

He'eia Research Reserve

Education is Change on the Ground



2022

Connect



1,385 acres of
wetlands, estuaries, coral reefs



Prepare

10 teachers trained
5,238 students engaged
16,503 contact hours

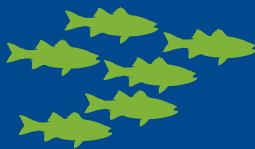
Improve



2,769 volunteers

"A course unlike any other I have taken in my past 14 years of teaching. I now see the value in connecting students to these sites. It has changed how I teach."

Teacher, Kahalu'u Elementary



"It was profoundly transformational to connect to and learn from 'āina and the stewards of those places."

Student, Marine Biology Graduate Program

Estuaries X Imagination

Our Teachers on the Estuaries program provides on-site and virtual workshops, exposing participants to 'āina- or place-based and student-centered learning techniques, culminating in projects tailored to the passion of each teacher. Our last cohort was amazingly creative; one teacher coped with pandemic impacts, restricting opportunities for student field trips, by building the He'eia National Estuarine Research Reserve (NERR) in Minecraft, customizing new avatar superheroes of the ae'o (Hawaiian stilt) and pinao (giant Hawaiian dragonfly). Her second graders loved the virtual ahupua'a (watershed)...and were finally able to visit in-person once restrictions lifted, getting to explore the loko i'a (fishpond) through stewardship, play, and art.

Telling Fish-Stories Across Oceans

We had a great time collaborating with the Mashpee Wampanoag Tribe and Waquoit Bay NERR on a distance workshop for teachers. Thanks to some experimentation we did during the pandemic, we are now able to zoom from underwater! The fish cooperated by showing us how the mākāhā or sluiceway works during the incoming tide. Our partner Paepae o He'eia manages this 800-year old pond.

Training Future Researchers

In the summer the He'eia NERR collaboratively piloted an intensive course on research methodologies for graduate students in the University of Hawai'i Marine Biology program. The course combined interdisciplinary readings and discussion with Reserve-based, immersive experiences in Native Hawaiian bio-cultural restoration to introduce students to reciprocal collaboration in research. The instructional team was recently awarded a National Science Foundation grant to continue and expand the course.



Hawaii's He'eia Reserve is one of 30 sites in the National Estuarine Research Reserve System. Each site is a state federal partnership that combines research, monitoring, and education to advance the understanding and management of estuarine environments.



UNIVERSITY
of HAWAII*
MĀNOA

National Estuarine Research Reserve Education Change on the Ground in 2022

Connects

People to Estuaries

**1 million+
ACRES**

of natural classrooms & living laboratories with



**26 INTERPRETIVE
CENTERS**



*Hello to the
Connecticut
Reserve,
designated
in 2022!*



**296,131
VISITORS**

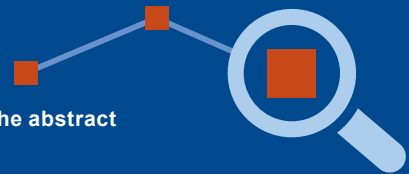
learn about estuaries through Research Reserve outreach & education

Prepares

the Next Generation

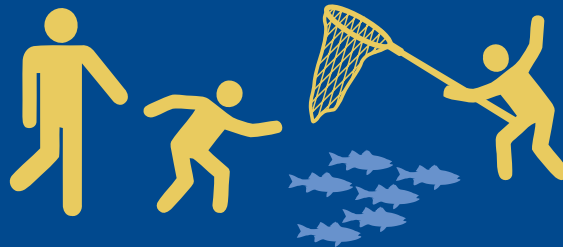
**54,773
STUDENTS**

take learning out of the abstract & into the outdoors



**4,347
TEACHERS**

are trained in the estuary & supported in the classroom



SKILLS BUILT

- ✓ Observation
- ✓ Asking research questions
- ✓ Problem solving
- ✓ Data driven decision making

ESTUARY SCIENCE

LOCAL DATA

LAB WORK

FIELD INVESTIGATION

Improves

the Environment

**10,570
CITIZENS**

are trained & inspired to protect their coasts & estuaries



VOLUNTEER ACTIONS

- ✓ Protect wildlife
- ✓ Monitor water quality
- ✓ Plant native species
- ✓ Clean up the coasts

**30 RESEARCH RESERVE
EDUCATORS**

lead programs that foster coastal stewardship in communities in 25 states



Creating value through education
37,371 volunteer hours = \$1,119,261*