



FALL 2023 EDITION

UNIVERSITY OF HAWAII AT HILO
TROPICAL CONSERVATION BIOLOGY
& ENVIRONMENTAL SCIENCE



A Fantastic Fall!

TCBES Semesterly Newsletter

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TCBES 2023 cohort. Pictured (left to right) first row: Lauren Moe, Gabriela Benito, Lauren Smith, Ariel Patterson, Nikki Henry, Mishell Vasquez Morales, Christine Tominiko, River Thomas; second row: Nathan Breindel, Kelli Elliot, Ian O`Holleran, Randall Thomas, Liz Lough, Mina Jensen, Annie Larson, Andrew Tabaque, Tui Puletiuatoa

INSIDE THIS ISSUE:

- Student and Faculty Highlights
- In The News
- Kaiameaola Club Events
- Graduating class of Fall 2023

TCBES Students and Faculty in the field:



STUDENT & FACULTY *Highlights*

September 2023

Professor **Patrick Hart**'s (TCBES faculty) popular podcast on Hawai'i native birds marks milestone of 3 years and 70 episodes! The goal of *Manu Minute* at its outset was to produce a segment about every bird in Hawai'i, and after 70 of the short podcasts, this goal has almost been reached.

[Read the article here.](#)



October 2023

UH Hilo computer scientist **Travis Mandel** (TCBES faculty) and his students explore artificial intelligence and natural science; public talk

[Read the article here.](#)



Ka'ehukai Goin (TCBES student) part of team to remove 126K pounds of marine debris, sea turtles rescued at Papahānaumokuākea.

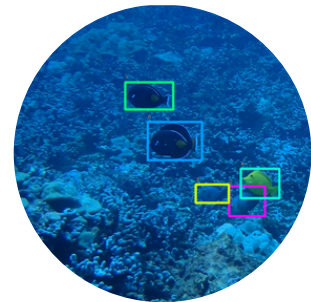
[Read the article here.](#)

Photo credit: Andrew Sullivan-Haskins

November 2023

AI scientists at UH Hilo receive prestigious editor's choice award for paper on their fish tracking software. UH Hilo Stories. Features: Dr. **Travis Mandel** (CS, TCBES).

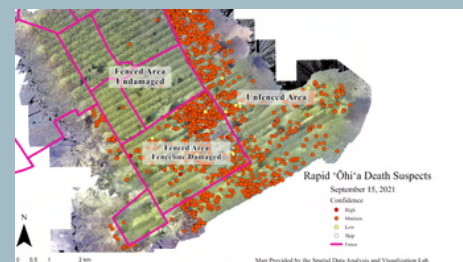
[Read the article here.](#)



December 2023

Dr. **Ryan Perroy** (GEOG & TCBES) and **Nai'a Odachi** (TCBES student) part of ArcGIS StoryMap publication showing feral cattle and pigs exacerbate spread of Rapid 'Ōhi'a Death on Hawai'i Island.

[Find the story map here. Read the article here.](#)



KAIAMEAOLA CLUB



Kaiameaola Club & Creatures Keeper's Club at Native Forest Māla on campus. [Read the article here.](#)



Waikoloa Dry Forest work day in September. The wiliwili were in bloom!



October work day with Hui Mālama i ke Ala 'Ūlilī!



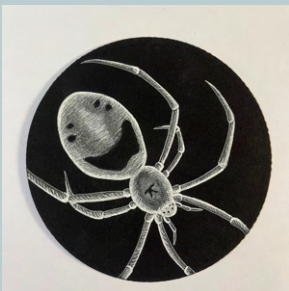
Hawai'i Wildlife Fund hosted us in Wai'ōhinu for invasive grass removal.



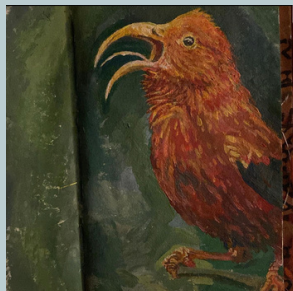
Planting work day in Keauhou in November

Kaiameaola Club participates in Inktober, focusing on native Hawai'i species!

[Read the article here.](#)



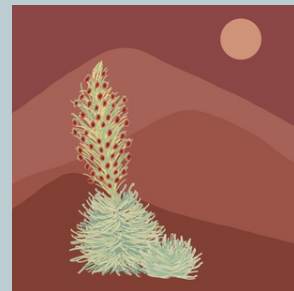
Happy Face Spider (*Theridion grallator*) by Nai'a Odachi



I'iwi (*Drepanis coccinea*) by Ioanna Gotschall



'A'ali'i (*Dodonaea viscosa*) by Anna Ezzy



Haleakalā Silverswords (*Argyroxiphium sandwicense*) by Sibley Barnette



Kāhuli by Kalena Shiroma



Pueo (*Asio flammeus*) by Olivia Jarvis



'Ālo'ilo'i (*Dascyllus albisella*) by Josephine Tupu



'Ōpea'ape'a (*Lasiurus cinereus semotus*) by Anya Benavides

Checkout our [Instagram!](#)



