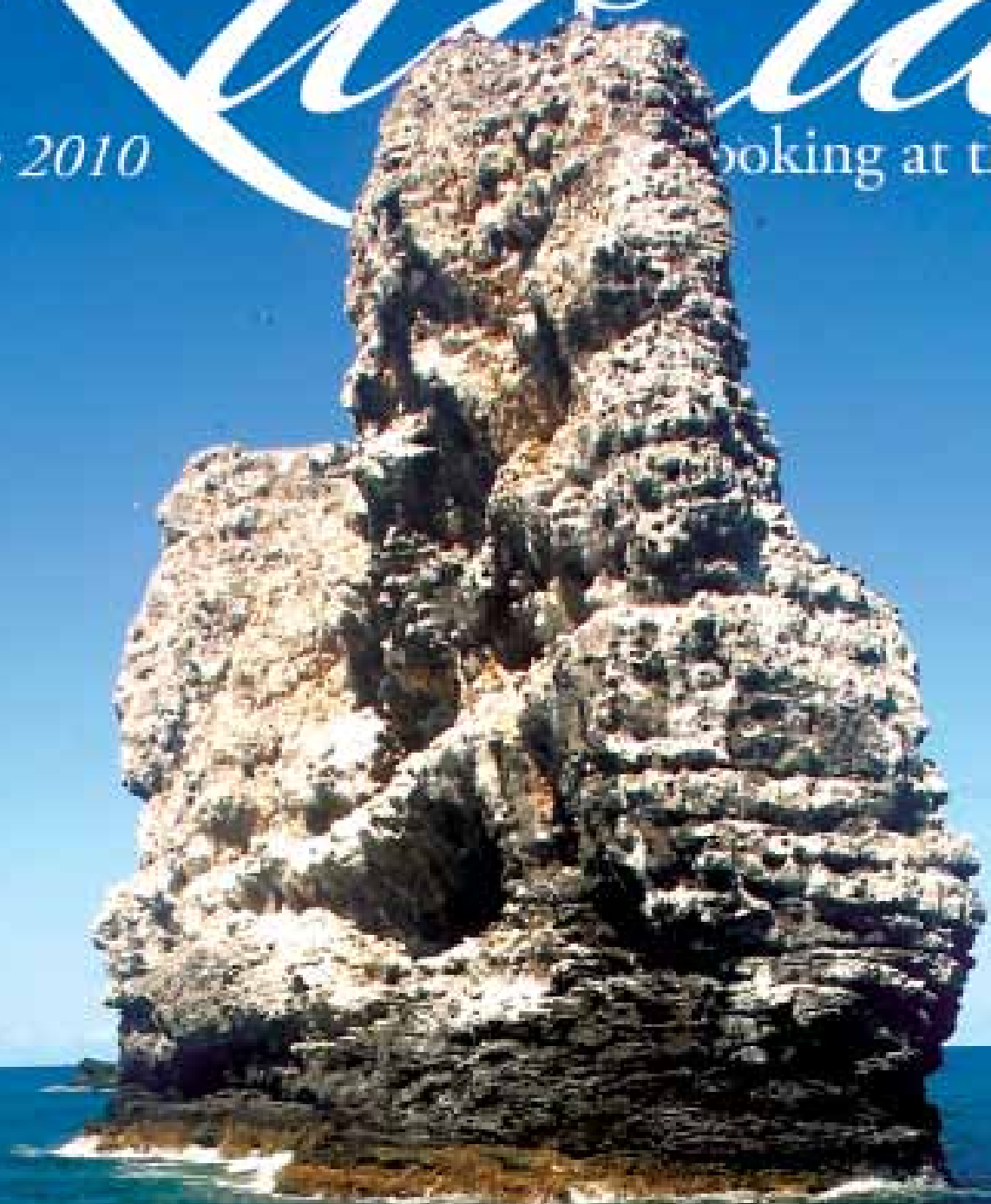


[www.waquarium.org](http://www.waquarium.org)

# Kilauea

Winter 2010

Looking at the sea



WAIKIKI  
AQUARIUM

BRINGING THE MONUMENT  
TO THE PEOPLE  
CLASS CALENDAR

# FROM THE DIRECTOR

*Andrew Rossiter*

“

Seals have dominated  
our attention these past  
few months.”

”

Seals have dominated our attention these past few months. Firstly, Nuka, one of our two resident Hawaiian monk seals, became unwell in mid-October; he was off his food and lethargic. The decision was made to move him to a quiet quarantine area behind the scenes for observation and treatment by University of Hawai'i veterinarians. Moving a 400-pound animal is no mean feat — it took a crane, several hours and lots of helping hands. It is a sign of Nuka's popularity that 16 persons — including Aquarium staff, volunteers and National Marine Fisheries Service biologists — kindly gave their time to assist.

The diagnosis? Nuka has age-related issues and, given that his 29 seal years translate to more than 90 human years, this is to be expected. Thanks to the care and attention he has received, Nuka has shown signs of improvement and was recently returned to the main exhibit. You can be sure that we will continue to do whatever is in Nuka's best interests.

Of course the other monk seal in our lives recently was KP2, the young monk seal who was removed from Moloka'i, where he was engaging in dangerous interactions with people. KP2 was abandoned by his mother shortly after birth on Kaua'i, so he was reared in captivity on an artificial milk diet. In December 2008, he was released into the wild at a remote location on Moloka'i, but he arrived at Kaunakakai Pier in March last year and began interacting with people, who fed him, intentionally swam with him and petted him.

Despite vigorous education and outreach efforts, the public continued to interact with KP2 and he became imprinted on people. His interactions became progressively more aggressive so, for the sake of his safety and the public's, authorities removed him from the wild and housed him temporarily at the Aquarium.

Then a medical check revealed that KP2 has severe cataract problems, which, if left untreated, would lead to total blindness within six months. It is believed that a nutritional deficiency in KP2's milk formula may have led to the cataracts. Despite great efforts, we cannot yet replicate a formula that exactly matches the composition of natural seal milk. Bear in mind that KP2 is the first monk seal successfully raised in captivity from birth, and the challenges the biologists faced in getting this right, first time, should become clear.

What can we learn from this? Wild animals should be left as they are — wild — and not fed or treated as pets. The misplaced attention has had a devastating effect on KP2. Many considered him affectionate, but he associates people with food, not love, and over time has become increasingly aggressive when not fed. This may be boisterous behavior in an 18-month, 120-pound seal, but the potential for serious injury increases as he grows into a 600-pound adult.

