

# Kilo iā

2017 | JULY | AUGUST | SEPTEMBER

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WAIKIKI  
AQUARIUM  
UNIVERSITY OF HAWAII





L to R: Brandon Marc Higa, UH at Manoa Board of Regent; Michelle Targoda, UH at Manoa Board of Regent; Jan Fried, Kapiolani Community College; Dr. Andrew Rossiter, Aquarium Director; Stanford Yuen, UH at Manoa Board of Regent

## AQUARIUM MESSAGE

Here at the Aquarium, collaboration with our partners is key in order to expand our reach and share the important message of ocean health and conservation. We've recently worked with a variety of organizations from government to universities to the private sector and individual donors. Each partnership is key in pursuing our mission to inspire and promote understanding, appreciation and conservation of Pacific marine life.

One of our recent collaborations with the University of Hawai'i at Manoa's SEED-IDEAS Office and Kapiolani Community College resulted in the creation of an American Sign Language (ASL) / English Interpreter Education Program. We are always looking to evolve and diversify our offerings for our guests and in May, special guests were invited to preview the new video tours of selected exhibits available in ASL.

In June, we welcomed 60 teachers to hear from our distinguished guest speakers as part of our National Oceanic and Atmospheric Association (NOAA) Bay Watershed Education and Training (B-WET) Wetlabs teacher workshops with Pacific Resources for Education and Learning (PREL). Speakers included the following:

- Dr. Celia Smith, UH Manoa, Botany Department
- Dr. Randall Kosaki, NOAA Papahānaumokuākea Marine National Monument

- Dr. Gail Grabowsky, Chaminade University, Environmental Studies Program
- Kyson Morikuni, Storm Water Management Program, Director of Strategic Initiatives
- Dr. Chip Fletcher, UH Manoa, School of Ocean and Earth Science and Technology

We've received continued support from our partners at Duke's Waikiki who assisted with a beach clean up as part of World Oceans Month, as well as Hard Rock Cafe who always provide delicious refreshments for our volunteers. Hard Rock also released a new pin, created by talented local artist Patrice Federspiel, from which 15% of the proceeds will benefit the Aquarium and its programs.

A big mahalo to all of our donors who continue to support the Aquarium and a special thanks to those who provided very generous funds this year including, but not limited to the Freeman Foundation, Steven & Marilyn Katzman, the Halligan Charitable Fund and the Weissman Family. We could not continue to do what we do without your support.

We look forward to the continued partnerships and opportunities to collaborate with some of the brightest and most passionate minds in Hawai'i and around the world.

Enjoy your summer!

## Kilo i'a

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Becker Communications

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### MANA'O

Traditionally, the kilo i'a was an expert of fish and marine life. He studied the behaviors and movements of i'a. The kilo stood at a high point of land overlooking the ocean to watch for an expected school of fish and steered the fishermen in the school's direction. The success of surrounding the school was entirely up to the kilo.

# RECENT EVENTS



## Mauka to Makai

On April 22, the Waikiki Aquarium welcomed more than 4,000 visitors to its 10th Annual Mauka to Makai Environmental Expo. In partnership with the City and County of Honolulu's Department of Facility Maintenance and Hawai'i State Department of Health, this FREE, family-friendly event highlighted the importance of keeping Hawai'i clean and free of pollution, from the mountaintops to the ocean. The event featured interactive booths, live entertainment, hands-on learning activities, displays that showcased preservation and protection of Hawai'i's environment, a fish release and native plant giveaway from Hawaiian Electric Company (HECO).



## Don't Fry Day

On May 26, guests had the chance to swap their conventional sunscreen for a free full-sized organic, natural, and coral safe Badger sunscreen at our Fry Day. Protecting our skin from harmful rays is important and so is protecting the ocean. The American Cancer Society, Storm Water Hawai'i and Sacred Hearts Global Issues Network Club hosted activities for guests, while Oceanic LAVACORE, Clark Little Photography and Freaky Tiki Tropical Optical provided great prizes and giveaways.

## BWET Speaker Series

On June 13, 14 and 15, Watershed Education to Teach, Learn & Advance Behaviors of Stewardship (WETLABS), provided 4th – 6th grade teachers the opportunity to hear from experts in water management, ocean stewardship and resources. Speakers included Dr. Randall Kosaki, NOAA; Dr. Gail Grabowsky, Chaminade University; Kyson Morikuni, Storm Water Hawai'i; Dr. Celia Smith, University of Hawai'i Botany Department; and Dr. Chip Fletcher, University of Hawai'i Department of Geology and Physics. Educators also received hands-on lessons, lectures, free art supplies and books.



