**Kate A. Becker**

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Recent graduate of the Master of Environmental Data Science program at the University of California, Santa Barbara’s (UCSB) Bren School of Environmental Science & Management. Currently working as a Senior Resistant Assistant with the University of Queensland’s Ocean Conservation Team, contributing to numerous qualitative and quantitate research projects. Proficient in RStudio, Python, GIS, and SQL, with a robust skill set in product management, collaborative problem-solving, web application development, geospatial modeling, and statistical analysis. Brings over three years of dedicated experience in marine science, environmental science, and fisheries, driven by a deep passion for environmental sustainability, policy, and conservation.

# SKILLS

* Statistical Analysis
* Database Management
* Machine Learning
* Microsoft Office
* Data Collection
* UX Design
* Product Development

# PROFESSIONAL EXPERIENCE

# Senior Research Assistant

**Ocean Conservation Team, Centre for Biodiversity and Conservation Science, University of Queensland**, Brisbane, Australia (1/13 – Present)

* **Designing** a global endangered species database using **policy evaluation**, **R**, **SQL**, and **web scraping** for both academic and non-academic applications
* **Implementing** advanced **statistical modeling, data cleaning, machine learning, version control,** and**data visualization**toanalyze**fisheries bycatch patterns**inlarge-scaleglobaldatasets
* **Collaborating** with industry partners to **interpret results** and **identify strategies** for promoting more **environmentally efficient** fishing practices
* **Co-authoring** research publications and **resolving** computer science challenges alongside a multidisciplinary team
* **Presenting** on current research and future development plans at this year’s **International Congress for Conservation Biology, representing the Centre for Biodiversity and Conservation Science**
* Securing a small grant to host a workshop, bringing together intergovernmental, governmental, academic, and non-academic research stakeholders to improve accessibility, usability, and data validation for the endangered species database

# Product Manager

# Bren School of Environmental Science & Management, UCSB, Santa Barbara, CA

(1/24-6/24)

Project**:** Improving Access to Consumption Advisories and Maintaining Confidence in California’s Seafood Products

Clients: Scripps Institute of Oceanography, California Cooperative Oceanic Fisheries

Investigations (CalCOFI)

Deliverables: Interactive Web Application, Shiny Dashboard Github Repository, User Manual and Technical Guide

Links: [Repository](https://github.com/SaferSeafood) | [SaferSeafood](https://shiny.calcofi.io/SaferSeafood/) [Web](https://shiny.calcofi.io/SaferSeafood/) [Application](https://shiny.calcofi.io/SaferSeafood/)

* Directed the creation of the interactive, data–driven, and public-facing online application to visualize DDT concentrations dependent on species and location of capture
* Enhanced a spatiotemporal statistical model to predict DDT concentrations in sport fish across Southern California
* Invited to present at the Southern California Oceanic Observing Systems Conference (SCOOS) in San Diego
* Organized the deployment of the web application on CalCOFI’s server

# Undergraduate Researcher

**Eliason Lab, UCSB,** Santa Barbara**,** CA (3/22–6/23)

* Investigated thermal tolerance of fishes under fluctuating temperatures and varying diet quality using cardiovascular performance as a metric
* Performed fish husbandry for approximately 130 *Fundulus parvipinnis and 80 Girella nigricans* in a wet lab over six months
* Navigated complex procedure for analyzing copper toxicity tolerance research in *Mytilus galloprovincialis using O2 uptake as a metric*

# Summer Intern

**Eliason Lab, UCSB**, Santa Barbara, CA (5/22–8/22)

* Developed a project investigating parasite load, *Euhaplorchis californiensis*, in the brain regions of California killifish, *Fundulus parvipinnis*, as it pertains to thermal tolerance
* Awarded UCSB Coastal Fund ($5,000)
* Executed numerous EKGs daily to analyze the relationship between arrhythmia occurrence and sea surface temperatures in *Fundulus parvipinnis*
* Directed fish dissection and brain removal procedure
* Organized numerous literature reviews to develop a dissection and analysis protocol for transparency and reproducibility

# EDUCATION

**Master of Environmental Data Science (June 2024), Bren School of Environmental Science & Management, UCSB,** Santa Barbara, CA

Highlighted Coursework: Environmental Policy Evaluation, Machine Learning, Data Visualization, Geospatial Analysis, Remote Sensing, Scientific Programming, Analytical

Workflows, Scientific Reproducibility, Statistical Modelling, and Sediment Analysis Relevant Workshops: Website Building in Quarto, Introduction to Shiny, Public Speaking, and Conflict Resolution in the Workplace

**Bachelor of Science in Environmental Studies (June 2023),** **University of California, Santa Barbara (UCSB)**

Concentrations: Environmental Policy, Sustainability, Climate Change, and Conservation