What does the future hold for KP2? He left the Aquarium in November in a five-vehicle convoy, which took him to Bellows Air Force base where a U.S. Navy plane flew him to California. He is now housed in a specialist marine mammal facility and will undergo operations for his cataracts. Regrettably, even in the unlikely event of a complete cure, KP2's fixation on humans means he can never again be released into the wild. Authorities have decided the best thing is to give KP2 a good home in captivity, and it is hoped that he will live out his days in a dedicated facility here on Hawai'i.

**Kilo i'a**

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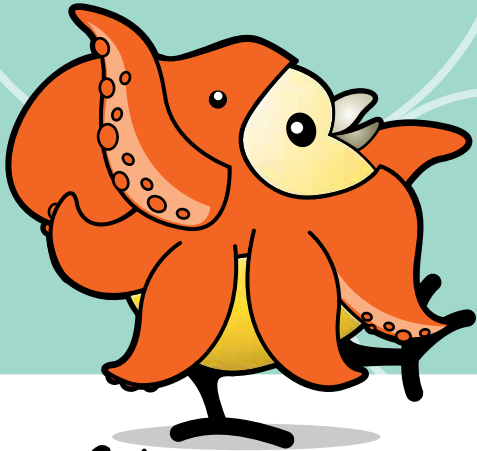
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Cover photo: La Perouse  
Pinnacle, Courtesy of NWHI  
Coral Reef Ecosystem  
Reserve.

*Kilo i'a*

# SEA HUNT

Families are invited to hop — or swim — down to the Waikiki Aquarium for Sea Hunt, a celebration of all things Easter. Keiki between the ages of 2 and 7 can hunt for sea-seasonal treasures, and children of all ages can visit the Easter Bunny, fish for prizes at the fish pond, and enjoy entertaining arts, crafts and games. Watch your mailbox for details.



**Saturday  
March 27**

## Slingjaw wrasse

The coolest jaw in the wet

For a rare trip into the bizarrely cool, stop by and visit the slingjaw wrasse (*Epibulus insidiator*). Wrasse are already interesting for their ability to change from female to male, but the slingjaw attains way-out status during feeding time when it shoots its jaw into an extended tube that is at least one-third the length of its own body.

The fish uses this specialized mouth to suck up shrimps, crabs and fishes hiding in the coral.

The slingjaw wrasse is commonly seen in the Northwestern Hawaiian Islands around *Acropora* coral. It is very rare in the Main Hawaiian Islands, but you can have your own sighting at the Aquarium. We have two on exhibit: one in the Northwestern Hawaiian Islands exhibit in Gallery 3 and one in Marine Protected Areas in Gallery 4.



The slingjaw, slightly unhinged.

## Earth Day 40

This year marks the 40th anniversary of Earth Day — around the world it's a chance for people, corporations and governments to join together to create a global green economy. Take part in the Waikiki Aquarium's Earth Day activities on April 10 — it's fun and free all day.

**Saturday April 10**

Bubbles and romance everywhere  
Sunday February 14

## Seaduction

The Waikiki Aquarium hosts its annual Seaduction Valentine's Day dinner on Feb. 14. This exclusive dining experience is limited to 30 couples who will enjoy a champagne reception, candlelit three-course dinner, commemorative photo and valet parking.

Private tables for two will be arranged throughout the galleries alongside exhibits such as Ocean Drifters and Hunters on the Reef.

Couples may reserve the table/exhibit of their choice on a first-come, first-served basis. Group seating is also available. The romantic evening is \$300 per couple and all proceeds benefit the Waikiki Aquarium. For reservations, call 440-9015.

# BRINGING THE MONUMENT TO THE PEOPLE



Photo courtesy of NWHI Coral  
Reef Ecosystem Reserve.



# “This is a great opportunity to learn about the Northwestern Hawaiian Islands.”

The Waikiki Aquarium recently took the first steps in building a unique new exhibit when it received 20 small coral fragments collected from 700 miles away. The corals came from the Northwestern Hawaiian Islands and are destined for the much-anticipated exhibit highlighting the Papahānaumokuākea Marine National Monument.

Researchers and scientists aboard the NOAA research vessel, the *Hi‘ialakai*, collected the fragments from French Frigate Shoals and Maro Reef during a cruise in October. Before the vessel left O‘ahu, Aquarium biologist Rick Klobuchar set up two complete life support systems for the corals’ return. The systems were complete with chillers, protein skimmers and canister filters, which maintained the high water quality needed to sustain the coral fragments during the four-week cruise.

Back in Honolulu, the fragments are now in Klobuchar’s safe hands and growing in a tank behind the scenes. There are five different species in the collection, including what is believed to be a new species.

“These corals are from the genus *Acropora*, which is very rare around the main Hawaiian Islands,” Klobuchar says.

There is one known stand of *Acropora* off Kaua‘i, but they are prolific in the Northwestern Hawaiian Islands, where they grow in massive table-like formations.

“The table acropora (*Acropora cytherea*) can be several metres across, and in some areas you find layers upon layers of them,” Klobuchar says. “They spread out to maximize the amount of light they get and can quickly shade out other corals because they’re very fast growing.”

That fast growth can already be seen in the fragments at the Aquarium. After just three weeks they had already healed over and started growing. It’s anticipated they will more than double or triple their size over the year.

Klobuchar maintains the tank with a delicate balance of sunlight, water flow and temperature. He keeps a close eye on each fragment, checking growth rates and looking for good polyp extension — fuzzy corals are healthy corals.

As with other exhibits at the Aquarium, some of the water used in the tank comes from the Aquarium’s well, which pulls water from 85 feet underground.

“Some people call this magic water because it grows algae and corals magnificently,” Klobuchar says. “There are high levels of nitrogen and phosphorous in the water, which act like fertilizer for the corals.”



It's believed there are five different species in the Aquarium's new coral collection, although identifying coral species by sight can be tricky. Researchers believe there are numerous hybrids in the Northwestern Hawaiian Islands. The only way to identify a species for sure is to have it genetically analyzed — something Aquarium staff will do once these corals are established.

When the new exhibit in Gallery 4 is complete later this year or early next year, the corals will be put in place to continue growing. Klobuchar envisions a big healthy reef, stocked with an array of fish, many of which aren't typically seen around the main islands.

This was the first time corals have been collected from the Northwestern Hawaiian Islands for an aquarium exhibit since the area was given its monument status. Life in the Papahānaumokuākea Marine National Monument is under strict protection and it took about eight months for the Aquarium to complete the permit process. The divers who harvested the coral took only small, three-inch pieces from large parent colonies. The process is similar to pruning a plant, and taking small pieces leaves the parent colony virtually unharmed. Just 20 days after harvesting, divers returned to the parent colonies and reported the cuts had already healed over.