## World Oceans Day

On June 8, we celebrated World Oceans Day with a beach cleanup at Baby Makapu'u. In partnership with Duke's Waikiki, Maton's Ka Ipu 'Aina Grant, and the City & County of Honolulu, volunteers joined the Aquarium to help remove trash and other debris from surrounding beach and park areas.



Photo caption: Velma Carstensen, Hard Rock Cafe; Dirk Yoshizawa, FOWA; Cydney Chu, Hard Rock Cafe

## We Rocked Out at Hard Rock

On May 11, the Friends of the Waikiki Aquarium (FOWA) held its annual fundraiser at Hard Rock Cafe Honolulu. Our friends, partners, volunteers and supporters joined us for a fabulous evening filled with delicious pupu, refreshments and a silent auction featuring a grand prize – a Koaloha Ukulele. Mahalo to our friends at Hard Rock for hosting us and being such amazing partners.



## 3rd Annual OZONE Day

Outrigger Hotels & Resorts hosted its 3rd Annual OZONE Day at the Aquarium on June 24. Guests learned about our oceans through educational games and fun activities and had the chance to win prizes, get their faces painted and enjoy live Hawaiian music.

# UPCOMING EVENTS

## Chasing Coral

Wednesday, August 23, 2017 • 5:30 PM – 8:30 PM • Waikīkī Aquarium

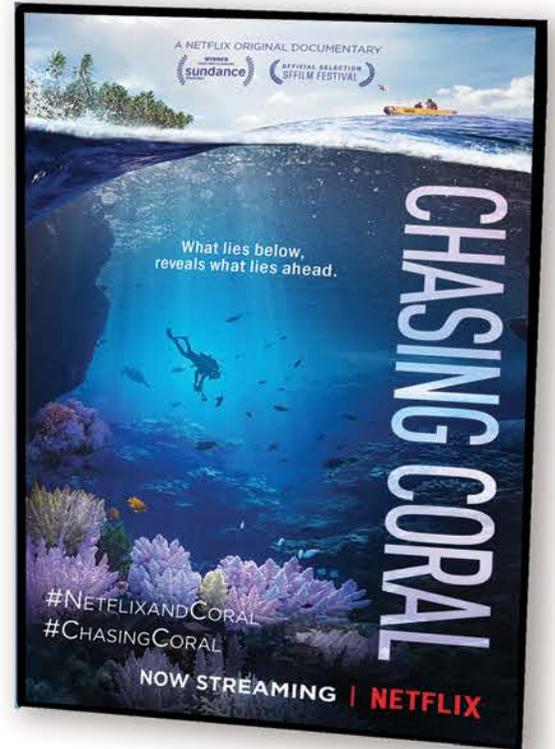
Join us for a special screening of the Sundance Award Winning Film “Chasing Coral” on the Aquarium lawn. Pack a dinner and enjoy a picnic under the moonlight. This is a **FREE** educational event for the family. Please bring a mat or towel to sit on and enjoy your picnic dinner.

Movie will be shown on a 16-foot inflatable screen providing a fin-tastic evening of cinema!

Chasing Coral taps into the collective will and wisdom of an ad man, a self-proclaimed coral nerd, top-notch camera designers, and renowned marine biologists as they invent the first time-lapse camera to record bleaching events as they happen. Unfortunately, the effort is anything but simple, and the team doggedly battles technical malfunctions and the force of nature in pursuit of their golden fleece: documenting the indisputable and tragic transformation below the waves. With its breathtaking photography, nail-biting suspense, and startling emotion, Chasing Coral is a dramatic revelation that won't have audiences sitting idle for long.

**5:30 p.m.** – Doors and exhibits open; Educational Booths; Picnic on the lawn

**6:30 p.m.** – Movie Presentation “Chasing Coral”  
This is a **FREE** family friendly, Alcohol free event.



**Matson.** AQUA-ASTON  
HOSPITALITY



## Waikīkī Aquarium He'e Pin

Our amazing partners at Hard Rock Cafe Honolulu launched its new He'e pin which will benefit the Waikīkī Aquarium. Based on local artist, Patrice Feder-spiel's painting "Getting a Grip on Love" this beautiful, pink octopus pin is available at the Hard Rock Cafe Honolulu gift shop for \$14, with 15% of each sale benefitting the Aquarium and its programs. So pick yours up today!

