**Taylor Ely**

3598 Alani Drive, Honolulu, HI 96822

(310) 245-0207

tely@hawaii.edu

https://taylorely.github.io/

**Education**

|  |
| --- |
| University of Hawaiʻi at Mānoa started August 2019  PhD Candidate in Zoology current GPA: 4.0  Advisor: Dr. Peter Marko  University of California, Los Angeles June 2018 |

Bachelors of Science Marine Biology GPA: 3.957

Minor in Environmental Systems and Society

Advisor: Dr. Paul Barber

Senior Honors Thesis: *Investigating Temporal Variation in a Marine Environment*

**Experience**

**Graduate Research Assistant**  *September 2024 to current*

University of Hawaiʻi at Mānoa NSF grant # 2049672

Dr. Peter Marko’s Lab

Investigating marine biogeography and population structure in North Central Pacific

* Collected eDNA samples on a 3-week long research cruise
* Trained and supervised undergraduates and post-bacs for eDNA sample processing

**NSF Graduate Research Fellow** *August 2019 to September 2024*

University of Hawaiʻi at Mānoa

Testing environmental DNA as a population genetics tool in the Main Hawaiian Islands

* DNA extractions, quantification, amplification, purification, and library prep for MiSeq
* Bioinformatics and analysis in R and wrote functions for population genetics analysis

**Lab Technician** *February to June 2019*

Bowdoin College, Brunswick, Maine

Sequenced and ran preliminary analysis on parrotfish gut samples

* DNA extractions, quantification, amplification, purification, and library prep
* Bioinformatics on cluster and analysis in R Studio and wrote protocol for future students
* In charge of upkeep of the lab which included ordering supplies

**Oregon Sea Grant Summer Scholar** *June to August 2018*

Department of Fish and Wildlife (ODFW)

Marine Resources Program, Newport, OR

Assisted in the ecological monitoring of the intertidal communities within Oregon’s marine reserves.

* Monitored sea star wasting syndrome (SSWS) and analyzed data from SSWS and biodiversity surveys in Oregon’s MR with both univariate and multivariate statistics
* Expanded the monitoring program through successful collaborations
* Led a team of 3-7 staff and volunteers during intertidal field sampling

**Undergraduate Research Assistant** *October 2015 to June 2018*

UCLA, Department of Ecology and Evolutionary Biology, Los Angeles

Undergraduate in Dr. Paul Barber’s Lab

Senior Honors Thesis: Investigating Temporal Variation in a Marine Environment

* Designed experiment, collected samples, ran lab work, ran analysis, and wrote the paper

**Invertebrate Zoology Intern** *June to August 2017*

Smithsonian Institute, National Museum of Natural History

Dr. Chris Meyer’s Lab, Washington D.C.

Sequenced samples from the ARMS project across Indonesia using Sanger sequencing

**Public Programs Intern** *May 2015 to May 2016*

Santa Monica Pier Aquarium, Santa Monica, CA

Assisted with outreach and events about aquarium animals and conservation issues

* Presented and hosted scientific talks including a talk with NASA JPL
* Created advertisements for events and talks for social media and newsletters
* Created hands on activities and displays
* Helped found the seabirds program at the aquarium

**Certifications**

* Certified Open Water Scuba Diver and Underwater Naturalist since 2008
* Scientific Diving certified since 2016: 112 scientific dives
* CPR, AED, and First Aid certified

**Honors & Awards**

2018 Graduated Summa Cum Laude and Departmental Highest Honors

2018 3rd place Undergraduate Poster at UCLA’s Biology Research Symposium

2014-2018 Dean’s Honors List

2017 UCLA Undergraduate Research Scholarship Program award ($5000)

2017 Whitcome Research Undergraduate Summer Fellowship ($3000)

2016 Promise Award Scholarship ($2000)

2015 Honor Society: Alpha Lambda Delta and Phi Eta Sigma

2014 California State PTA Scholarship ($500)

**Grants**

2024 to current - **Jessie D. Kay Memorial Award in Zoology** ($10,000)

*What are the dispersal pathways for marine species to the Hawaiian Archipelago?*

2023 - **Elizabeth Alison Kay Endowed Awards** for students in Biology/Zoology at the University of Hawai'i at Mānoa ($2500)

*Dispersal patterns of marine organisms in the Hawaiian Archipelago*

2020 - **The Charles H. And Margaret B. Edmondson Research Fund** ($2000)

*Community-wide genetic patterns revealed through eDNA*

2019 to 2024 - **NSF Graduate Research Fellowship Program** ($118,500 over 3 years)

*Using eDNA to examine the impact of warming oceans on marine fish communities*

**Publications**

**Ely TD**\*, Mukai GNM\*, Kobayashi DR, Marko PB, Moran AL, Wren JLK. *In Review*. Characterizing key sensitivities for modeling long-distance dispersal in the North Central Pacific Ocean. NOAA Technical Report. \* = co-first authors

**Ely T**, Patten N, Naisbett-Jones LC, Spencer ET, Willette DA, Marko PB. (2023). Molecular identification of critically endangered European eels (*Anguilla anguilla*) in U.S. retail outlets. *PEERJ*.