There are numerous benefits to collecting the corals. Once they are established at the Aquarium, more fragments can be propagated, greatly reducing the need to collect these species from the wild in the future. The corals can also serve as a resource for researchers and as emissaries to the greater public.

“Instead of bringing people to the monument, we can bring the monument to the people,” Klobuchar says. “And what better place to do that than at the Aquarium? Every year, around 300,000 people visit the Aquarium, not to mention all the school groups that come here, so this is a great opportunity for them to learn about the Northwestern Hawaiian Islands and see a part of it for themselves.”



Suspending the coral fragments from fishing line encourages growth by maximizing the light and water flow around each piece.



## >> French Frigate Shoals

**1/4 kilometer<sup>2</sup>** The land area of French Frigate Shoals, a crescent-shaped atoll in the Northwestern Hawaiian Islands.

**938 kilometers<sup>2</sup>** The coral reef area of French Frigate Shoals.

The coral growth sits atop an eroded volcano, which has been submerged for millions of years. The last remnant of the volcano that sits above surface is La Perouse Pinnacle, named after Comte de La Perouse, who visited in 1786.

**6 feet** The elevation of Tern Island, the part of the atoll that was turned into a runway to serve as a refueling stop for planes on their way to Midway during World War II. The island was swept clean by a tidal wave in 1946. It's now a field station for the U.S. Fish and Wildlife Service and provides critical breeding habitat to millions of nesting seabirds, endangered Hawaiian monk seals and threatened Hawaiian green sea turtles.

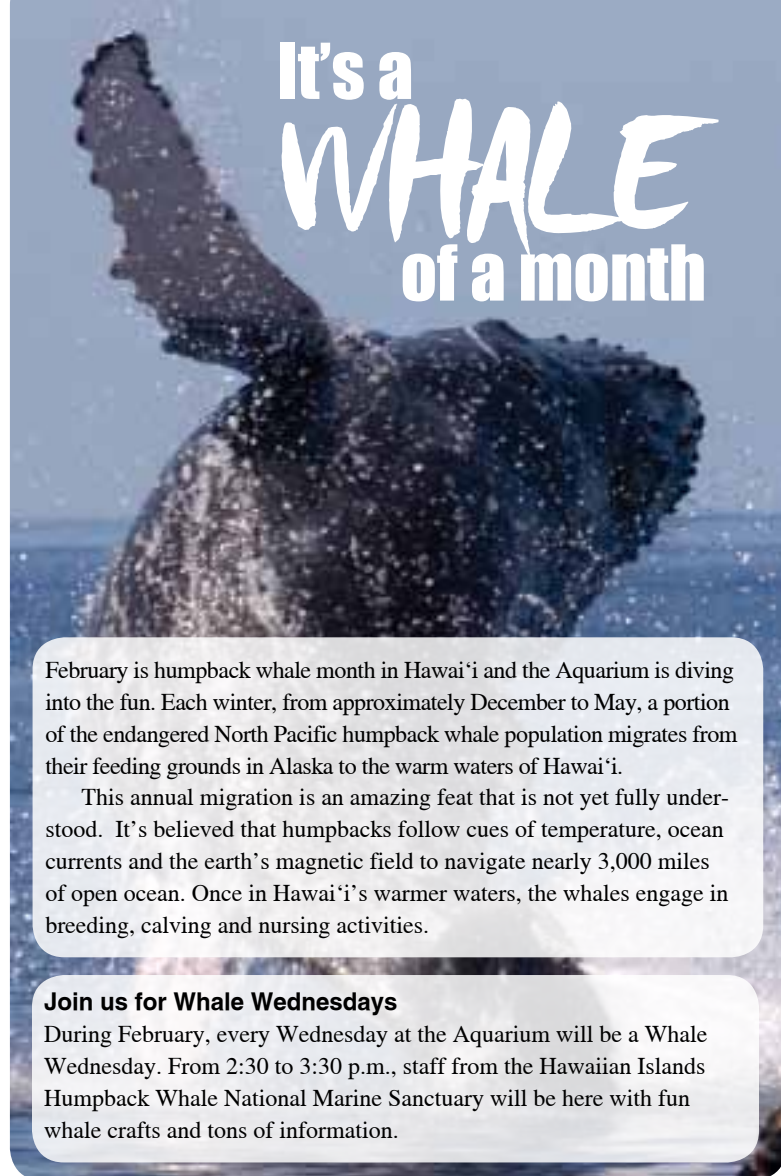
**41** The number of stony corals documented at French Frigate Shoals' reef system. This area supports the greatest variety of coral species documented in the NWHI. They include table, finger and lobe corals. The *Acropora* table corals provide the exclusive food for the chevron butterflyfish, which is not found in the Main Hawaiian Islands, where *Acropora* is mysteriously absent.

**600** The number of species of invertebrates (sponges, coral worms, snails, lobsters, crabs, shrimps and clams, oysters, sea urchins and sea stars) supported by the reef system. Many of them are endemic.

**150** The number of species of algae living among the reefs, including red, green and brown algae.

**+90** The percentage of the Hawaiian population of threatened green sea turtles that travel to the shoals to nest. The turtles travel to the Main Hawaiian Islands — a distance of about 550 miles, one way — to feed and reach sexual maturity before returning to the shoals to breed.

Source: Northwestern Hawaiian Islands Multi-Agency Education Project.



February is humpback whale month in Hawai'i and the Aquarium is diving into the fun. Each winter, from approximately December to May, a portion of the endangered North Pacific humpback whale population migrates from their feeding grounds in Alaska to the warm waters of Hawai'i.

This annual migration is an amazing feat that is not yet fully understood. It's believed that humpbacks follow cues of temperature, ocean currents and the earth's magnetic field to navigate nearly 3,000 miles of open ocean. Once in Hawai'i's warmer waters, the whales engage in breeding, calving and nursing activities.

### Join us for Whale Wednesdays

During February, every Wednesday at the Aquarium will be a Whale Wednesday. From 2:30 to 3:30 p.m., staff from the Hawaiian Islands Humpback Whale National Marine Sanctuary will be here with fun whale crafts and tons of information.

### Meet Flip Nicklin

World-renowned underwater photographer Flip Nicklin comes to the Aquarium on

**Feb. 11** for a special presentation, *Among Giants, My Life with Whales*. Nicklin recently published his book, *Hawaii's*

*Humpback Whales, Unveiling the Mysteries*,

which tells you where best to see the whales, explains what researchers do and digs into fascinating questions like why whales sing.

