

HPU Contributes to New 'Winged Ambassadors' Ocean Stewardship Lesson Package

By [Guest Contributor](#) - August 22, 2012



HPU Assistant Professor of Oceanography David Hyrenbach, Ph. D., examines the wing of a sooty shearwater during a necropsy at the Oceanic Institute. Hyrenbach recently contributed research to the new science instruction activity package Winged Ambassadors.

(WAIMANALO, Hawai'i – Aug. 22, 2012) A high-tech science instruction package focused on teaching children in grades 5 – 12 about seabirds is newly available for teachers and students, thanks to a consortium including researchers and educators from Hawai'i Pacific University, the National Oceanic and Atmospheric Administration (NOAA), U.S. Geological Survey (USGS) and other key partners.

[Winged Ambassadors](#) is made up of lessons and activities that meet science and math standards for students in grades 5-8, with extensions for grades 9-12. The lessons have a special focus on the albatross, its journeys throughout the world and environments it encounters along the way.



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These lessons are intended to create a greater understanding of ocean stewardship and how plastic debris affects animals, said Assistant Professor of Oceanography [David Hyrenbach, Ph.D.](#), who is based the [Oceanic Institute](#), a research and instruction affiliate of HPU.

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“Plastic lasts for a long, long time. The ocean currents and wind move the material around. On top of that, the birds go very, very far,” Hyrenbach said. “These dynamics combine to create a huge dilemma.”

For example, a disposable lighter left on a beach in California or Japan can wind up in an albatross from the Northwestern Hawaiian Islands. This is not speculation: Hyrenbach has bird bolus (vomited pellets) that include lighters, toothbrushes, action figures and more in his lab.

“Eventually, some bird who may be breeding thousands of kilometers away from us ends up eating this piece of plastic,” he said. “Some of the smaller plastic debris, like airgun pellets and broken fragments, can be ingested by migrating sub-Antarctic shearwater species and travel to New Zealand, Chile and even Tasmania!”

With Geographic Information Systems (GIS) computer mapping and satellite tracking information in *Winged Ambassadors*, students can learn about the journey of birds and the far-ranging impact of ocean debris.

“[HPU Marine Science master’s degree graduate] [Pam Michael](#) and I contributed satellite tracking data, and analytical and mapping expertise” to the *Winged Ambassadors* curriculum, Hyrenbach said. Michael is now engaged in a prestigious Dean John A. Knauss Marine Policy Fellowship at NOAA, working with federal government representatives. She welcomed the opportunity to participate in *Winged Ambassadors* not only to help younger students but also to make a difference through research.

“I’m honored to a part of such a diverse team of collaborators working on such a meaningful project. Though it was challenging for me to switch gears from applied science to outreach, it was an immensely fulfilling process,” Michael said.

Oikonos, a nonprofit organization working to increase ecosystem knowledge based in Kailua, manages the *Winged Ambassadors* program. In addition to HPU, NOAA and USGS, contributors to the program include Cordell Bank National Marine Sanctuary,

Papahānaumokuākea Marine National Monument, the U.S. Fish and Wildlife Service and the state of Hawai'i Division of Forestry and Wildlife (DOFAW).

"Everything is more powerful when we collaborate," said Michelle Hester, president and ecologist at Oikonos. "With HPU, we've been able to do things we couldn't do on our own."

"It helps nonprofits and the state of Hawai'i to have a collaboration with HPU. It provides us a resource and a lot of the students end up working for us when they graduate," she said.

She said having a combination of HPU's labs, dedicated researchers and students contributes greatly to projects such as Winged Ambassadors. Hester noted that in the two weeks since the new modules were made available, schools in more than 12 countries and more than 100 teachers have downloaded materials.

Michael said she "would have loved to have had access to these materials as a young student. It would have helped me to understand how the little decisions I make on a daily basis impact wildlife and ecosystems that I was just beginning to discover."

"I hope that students and teachers enjoy these materials, to help us all make more informed decisions, from mauka to makai."

For more about Winged Ambassadors, see <http://www.oikonos.org/projects/wingedambassadors.htm>. HPU's Pelagic Ecology Lab, managed by Hyrenbach, is at <http://www.pelagicos.net/>

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