# CIRCUS

## UNDER THE SEA

### FAMILY NIGHT

AT THE WAIKĪKĪ AQUARIUM

• FRIDAY, AUGUST 25 •  
6:00pm - 8:30pm

Join us under the Big Top for a night of science and fun for all at this year's Family Night – taking place on Friday, August 25, from 6 to 8:30 p.m.

This year's theme is Circus Under the Sea! There will be a Freakshow featuring sea spiders, upside-down jellies, nudibranchs, conspicuous sea cucumbers, sea monkeys and more! Join the circus Adaptation Station and enjoy the Side Show featuring Fish That Spit, Clams with 1,000 eyes and animals that change gender!

There will also be free activities for all ages including paper crafts and fake tattoos! And don't forget to pack dinner and enjoy a picnic on the lawn.

Admission is \$12 per person and \$9 for FOWA members. Children 2 and under are free.

Join us under the Big Top for a night of science and fun for all!

**FAMILY NIGHT AT THE WAIKĪKĪ AQUARIUM**  
FRIDAY, AUGUST 25, 2017, 6:00 P.M. – 8:30 P.M.

PACK A DINNER AND ENJOY A PICNIC ON THE LAWN.

### THE FREAK SHOW

SEA SPIDERS • UPSIDE-DOWN JELLIES • NUDIBRANCHS  
• CONSPICUOUS SEA CUCUMBERS • SEA MONKEYS • AND MORE!

JOIN THE CIRCUS **AT THE ADAPTATION STATION**

**SIDE SHOW** FISH THAT SPIT! CLAMS WITH 1,000 EYES!  
ANIMALS THAT CHANGE GENDER! SEE IT ALL!

FREE ACTIVITIES FOR ALL AGES - PAPER CRAFTS & FAKE TATTOOS!

#### COST

\$9 per person (FOWA members)  
\$12 per person (non-members)  
Children 2 and under are free.

#### RSVP

Waikīkī Aquarium  
Education Department 440-9011  
\*Space is limited.

No coolers allowed. Event will be held rain or shine.  
The Waikīkī Aquarium is a smoke-free and alcohol-free facility.

# VOLUNTEER SPOTLIGHT

## Volunteer Appreciation Luncheon

Our volunteers are the lifeblood of the Aquarium, giving more than 22,000 hours each year. We recently celebrated their dedication and passion at our annual Volunteer Appreciation Luncheon, where over 100 volunteers enjoyed a delicious meal at the Moana Surf Rider.

Mahalo to the amazing staff at the Moana Surf Rider and our prize donors Aqua-Ashton Hospitality, Heather Brown, and Kona Brewing Company for making this event extra special for our wonderful volunteers.



## SHARE "A SENSE OF WONDER" ABOUT THE SEA! September 5 - 26, 2017

Every year, thousands of children visit the Waikiki Aquarium on school field trips. For many, this experience becomes a special adventure in learning, as volunteer docents guide them through marine education programs designed specifically for their grade level. Volunteering as a docent provides rich opportunities to learn about Hawai'i's marine life and to contribute to conservation education in our community.

Docents host thirty-minute classroom presentations for grades kindergarten through six, and lead interactive discovery tours of Aquarium exhibits.

Our training course prepares volunteers with the following tools:

- Basic marine biology
- How to work with students in different grade levels
- Discovery teaching methods
- How to share information in stimulating ways

Docent guided visits are offered on Tuesday, Thursday, and Friday mornings from October through May. Volunteering with the Waikiki Aquarium Docent Program will be challenging, rewarding, and most of all, fun!

For more information and to get involved, visit our website [www.waikikiaquarium.org](http://www.waikikiaquarium.org) or call 440-9020.



# HAWAII'S RESIDENT ENDANGERED WHALE: false killer whales around the main Hawaiian Islands

*Robin W. Baird*

*Research Biologist, Cascadia Research Collective  
Affiliate Faculty, Hawai'i Institute of Marine Biology*

**W**hile central North Pacific humpback whales, the population that winters in Hawai'i, was removed from the list of endangered species last year, in 2012 one of Hawai'i's resident species whales was added to the list. The main Hawaiian Islands' population of false killer whales, also known as *Pseudorca*, was listed as endangered under the Endangered Species Act.