Nicklin will be on hand to sign copies of the book, which will be available in the Natural Selection Gift Shop, along with his two children's books, *Face to Face with Whales* and *Face to Face with Dolphins*.

See the calendar on page 11 for more information.



### Volunteer

Join in the sanctuary's whale count, which will be held on **Jan. 30, Feb. 27** and **March 27** from 8 a.m. until 12:15 p.m. Observers are located at specific points around the island. The information they gather provides important population and distribution information on humpback whales around the Hawaiian Islands.

Participants must register in advance, which you can do by going to <http://hawaiihumpbackwhale.noaa.gov/involved/ocwelcome.html>.

### Learn more

Go to the sanctuary website at <http://hawaiihumpbackwhale.noaa.gov> where you'll find a whale month calendar of events, kids' games and tons of information about these gentle giants.



# BEHIND THE SCENES

## LIVE EXHIBITS

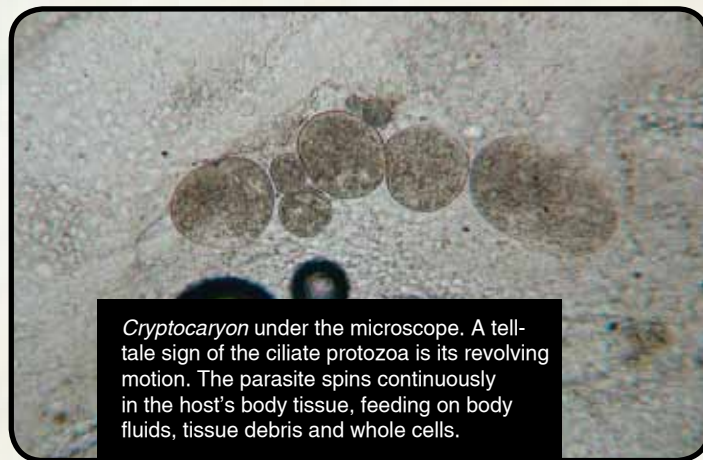
Behind the scenes at the Waikiki Aquarium — it's a place where pumps constantly hum, where it's often damp underfoot, where you get the occasional pungent waft of fish food. It's also where you'll find our Live Exhibits staff, sometimes in wetsuits and masks and always busy. They're among the best in the business, adept at taking care of the fussiest feeders, the trickiest corals and the odd emergent situation.

### EXPLORING THE INNER WORLD

The new blue tang in quarantine behind the scenes was flashing. Aquarium biologist and disease expert Eric Curtis knew that wasn't a good sign. Fish flash their underbellies when they're trying to scratch — usually in an attempt to rid themselves of a hitchhiking parasite. The fish also had white spots and was exuding excessive mucus, which led Curtis to suspect it was infested with *Cryptocaryon*.

*Cryptocaryon* is a very common parasite; it's also a very nasty one that is causing a lot of problems for those in the ornamental and aquaculture business. The ciliate protozoan burrows under a fish's skin and eats away at the tissue as it grows. Eventually the parasite erupts out, leaving a wound in the fish's side, which can become an entry site for other diseases.

But it doesn't end there. The parasite settles to the substrate where it multiplies before seeking out more fish. In an enclosed tank, the problem can explode exponentially. If Curtis can catch it early, however, he can stop the infestation in its tracks.



*Cryptocaryon* under the microscope. A tell-tale sign of the ciliate protozoa is its revolving motion. The parasite spins continuously in the host's body tissue, feeding on body fluids, tissue debris and whole cells.

First, however, he needs to confirm his diagnosis. There are other parasites that cause similar symptoms and they all require different treatments, so Curtis turned to one of his handiest diagnostic tools: the microscope.

In 2008, with financial support from FOWA, Curtis took an Olympus light transmission scope and fitted it with a video camera. With this setup, he's able to delve down to the cellular level. In some cases, he can get an image 1000-times life size.

The microscope reveals an incredible amount of information that can help Aquarium staff as they advance their husbandry and breeding knowledge. In necropsies, it can help identify what went wrong and suggest new methods of treatment. Cataloging normal tissue allows biologists to better identify when there is a problem. The microscope can also advance understanding by revealing the inner structures of animals — like the tiny hooked spines in the esophagus of a nautilus that help it hold down its food.


Peering through the microscope is a fascinating journey that blends the worlds of science and art. The cells and structures are dazzling, from the remarkable geometry of a cuttlefish sucker, to the brilliant colors in the pigment cell of a flame wrasse, to a swirling cosmos of dinoflagellates. ... For Curtis, it just deepens his appreciation of the animals he works with.

Today, however, he's on the hunt for parasites, and the easiest way to identify them is to watch them moving. He takes a small skin scrape from the blue tang, and heads back to his lab where he places the sample on the microscope stage. Then he sits back to watch the monitor. There they are: three rotating circular bodies — he thinks of them as death stars — definitely *Cryptocaryon*.

Curtis treats the blue tang and its tank. Several weeks later the fish is clear and heads out front on exhibit.







# One fish, two fish, three fish, more

Many fish. Or many fishes? It's a Seussical twister that often confounds, and it's a question that we're often asked. So here's the word: Both are correct, depending on how you use them.

It all comes down to species. If you are referring to more than one fish of the same species, it is correct to say "fish." If you are referring to more than one species, it is correct to say "fishes."

2 yellow tangs = 2 fish.

1 yellow tang + 1 eel = 2 fishes.

Got it?

And while we're here, what about the term "species?" Thankfully, that one's simple. Singular and plural are the same, so we can say one species, two species, three species, more. The term "specie" is sometimes used for the singular, but is entirely incorrect. There is no such recognized word, either grammatically or scientifically. Or Seussically.

## NOAA head visits Aquarium



Dr. Jane Lubchenco, the Under Secretary of Commerce for Oceans and Atmosphere and the administrator for NOAA, stopped by the Waikiki Aquarium during a visit to Hawai'i late last year. She and Aquarium Director Dr. Andrew Rossiter discussed the Aquarium's mission and outreach work. Lubchenco was in town for the Ocean Policy Task Force public meeting. The task force, established by President Barack Obama, is charged with developing a recommendation for a national policy that ensures protection, maintenance and restoration of oceans, our coasts and the Great Lakes.

*Kilo i'a*

When you visit the Waikiki Aquarium these days, you know exactly where you are. That's because we are now the site of a geodetic marker — a stainless steel disk that sits at latitude 21(degrees) 15 (minutes) 55.396 (seconds) north, and longitude 157 (degrees) 49 (minutes) 19.288 (seconds) west.

The marker was installed by the National Geodetic Survey and is a special commemorative marker that celebrates the relationship and shared mission between NOAA's Pacific Services Center and the Aquarium. It is one of only three commemorative markers in Hawai'i and the only one on O'ahu.