Moran AL, Toh M-WA, Lobert GT, **Ely T**, Marko PB. (2021). Egg masses and larval development of the Antarctic cephalaspidean slug *Waegelea antarctica*, with notes on egg masses of the related *Antarctophiline alata*. *Journal of Molluscan Studies*. 87(3).

**Ely T**, Barber PH, Man L, Gold Z. (2021). Short-lived detection of an introduced vertebrate eDNA signal in a nearshore rocky reef environment. *PLOS ONE* 16(6): e0245314.

Blanchette A\*, **Ely T\***, Zeko A.\*, Sura S, Turba R, Fong P. (2019). Damselfish *Stegastes nigricans* increase algal growth within their territories on shallow coral reefs likely via enhanced nutrient supplies. *Journal of Experimental Marine Biology and Ecology.* \* = co-first authors

**Presentations**

***Oral Presentations***

Ely T (2024) “eDNA: a promising tool for population genetics” Albert L. Tester Memorial Symposium. Honolulu, HI.

Ely T (2023) “Can eDNA be used as a population genetics tool for marine communities?” Albert L. Tester Memorial Symposium. Honolulu, HI.

Ely T (2022) “Testing eDNA as a fine-scale population genetics tool in marine ecosystems” Albert L. Tester Memorial Symposium. Honolulu, HI.

Ely T (2021) “Community-wide genetic patterns revealed through eDNA” Albert L. Tester Memorial Symposium. Honolulu, HI.

Ely T (2018). “Monitoring Sea Star Wasting in Oregon’s Marine Reserves”. Oregon Sea Grant Final Symposium. Newport, OR.

Ely T,Blanchette A, Zeko A (2017). “Territorial damselfish enhance nutrient supplies to algal turf in shallow coral reefs”. Marine Biology Quarter Symposium. Los Angeles, CA.

Ely T,Delgadillo A, Dimaano A, Gdara O, Roth J (2017). “Live and dead infaunal molluscan assemblages across a varying landscape of a tropical reef ecosystem”. Marine Biology Quarter Symposium. Los Angeles, CA.

***Poster Presentations***

Ely T (2018). “Monitoring Sea Star Wasting in Oregon’s Marine Reserves”. Oregon Sea Grant Final Symposium. Newport, OR.

Ely T (2018). “Investigating Temporal Variation of eDNA in a Marine Environment”. UCLA’s Annual Biology Research Symposium. Los Angeles, CA.

Ely T (2018). “Investigating Temporal Variation of eDNA in a Marine Environment”. UCLA Research Poster Day. Los Angeles, CA.

**Teaching**

Environmental DNA team leaderJuly 2024

Larvae Across the Pacific Research Cruise *R/V Thompson*

Trained and supervised a team of undergraduates and post-baccs to process environmental DNA samples

Teaching Assistant January 2020 to May 2020

Invertebrate Biology (BIOL 485L) University of Hawaiʻi at Mānoa

Teaching Assistant August 2019 to December 2019

Ecology and Evolutionary Biology Lab (BIOL 265L) University of Hawaiʻi at Mānoa

**Public Outreach**

UH News Article September 2024

https://www.hawaii.edu/news/2024/09/08/research-voyage-marine-links-north-pacific/

**Community Service**

International Save the Vaquita Day September 2024

Lead volunteer, ran an educational booth (reached 85 visitors) Waikīkī Aquarium

48th Annual Albert L. Tester Memorial Symposium Workday with Paepae o HeʻeiaApril 2024

Working towards the restoration of Heʻeia Fishpond Heʻeia Fishpond

Career Day February 2023

STEM research career education for high school students Dreamhouse High School

Kupu Hawaiʻi STEM outreachOctober 2022

STEM research career education for high school students University of Hawaiʻi at Mānoa

Leeward Science and Engineering Fair February 2020 and 2021

Volunteer judge for environmental science and biological sciences categories online

The Science of the Seuss Library Event March 2020

Educating young children about basic principles of science and engineering Kapolei Public Library

Environmental Message of the Month September 2013 to June 2014

Founded and ran this program to educate students and parents Palos Verdes Intermediate School

http://monthlyenvironmentalmessage.weebly.com/

**Professional Service**

Navigating the Publishing Landscape Workshop October 2024

Discussion panelist for graduate student perspective University of Hawaiʻi at Mānoa

Student Social Chair Spring 2025 to current

Co-lead of weekly Pau Hana event for graduate students and faculty University of Hawaiʻi at Mānoa

**Reviewer for Journals**

*Aquatic Conservation: Marine and Freshwater Ecosystems*,

*Proceedings of the Royal Society B*: *Biological Sciences*