False killer whales are one of 11 species of resident whales and dolphins around the main Hawaiian Islands – the archipelago appears to be home to more species of resident cetaceans than any other in the world. Given the volcanic origin of the islands and their isolation from other coastlines, all of these resident species originated from open-ocean populations, with individuals or groups colonizing the island slopes, in some cases on multiple occasions. False killer whales are top predators, and like top predators everywhere – think of lions, tigers, bears – they are naturally rare, so their population in Hawai'i was likely never very large. Of the resident species, false killer whales have the smallest estimated population size, around 150 to 170 individuals. Based on genetics, the main Hawaiian Islands insular population originated from a single colonization event – one closely related social group, with individuals sharing the same mitochondrial haplotype,

found the islands and decided to make them their home probably tens of thousands of years ago.

In Hawai'i they feed primarily on large game fish, both those associated with reefs, including several species of ulua, and those in the pelagic realm – 'ahi, mahimahi, ono, monchong, and others. When Polynesians first arrived in the islands they may have been greeted by false killer whales – they regularly approach boats and bowride, and unlike other species of whales or dolphins have been known to share fish with humans, offering them to boaters or to swimmers. They are very vocal, often loudly whistling when around swimmers or boaters. From their perspective, sharing of prey goes both ways – the first reports that I know of with false killer whales taking hooked fish off lines in Hawai'i date from the early 1960s, when longline fishing was occurring nearshore off Kona. While perceived by some as stealing, from the false killer whale's perspective they may consider this just a case of humans making it easier for them to catch fish. But such behavior comes at a cost – while most of the time they take fish off lines without swallowing a hook, ingesting a hook, or entangling in heavier gear, can lead to death. Our research,

involving photo-identification of individuals and documentation of scarring on the mouthline, indicates that almost a quarter of individuals in the population have been hooked in the mouth at some point in the past.

Our work also involves satellite tagging individuals – some of the individuals we've tagged have moved rapidly among all the main Hawaiian Islands. Others tend to remain around just one or two islands – one group is almost always seen off north Kona and Kohala, and another is seen primarily off Lāna'i and Moloka'i. But much of what we know about false killer whales in Hawai'i comes from photos and video sent in by ocean users – our photo-ID catalog goes back to the mid-1980s, and photos from any time in the last 40 years would be of value for understanding their population dynamics. If you have photos, please contact me at [rwbaird@cascadiaresearch.org](mailto:rwbaird@cascadiaresearch.org).



# University of the South Pacific, Marshall Islands - Coral Educational Trip

Johnathan Casey, Aquarium Biologist – Waikiki Aquarium

I began my journey into the heart of the Pacific, island hopping 2,285 miles west of Hawai'i and only seven degrees north of the Equator. The plane crossed the International Dateline and in an instant, tomorrow was today! After a swift five and a half-hour flight, a razor thin strip of lush green slowly became a perceptible oasis in the never-ending expanse of the Pacific. Our plane began a quick descent onto the atoll island of Majuro, the capital of the Republic of the Marshall Islands. This small strip of land has an astonishing maximum elevation of only three meters above sea level and averages only a few hundred meters wide. The deceiving airstrip is only just wide enough for the plane and peering out the small oval windows upon touchdown, it was portentous to see only water on either side as the brakes bit hard into the tarmac. As I stepped out of the plane hatch, several years of grant planning, institutional correspondence and life support system fabrication had become instantly tangible through the welcoming heat of the tropics. Of the numerous names I had spoken to for many months, I was finally able to match these to the smiling faces of those who welcomed me to their island home.

Following an in-depth tour of the island on my first day, I awoke bright and early the next day in a surreal state of mind feeling truly blessed to be on island and eager to get to work. Staying at the old Long Island Hotel purchased the previous year by the University of the South Pacific (USP) for their new Majuro Campus, I had only to walk down a flight of stairs to the bustling construction site where I would be working. I located a large wooden crate which had arrived on island through Matson shipping in the previous months. Headquartered and serving Hawaii as well as the surrounding Pacific, Matson shipping company very generously donated their services to the shipment of this massive wooden crate constructed and meticulously packed at the Aquarium. I rallied a dozen extremely hospitable Marshallese troops and within an hour we had the new coral life support system's myriad of components removed from the crate and staged on the lagoon side of the campus directly outside the USP's brand new wet laboratory. The coral life support system was designed and fabricated here at the Waikiki Aquarium by the expert aquarium biologist team with the additional support of our facilities maintenance crew and a small team of volunteers. Assembly in the Marshall Islands was a seven-day process from when first unpacked until the day it was filled and tested with water. This included the construction of a large ten-foot-wide by thirty-foot-long cement platform complimented with a custom shade structure to reduce the blistering tropical sun's intensity. Assembly was challenging at times with limited resources considering the geographical isolation of this gorgeous atoll nation; though by the seventh day, the system was running

