

# Kilo iā

2018 | JANUARY | FEBRUARY | MARCH

## Exploring the Intertidal Zone

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**Kualoa Truly  
Hawai'i**

*page 6*

**New Year,  
New Look**

*page 11*

*Pictured: Nihoa*





Photo Credit:  
City & County of Honolulu

## AQUARIUM MESSAGE

Over the last few months, Hawai'i has once again experienced "king tides" and the University of Hawai'i's Sea Grant Center expects this to continue throughout the month of January. In 2017, we saw water levels that peaked more than ten inches above the anticipated level. This caused temporary flooding in certain areas, as well as coastal erosion. While the king tides and its effects currently occur only a few times a year, it is projected that frequency will more than double due to sea-level rise within the next few decades.

A new sand mattress pilot project was recently installed on the shoreline of Kūhiō Beach Park in Waikīkī to help prevent erosion and cover the former concrete foundation of Waikīkī Tavern. Mayor Kirk Caldwell is working with partners at the Office of Climate Change, Sustainability and Resiliency, the University of Hawai'i Sea Grant Program's Waikīkī Beach Management, Waikīkī Improvement Association, and Geotech Solutions, Inc. to continue working on solutions for this ever-growing problem.

Last May, we welcomed Matthew Gonser from UH Sea Grant, to engage citizen scientists to document today's high water level events. It is imperative that we understand tomorrow's impacts from sea-level rise and other coastal high water events. The impacts of climate change are local in nature and not a distant phenomenon, so it is more important than ever that we stay informed and do our part to help prevent future damage.

**SAVE THE DATE**  
February 21  
3:30 to 4:30 p.m.

Join us in the  
Aquarium Classroom  
to learn more from **Matthew Gonser**, Coastal and Water Program Manager with the Office of Climate Change, Sustainability & Resiliency. Visit [www.resilientoahu.org](http://www.resilientoahu.org) for more information.

## Kilo i'a

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ENVIRONMENTALLY FRIENDLY INKS

### 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

## Marine Educators' Night

On October 6, educators and their guests explored the Aquarium while discovering new educational resources and old friends. The evening's curricula was centered on NOAA's Ocean Explorer website and the "How Do We Explore" program.

A special thank you to NOAA's Ocean Explorer program and the National Marine Sanctuary Foundation.

## Volunteer Holiday Party

In recognition of our more than 250 volunteers who provide us with 22,000 hours annually, we held our 2017 Volunteer Holiday Appreciation Event at the Waikiki Aquarium on December 4, 2017. Thank you to all of our volunteers who dedicate time to help the Aquarium provide a quality experience to our guests.



Event  
Photo  
Solutions



## Halloween

Families and keiki came dressed in their scariest, most original and ocean-themed costumes for a spook-tacular Halloween event this past October. Kids ages 3 to 12 entered our contest for a chance to win a \$100 Hard Rock Cafe gift certificate and Aquarium memberships!

Mahalo to our sponsors:



## Members' Night

On November 12, the Friends of the Waikiki Aquarium (FOWA) made a splash with its annual Members' Night. Following the annual meeting, members enjoyed picnic dinners on the lawn and our special feature, Moana, complete with free popcorn.

A special thank you to Funflicks Outdoor Movies for their generous support! Mahalo to Alan Hong for loaning us the incredible Moana costumes.



**FUNFLICKS**  
OUTDOOR MOVIES

## Distinguished Lecture Series

On November 2, our Distinguished Lecture Series featured Dr. Robert Toonen, Hawai'i Institute of Marine Biology (HIMB). Attendees of the lecture gained a better understanding of what Dr. Toonen and his team at HIMB have been working on and how their research may shed some light on the likely future of coral reefs.

**Matson**

**AQUA-ASTON**  
HOSPITALITY



# UPCOMING EVENTS

## 11th Annual International Aloha Koi Show **February 17 and February 18**

Join the Waikiki Aquarium as it hosts Hawai'i's largest koi show, featuring hundreds of rare and top-quality koi for exhibit and display. In addition, koi experts will lead educational seminars, and guests will enjoy a variety of keiki activities.

Nishikigoi, commonly referred to as 'koi,' will be judged on four key characteristics when choosing the grand champion: size, symmetry, pattern and color.