Geodetic markers are physical, geographic reference points that are located at precise coordinates throughout the world. A system of geodetic reference points ties our nation together and provides the safety and efficiency of the buildings we live and work in, the roads and bridges we drive on, and the trains, airplanes and ships that carry the products we use everyday.

Until recently, the NGS relied on conventional line-of-sight survey measurements, but the Global Positioning System changed the landscape considerably. Developed by the military, GPS is a constellation of satellites that transmit their signals to receivers all over the world, allowing us to find our exact position on the Earth and on the water. The Aquarium's marker will help coastal users such as scientists, boaters, surveyors and visitors to verify the accuracy of their handheld GPS equipment.

The site of our marker — officially dubbed "Waikiki Aquarium" — is a location used by early Hawaiians to observe the changing position of the setting sun, which was used to mark the seasons. As it honors Hawaiian traditional knowledge, the marker also looks to the future and the uses of GPS and its technologies.

# You are here







# A Day in the Life

**Name** Donnie Banquil

**Position** Administrative Specialist

**Year started at the Aquarium** 1996

**Education** Pāhoa High, 1988; Hawaii Pacific University, BSBA accounting (1993)

**Etc.** I like to stay active. I go boogie boarding, play volleyball and get plenty of exercise. I also love to fish for ulua or anything that gives a good fight.

**8 a.m.** I start every day getting things in order. I process the outgoing mail for postage, pick up the admission reports from the previous day, get the membership deposits from our Visitor Service staff and verify the deposits from the Natural Selection Gift Shop.

I enjoy working at the Aquarium and I think our mission is important. Sometimes people ask me what sort of accounting I do here. I tell them I count fish — and they actually believe me!

**9 a.m.** I process the day's invoices for the Aquarium and the gift shop. We either generate the checks in-house or send them to the university for final processing. I have to say there's also a lot of multi-tasking going on at all times, too, as we field questions from staff and vendors.

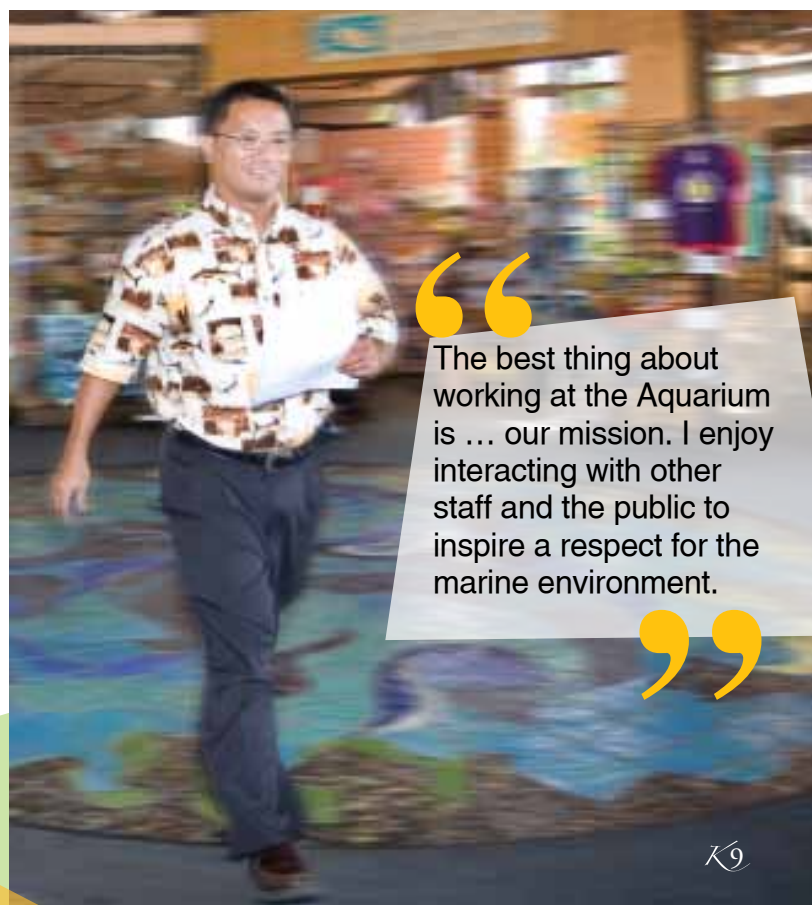
**11 a.m.** I process purchase requests from various Aquarium departments, ranging from food for the seals to repair services for exhibit pumps. There are various procedures we have to follow for every purchase depending on where the funding is coming from, whether it's University of Hawai'i, UH-Foundation, FOWA or RCUH money. This is definitely a job where you need to be organized and detail oriented. If the purchase request is not done properly, it can delay the delivery of the materials, supplies or services or delay the payment to vendors.

**noon** Lunch!!! Today, I go for a jog around Diamond Head. Other days I like to catch some waves or play some volleyball. I grab a little food before heading back to the office.

**1 p.m.** The Friends of the Waikiki Aquarium has a non-profit tax-exempt status. Every year, we have to file a 990 form to continue that status. Today, I start gathering the data and financial information that our external tax preparation firm will use to file the form.

**2:30 p.m.** You can't get away from taxes. Every month I calculate and process the Aquarium's state general excise tax returns.

**5 p.m.** Before I leave every day, I distribute the financial documents and forms that need signatures from the various departments. I power down the office equipment and clean up my desk — ready for the next day.



“The best thing about working at the Aquarium is ... our mission. I enjoy interacting with other staff and the public to inspire a respect for the marine environment.”



# Volunteer

## SPOTLIGHT

DIANE AMURO  
25 Years of Service

When Diane Amuro started volunteering at the Aquarium, our monk seals were just sprightly young things. It was 1984; Nuka was three years old, Maka was not quite one, and Diane was at the Aquarium enquiring about volunteer opportunities for her recently retired dad. But in the end, it was Diane who ended up volunteering, captured by the opportunity to work with the monk seals.

"They were rascals," she says with a chuckle. Diane remembers one evening event when people were mingling by the seal pool. Nuka was bobbing up and down, apparently watching what was going on, when he spouted water into the face of a gentleman who was enjoying a cocktail nearby. It was not unexpected behavior from the young monk seal, Diane says with a laugh.

Diane has worked for 40 years as a medical lab technician, but her hobby has always been the outdoors and marine life. She loves snorkeling and has led Nature Conservancy hikes in the Wai'anae mountains.

"I am not into any kind of marathon hiking," she adds quickly. "I enjoy nature hiking; I like to be able to relax and enjoy the environment."