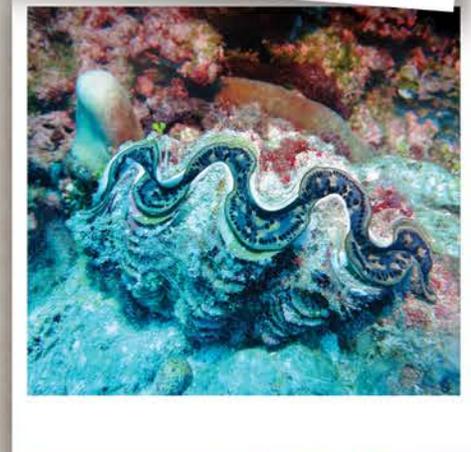


flawlessly and so began the exciting future for one of the most advanced aquatic life support systems in the Pacific. The system consists of two large two-hundred-gallon reservoirs, modular in nature, which will be utilized by USP professors and students for an interactive teaching display. Exhibition will include native biodiversity including intertidal fish, coral and invertebrate species as well as a site for future coral propagation and research.

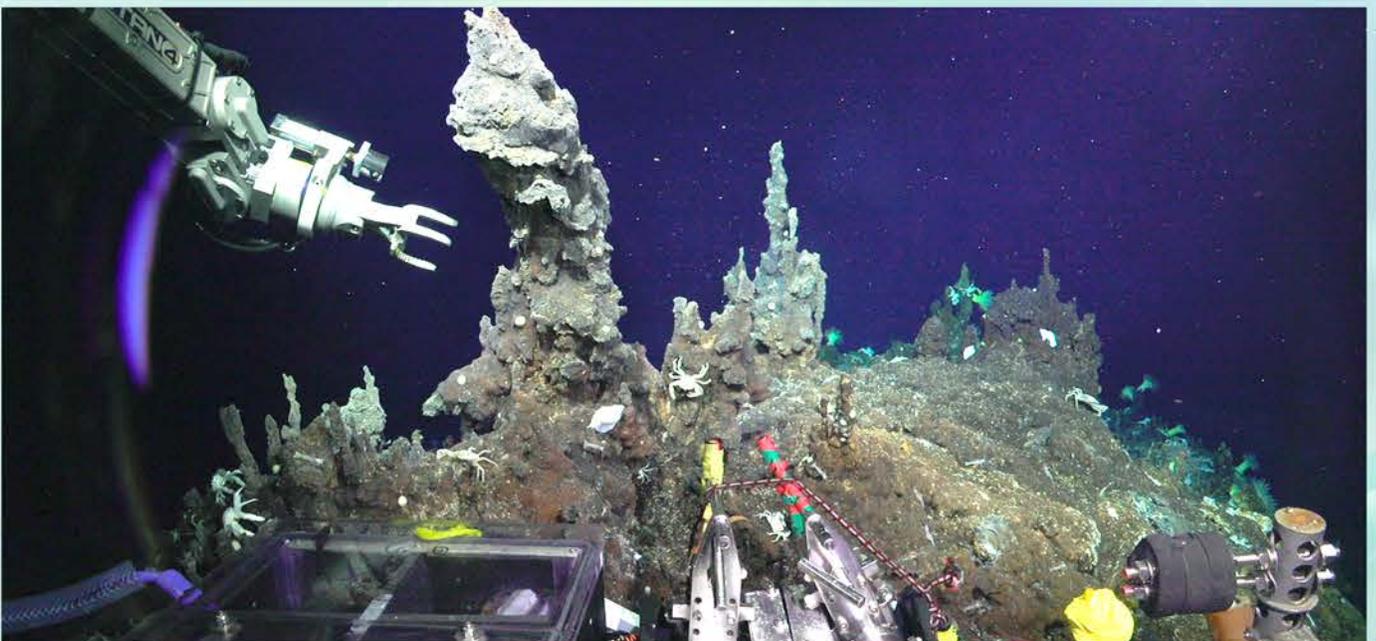
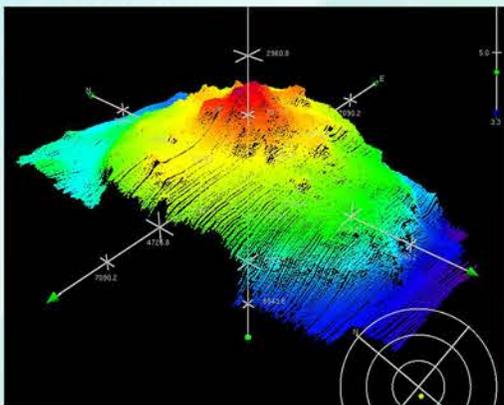
In addition, I was given the opportunity to speak and present about coral reef ecology, physiology, and coral propagation techniques to the island's aspiring youth at the University of the South Pacific as well as several local high schools throughout the island. We were able to further contribute to USP's mission through the installation of a "Digital Aquarium" strategically positioned in the newly renovated café and conference center. This modular smart display will be a teaching aid, all the while welcoming regional dignitaries and students alike. Images, video clips and speakers from both the Republic of the Marshall Islands and Hawai'i represent the mission of education shared through the partnership between Waikiki Aquarium and the University of the South Pacific. As climate change and rising sea levels continue to threaten the Marshallese people, these educational and conservation focused projects are paramount for the long-term success of these marine ecosystems and the well-being of 1,156 low-lying islands and islets that make up this atoll nation.