The two-day show will take place on **February 17** from 9 a.m. to 4:30 p.m. and **February 18** from 9 a.m. to 2 p.m. Activities are included with Aquarium admission. Two-Day Pass (\$24 value) is available for \$18.

Mahalo to our sponsors:

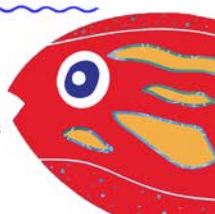


Follow a feisty little fish with a curious eye for adventure as he meets colorful characters and explores the hidden wonders living within Hawai'i's waters. Filled with puppets, music and mystery, this interactive journey will bring the ocean bubbling to life before your eyes.

**Saturdays,  
March 3 & 10  
at 9:30 a.m.**

\$20 per adult  
ASL Interpretation on  
March 10 @ 11:30 a.m.

**One FREE Keiki Ticket**  
with the purchase of an adult ticket  
**Honolulu Theatre for Youth**  
Call 808-839-9885 x720 for Reservations  
[www.htyweb.org](http://www.htyweb.org)  
Valid only for *Little Big Eye*



## **Save the Date! April 21** **11th Annual Mauka to Makai**



Our annual Earth Day celebration, hosted by the City and County of Honolulu's Department of Facility Maintenance and Hawai'i State Department of Health, will be held on April 21 from 9 a.m. to 2 p.m. This event highlights the impact we have on water sources from Mauka to Makai and what we can do to keep our oceans clean and healthy. Families are invited to enjoy this FREE day of activities, entertainment, and displays focused on the preservation and protection of our environment.



## **114th Birthday** **March 31**

Celebrate our 114th birthday with us on Saturday, March 31 at the Waikiki Aquarium. Guests will be treated to discounted admission, hands-on keiki activities, and a special birthday ceremony!



# VOLUNTEER SPOTLIGHT

## *Couples who volunteer together, stay together!*

Looking for new ways to bond with your sweetie? Volunteer at Waikiki Aquarium! Volunteering as a couple is a fun and educational way to help build companionship and also make an impact in the community...as these long-time volunteer couples can attest to!

We love volunteering together since we truly enjoy what we're doing at the Waikiki Aquarium and we love supporting our community and sharing the aloha spirit. In addition, Waikiki Aquarium trains and treats their volunteers exceptionally well!

### **Brian and Debra**

We've volunteered at the Waikiki Aquarium for 10 years and especially enjoy ushering at the Ke Kani O Ke Kai concerts because other volunteers and guests who attend regularly have become family; hugs, smiles, and good wishes all around. We spent our 49th wedding anniversary ushering at a summer concert. After the emcee recognized us, many attendees personally offered their congratulations and asked our secret for staying married so long!

### **Bill and Anita**

We've always loved polliwogs, frogs, fish, ducks, anything that could swim, growing up. Mixing that with meeting people from around the world while working at the Aquarium is the best of both worlds. We think there's something very fishy about this!!

### **Gary and Peggy**

Although we volunteer in different areas of the Aquarium, our reasons for being involved are the same. By helping the Aquarium, we believe that visitors will learn more about our marine environment and be more likely to take care of it. We are avid snorkelers and consider our volunteer work at the Aquarium to be payback and appreciation for the joy the ocean has brought to our lives.

### **David and Laurie**

We have enjoyed volunteering together at the Waikiki Aquarium for more than ten years as docents and for special events. We both enjoy educating children regarding our ocean and freshwater resources, as well as conserving and protecting them. It is advantageous that the Aquarium provides us with educational classes and field trips. It's nice to socialize with other volunteers and staff at special events; everyone is so great to work with at the Aquarium! We love volunteering here!

### **Philip and Paulette**

When we first moved to Hawai'i, we wanted to volunteer somewhere to get involved with the community. Loving the ocean and having lived on a sailboat for fifteen years, the Waikiki Aquarium is a perfect fit for us. Additionally, we get to work with great people and meet people from all over the world!

### **Rex and Carol**

For more information and to get involved, visit our website [www.waikikiaquarium.org](http://www.waikikiaquarium.org) or call 808-440-9020.






# KUALOA

TRULY HAWAI'I







**K**ualoa's commitment to agriculture and land stewardship remains deep and strong. This nearly 4000-acre property has been owned and managed by the Morgan family for over 150 years and is a shining example of open space and natural resource preservation. The Ahupua'a of Hakipu'u, Kualoa and Ka'a'awa bore witness to changes the greater O'ahu landscape has endured. However, thanks to an innovative business plan including agriculture, agritourism and ecotourism, Kualoa has found a way to maintain its unspoiled beauty.

