

Mel Baldino

- melbaldino@berkeley.edu -

Education

University of California, Berkeley

August 2023 - Present

PhD in Environmental Science, Policy, and Management
Supervisor: Dr. Iryna Dronova

Duke University - Durham, NC: GPA 3.803 (Cum Laude)

May 2020

Bachelor of Science in Biology
Bachelor of Arts in Environmental Science and Policy, Concentration in Marine Conservation
Semester Abroad at Duke University Marine Lab
Thesis: *Estimating the Carbon Offsetting Potential of Shellfish Aquaculture*

Research Experience

Drone Pilot - Louisiana State University

November 2022 - April 2023

- Flew DJI Matrice 300 RTK flights to collect footage of wetland use by ducks and water birds
- Identified Arkansas waterbird species and ducks while flying
- Trained classifier in *Darwin V7* to identify key species in forests & wetlands from drone images
- Created photogrammetry maps for stakeholders interested in how ducks used their land

Drone Pilot - North Dakota State University

Aug 2021 - Oct 2021, Aug 2022 - Oct 2022

- Flew 90 DJI Mavic Pro 2 and DJI Mavic Air 2 flights to monitor blackbird behavior on farms
- Assembled and loaded pesticide spraying drone (DJI Agras MG-1S) in the field
- Identified local nesting birds and migratory raptors
- Estimated sunflower crop damage created by the blackbird flocks

Drone Pilot/Commercial Fisherman - Vitamin Sea, Maine

July 2022 - August 2022

- Launched DJI Mavic Air 2 from boat to identify areas of high seaweed concentration
- Created informational videos to advertise benefits of sustainable seaweed harvesting
- Identified 10 types of native growing seaweed on the coasts of Maine for harvest

UAV Field Technician - University of Florida

January 2022 - June 2022

- Flew daily DJI Inspire and Wingtra flights to catalogue nesting success in Everglades
- Conducted monthly aerial surveys by fixed-wing aircraft to identify small wading bird colonies
- Monitored 10 wading bird colonies weekly by checking nests along a transect
- Navigated through Everglades while driving airboats (100 hours accumulated)
- Identified wading birds in colony photos and counted individual nests in Photoshop

Wildlife/Habitat Songbird Technician - Oregon State University

April 2021 - June 2021

- Identified sagebrush obligate songbirds by calls, songs, and visual cues during point counts
- Conducted nest searching and monitoring during the breeding season
- Sampled and identified local vegetation species inside and outside of grazed pastures
- Set camera traps and iButtons in and around nests to monitor predator presence
- Trained *Kaleidoscope* advanced classifier to identify over 10 species of bird calls in local plots

Mel Baldino

- melbaldino@berkeley.edu -

Research Assistant - NOAA

December 2020 - March 2021

- Identified live/bleached corals in photo surveys and estimated live coral area using CPCe 4.0
- Managed coral out plant database using Microsoft Access
- Input coral nursery and out plant data into database

Fishery Technician II - Prince William Sound Aquaculture Corp.

August 2020 - October 2020

- Assisted in the execution of pink salmon egg take at Cannery Creek Hatchery
- Quickly identified sex of pink salmon by sight before sorting them to be spawned or bucked
- Carefully removed eggs from hens before fertilizing them using bucks
- Removed bad eggs and outside materials before eggs entered an incubator to optimize survival
- Seined the approach channel to obtain bucks and hens that would not swim up river

Rachel Carson Scholar - Duke University, NC

October 2018 - May 2020

- Modeled the carbon sequestration potential of oyster aquaculture in the United States
- Compared aquaculture sequestration to other offsets in the California Cap and Trade System
- Participated in biweekly professional development meetings

Field Research Assistant - Bass Connections: Oyster Reef Health - Duke

March 2019 - May 2020

- Classify and catalogue invertebrates in oyster reef samples
- Quantify oyster size classes and clump sizes represented in oyster reef samples
- Deployed ARMs around sampling sites to assess sessile community structure and development
- Conducted spatial surveys and traditional ecological surveys in Beaufort, NC

Summer Student Fellow - Woods Hole Oceanographic Institute, MA

May 2019 - August 2019

- Crafted habitat-specific potential food webs for a fully functioning commercial seaweed farm
- Theoretically modeled and quantified ecosystem services provided by seaweed farms
- Delivered a speed talk and poster session

Research Student - University of Queensland Research Station, Heron Island, AU

March 2019

- Designed threat assessment protocol for shrimp gobies in Shark Bay
- Spent 5 hours in the water per day measuring threat responses of individual goby burrows
- Delivered a speed talk and paper presentation

Data Processor - Duke Marine Robotics & Remote Sensing Lab

January - May 2019

- Processed video recordings from drone flights in Antarctica
- Created still images of individual humpback whales to use for biometric estimation
- Managed database of pods and individuals humpback whales

Field and Research Assistant - Poulsen Lab - Makokou, Gabon

March 2018 - May 2019

- Designed and executed 15 elephant baiting trials in Ivindo National Park, Gabon over 10 weeks
- Followed collared elephants on three 10-day follows through Ivindo National Park
- Searched dung piles thoroughly to retrieve seed models from 120 individual dung piles and marked GPS location to estimate GPT and seed dispersal distances
- Assisted in design and development of GPT and seed shadow calculation and visualization code

