEARCH GRANTS

- **California Department of Forestry and Fire Protection (CALFIRE)** Forest Health Research Program Grant (February 2022) - $90,163
- National Center for Airborne Laser Mapping (NCALM) and NSF Seed Grant (March 2020)

SCHOLARSHIPS AND AWARDS

- UCSB Individualized Professional Skills (IPS) Program Award (January 2025)
- **Schmidt Family Foundation Research Mentorship Award** (October 2023) - $9,000
- La Kretz Graduate Student Fellowship, La Kretz Research Center, Sedgwick Reserve, UCSB (Fall 2019)
- Bren School Fellowship (Fall 2019)
- UC Davis Henry A. Jastro Scholarship, College of Ag. and Environmental Sciences (2012-2016)
- UC Davis Departmental Citation, Dept. of Environmental Science and Policy (June 2016)
- UC Davis Outstanding Senior Award for major, College of Ag. and Environmental Sciences (Spring 2016)
- UC Davis Dean's Honors List, College of Ag. and Env. Sciences (Fall 2014)
- UC Davis First Year Scholar and Dean's List, College of Ag. and Environmental Sciences (Spring 2013)

PUBLICATIONS

Brande, Kaili, Frank W. Davis, and Bruce E. Kendall. "Bark Traits and Fire Vulnerability in Three California Foothill Oak Species." *Fire Ecology* 22, no. 1 (2026): 43. <Link>

Mayes, Marc, Matthew Shapero, **Kaili Brande**, Robert Fitch, Nikole Vannest, Roxanne Foss, and Frank W. Davis. "Fire behavior responses to grass biomass manipulations simulating grazing intensity in California oak-savanna rangelands." (*in prep.*).

Fitch, Robert, Matthew W.K. Shapero, Marc Mayes, **Kaili Brande**, and Frank W. Davis. "The Effects of Fuel Load on Prescribed Fire: Implications for Seed Banks in California Annual Grasslands". *Grasslands*, 34, no. 1 (2023): p. 13. <Link>

Brande, Kaili. "Threats to Survival and Recovery Strategies in Endangered Species Act Recovery Plans for California Birds and Mammals." *Explorations*, 19 (2017). <Link>

SCIENTIFIC/ECOLOGICAL WORK EXPERIENCE

WaterWays Assistant – Putah Creek Council, Winters, CA (February-May 2019)

- Delivered WaterWays Environmental Education Program curriculum to elementary- and middle-school children in the classroom and during field trips
- Organized field trip supplies, planned field trips, and developed in-class curriculum with the WaterWays team

Biologist – Analytical Environmental Services, Sacramento, CA (July 2017–August 2018)

- Prepared biological resource assessments, restoration monitoring reports, technical memoranda, CEQA documents (EIR, ISMND, etc.), and federal and state permit applications for clients
- Conducted biological surveys of clients' properties for special-status plant and animal species, wetlands and waters of the U.S., habitat designations, and other features; recorded GPS data

Ecological Restoration Intern – National Park Service (NPS), San Francisco, CA (January–July 2017)

- Worked in a tri-agency partnership (NPS, Golden Gate National Parks Conservancy, Presidio Trust), assisting restoration volunteer programs, conducting rare plant monitoring, and weeding and planting at restoration sites. Completed Nesting Bird Survey training

Biological Science Technician (Botany) – National Park Service, Crater Lake, OR (June–September 2016)

- Surveyed for rare and invasive plant species; utilized Garmin GPS and Trimble Juno handheld unit to map invasive plant populations. Helped compile descriptive booklet of National Park invasive species, and aided wildlife crew with small mammal trapping and monitoring

Arboretum Ambassador Intern – UC Davis Arboretum, UC Davis, CA (September 2015–June 2016)

- Engaged local families and community members in environmental educational events through the UC Davis campus arboretum. Assisted staff with nursery plant sales and event organization

Research/Advocacy Intern – Orange County Coastkeepers, Costa Mesa, CA (June–July 2014)

- Collected and recorded scientific data for Marine Protected Area (MPA) Watch program. Researched local proposed desalination plant and local bay copper pollution for updating advocacy website

Preservation Advocate Intern – Environment California, Sacramento, CA (April–June 2014)

- Conducted research on endangered species, ecological threats, economic and recreational benefits, and legislative efforts involved with "Preservation Opportunity" locations across California

PRESENTATIONS

Brande, K. 2025. **Joint Science Symposium by Point Conception Institute (The Nature Conservancy) and La Kretz Research Center (UCSB Natural Reserve System)**: From Coast to Crest: Connecting Science, Partnership, and Practice Across Landscapes, April 2025. Fire Intensity and Burn Severity for Oaks in prescribed fires at Sedgwick Reserve.

