

# Lessons from the Albatross

## Teaching Second-Graders about Life Cycles and Stewardship

By Kendall Slee

**The Laysan albatross that spend part of their lives on Hawai'i's Kaua'i Island are fascinating. That's why the staff of Kilauea Point National Wildlife Refuge decided to focus on the seabirds for an elementary-level education program in the 2010-2011 school year.**

A seabird found only along the coast where colonies exist, the albatross are easy to identify. Standing 32 inches tall, with a wingspan of more than six feet, albatross – called Mol- in the native language – can steal a show with their mating dance of sky calling, bill clapping, head tucks and bobbing, deep bows, and outstretched necks and wings. Most of their life milestones can be observed November to June – perfect for the school year – and albatross are usually flying and nesting near their colony on Kilauea Point.

So Shayna Carney, the refuge's former supervisory park ranger, envisioned a program designed around life cycles, a state curriculum standard for second graders.

Carney wrote the first lesson about seabird adaptations and Caroline Tucker was hired as a part-time environmental educator to write the rest of the curriculum, focusing on life stages of the albatross from egg to adult. (See sidebar on "The Life Stages of a Laysan Albatross.") Refuge staff taught five 45-minute lessons in the classroom (see "Laysan Albatross Lesson Outline") and provided 12 additional lessons per month for five months. The program

*Laysan albatross spend months foraging on the open ocean, then return to their colonies on land for breeding season—November through July.*

culminated in a two-hour field trip to the refuge in April and May.

The program was taught to 12 second-grade classes – 245 students – from six public, private and charter schools on the northern and eastern side of the island. All are no more than a 45-minute drive from the refuge. The Hawai'i Youth Conservation Corps, the state branch of Americorps, hired volunteer Scott Clapsaddle to help Tucker teach the lessons; the refuge's interpretive rangers filled out the teaching ranks. The refuge Friends group, Kilauea Point Natural History Association, funded bus transportation for the field trip as well as supplies and educational materials.

### Dancing Like an Albatross

The program emphasized participatory learning, whether students danced like an albatross or tested the strength of an egg. "I think when you are doing hands-on experiential learning, it sticks in your mind better than if you're just hearing it and seeing it," Tucker says. Nanea Sproat-Armitage, a teacher at Kilauea School, says she was impressed by how much information her students retained month to month from the lessons. The program helped students gain a deeper understanding of a bird they might recognize but know little about, she says.

Diane McDonald, a teacher at Hanalei School, agrees. "A couple of the main points of the program that really stuck with my students were the distances these birds fly and how long the birds stay at sea, how strong an egg shell is and how the mother and father both take care of the chick," she says. "The students also had a great time learning

## The Life Stages of a Laysan Albatross

Laysan Albatross can be spotted on Kaua'i and other islands of the Hawai'ian archipelago November through July, when they alight on land to mate and breed after months of foraging on the open ocean.

In November, the albatross return to their breeding grounds – usually the same place where they hatched. They begin nesting with their mates. The birds are monogamous. Parents take turns incubating their single egg until it hatches in January or February.

Once the chick hatches, parents will leave the nest in search of food, and return to feed their chick regurgitated squid oil and flying fish eggs.

The albatross begin seeking mates when they are three to five years old. Single albatross can be seen performing elaborate mating dances from November through June as they search for and bond with a mate. The courting process is extensive. Bonded pairs eventually breed when they are between six and eight years old.

Chicks fledge in June and July, and will spend the next several years feeding in the open ocean. After they begin breeding, they spend their non-breeding months at sea. The Laysan albatross live 40 to 60 years.

*Kīlauea Point National Wildlife Refuge’s albatross education program covered the life stages of an albatross from egg to fluffy chick to breeding adult.*



Chris Swenson

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**Students learned how marine debris can be deadly to albatross and they brainstormed ways to help: recycling, using re-usable lunch containers, cleaning up beaches and spreading the word about how litter hurts the birds.**

the different mating dances and then recognized the dances during our visit.”

While refuge staff visited the schools about once a month, teachers extended the lessons with displays and discussions, typically posting pictures of the albatross at their life stage throughout the year. Most had a little stuffed albatross displayed in front of the room. Each class also received a small book about albatross written by a refuge volunteer.

### **Responding to Teacher Feedback**

Refuge staff encouraged teachers’ feedback and adjusted lessons accordingly. Informal feedback from teachers guided Tucker on small revisions – such as what activities the students enjoyed most or whether they were grasping key concepts. “If an activity was too confusing, with the teacher’s help—and usually on the spot—I could change the instructions to meet the needs of individual students and the class as a whole,” Tucker says.