Diane is the second-longest serving volunteer at the Aquarium. These days she's a regular face at the Edge of the Reef, where she shares her knowledge about marine animals. She's a particularly keen advocate for the often-overlooked sea cucumbers and sea urchins.

"I tell children how the sea urchins are like lawn mowers, keeping the algae down, and how the sea cucumbers are like vacuum cleaners keeping the sand clean," she says. "If we can get the younger generation interested in these animals, then they know why we have to save them."

Maka and Nuka may have slowed down somewhat in the last 25 years. Diane has not.

### CATCH THE VOLUNTEER WAVE

Our volunteers are the lifeblood of the Aquarium, giving more than 16,000 hours of service every year. For information on volunteer opportunities in all departments, contact Volunteer Coordinator Vangie White at 440-9020.

Need information on worms or echinoderms? Doing a science project on Hawaiian fishes? Curious about crabs?

The Waikiki Aquarium has the answers. On the Aquarium website, you will find marine life profiles for more than 90 marine animals. You'll discover where these animals live, what they eat and how they move, along with Hawaiian and scientific names and other downright fascinating facts.

For instance, do you know how to spot the burrow of a reproductively mature ghost crab? The mature males arrange their excavated sand in a neat pyramid-shaped pile; females and juveniles just scatter their sand in all directions. This is likely the males' way of hanging out their "available" sign for breeding.

For more, go to [www.waiaquarium.org](http://www.waiaquarium.org), and click on Marine Life Profiles in the Education & Classes drop-down menu.

# NEED HOMEWORK HELP?



# CLASSES & ACTIVITIES

## January-March 2010

### Afterschool at the Aquarium

Wednesdays 3:00 p.m.

Looking for something to do after school? Every Wednesday, the Aquarium hosts a fun activity on the lawn. You can enjoy stories by the sea, or maybe a critter encounter or a creative movement session. During February, it's all about whales. On Whale Wednesdays, NOAA whale sanctuary staff will be on hand from 2:30 to 3:30 p.m. with cool whale hats to make and tons of educational materials. Regular activities last anywhere from 10 to 20 minutes and are designed for ages 4 to 8, but everyone is welcome. Free with admission to the Aquarium.

### Exploring the Reef at Night

Jan 13, Wed 6:30-9:00 p.m.

Jan 29, Fri 6:30-9:00 p.m.

Feb 26, Fri 6:30-9:00 p.m.

Join us as we explore the reef at night in an experience you'll not forget. Aquarium staff and participants wade up to their knees on these wet and wild excursions. Test your nocturnal vision as we search for crabs, shrimps, eels and octopus. For adventurers aged 5 and up; youngsters must be accompanied by an adult. \$15/adult, \$9/child (\$18/12 for non-members).

### Hawaiian Reef Plants, Limu

Feb 1, Mon 9:00-10:00 a.m.

Feb 3, Wed 9:00-10:00 a.m.

Feb 8, Mon 9:00-10:00 a.m.

UH-Mānoa botany professor Celia Smith will lead a series of discussions about limu. Her presentation will cover the different types of limu, their historical significance in Waikiki, alien species, current uses and the future of this important Hawaiian reef plant to the ocean ecosystem. This event is free and all are invited to learn and share. To sign up, please email [maryloufoley@waquarium.org](mailto:maryloufoley@waquarium.org), or call 440-9027.

### Fish School (Furlough Friday)

Jan 29, Fri 10:00-11:30 a.m.

School's out? Come to fish school. Discover what makes a fish a fish. Is a seahorse a fish? How about an eel? What is a false-eye spot? How do fish camouflage in open water? Includes a scavenger hunt among the exhibits. For fish enthusiasts age 6 and older. \$9/adult, \$7/child (\$10/\$7 for non-members).

### Small Fry

Feb 10-Mar 10, Wed

**A Session** 8:30-10:00 a.m.

**B Session** 10:30 a.m.-noon

Apr 7-May 5, Wed

**A Session** 8:30-10:00 a.m.

**B Session** 10:30 a.m.-noon

For the youngest learners. An adult and their 1- to 3-year-old team up to discover the amazing undersea world of the Aquarium. Five weekly sessions include crafts, song, play and exploration of the exhibits. For adult-child teams. \$65/adult & child (\$90 for non-members).

### Special Presentation by Flip Nicklin Among Giants, My Life with Whales

Feb 11, Thu 6:30 to 8:30 p.m.

Flip Nicklin is widely regarded as one of the world's premier whale photographers. The *National Geographic's* marine photographer and co-founder of Whale Trust, he has spent a career under the waves. On Feb. 11, Nicklin comes to the Aquarium, co-sponsored by NOAA's Hawaiian Islands Humpback Whale National Marine Sanctuary. Nicklin will discuss the changing view of whales and how science and the *National Geographic's* programs and images have fostered a shift in our perception of these amazing marine mammals. The Natural Selection Gift Shop will be open with Nicklin's books for sale and there will be an opportunity to have your book signed by the author. Doors open at 6:30 p.m. Free.

## REGISTRATION INFORMATION

- Questions about the activities? Call the Waikiki Aquarium Education Department at 440-9007.
- Preregistration is required for all activities.
- FOWA members are allowed up to four total registrants at FOWA rate.
- A handling fee of \$5 will be assessed for withdrawals.
- No refunds can be made for no-shows or for withdrawals made seven days or less before an activity.

#### To register by phone:

Call 440-9011. Visa and MasterCard are accepted.

#### To register by mail:

Full payment must accompany completed registration forms. Please, no cash. Make checks payable to **University of Hawai'i**. Visa and MasterCard are also accepted.

Mail the completed registration form with a check or credit card information to:

**Waikiki Aquarium Education Department**  
**2777 Kalākaua Avenue**  
**Honolulu, HI 96815**



### Aquarium After Dark

Feb 12, Fri 6:30-8:30 p.m.  
Mar 12, Fri 7:00-9:00 p.m.

Discover if fishes sleep, sea snails snooze or weedy seadragons doze on an after-dark flashlight tour of the Aquarium exhibits. Minimum age 5 years; youngsters must be accompanied by an adult. \$10/adult, \$7/child (\$14/10 for non-members).

### Seaduction

Feb 14, Sun 6:30 p.m.

Love is in the air ... and the water. Join us for our ever-popular Seaduction Valentine's Day dinner. The event is limited to 30 couples, who will be treated to an evening of bubbles, candlelight and gourmet food at one of the most exclusive dining spots in town: our exhibit galleries. Doors open at 6:30 p.m. and dinner will be served at 7 p.m. The evening is \$300 per couple, which includes a champagne reception, three-course dinner, commemorative photo and valet parking. All proceeds benefit the Aquarium. For reservations, call 440-9015.