At the heart of the ranch is its agricultural operations. Possessing the largest footprint out of all of the economic drivers, it includes 600 head of cattle; aquaculture ventures including shrimp, oysters and finfish; various fruits and vegetables; cut tropical flowers; and ornamentals. All of these products are raised using responsible methods that hold the environment and the customer first and foremost. The ability to find these locally raised products at the visitor center is a reflection of Kualoa's initiative to be a community resource for high-quality, locally grown food.

Kualoa's dedication to natural resource management and preservation also includes six full-time land stewardship staff. These key employees' sole mission is to maintain and improve the property's natural environment through projects such as rainshed management, invasive species eradication, native out-plantings, stream restorations and important cultural site preservation. Proper management of the Ranch's 1,500 acres of rainforest and other natural resources has a direct benefit to the surrounding shoreline and neighboring communities.

One of the most unique features of the property is the 125-acre Moli'i fishpond. Approximately 800 years old, legend has it that it was built by Menehune. Today it holds the distinction of being the longest running productive pond on the island of O'ahu thanks to the dedication of its Kia'i, or stewards. Today it is still used to cultivate fish using traditional methods and is also where the Kualoa Oyster Project began and continues today. Thanks to a pristine rain shed and techniques – developed through collaborative efforts between the Ranch, Dr. Bruce Anderson and Dr. Paul Bienfang – Kualoa is the first producer of oysters in 30 years to receive Department of Health approval for consumption. All of the bivalves are grown in floating baskets that keep them on the surface of the water, resulting in what people have described as a clean taste with bright flavors.

About a quarter-of-a-mile down the road from the Moli'i pond sits the Hakipu'u aquaculture center. For over 40 years, various aquaculture products have been raised in nine earthen ponds and today, is home to Kualoa's Pacific White Shrimp operation. One of the last shrimp farms still in production on the island of O'ahu, each ½-acre pond is stocked with over 50,000 individuals. After six months of careful cultivation, this product is harvested by hand daily to ensure freshness and quality. Tilapia is also grown with the shrimp, utilizing a process called multitrophic polyculture. This is where several species are cultivated together in a complementary fashion in regards to feed and waste.

Kualoa Ranch has found success through its ability to adapt and diversify its overall economic model. By sharing the history, natural beauty and legends of the property, guests leave the Ranch with a sense of place and now share its preservation for future generations. At its core, the agriculture, aquaculture, livestock and land stewardship operations function as a mode for conservation, a model for success and a source of local food. By using this approach, Kualoa truly is a modern example of Ahupua'a management from mountains to the sea.



# EXPLORING THE INTERTIDAL ZONE

Lauren Van Heukelem

On Monday, September 11, 2017, I set off on an expedition up to the three southernmost islands in the Papahānaumokuākea Marine National Monument (PMNM) on the 9th annual intertidal monitoring cruise. This would be a two-week trip aboard *The Searcher* to survey the intertidal zones of La Perouse Pinnacle at French Frigate Shoals, Mokumanamana (Necker), and Nihoa. In the past, the cruise staff surveyed 'opihi, other invertebrates, and to a minimal extent, algae – present in the intertidal zone of each of the islands – to inform management decisions on harvesting practices in the Main Hawaiian Islands (MHI).

The 'opihi cruise staff came from a variety of communities: Hana, Maui, Miloli'i on the Big Island, University of Hawai'i at Mānoa and UH Hilo students, NOAA researchers, and myself from the Waikiki Aquarium. Our main goal was to pool together the talent needed for this expedition to observe and quantify 'opihi populations and spawning behaviors, as well as observe different environmental patterns to create a seasonal calendar, in partnership with the nonprofit organization Huli'ia.

When surveying the 'opihi populations we used the rapid assessment technique created by 'opihi expert, Dr. Chris Bird (Texas A&M University), and Kanoe Morishige (NSF-funded Marine Biology graduate student). This method allowed us to quickly count the number of organisms within a large area by dividing it into 2 meters squared sections and surveying all 'opihi

Photo Credit: Kanoe Morishige



within the section by size class (less than 1 mm, 2-3 mm, and 4 mm and above in length). In PMNM it is not unusual to count several hundred individuals within a 2 meters squared section. These counts were also paired with collections for genetic analysis and fecundity (reproductive) studies by Dr. Bird.