Upcoming Events

Women in STEM
February 9th

TCBES Symposium
April 11th & 12th

Workday with Kohala Watershed Partnership

Keauhou Bird Conservation Center

Project Highlights

How do you know what to plant where? Developing a climate-resilient restoration approach that combines functional, climate, and geographic data



Konapiliahi Dancil (TCBES student)



*Coping with invasive species in Hawai'i sometimes demands thinking outside the box, which is what Dr. Rebecca Ostertag has been teaching her PI-CASC Graduate Scholar **Konapiliahi Dancil**. As part of Ostertag's bigger effort through her Liko Nā Pilina project on Hawai'i Island, they found it is paramount to choose native and non-native species with complementary ecosystem roles that may function together to promote greater climate resilience for the forests as a whole. The selection of species and necessary management actions are being developed with the Hawai'i Lowland Wet Forest Working Group, which includes researchers, managers, and community members. Learn more through their [PI-CASC project page description](#), and the [Liko Nā Pilina website](#).*

Prediction of habitat complexity using a trait-based approach on coral reefs in Guam

TCBES student **Sofia Ferreira** is focusing on coral reef ecology. Her master's thesis is on creating three-dimensional models of Hawaiian coral reefs to investigate connections between reef habitats and local fish communities. Ferreira says coral reefs, the lifelines of coastal and island communities, are facing escalating threats from both local and global stressors. "[Our] findings offer a glimpse of hope, casting light on the inner workings of these vital ecosystems." She adds that integrating these coral traits into monitoring programs enables scientists to better predict the impacts of environmental changes on reef ecosystems and improve conservation strategies.

Read more [here](#).



Sofia Ferreira (TCBES student) collects coral reef data.

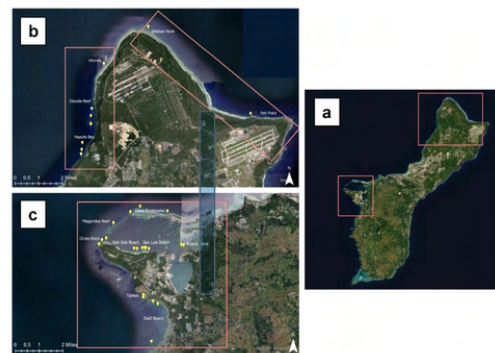


Figure 1. (a) Map of Guam island with study areas marked by a red box. (b) Study sites (marked by yellow pins) located in the northwest and northeast coastlines. (c) Study sites located in the west coast within and outside of Apra Harbor. Environmental Systems Research Institute (ESRI), ArcGIS Release 10.8, Redlands, CA. <https://www.esri.com/> (2019).

TCBES Alumni



Art program inspires keiki to explore science. John Burns (MARE & TCBES Faculty) & Crispin Nakoa (TCBES alumni)

Read the article [here](#).

UH Hilo alumna Katie Strong now teaches chemistry and the science of sustainability at her alma mater.

Read the article [here](#).



Coral Reef Restoration Project Launched On Hawai'i Island with TCBES Alumnus Rebecca Most (TNC Hawai'i Island Marine Program Director) & Mikayla Barnwell (TNC Coral Restoration Specialist).

Read the article [here](#).

Marine scientists conduct coral reef impact study for Tahitian communities

Dr. John Burns (TCBES), Dr. Cliff Kapono (ASU), Dr. Haunani Kane (UHM), Kailey Pascoe (TCBES Alumni), and Joseph Nakoa (TCBES Alumni) traveled to Teahupo'o and conducted a 3D habitat mapping project. This was to determine the baseline reef conditions and assess damage that would occur in preparation for the Paris 2024 Olympics.



Congratulations

Graduating students!

Zach Taylor

« Conducting Fish Surveys Through a New Lens: The Transformative Potential of Innovative Technologies and Community-based Coral Reef Fish Monitoring Methods »

Thesis Advisor: John Burns

Walter Boger

« Shifts in Carbon Export from a Hawaiian Watershed due to Climate Change »

Thesis Advisors: Tracy Wiegner, Steve Colbert

Amberly Pigao

« Forest Restoration Techniques in a Sub-Alpine Forest on Hawai'i Island, Pu'u Kanakaleonui, Mauna Kea »

Thesis Advisor: Jonathan Price

Noah Hunt

« Investigating Signal Interaction Between Introduced and Native Forest Birds in Hawai'i and Distance Estimation Based on Maximum Power Levels of Bird Vocalizations »

Thesis Advisor: Patrick Hart

Matthew Dye

« The Use of Fermented Black Soldier Fly (*Hermetia illucens*) Larvae Meal to Replace Fish Meal in Diets for Juvenile Hybrid Tilapia (*Oreochromis niloticus*/*O. aureus*) »

Thesis Advisor: Armando García-Ortega

Nathalie DeRoquigny

« Behavior, Infestation, and Molecular Characterization of *Cryptophlebia* spp. (*Lepidoptera: Tortricidae*) Associated with Macadamia Nut in Hawai'i »

Thesis Advisor: Norman Arancon

Missed a Defense or Presentation?

No worries!

All completed defenses are on the TCBES YouTube channel!



Watch them here!

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Check out our Website!



TCBES's UH Foundation

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Kaiameaola Club will meet every Friday at 9am in the grad lounge (W-16) starting in January