### Nana I Ke Kai, Look to the Sea

Feb 18 & 25, Thu 6:00-7:30 p.m.

Cultural practitioners and scientists discuss climate change, coral conservation, ocean acidification and other issues in a series of presentations that will be held throughout the year. You can find topics and presenters on our website, [www.waquarium.org](http://www.waquarium.org). Our mahalo to NOAA's Pacific Service Center for its support of these presentations connecting science and culture. Free. For more information, email [maryloufoley@waquarium.org](mailto:maryloufoley@waquarium.org).

### Oceans Alive!

#### Protection: Spines, teeth, venom & scales

Mar 16, Tue 9:00-10:30 a.m.

#### Animal Homes: Sand, seaweed, coral & water

Mar 17, Wed 9:00-10:30 a.m.

Sing, dance, move and groove. Draw, color, create and play. Observe, watch, look and touch. Learn more about the sea during Oceans Alive! Move through stations and enjoy a variety of hands-on activities in the Aquarium's newest class offering. Designed for keiki 2 to 5 years old. \$5/person (\$7 for non-members).

### Overnight with the Fishes

Mar 25, Thu 7:00 p.m.-8:00 a.m. (Friday is Kuhio Day)

How does a fish with no teeth eat its food? Why are reef fishes so colorful? Do fish talk? Learn about our fishy friends, then sleep with the fishes. Play fish games and go on fish scavenger hunts. Evening refreshments and continental breakfast included. \$30/adult, \$25/child (\$35/30 for non-members).

### Sea Hunt

Mar 27, Sat

The Aquarium hosts its annual Easter Sea Hunt with egg hunts on the lawn, the Easter Bunny, the fishing game and more arts, crafts and games. Watch your mailbox for details.

### Earth Day

#### Mauka to Makai

Apr 10, Sat 9:00 a.m.-2:00 p.m.

Join us for an activity-packed day celebrating the Earth. We'll be joined by the Department of Health, City & County Environmental Services, the National Oceanic & Atmospheric Administration and other non-profit environmental organizations, as we focus on preserving the land and the sea. Free.

## ACTIVITY REGISTRATION FORM

Name(s)

Adults \_\_\_\_\_ Phone (home) \_\_\_\_\_

Children/Ages \_\_\_\_\_ Phone (work) \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_ email: \_\_\_\_\_

Please register me for:

Activity	Session	Date(s)	Number of Adults/Children	Price
_____	/	_____	_____	_____
_____	/	_____	_____	_____
_____	/	_____	_____	_____
_____	/	_____	_____	_____

Total amount of payment enclosed (check payable to University of Hawai'i): \_\_\_\_\_

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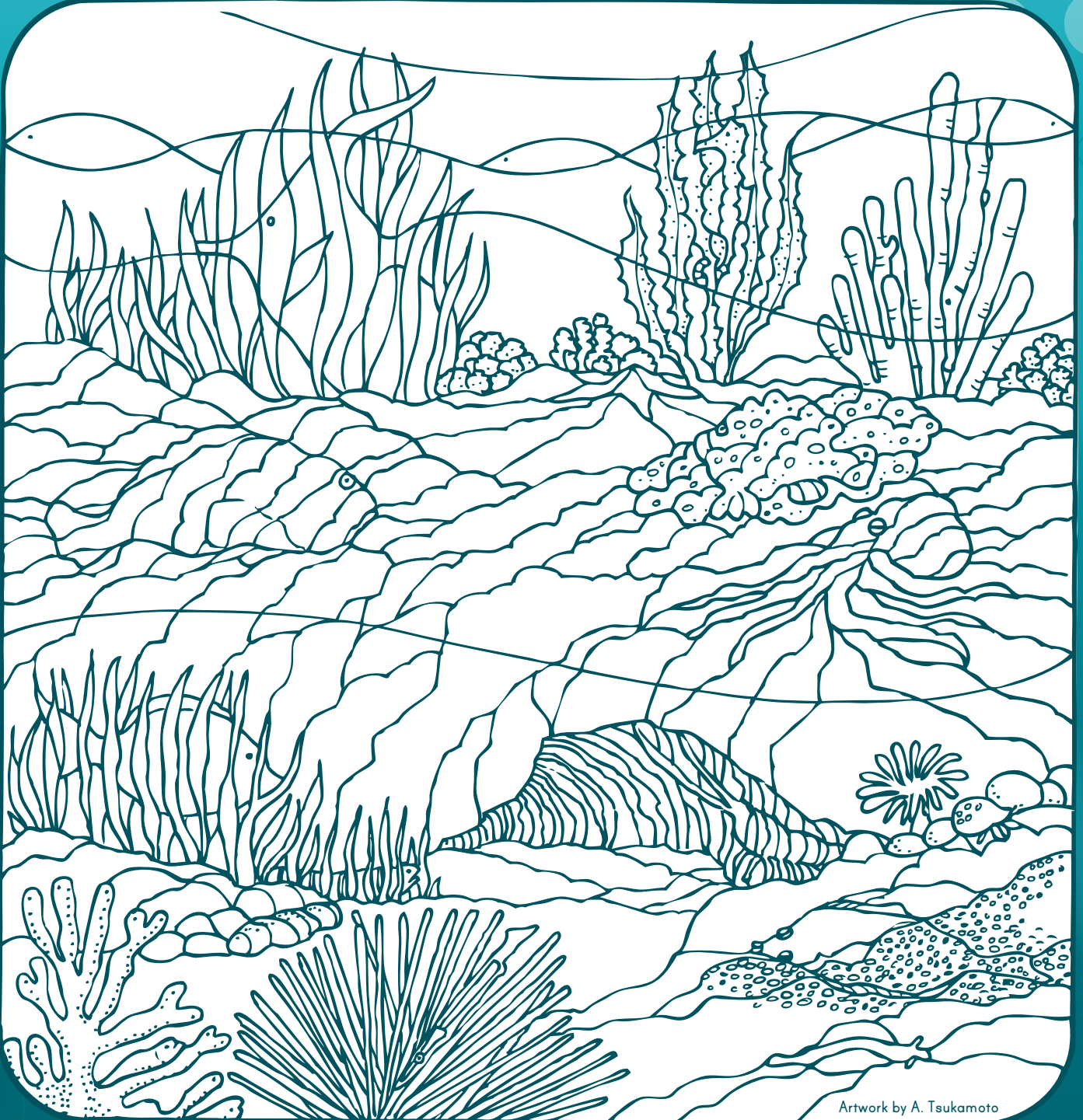
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I am a FOWA Member ☐ Yes ☐ No





# sea squirts



Artwork by A. Tsukamoto

## The Reef is Alive!

Can you find at least 12 marine animals hidden in the reef?