I was invited on this trip to do a more in-depth study of the algal communities within the intertidal zones of these islands. In the past there have been several studies looking at the deeper water algae by local algae experts, Drs. Isabella Abbott, Peter Vroom, and Roy Tsuda, but few collections have been made at the shoreline level on these islands, as tides and swell make accessibility extremely limited. This 'opihi cruise provided a perfect combination of timing and tides for collecting. I was able to collect samples of all species encountered during the 'opihi surveys for later analysis through photographs, herbarium presses, microscope slides, and in some

cases, genetic material. Having just returned on September 25, we are still in the initial stages of identifying many of these algae. We have already encountered several species we believe to either be new records for this area or potentially new species.

A highlight for me, having previously encountered only the intertidal zones in the MHI, was the opportunity to see intertidal regions NOT dominated by our well known invasive species -- *Gracilaria salicornia*, *Acanthophora spicifera* and *Avrainvillea amadelpha* -- as we are all too used to seeing. This initial survey of the PMNM islands revealed no invasive species. This could be for several reasons, including limited and monitored boat activity, no ballast water dumping within the Monument, and the large numbers of herbivorous fish present that could eat any alien algal invader before it could become established.



Photo Credit: Dr. Randall Kosaki

This cruise provided only a start for intertidal algae surveys in the PMNM. We were unable to access the vast majority of the coastline on Mokumanamana and Nihoa. We also expect algal communities to shift with changing seasons, so the algal community that I encountered in the late summer could be strikingly different in the late winter to early spring. To get a comprehensive understanding of these limu that feed 'opihi, we need to carry out surveys at least twice a year in different seasons. My bags are already packed!



Photo Credit: Pelika Andrade







# EDUCATIONAL SEMINARS

FREE Seminars in the Waikīkī Aquarium Classroom



## **Marine Alien Species in Hawai'i: An Overview** **February 27 from 3:30 to 4:30** **with Scott Godwin**

The topic of marine alien species is not as familiar to the public as issues for terrestrial systems in Hawai'i. However, there has been a great deal of work focusing on the baseline data for alien species in the marine environment and these efforts are proving to efforts supporting management actions throughout the archipelago. Beginning in the late 1990s, efforts were made to determine what alien species are present and what their transport vectors are to inform the scientific and resource management community. These baseline efforts showed the importance of non-traditional vectors associated with maritime commerce, such as vessel biofouling and marine debris, as opposed to a primary focus on ballast water. Continued efforts have shed a light on the effects of these vectors on the remote Northwestern Hawaiian Islands and how natural disasters, such as the 2011 Japan Tsunami, can have potential impacts on our archipelago. This seminar will present an overview of baseline research that has led to the development of management actions and policies.

## **Preventing the Introduction and Transfer of Aquatic Alien Species in Hawai'i** **February 27 from 3:30 to 4:30** **with Julie Kuo**

Aquatic invasive species have been known to carry potential environmental and socioeconomic implications, like the cholera epidemic in South America that affected human health, as well as the invasive algae in Kaneohe Bay that affected many coral habitats. Currently, the Hawaiian Archipelago possesses nearly the same number of established aquatic alien species as all of the states in the Continental U.S. combined; There are approximately 400 aquatic alien species in Hawai'i and 450 in the Continental U.S. A recent study has indicated that the top two vectors of aquatic alien algae and invertebrate introductions into the State are associated with unmanaged ballast

water discharge and vessel biofouling. This talk will summarize the proactive measures that DLNR is taking to minimize new aquatic alien introductions into the State as well as the transfer among neighboring islands.

## **Shipwrecks and More: Learn About Hawai'i's Underwater Cultural Heritage** **March 13 from 3:30 to 4:30 p.m.** **with Dr. Hans K. Van Tilburg**

Dr. Hans Van Tilburg has recently completed a landmark study, *The Unseen Landscape: Inventory and Assessment of Submerged Cultural Resources in Hawai'i*, which highlights shipwrecks and submerged aircraft sites in Hawai'i. It is the first comprehensive assessment of Hawai'i's underwater cultural heritage, and many agencies and partners contributed to this important 3-year project, including Hawai'i Undersea Research Laboratory [HURL], the University of Hawai'i Marine Option Program [UH MOP], BOEM's Pacific OCS regional office, Honua Consulting Inc., NOAA's Maritime Heritage Program, NOAA's Office of Ocean Exploration, and the NOAA Diving Program. Dr. Van Tilburg will answer questions like: What are the resources?, How do they connect to our history?, What threats do they face?, What risks do they pose for ocean health?, and How do we share their stories in a larger, place-based context?