In the midst of many work projects, I was given the incredible opportunity to meet many of the professors at the University of the South Pacific and College of the Marshall Islands, as well as mariculture operators at Marshall Islands Mariculture Farm (MIMF), and many past and present government officials and policy makers with the Marshall Islands Marine Resources Authority (MIMRA). It was an unrivaled experience to work hand-in-hand with the incredibly hospitable Marshallese while being immersed in a melting pot of professionals from Sri Lanka, Wales, the Philippines, Fiji, Tonga, as well as several Hawaiian transplants. Through the establishment of these professional relationships, the installation of the elite coral life support-research system, and educational focused missions, we look forward to a very exciting future of collaborative efforts with the University of the South Pacific. This cornerstone is only the beginning, with discussions already in the works for Waikiki Aquarium Biologist-directed professor and teacher assistant training, the development of an official student-led Marine Protected Area in front of the USP's new beachfront campus, in addition to coral collection, research, propagation, and out-planting workshops. We at the Waikiki Aquarium cannot express our gratitude enough for USP's staff professionalism and hospitality throughout this grant project or speak highly enough of the tremendous growth and bright future for this educational institution and their new campus.

# Marshall Islands



# SCHMIDT OCEAN INSTITUTE:



# Celebrating Five Years of At-Sea Research Globally and in Hawai'i

By Carlie S. Wiener, Ph.D. Communications Manager, Schmidt Ocean Institute

Schmidt Ocean Institute (SOI) is a non-profit research vessel operator founded in 2009 by Eric and Wendy Schmidt to accelerate the understanding of our oceans through technical innovation and open sharing of information. Deep sea science is among the research areas SOI supports with its focus on the advancement of methods, practices, and technologies in ocean sciences. Since 2012, research vessel *Falkor*, a 272-foot ship has hosted more than 465 scientists from 27 countries (representing nearly 138 institutions) on expeditions across the globe. Of these expeditions, a dozen of them have been with scientists from the University of Hawai'i exploring both Hawaiian waters and other regions in the tropical Pacific.

## Exploring Hawaiian Waters

Two expeditions led by Dr. Christopher Kelley were devoted to mapping 35% of the Papahānaumokuākea Marine National Monument, one of the largest marine protected areas in the world. The Monument includes a range of critical marine habitats, yet until *Falkor's* visit, over half of its seafloor had never been mapped in detail due to the limited availability of the high-resolution sonar systems. Scientists, students, and *Falkor* technicians were able to map 127,000 km<sup>2</sup> of the Monument, an area 7.6 times the size of the main Hawaiian Islands. These high-resolution seafloor maps supported NOAA scientists on later underwater expeditions leading to the discovery of rare and new marine life.

Another expedition visited the underwater

volcano off Hawai'i Island, also known as Lō'ihi Seamount. Dr. Brian Glazer and team explored the geology, chemistry, and biology of the Seamount to better understand the iron-eating bacterial communities found in this hydrothermal habitat. The lessons learned from them could ultimately help scientists to discern if certain geological features on places like Mars are biologically produced. SOI has also hosted three student-focused cruises with University of Hawai'i dedicated to providing hands-on experiences for over 50 undergraduate and graduate students.

The goal of each expedition aboard R/V *Falkor* ranges widely from exploring mysterious biological processes that occur in volcanic systems a mile below the waves, while another focuses on the unique chemical reactions that only take place in the first millimeter of the ocean's surface. SOI pushes the boundaries of what researchers can do with marine technology, including mapping the world's single largest volcano (Tamu Massif), discovering the deepest living fish (a new species of snailfish documented at a depth of 26,722 ft. in the Mariana Trench), and being the first to record several massive under-sea geological features, such as Falkor Deep and Engineers Ridge.

