

Feature Story

School of Bird Barf



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By Rasa Fournier

A new program gets students outdoors to learn about native species, and to dissect albatross boluses. Thanks to a curriculum developed for elementary schools by the National Oceanic and Atmospheric Administration (NOAA), young students are receiving hands-on lessons they won't soon forget.



Sophia Aleman and Asia Amii with their marine debris sculpture

There's getting your hands dirty and then there's getting your hands dirty! Thanks to a curriculum developed for elementary schools by the National Oceanic and Atmospheric Administration (NOAA), young students are receiving hands-on lessons they won't soon forget.

"(As part of the program with NOAA) our fourthgraders had a chance to go out to Camp Erdman," says Island Pacific Academy (IPA) teacher Joe Krueger. "It was a chance for the kids to get their hands on native plants and to actually dissect some albatross boluses."

Some what?

"To be straightforward," laughs NOAA's Matthew Limtiaco, "it's albatross barf."

Before a fledgling albatross takes flight, it regurgitates a mass of undigested objects. The boluses often include bits of plastic that parents inadvertently collect while scavenging for food in the ocean. They then pass the shards to their young.

The NOAA curriculum, called "Navigating Change," is meant to instill in the students a new respect for their surroundings.

"Navigating Change was Nainoa Thompson's father," explains Limtiaco. "Nainoa took that torch and passed it on to educators from the National Oceanic and Atmospheric Administration."

Those same values that shaped the Polynesian Voyaging Society were compiled into a classroom guidebook. The semester-long course teaches the children about environmental stewardship, includes guest speakers, and culminates in first-hand field experience.

When Limtiaco himself a teacher for eight years with the DOE came on board with Navigating Change three years ago, he noticed that schools were fine with implementing the classroom segment of the curriculum, but translating those lessons into tangible, outdoor experience was another story, what with transportation logistics, safety issues and knowing where to get involved.

His solution was to have the kids work on projects near their schools. Students from the Maunaloa Bay area (Hawaii Kai) participated with Mālama Maunaloa to remove invasive algae and did native plant restoration at Paiko Wildlife Sanctuary. A total of eight schools in Hilo, Waimea and Kona did restorative work in nearby forests.



Ati Jeffers-Fabro, president of the Friends of Ka'ena, teaches students Alexia Sadoyama, Aiden Romero, Kamil Terrell, Roman Gehrich, Audrey Salazar and Mikaya Day about a native plant called naio, which is related to sandalwood. Photos courtesy of Island Pacific Academy

IPA was one of a few West side schools Limtiaco worked with this past school year, also partnering with Friends of Ka'ena, YMCA Camp Erdman and the state Division of Forestry and Wildlife to deliver Intro 101 on what Limtiaco calls "the Grand Canyon in their backyards" Northwestern Hawaiian Islands.

"The first stage (of last year's program) was introducing Papahānaumokuākea National Monument to students," says Limtiaco. "It's the Northwestern Hawaiian Islands. A lot of the students don't even know it exists. It doesn't show up on all maps, but it includes 10 islands and atolls that extend past Kauai and Ni'ihau. They're all part of this Hawaiian island archipelago and they include important historical islands like Midway Atoll, also known as 'voices of the birds.'

"At last count there were more than 400,000 breeding pairs of albatross there, but a number of them took a hit during the last tsunami. So other colonies on these islands are also very important."

Limtiaco pointed out that for learning purposes, Ka'ena Point works perfectly as a stand-in for Papahānaumokuākea because of its literal and metaphorical link to Northwestern

islands. Both places are geologically similar and they're home to the same species of sea and land animals. The plants at both are genetically linked, borne between the land masses by seabirds. Ka'ena is also home to a leina stone, a portal for souls departing from the earth toward the spirit realm in the direction of Papahānaumokuākea.

In the classroom, students were introduced to those islands, which are some of the most isolated in the world, with very little human footprint. They learned about endemic fish, whales, monk seals, sea birds, turtles, plants and insects, many of which are endangered, but are managing to flourish on the islands.

Next the children were presented with the concept of a "human footprint" our use and depletion of the earth's resources such as energy and fossil fuels, as well as our disposal and mishandling of opala, particularly plastics. This is where the albatross come in their stomach contents are an excellent barometer of the cleanliness of our oceans.



Mikaya Day examines the trash contained in a bolus

"One of the workshops during the semester was on marine debris," says IPA teacher Lisa Fabro. "The children ended up getting involved in the fifth annual International Marine Debris Conference held in Waikīkī. Our children glued together amazing marine debris sculptures, which were used as centerpieces for the conference. About 440 people from 33 different countries attended and they voted on the sculptures. Our students were able to not only participate, but to get awards on their sculptures."

Toward the end of the semester it was time for students to act on the knowledge they'd gained. They headed to Camp Erdman in Mokuleia for an overnight stay. There were four main



Sophia Aleman, Satomi Swayne, Dylan Uy-Reynolds, Nicole Sundberg

components to their visit. They learned about flora, and participated in planting more than 100 native ohai, naio and naupaka (the rarer mountain type, rather than the common coastal variety) in a restoration site near Camp Erdman, the last outpost of civilization before heading into Ka'ena Point Natural Reserve.

Then they learned about the land by doing a makai to mauka hike, looking at the changing terrain and how that land was used in the past, with a discussion on possibilities for utilizing the resources in the future.

Third, they learned about animal life, which included dissecting not only albatross boluses, but also its equivalent: owl pellets. "The students were able to compare what an owl pellet from the Mainland has in it and what an albatross is throwing up on the Northwestern Hawaiian Islands," explains Krueger. "There was all kinds of marine debris in the albatross, but in the owl pellet there was just bones and fur.

"We have a lot of budding activists on campus now. They'll tell you 'We're part of the restoration generation.'"

After the sun set, the plan was to look skyward to study celestial bodies. But nature intervened. The day the IPA students happened to be on their overnight field excursion was the day the tsunami came rolling in from Japan and they had to evacuate from the shoreline.

Plans originally called for students to spend the second day interacting with Camp Erdman interns. "The interns come in from Brazil, Mexico, Africa, Canada, Norway all over the world," says Limtiaco. "So the kids get to see this very worldly focus. They're not only looking into their own culture and the things that are relevant here, they're also looking at how people across the planet view this world and how really we all need to take part in protecting this planet because we all have a stake in it."

The program was so successful that Limtiaco has decided to keep Ka'ena Point as the base camp for the Navigating Change program, and IPA has committed to participate for a second school year. Coincidentally, the theme of the program suited IPA perfectly. "IPA has sort of a mantra of the navigators," notes Limtiaco. "The Navigators is their theme, it's their team mascot, which harkens back to Navigating Change."

Fabro's vision for her students echoes Limtiaco's goal with Navigating Change:

"Environmental education is a perfect (fit with) all areas of academia, and the children respond to it, they love it. It's a great way to get them connected to where they live. That's the change that we're trying to help them navigate through. We firmly believe that if they're connected and they care about where they live, they're going to want to take care of it."