# 2018: A New Year, A New Look

As the year comes to an end, the Waikīkī Aquarium reflects on its accomplishments of 2017 and goals for the future. Upon entering, Aquarium visitors will notice the recent makeover of the Kalākaua-facing South Pacific reef exhibit into a state-of-the-art digital display that adds innovative technology to our outward appearance. As the upgrades continue throughout the Aquarium, several other exhibits will be down for a brief time, but their reopening will be well worth the wait.

We are renovating the interiors of several exhibits by upgrading the Mangrove exhibit, re-aquascaping the Lagoon Community exhibit in Gallery One and adding a Kona Crab display in our “Jet-Set Gallery.” In addition, we are changing species and interior displays for several of our syngnathid exhibits, including the *Hippocampus abdominalis*, *H. whitei*, native Hawaiian red-striped pipefish, *Dunckerocampus baldwini* and our South Pacific mixed-species pipefish tanks. Further renovations will reveal a finalized interior for our weedy seadragons that will highlight the realistic viewpoint of seeing these animals under Southern Australian cold-water pier pilings. Furthermore, we hope to complete the Syngnathid updates in 2018 with a new display featuring the northern Australian/Coral Sea ribboned pipefish species, *Hallichthys taeniophorus*.

Three other major renovations will include a new mini gallery upgrade from “Corals are Alive!” to “The Living Reef,” featuring twelve new, nano-size coral tanks alongside informational and interactive coral reef displays. This exhibit will serve as a brief introduction to an upcoming hands-on ocean acidification and global climate change gallery. The outside “Coral Farm” exhibit will also reveal a brand new look in 2018.

To cap things off for 2018, The Year of the Monk Seal, we will be resurfacing the interior of our public Hawaiian monk seal display. Many other upgrades play off cutting-edge technology and our green movement toward more efficient power usage. We are close to being 70 percent complete with our display lighting transition from antiquated metal halides and fluorescents to LED fixtures, while we simultaneously continue installing state-of-the-art automated life support system monitors.

These exciting upgrades centering on energy efficiency are all efforts to provide better husbandry for our animals while creating more aesthetically pleasing displays for our visitors. Some of our exhibit upgrades are currently visible to the public but we look forward to the near future when we can unveil the rest of our hard work to our patient and dedicated Waikīkī Aquarium supporters.





# CLASSES & ACTIVITIES

## AQUARIUM'S TOP 5

Wednesdays at Noon

What animals do our guests find most interesting? Learn about the oldest giant clam in captivity, weird and wonderful seahorses, and fishes unique to the Waikiki Aquarium. Drop in for this brief presentation on Wednesdays at noon. Free with admission to the Aquarium.

## HAWAIIAN REEF ANIMALS

Every Monday and Thursday at 1:00 p.m.

Peek behind the scenes and learn about Hawaiian sea life. Get up close to the animals that live on a Hawaiian reef, like corals, sea stars, sea cumpers and urchins, and learn about the fish you see while snorkeling. For marine enthusiasts ages 4 and up. \$2/person with admission to the Aquarium.

## BEHIND THE SCENES

Thursdays at 3:00 p.m.

Climb up and peer behind the exhibits to learn what makes the Aquarium run – from fish food to quarantine – and many stops in between. 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).

## EXPLORING THE REEF AT NIGHT

Monday, January 29, 6:30-8:30 p.m.

Tuesday, February 27, 6:00-8:00 p.m.

Search for night-active crabs, lobsters, eels and octopuses. Also, be on the lookout for sleeping parrotfishes, triggerfishes and day octopuses in their dens. For the adventurous, ages 6 years and up; youngsters must be accompanied by an adult. Participants should be comfortable in the ocean both day and night. \$20/ adult, \$15/child and \$15/\$10 for members.

## AQUARIUM AFTER DARK

Tuesday, March 20, 6:30-8:30 p.m.