To provide ocean access, SOI annually invites proposals from scientists around the world to carry out collaborative oceanographic research and technology development. These expeditions share results through several outreach

programs and open-access data repositories. Globally, we reach classroom, communities, and public education facilities like Waikiki Aquarium, through virtual connections providing opportunities to see examples of ocean science in action.

## Next Expedition

The next research expedition is set to take place in the Hawaiian and Line Islands looking at unraveling historical sea level using ancient corals. The expedition will begin at the end of August and is being led by Dr. Ken Rubin from University of Hawai'i. During this 29-day expedition, the science team will reconstruct past sea levels using underwater robotic vehicles and live streaming views of our rarely seen deeper waters. On Tuesday, August 22 at 3:30 pm, Dr. Rubin will spoke in the Waikiki Aquarium Classroom about the research that will take place on this expedition.

## Celebrating Five Years

Schmidt Ocean Institute will celebrate five years of research this October with open ship tours on Sunday, October 1. The Waikiki Aquarium will also help to acknowledge SOI's milestone with a public event Tuesday, October 3 from 1 to 4 pm at the Aquarium. Come learn more about the research being done in Hawaiian waters with interactive tables and giveaways. Be sure to check the Aquarium calendar for events details.

To learn more about Schmidt Ocean Institute, visit [www.schmidtocean.org](http://www.schmidtocean.org).

# CLASSES & ACTIVITIES

## BEHIND THE SCENES

Every Thursday of the month, 3:00 p.m.

Learn what makes the Aquarium run, from fish food to quarantine, and many stops in between. Climb-up and peer into the backs of the exhibits. Visit the Coral Farm and the Jelly Hale, where sea jellies are raised.

Minimum age 7 years; youngsters must be accompanied by an adult. Accessibility is limited. \$16/adult, \$10/child members receive a 40 percent discount.

## AFTERNOONS AT THE AQUARIUM

Wednesdays at 3:00 p.m.

Every Wednesday, the Aquarium hosts an interactive learning activity near the aquaculture deck. Join us for a critter encounter or a marine science craft designed for families. Free with admission to the Aquarium.

## CRITTER ENCOUNTERS

Mondays in August and September at 9:30 a.m.

Sneak-a-peek behind the scenes, and learn about Hawaiian reef animals. Hold a sea star, feel a sea cucumber and feed an anemone. This half-hour program is a great addition to any visit to Waikiki Aquarium. Perfect for families with children 4 and up. \$5/person plus Aquarium admission.

## HAWAIIAN PLANT GUIDED TOUR

First Thursday of the Month  
1:30 p.m.

Join Alice Roberts for a personal guided tour of the Aquarium's native Hawaiian plant gardens.

# Science of the Sting

At Waikiki Aquarium

September 18-27th

FREE!

Designed for middle school students.

Up to 100 students can be accommodated per day.  
Bus and lunch may be provided at no cost (call for details).

**Why do box jellies have such a powerful sting?**

**What is venom, and why does it hurt?**

Students will learn about venomous animals in Hawai'i. The lab-based class includes feeding sea anemones and corals and observing jellyfish ephyrae under a microscope. Students will also tour the Aquarium searching for venomous animals on exhibit at Waikiki Aquarium.

### Contact

Waikiki Aquarium (808)-440-9011  
rone@waquarium.org



A partnership between Waikiki Aquarium (WAQ) and John A. Burns School of Medicine (JABSOM).

Register online at  
[www.waikikiaquarium.org/  
interact/activities-classes/](http://www.waikikiaquarium.org/interact/activities-classes/)

# The Giant Grouper



The giant grouper (*Epinephelus lanceolatus*) belongs to the Family Serranidae, a prominent and diverse group of more than 400 species. Found on reefs throughout the Indo-Pacific, from the Red Sea to Hawai'i, and from New South Wales (Australia) to southern Japan, it is one of only two groupers native to Hawai'i and is exceedingly rare here due to overfishing.