Mel Baldino

- melbaldino@berkeley.edu -

Undergraduate Research Associate - Rausher Lab - Duke University October 2016- May 2018

- Executed PCRs and gel electrophoresis on *Ipomoea lacunosa* and *Ipomoea cordatotriloba* DNA specific to nectar to locate points of similarity and analyze evolutionary speciation
- Managed two experimental growth rooms with 1400 *Ipomoea* individual specimen
- Conducted pollen count experiments under microscope

DukeEngage Costa Rica - Monteverde Institute, CR June - August 2017

- Designed 14-point protocol for rapid assessment of tropical forest integrity and development in reforested areas to determine impacts of reforestation efforts
- Conducted verbal surveys in spanish with farmers on their interest in free reforestation services
- Planted 3000+ trees in fincas to create habitat for endemic species

Project Research - Duke University August 2016

- Conducted metagenomic analysis of soil on Duke's campus to catalog microbiotic biodiversity
- Carried out PCRs and gel electrophoresis to amplify and visualize DNA
- Analyzed genomic sequencing using FinchTV to determine the composition of microorganisms

Teaching Experience

Long-term Substitute Teacher - LiFT Academy, Seminole, FL February 2023 - May 2023

- Subbed in all classes from kindergarten to high school
- Created practical learning plans for students who struggled with telling time, counting money, and being aware of their space
- Long-term duties included creating curriculum for high school math, religion, and english classes and adapting my curriculum to fit each student's needs as neurologically diverse

Student-Athlete Tutor - Duke University Athletics Department September 2018 - May 2020

- Explained complex concepts in introductory Spanish, Chemistry, and Environmental Science
- Provided outside resources to assist in the learning process of students
- Coordinated schedules with student-athletes to provide weekly sessions

Study Buddies - Founder and Past President - Seminole, FL May 2014 - June 2016

- Recruited tutors from local high schools to volunteer at LiFT Academy
- Scheduled tutoring sessions for 30 tutors & 15 students with neurological diversity
- Tutored twice a week at LiFT Academy

Publications and Presentations

Beirne, Christopher, Nuñez, Chase L., **Baldino, Melissa**, Kim, Seokmin, Knorr, Julia, et al. *Estimation of gut passage time of wild, free roaming forest elephants*. *Wildlife Biology* 1 : 1-7. 2019

Poulsen JR, Beirne C, Rundel C, **Baldino M**, Kim S, Knorr J, et al. (2021) *Long Distance Seed Dispersal by Forest Elephants*. *Front. Ecol. Evol.* 9:789264. doi: 10.3389/fevo.2021.789264

Mel Baldino

- melbaldino@berkeley.edu -

“Quantifying Ecosystem Structure and Services Provided by Tropical Seaweed Farms” presented at Woods Hole Oceanographic Institute (summer 2019) and AGU’s Ocean Sciences Meeting (February 2020)

Science Communication

Baldino M. Interviewee. “Oceans episode 3: Marine policy.” Down To Earth: Cornell Conversations About... 2019 Nov. 6. <https://anchor.fm/down-to-earth-cornell/episodes/Oceans-episode-3-Marine-policy-e8ri8n>

Baldino M. Co-host. “Local Communities and Ecotourism: Empowerment or disempowerment?” Seas The Day - Duke University Marine Lab. 2021 Feb. 2. <https://open.spotify.com/episode/1nQjFXLkGWKLR8YO6SBCY1?si=chEGek4-SR2z2Dqf0Nu-Sw>

Volunteer Activities

Duke Puppy Kindergarten - Volunteer

February 2018 - May 2020

- *Dorm Puppy Raiser (September 2019 - March 2020)* - Responsible for the training, socializing, husbandry, and overnight housing of a service dog in training for 40 hours a week
- *Husbandry Volunteer (February 2018 - May 2019)* - Taught CCI puppies basic commands and enforced house training twice weekly during shifts and socialized puppies with Duke Students on and around campus
- Trained in proper and safe animal training by Duke Canine Cognition Lab

FEMMES Connect - Mentor - Duke University, NC

January 2017 - January 2018

- Introduced mentee (in eighth grade) to available science-oriented experiences on campus, like building robots, with FEMMES, a program focused on involving young girls in STEM

Skills

Field skills : utilizing clinometers, GPS, VHF and iButton trackers, and densitometers in the field (forest ecosystems); familiar with CTD, plankton trawling, and sediment sampling on research vessel; bird mist-netting, soil sampling, & tree biomass estimation; camera trap operation; point counts; using seine net in river; airboat driving; audio recorder operation;

Computer skills: proficient in R; experienced with Kaleidoscope and Darwin V7

Certifications: Boater’s License, First Aid/CPR/AED Certified, Part 107 Drone Certified

Drones flown: Wingtra, DJI Mavic Air 2, DJI Mavic Pro, DJI Mavic Pro 2, DJI Agras MG-1S, DJI Matrice 300 RTK (Zenmuse H2O), DJI Inspire