Join us for an after-dark flashlight tour of the Aquarium and discover the sleeping spot for the red-toothed triggerfish or the rock-mover wrasse and see if yellow tangs are always yellow. Minimum age 5 years; youngsters must be accompanied by an adult. \$15/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.

## CLASSES FOR GROUPS

The Waikiki Aquarium offers a variety classes for community and family groups from 6 to 45 people. Book a Private Aquarium Tour or a Critter Encounter for your clan. Aquarium After Dark or Fish School activities are also available to book for your club or scout group. Call 808-440-9007 for more information email [reservations@waquarium.org](mailto:reservations@waquarium.org).



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



# The Zebra Shark

**T**he zebra shark (also known as the leopard shark) is a common shallow-water species of the Indian Ocean and West-Pacific region. Found on and adjacent to coral reefs, usually in areas of sandy seafloor, its distribution ranges from South Africa to the Red Sea; from Pakistan, India and Southeast Asia to China; Indonesia to the Philippines; from Australia to New Caledonia; and northern to southern Japan. It is not found in Hawaiian waters.

This shark's two names are derived from the color patterns found at different stages of its life. When young, the zebra shark is dark with yellowish bars and as an adult, it is tan with dark spots. Though it may reach nearly 12 feet (3.6 m) in total length, its long tail makes up roughly half of its length. The zebra shark has a somewhat cylindrical body with prominent ridges on its sides and its head is broad and conical with a very rounded snout. It has a very flexible body and fins, allowing it to squirm into narrow cracks, crevices and reef channels when searching for food.

The zebra shark feeds on snails, bivalves, crabs, shrimps and small fishes. Its mouth is located on the underside of its head and the jaws fold up and out of the way when it swims, a design that contributes to their streamlining. When feeding, its jaws open downward and outward, protruding slightly to take in prey. Its teeth have a large, central triangular cusp with a smaller cusp on either side but are only loosely attached to their jaws. This causes

teeth to break off as the shark feeds and requires special tissue in the jaw which continues to make sets of teeth and automatically move forward to replace the older or broken ones.

Unlike many sharks, the zebra shark does not need to swim constantly in order to ventilate its gills. It is often found sitting quietly on the seafloor actively pumping water through the mouth and over the gills, which are located in five small slits on each side of the head. Zebra sharks have a skeleton of flexible cartilage reinforced with some mineral deposits and scales, called denticles, which are tooth-like in structure and very firmly embedded in the skin.

The zebra shark has internal fertilization, with the male fertilizing the female using special structures called claspers. An oviparous species, the female zebra sharks release eggs in tough capsules that anchor to the seafloor by tufts of fiber. The shark embryos then develop inside the capsule, nourished by a rich yolk. When the eggs hatch, the "pups" look like miniature striped versions of the adults, ranging from about 8 to 10 inches (20 to 26 cm) long, and begin feeding on their own in the protected reef shallows.

Next time you are visiting our Aquarium, note the special adaptations of our zebra sharks, such as its bottom-feeding mouth and habit of resting on the exhibit floor.