The giant grouper can reach over nine feet (2.7 m) in length and weigh over 800 pounds (363 kg), making it the largest species in its family, and one of the largest reef-dwelling fish. In contrast, other members of the Serranidae include the delicate basslets and anthias that may attain only two inches (5 cm) in length. Irrespective of size, serranids are important predators on reefs. Larger species, like the groupers, are solitary ambush predators that feed on fishes and crustaceans. Basslets are mid-sized bottom-dwellers. The colorful anthias, also known as fairy basslets, form aggregations above the reef, where they feed on zooplankton. You can view anthias in our Barrier Reef exhibit. While serranids are key members of reef communities in the Caribbean and Indo-Pacific, this family is represented by only a few species in Hawai'i.

The giant grouper is a solitary inhabitant of lagoon and seaward reefs, ranging in depth from a few feet to at least 150 feet (45 m) or more. Large individuals are very stocky and may have a "home site" they frequent. In the Hunters on the Reef exhibit, watch for it resting motionless on the bottom, patrolling slowly, or hovering effortlessly in midwater, using only tiny fin movements to maintain its position. Its mottled coloration, which it can change rapidly, blends with its surroundings, providing camouflage for this large-mouthed ambush predator. Prey within range is sucked into the cavernous mouth in a blink of the eye, and swallowed whole. Its diet includes spiny lobsters and other large crustaceans, reef fishes, small sea turtles, and even small sharks.

When the Aquarium's resident grouper arrived from Australia in 1998, it was about two feet long and weighed roughly 10 pounds. It rapidly outgrew its original 300-gallon exhibit and was moved into the 35,000 gallon Hunters on the Reef exhibit in 1999, where it continues to grow in length and girth. Since groupers are long-lived, you may be able to enjoy viewing our specimen for several decades more.

# NEW & RENEWING MEMBERS

from January 2017 - March 2017

Victor & Brenda Abaya  
Sharon & Raynor Agpaoa  
Lionel & Christine Aguiar  
Keola & Gia Ahana  
Clement & Daya Akina  
Kristine Alaniz-Torres  
Nalani Alcuran and Rudy Villanueva  
Shirley Alvaro  
Alvin & Avis Aono  
Patrick & Kelly Applegate  
Allison Arakaki  
David & Deborah Asmus  
Cam Au  
Patricia & Lisa Axelrod  
Jeffrey & Nyla Babb  
Rocio & Andrew Baierwalter  
Judith Baird  
Yan Bao and Lu Hou  
Kathye Barbosa  
Samuel & Yaowadee Barfuss  
Mary Bartkowski and Edgard Gonzalez  
Frances & Ladd Baumann  
Kara Beck  
Bonnie Beneke and Bruce Hisanasa  
Maenette & Robert Benham  
Jeff & Bonnie Bennett  
Dana & Alyssa Bergeman  
Werner Beuggert  
Chris & Mai Blanc  
Karen Boglioli  
Wayne Borth and Eileen Herring  
Cynthia Boyle  
Ryan & Yeojung Bradley  
Kent & Nancy Bridges  
Karen Brittain  
Trevor Brown  
John & Mary Buck  
Sherry Buecher  
Maria Daniela & Michael Butler  
Herman & Evelyn Calbero  
Barbara A. Campbell  
Thomas Cannon  
Dave & Jenny Carlon  
Mr. and Mrs. Bruce Cebula  
Daniel & Micaire Charaba  
Edith Chave  
Jennifer & Eric Chen  
Yong Jiang Chen  
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## FRIENDS OF WAIKĪKĪ AQUARIUM BOARD MESSAGE

Why be a member of the Waikīkī Aquarium? The last edition of Kilo I'a, the April-May-June issue, noted over three hundred new and renewing members. Their reasons for membership are varied.

*“By being annual members our family stays connected to the Aquarium and the work they do.”*

*“We’re lucky to see the ocean from our home, and the Aquarium promotes conservation and preservation of the resource.”*

*“As a Hawaiian music fan, I go to summer concerts. As a member I save enough on tickets to pay for my membership.”*

*“We spend lots of time in the ocean, surfing, swimming, snorkeling. Our membership shows our appreciation, our payback for that enjoyment.”*

*“As members we like to drop in for brief visits when the grandkids are restless on a rainy day.”*

*“We give memberships as Christmas gifts to family friends with kids. What could be better? They often gift us with memberships to the zoo or Bishop Museum. Win-Win!”*

There are many reasons to support the Aquarium with an annual membership. Member contributions, along with corporate support, are important to our continued success. Thank you to new and continuing members of the Waikīkī Aquarium.



**WAIKIKI  
AQUARIUM**

UNIVERSITY OF HAWAII

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Waikiki Aquarium  
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## **THE WAIKĪKĪ AQUARIUM'S MISSION**

*To inspire and promote understanding, appreciation and  
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