

'Iolani literature students clear limu

An eco-literacy class focuses on elements of island culture and community service

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In a roped-off area about 10 yards square, the blue shallows of Maunahua Bay turned murky gray as 24 'Iolani School juniors and seniors waded in, slipping on rocks and slime, and plunged their arms underwater to grope for invasive limu and pull it out of the brine.

Others snared the alien algae with their toes, clad in reef shoes provided by Malama Maunahua, a non-profit that leads regular shoreline cleanups with students and other volunteers from around Oahu.

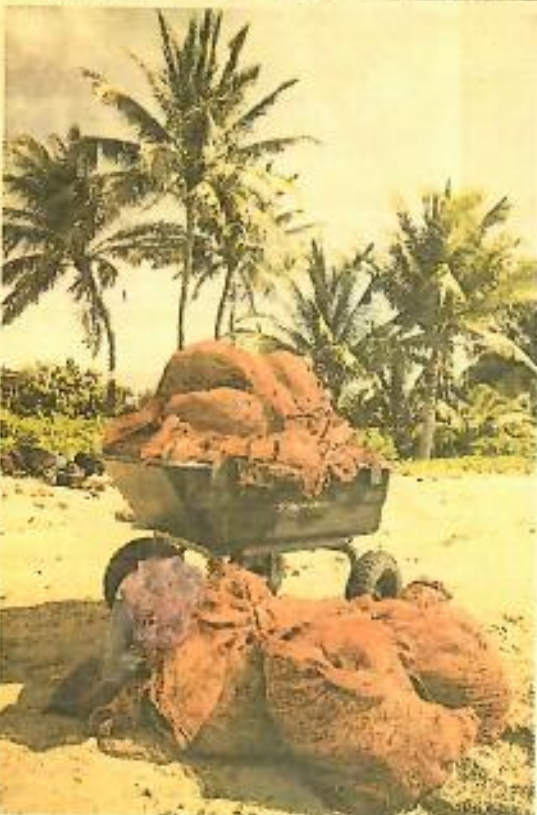
"You can feel it with your feet, and it's satisfying after you pick up everything you can and there's nothing left," said Sierra Moniz, who was participating in a field trip last month with her classmates in "Literature of the Ocean," an English class with an ecological theme.

The course examines "the connection between conservation and Hawaiian culture," said teacher Michelle Hill, who in 2016 crewed on the Hokule'a sailing canoe's Malama Honua (Care for the Earth) voyage.

It also encourages students to think about their own relationship to the ocean "as they contemplate how characters in literature find themselves through the sea."

Before starting their haul, or pull, near Paiko Lagoon, the students were briefed by Malama Maunahua members.

Uncle Ralph Dykes, a retired Punahou School biology teacher, showed them samples of invasive limu:



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prickly seaweed and gorilla ogo, which covered 42% and 60%, respectively, of the area where they would be working, and which crowded out

native algae that other creatures in the ecosystem need to survive.

He also showed them native seaweed.

Josh Bernhard, 16, above left, William Tobin, 17, and Kala Chong, 17, work to clear invasive limu from Maunahua Bay on Nov. 26 in Honolulu. The teenagers are students in English teacher Michelle Hill's "Literature of the Ocean" class at 'Iolani School. The group removed 800 pounds of the algae.

Bags of limu were to be taken to local farmers for compost, at left.

"Try not to remove these spiridia fluffballs and this bright-green caulerpa," Dykes said. "Put the bad stuff in the bag, the good stuff back in the ocean outside the ropes."

For more than two hours, the students filled big net bags with the bad limu, which would be donated to local farmers for use as fertilizer, while separating out and throwing back native limu, rocks and tiny mud-green crabs.

As they worked, Hill asked her students how this hands-on learning related to their class reading.

Wesley Yamada cited "The

prickly = *A. spicifer* LOCAL
GORILLA = *G. salicornia*

from Maunalua Bay



Molly Mamaril of the Blue Zones Project shows students the differences between two bad invasive algae, prickly seaweed at far left, and gorilla ogo, and spiridia, a native algae that is good for the environment. Blue Zones promotes healthy living.

Whale Rider," by Witi Ihimaera, in which "whales would beach themselves and die when under great stress."

Now, he added, "The ocean is in great distress from invasive species."

Others mentioned "La'ie-kawai" by S.N. Hale'ole, the first novel published in Hawaiian, in 1862.

"It emphasizes protecting the land and other Hawaiian values, like family," said Micah Ahn.

William Tobin said the novel had given him new perspectives on ecosystems and global warming, which gives an advantage to invasive species. This field trip, he added, was "a fun way to connect with nature and apply the love we feel for the land and ocean into action."

His classmates agreed it was great to be learning outside of the classroom.

As they separated bright-green good limu from muddy clumps of gorilla ogo, Sydney Yamanaka, Bayle Rodrigues and Melmel Bayman discussed the 2008 poetry collection, "The Salt-Wind: Ka Makani Pa'akai" by Brandy Nakani McDougall.

"It focuses on how Hawaii has been westernized," Yamanaka said.

"With buildings and hotels everywhere," Rodrigues and Bayman chimed in.

The poems, said Sasha Assefbaye, showed how "industrialization not only pollutes the ocean but disconnected Hawaiians from the *āina* where they had once caught and grown their own food."

Now, she added, "We drive cars to the market and pollute the air."

"It would be hard for me to write a poem if I didn't experience this," said Kala Chong as he hefted a limu-filled bag.

Still, after lugging the heavy bags up the beach in the hot midday sun, the students proclaimed themselves — and looked — utterly exhausted.

They perked up a bit after learning they'd removed 800 pounds of bad limu.

"It was crazy the amount of effort it took to collect invasive seaweed in a small area," Austin Lam reflected. "I realized that everyone needs to be proactive in caring for the *āina* because it takes so much more time and resources in the long run to fix what could've been prevented."

Over time, great progress had been made: Looking eastward, a vast sweep of clean white sand and un-silted reef shone through the waters of the great bay.

But clumps of gorilla ogo, left on the beach by a receding tide, showed there was more to be done.

To volunteer, go to mamaunalua.org/volunteer.