# NEW & RENEWING MEMBERS

from October 2017 - December 2017

Tyler-Symone Addison  
Carolyn Adler and Jon Kurosu  
Rachel Ah Sue  
Mr. and Mrs. Patrick Ahler  
Brandon & Kara Ahu  
Kash & Mina Akamu  
Jason Aleshire  
Brennan & Tracie Alexander  
Steve & Lina Allen  
Thomas & Carol Allison  
Catherine Aio  
Natalie & Cord Anderson  
Makua & Arville Anion  
Ralph Aona and Tonia Mahi  
Vina Arisgrakai  
Emily Lou Armstrong  
Patricia Conjugacion Augustine  
Raleigh & Judy Awaya  
Deborah Ayars  
Kerri Aybar  
Brandon & Javzandulam Azuma  
Arlene & Dwight Baldillo  
Mr. and Mrs. Balsis  
Mamadou & Bintou Baradi  
Sean & Maryann Barr  
Hedwige & Daniel Barrett  
Jennifer I. Barrett  
Will & Greta Barron  
Mrs. Tammy S. Bautista and  
Mr. Dixon N. Bautista  
Erin & Trevor Bayly  
Ms. Chante-Maroea Bayne  
Christopher Bazemore  
Joseph & Maria Behlert  
Paul & Diane Bennett  
Victoria & Cody Berg  
Herman & Angela Berger  
Jose Bernades  
Donna Bernhardt  
David & Maile Bering  
Sandra Billington  
Patricia & Gary Bilyk  
Brook Blaisdell  
Aaron & Sharon Blanchard  
Dr. Scott Alan Bly  
Kelly Booklage and Ron White  
Marcus & Emma Boland  
Darnel & Aprilyn Bongolan  
Robert & Nicole Bonning  
Lauren & Adam Bookatz  
Sherine Boomla  
Donald Bozarth  
Dan & Veronica Bragdon  
Elizabeth Bremer  
Lon & E. Leslie Briggs  
Lyukon Iino Brito  
Vicki & Robert Bunao  
Thomas Burke & Marie Wagner  
Sara Burley  
Mr. Greg Burrell  
Kacy Byxbee and Scott Caan  
Brandi Cadiz  
Shiela Calapan and Arthur Stout  
Robert Calvert & Mary Rydell  
Sandra Camacho  
Kristin Camara  
Mr. J. Cannon and Ms. G. Tan  
Xiaowei Cao  
Christopher Capaldo  
Bruce Carlson and Marjorie Awai  
Mr. & Mrs. Aaron Carpenter  
Markesha Chance  
Cynthia Chazotte and Robert Madden  
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Lisa Crouch  
Joseph & Nadine Cunningham  
Dennis & Beverly Curry  
Ruth Cushman  
Mieczyslaw Dabrowski and Jane  
Earle-Dabrowski  
Yik Man Dai and Chi Hai Sung  
Kyle Davis  
Elise DeBoard  
Kathryn & Tim Delaney  
Sanna Saks Deutsch  
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## Become a Ke Kani O Ke Kai Sponsor

June 14, June 28, July 12, July 26 and August 9

Our popular Ke Kani O Ke Kai summer concert series is back with five outdoor performances by the islands' top musical artists. Each concert hosts approximately 650 residents and visitors on the Aquarium lawn. In addition to live entertainment under the stars, the oceanside concerts feature special dinner items by various local restaurant partners.

Sponsorship levels include:

- Monk Seal Melody: \$15,000
- Sea Jive Jelly: \$10,000
- Seahorse Symphony: \$5,000
- Coral Chorale: \$3,000
- Anemone Tune: \$1,500

For more information, visit [www.waikikiaquarium.org](http://www.waikikiaquarium.org) or call (808) 533-4165.



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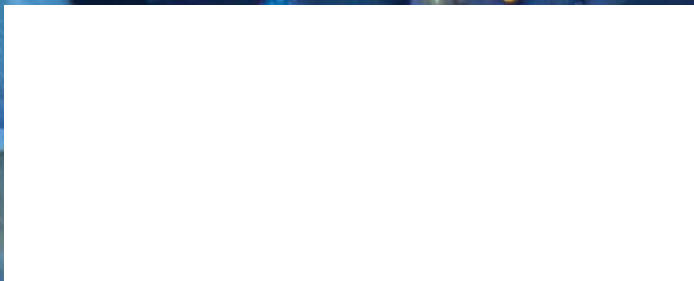
It was another busy year for the Friends of Waikīkī Aquarium with many programs and events. We celebrated another entertaining and successful season of Ke Kani O Ke Kai, welcoming local favorites and Na Hoku Hano Hano award-winners, like Keauhou, Josh Tatofi, Streetlight Cadence and Grammy award-winner, Kalani Pea.

Our popular Distinguished Lecture Series continued with Dr. Charles Littnan, who leads the team that oversees the most protective marine mammal conservation program in the world, NOAA's Hawaiian Monk Seal Research Program. 2017 saw positive growth in the Hawaiian monk seal population, in thanks to people like Dr. Littnan and his team. We also welcomed Dr. Rob Toonen, Hawai'i Institute of Marine Biology, who leads a team conducting coral research, specifically focused on how different corals deal with climate change and where the next generation will come from.

Additionally, our annual Members' Night welcomed more than 150 FOWA members for an evening under the stars and a special showing of Moana on the big screen.

We are so thankful for the continued support and contributions of our FOWA members. We could not do what we do without you.





## THE WAIKĪKĪ AQUARIUM'S MISSION

*To inspire and promote understanding, appreciation and  
conservation of Pacific marine life.*