Brande, K. 2024. **Living with Fire Summit** by Community Environmental Council and UC Santa Barbara California NanoSystems Institute, Fall 2024. Prescribed fire as a wildfire prevention and forest management tool: From an oak's point of view. Poster presentation.

Brande, K. 2023. **Association for Fire Ecology (AFE) Conference**, December 2023. Linking burn severity with post-fire oak recovery in a Southern California foothills prescribed fire.

Brande, K. 2023. **UC Natural Reserve System (NRS) Seminar Series**, Fall 2023. Research at Sedgwick Reserve with Dr. Frank Davis and PhD Student Kaili Brande.

Brande, K. 2023. **Ecological Society of America (ESA) Conference**, August 2023. Bark Traits and Expected Fire-Adaptedness of Three California Foothill Oak Species.

Brande, K. 2023. **UC NRS Sedgwick Reserve La Kretz Research Center Symposium**, April 2023. Bark Traits and Expected Conferred Resistance to Fire-induced Mortality in Three Oak Species at Sedgwick Reserve.

Brande, K. 2023. **Bren School PhD Research Symposium**. Bren School of Environmental Science & Management, University of California, Santa Barbara, February 2023. Bark Traits and Expected Conferred Resistance to Fire-induced Mortality in Three California Oak Species.

Brande, K., 2022. **University of California Agricultural and Natural Resources (UCANR) Oak Symposium**, Fall 2022. Bark Traits and Expected Conferred Resistance to Fire-induced Mortality in Three California Oak Species.

Brande, K. 2016. Threats to Survival and Recovery Strategies in Endangered Species Act Recovery Plans for California Birds and Mammals. Poster presentation at UC Davis 27th Annual Undergraduate Research, Scholarship and Creative Activities Conference, Davis, CA.

PROFESSIONAL SERVICE

- **Reviewer for Journal *Ecosphere***, ESA Journal (February 2026)

SKILLS, AFFILIATIONS, AND INVOLVEMENT

Computer: R, ArcGIS, GitHub, LANDIS-II, Google Earth, ImageJ, Microsoft Office
Professional Associations:
Association for Fire Ecology (since April 2023)
Ecological Society of America (ESA) (since August 2020)
Phi Kappa Phi Honor Society (inducted May 2015)

EXTRACURRICULAR ACTIVITIES

Association for Fire Ecology (AFE) Mentoring Futures Program (September 2023-August 2024)
Participated in program designed to pair students and early career professionals with later career professionals within the AFE network. As a mentee, met regularly with mentor Katie Low (Statewide Coordinator for the UC Agricultural and Natural Resources (ANR) Fire Network) to discuss upcoming workshops and career development opportunities, research opportunities, and networking events.

Bren PhD Anti-Racism Caucus (June 2020–March 2025)
Attended and helped organize monthly to bimonthly meetings of the Anti-Racism Caucus, organized by and for PhD students at the Bren School at UCSB. The goal of the Caucus is for students to educate themselves about racism and the role that white supremacy and other systems of power play in academia and in science; and reflect on how they can realistically work to dismantle those systems of power.

UCSB The Green Initiative Fund (TGIF) Committee (September 2020–June 2021)
Served as the Bren School representative on a student majority governance board, helping to make funding allocation decisions for project proposals across campus that support the University's sustainability initiatives.

Women in Science and Engineering Club, UC Santa Barbara (October 2019–June 2025)
Attended meetings and networking events for UCSB's Women in Science and Engineering (WiSE) club.

Bren PhD Student Symposium Committee (January–February 2020)
Organized annual research symposium by scheduling student presenters, assembling prizes, hosting the event.

Toastmasters International, UCSB Chapter, UC Santa Barbara (June 2022–September 2023)
Attended monthly meetings with UCSB's Toastmasters chapter to improve public speaking skills.

Swim Instructor – Campus Recreation and Unions, UC Davis, CA (June-August 2015; April-May 2016)
Instructed children ages 3-13 years old through group classes or one-on-one lessons. Encouraged confidence in the water and improved skills. Worked with parents on private lesson scheduling.

Outreach Coordinator of the Environmental Club at UC Davis (September 2013–June 2014)
Organized club social events and community service events, sent weekly emails to members, campus tabling.