3 wrasses, Moorish idol, seastar, seahorse, trumpetfish, scorpionfish, anglerfish, octopus, surgeonfish, lizardfish, spiny lobster, featherduster worm, hermit crab, coral goby, shrimpfish, flounder, sea slug, and more

# NEW & RENEWING FOWA MEMBERS

The Membership Office recorded these new and renewing memberships between Aug. 17 and Nov. 8, 2009.

Brad Akagi  
James & Sylvia Akaka  
Shirley & Timothy Ames  
Doreen Anderson  
Dr. & Mrs. Bruce S. Anderson  
Mr. & Mrs. Reggie Andres  
Mr. & Mrs. Antalis  
Megan Ara  
Dr. & Mrs. Bryan M. Armitage  
Dr. Rick Armsby  
James Austin III & Erin Austin  
Ms. Christy Avilla  
Raleigh & Judy Awaya  
Mrs. Pat Axelrod  
Nina & Elio Ayala  
Jill & Thad Barkdull  
Helen J. Baroni & Rodman Low  
Ms. Jennifer Barrett  
K.D. Bartok & Stephen Rush  
Mr. & Mrs. J.D. Bayudan  
Stewart & Dr. Charlene Bell  
Mr. & Mrs. Patrick A. Belmonte  
Mr. & Mrs. Michael Bickson  
Dr. Alain & Dr. Caroline Bieger  
Deborah C. Blair  
Robert & Jennifer Blazewick  
Scott & Norie Bloom  
Marlie Bond  
Mr. Thomas Brand  
Kelii & Ketsani Bright  
Timothy & Sara Brilliande  
Mrs. Michelle & Mr. Mark Brodie  
James & Laurie Brooks  
Steve Brooks & Adele Panui  
Jeff & Rebecca Brown  
Mr. & Mrs. Randal Bruckner  
Bianca Bryant-Greenwood & Sharon Arao  
Tara Buckley  
Dan, Sara, Kaitlyn & Andrew Buehler  
Vicki & Robert Bunao  
Thomas Burke & Marie Wagner  
Rhett & Kim Marie Butler  
Mr. & Mrs. Jeremy Butler  
Melvin G. Cabaccang  
Ivana Cablova & Paula Bajgarova  
Dr. Peter D. & Ms. Olga Caldwell  
Mr. Emmitt & Mrs. Tazuko Calloway  
Robert Calvert & Mary Rydell  
Carl & Sherry Campagna  
Ms. Barbara A. Campbell  
Mr. & Mrs. JC Cariaga  
Marta R. Carroll-Breicis  
Jean M. Carr  
Mary A. Caywood  
Dr. John & Mrs. Lianne Chan  
Vena & Cedric Chang  
Jason Chang  
Craig Chang  
Mr. Walter T.C. Chang & Ms. Xiaolei Pang  
Bonita Chang & Kyle Kajihira  
Paul & Mii Bok Mi Chattergy  
Mr. John & Mrs. Candace Cheever  
Christine Cheng  
Charlston Cheng  
Mrs. Barbara & Dr. Frank Chieu  
Lance Chinna & Joseph J. Larnerd  
Mr. Paul Choi  
Stephen & Gloria Chong  
Wei Chow & David Lowell  
Michael & Ann Choy  
Michael & Margaret Chun  
David Chun & Juan Ming Tan

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Wesley W. Chun  
Mr. & Mrs. Darrell Y.C. Chun  
Louise Chung & Jana Gordon  
Amy Boss  
Mr. Edgar P. Clark III & Mr. Khanh H.D. Nguyen  
Rick & Torry Clifton  
Marc Cobb-Adams & Joycelyn McGihon  
Duane & Gretchen Cobeen  
Cody Coffey  
Josh & Carly Cole  
Mary Anne & Caitlin Concilus  
Mrs. Jody & Mr. Mel Conjugacion  
Zhanna & Ron Conrad  
Roger Couture & Darlene Weingand  
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Stephen & Ann Young  
Mr. & Mrs. Alfred G. Young  
Terry Thomas Young  
Don & Judi Young  
Dr. Richard Young &  
Dr. Julie-Ann Zerme-Young  
Madeleine Young &  
Steven Minaglia, MD  
Mr. & Mrs. Elmer Y.S. Yuen  
Sig Zane & Nalani Kanakaole  
Mike & Jamie Zane

If your name is not listed or is listed incorrectly, please accept our apologies for the error and our most sincere thanks for your support.

## MEMBERS' NIGHT

The coelacanth came to Members' Night on Nov. 15. World-renowned fish biologist Prof. Eugene Balon (pictured below) told the tale of the coelacanth, the fish that was thought to have gone extinct with the dinosaurs. Balon shared his findings about this creature, which was rediscovered by science in 1938. Members were treated to a viewing of coelacanth fossils and memorabilia from the private collections of Balon, Keith Kruger and Leland Miyano, and keiki enjoyed a fun find-a-fossil activity.



## Dive with Disney



Dive deep on Earth Day with *Oceans*, the new release from DisneyNature. The film is directed by Jacques Perrin and Jacques Cluzaud, the team responsible for last year's record-breaking film, *Earth*.

Using the latest underwater technologies, the film captures never-before-seen imagery as it explores the playful splendor and the harsh reality of the weird and wonderful creatures that live beneath the waves.

The film opens **April 22** and we'll have a special offer for Aquarium members. Watch your next *Kilo i'a* for details.

## Members' rock-hard deal

After your next visit to the Aquarium, why not stop by the Hard Rock Cafe where FOWA members now get a great new deal. Take in the Surfing Wall of Fame while you enjoy the rock'n'roll menu, including the smokin' house specialties from the hickory wood chip smoker, or a char-broiled burger with a thick-frosty shake or malt.

And from now until Dec. 31, the Hard Rock Cafe Honolulu will take 20 percent off your bill — for food, non-alcoholic beverages and non-charity merchandise. The offer is good at the old Kapi'olani Boulevard location and at the new Beachwalk location in Waikiki when it opens later this year.





University of Hawai'i at Mānoa  
Waikiki Aquarium  
2777 Kalākaua Avenue  
Honolulu, HI 96815-4027

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Winter 2010

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## THE WAIKIKĪ AQUARIUM'S MISSION:

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

Photo: Longnose hawkfish and leather coral captured by Tiffany Hooper at the Aquarium's recent photographers' night.