Flexibility proved key. The field trip to the refuge turned up a few challenges when many classes lacked enough parent volunteers to lead small groups through a scavenger hunt at a series of learning stations.

“We found that some of our scavenger hunt clues were too complicated for second-graders, and we needed to let go of some of the details,” Tucker says. “In the end the most important thing was making sure they had a good experience in the outdoors and could feel good about what they knew about the albatross and stewardship.”

### **Active Stewardship**

Students learned how marine debris can be deadly to albatross and they brainstormed ways to help: recycling, using re-usable lunch containers, cleaning up beaches and spreading the word about how litter hurts the birds.

A program highlight for Kīlauea Point supervisory park ranger Jennifer Waipa was seeing children exhibit their knowledge during the field trip. “The kids really grabbed on to certain things they’d learned through the lessons – like the word ‘chalaza.’” To introduce and reinforce the word for the tissue that attaches the yolk within the egg, lesson instructors asked the students to repeat the rhyme, “The chalaza holds the yolk in place-uh.”

“Weeks or months later, you could see how the lessons were created in a way that helped them retain that information,” Waipa says.

# Laysan Albatross Lesson Outline

## Lesson 1: Build a Bird

**Concepts:** Basic information about national wildlife refuges, Kī-lauea Point and seabird adaptations.

**Active component:** A student is transformed into a bird with the help of classmates who provide suggestions for elements to add – feathers, webbed feet, sharp hooked beak, long wings.

## Lesson 2: So You Think You Can Dance... Like an Albatross?

**Concepts:** Courtship.

**Active component:** Students create an albatross mask prior to lesson. During the classroom visit, students learn about courtship rituals, including a few of the 25 dance moves albatross use to find and impress a potential mate. Students wear “gooney bird” masks and try some of the dances in small groups.

## Lesson 3: An Egg-stravaganza!

**Concepts:** An egg is a habitat for a growing baby bird.

**Active component:** Students participate in an “egg-speriment” to test the strength of an egg. Two students stand in front of the class and squeeze eggs – one from the sides, one from top to bottom. “Usually if an egg breaks, it would be the one squeezed from the sides,” Tucker says. “This is a visual way to show that the strength of an egg is due to its shape. It is the strongest shape in nature.”

**Another experiment:** Place books on an upright egg to see how much weight it can bear. Many classes reached 10 to 12 textbooks before the egg broke. Students also learned names and functions for each part of an egg by acting out parts and repeating catchy phrases.

## Lesson 4: Food for the Brood

**Concepts:** Both parents care for the newly hatched chick; one parent forages at sea and brings back fish and squid, while the other broods over the chick to keep it warm and protect it from predators.

**Active component:** Students learn firsthand the challenges of being a parent albatross by playing a relay-race game. Split into groups, students are given a “nest” with a “chick” inside (using a bowl with a photo of a chick in a nest). Each group has a “feeding area” in the classroom that holds “food items” such as squid, flying fish eggs and flying fish (all simulated by fishing lures or poker chips.) The first person must run to the feeding area to collect food, using an origami “beak,” and bring it back to “feed” the chick (deposit it in the bowl) while the remaining “parent” protects the nest from “predators” (facilitators or teachers wearing cat masks).

“This is a physical way to demonstrate how difficult it can be to be a parent albatross and have such important duties,” Tucker explains. “Students were challenged to run, use hand-eye coordination to collect the food, stay near the nest and guard the chick, as well as show aggression (albatross-style, of course!) to predators to protect their young.”

## Lesson 5: Ready for Take-Off

**Concepts:** Albatross chicks must go through several changes before they leave the colony and begin their adult lives.

**Active component:** Students measure their own wingspan prior to the classroom visit. During the lesson, each student makes a personalized “bird band.” The bands are then mixed up and the teacher tries to match each student with the correct band, using only the information on the band (wingspan, hair color, etc.)

## Lesson 6: Field Trip: Kīlauea Point Scavenger Hunt

**Concepts:** Review of the life cycle stages and recollection of information shared throughout the program.

**Active component:** Students work in small groups to solve clues, find secret locations, and complete challenges all around Kīlauea Point.



*Kīlauea Point National Wildlife Refuge environmental educator Caroline Tucker (far left) and Americorps volunteer Scott Clapsaddle (far right) put on their best albatross faces with a class of second-graders.*

Diane McDonald