# International Academic Field Studies Program, Wildlands Studies, Big Island, Hawaii (3/21–5/21)

* Selected for a competitive seven-week field training program focused on marine and terrestrial research, indigenous marine management, and food systems
* Collaborated with the Pacific Whale Foundation, a non-governmental organization that conducts whale research, to assess the impact of plastics on local marine populations
* Conducted land surveys using transects and quadrats, supported by field measurements and inferential statistical analysis
* Received training in the native sustainable fishing practice known as the ‘Opelu Project in the fishing village of Miloliʻi, the last land division on The Big Island in Hawaii
* Reported and analyzed the economic and environmental impacts of the invasive Coqui Frog through a research project
* Spearheaded an interactive group discussion on the disappearance of Hawaiian culture and language due to colonization and increasing Western influence
* Executed native agricultural farming practices to achieve sustainable and high crop yields of Taro, ‘Uala, and Breadfruit
* Presented a proposal for creating a Marine Protected Area, focusing on the recolonization of juvenile coral polyps, and examining local weather patterns, water temperature, wind currents, and human influence

# ADDITIONAL EXPERIENCE

# Fine Dining Waitress, The Kitchen American Bistro, Boulder, CO (7/24–11/24)

* Strengthened the restaurant’s mission, established by Kimbal Musk, by providing an exceptional and personalized dining experience
* Expertly served elevated international dishes and craft cocktails with in-depth knowledge of menu items, flavor profiles, pairing options, and allergens
* Showcased attentive service across brunch, lunch, and dinner shifts while taking on additional responsibilities such as food running, restocking, bussing, hostessing, and ensuring sanitation standards

# Fine Dining Waitress, The Ritz-Carlton Bacara, Santa Barbara, CA (6/21–1/22)

* Conducted food and beverage service to a variety of luxury and high-profile guests for an average of 40 hours a week while in school
* Memorized hotel guest profiles, daily specials, seasonal cocktail list, regular menu, and possible allergens
* Facilitated extra work as needed such as food running, barista, restocking, cleaning, and private event staff

# Boutique Sales Associate Stella E Luna Boutique, Point Pleasant, NJ (5/19–10/19)

* Strengthened upscale boutique by managing and processing sales, social media marketing, and customer satisfaction

# SKILLS, CERTIFICATION, & ADDITIONAL EDUCATION

**Technical:** Spatial Mapping, Statistical Analysis and Data Visualization in R Studio,

Python, Google Workspace, Scientific Writing, R, Python, SQL, Git, (Basic) Command Line, Quarto, Shiny, Github Issues, Microsoft Office (Word, Excel, PowerPoint), Java, HTML, and

CSS

**Research Qualifications:** IACUC Training (Fish), CITI Wildlife Research, CITI Working with Fish in Research Settings

**Certification:** PADI Open Water Diver

**Writing, Research, and Presentation:** Report writing, literature review, policy memos, and public presentations

**Additional Education: University of Queensland, Australia** **UCEAP Study Abroad Program** (Winter 2021 and Spring 2021); Accepted twice into competitive academic program but canceled due to COVID-19; Marine Biology and Terrestrial Ecology courses while working in conjunction with the Heron Island Research Station

# PROJECTS

Remote Sensing Land Cover

# Master’s Geospatial Analysis and Remote Sensing Course Project

Converted Landsat values to reflectance values

Utilized the Terra package to wrangle spatial data

Implemented true color imagery

Developed and applied a decision tree classifier

**Link to repository**: <https://github.com/kateebeckerr/RemoteSensing_Landcover.git>

Redlining Injustices

# Master’s Geospatial Analysis and Remote Sensing Course Project

Employed EJ Screen data

Mapped spatial data

Wrangled geometries

**Link to repository**: <https://github.com/kateebeckerr/Redlining_Injustices.git>

Santa Barbara Thomas Fire

# Master’s Geospatial Working with Environmental Datasets Course Project

Employed EPA and Landsat 8 satellite data

Processed raster data

Utilized NumPy in Python

Constructed true and false color imagery

` **Link to repository:** [**https://github.com/kateebeckerr/ThomasFire\_Analysis**](https://github.com/kateebeckerr/ThomasFire_Analysis)

Fisheries in Alaska

# Master’s Data Visualization Course Project

Employed Alaska Department of Fish and Game data and GIS shapefiles

Applied a DEI lens

Mapped spatial data

Wrangled geometries

Conducted time series analysis

**Link to repository:** [**https://github.com/kateebeckerr/Becker-eds240-Final**](https://github.com/kateebeckerr/Becker-eds240-Final)