

# PACIFIC CURRENTS

MEMBER MAGAZINE OF THE AQUARIUM OF THE PACIFIC



## MOLINA ANIMAL CARE CENTER

Expanding Animal Care at the Aquarium of the Pacific





Californians could benefit from producing a safe and reliable source of sustainable seafood off our coast.



# CALIFORNIA AQUACULTURE

## A CHALLENGE FOR OUR STATE

It is important for California constituents to be aware of the looming seafood crisis especially if it becomes active with regards to legislation.

**M**ore than two-thirds of the world's wild fish stocks are currently fished at or beyond sustainable levels. It is

predicted that the entire wild seafood industry could collapse in 50 years unless solutions are sought today. To examine solutions for dealing with the looming seafood crisis, the Aquarium of the Pacific brought together government agencies, entrepreneurs, environmentalists, and decision makers from state and federal aquaculture programs in September 2009.

"Creating California-farmed, environmentally friendly seafood products has the potential to reduce our carbon footprint, decrease pressures on wild fish species, reduce our importation of seafood, and increase state revenues," said Aquarium CEO Jerry R. Schubel.

The United States imports over 70 percent of its seafood. California exceeds

the national average with over 80 percent of its seafood coming from abroad, mostly from Asia. Producing locally farmed seafood could reduce California's carbon footprint on these imports, which ranks third to our dependence on foreign oil. Consumers could rely on a safe and secure supply of fresh sustainable seafood. California residents also stand to benefit financially. It is estimated that an offshore finfish aquaculture industry in less than one percent of state waters could bring in up to \$1 billion.

During the Aquarium's September 2009 meeting, participants questioned why California should be the one to solve the problem. However, by the end of the two-day session, there was agreement that California could reap economic benefits while at the same time establishing strict environmental standards for the rest of the nation to follow. Participants agreed

that with proper planning, including citing, control of environmental impacts, and monitoring and enforcement, fish could be farmed in a sustainable manner off the coast of Southern California.

The state of California is currently developing guidelines pertaining to marine aquaculture. Unfortunately, this opportunity for growth has taken a back seat to the ongoing economic crisis. But offshore aquaculture of yellowtail, striped bass, mussels, and other species and stock replenishment of white sea bass, abalone, and Pacific rockfish species are possibilities to be considered for the future.

As California constituents, it is important to be aware of this issue if it becomes active with regards to legislation. To find out more about sustainable seafood, please visit the Aquarium on Saturday, March 6 for Sustainable Seafood Day. See page 11 for more information.

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*PACIFIC CURRENTS* is published for members of the Aquarium of the Pacific. If you have comments about this magazine, please send an email to our editorial staff at [PacificCurrents@LBAOP.org](mailto:PacificCurrents@LBAOP.org).

**OUR MISSION** | To instill a sense of wonder, respect, and stewardship for the Pacific Ocean, its inhabitants, and ecosystems

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**MEMBERSHIP OFFICE HOURS**  
8:00 a.m.–5:30 p.m. daily

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 (Note: \$2 service charge per ticket, up to \$10.)  
 Group Reservations .....951-1695



The Aquarium of the Pacific is a non-profit 501(c)3 institution. To provide exciting and innovative exhibits and educational programs, we rely heavily on the generous donations of individuals, foundations, and corporations.



Aquarium Founding Sponsor

# LETTER FROM THE CEO

## DEAR MEMBERS,

**H**appy New Year! With the ongoing support of our members and donors, the Aquarium

had a successful 2009. We are pleased to report that we experienced our 8th consecutive year of attendance increases. We look forward to many exciting projects in the year to come.



As you will learn in the feature article of this issue, our new Molina Animal Care Center will open in May. This facility will expand the Aquarium's innovative care, teaching, and partnership opportunities in the growing field of aquatic veterinary medicine. With the additional space and upgraded technologies, the Aquarium will set a new and higher standard for care of our animals.

This summer we will also be opening another exciting new exhibit. Our summer issue of *Pacific Currents* will describe the transformation of our BP Sea Otter Habitat. The completely redesigned exhibit will portray essential features of the Central California coast and the habitat of the southern sea otter. We are excited about these enhancements made possible by the BP Foundation.

As a Southern California destination, the Aquarium is located in a vibrant city and a very active coastal region. A population of more than 10 million people lives within 10 miles of this segment of the coast. It is also the stop-over place for one of the largest and most diverse gatherings of whales on their journeys north and south. The intersections of human society and nature are rife with challenges and rich with opportunities. The Aquarium is expanding its discussion of the urban ocean, adding new programs, and a regularly scheduled urban ocean cruise. Stay tuned for more information on this theme in upcoming issues of your member magazine.

Sincerely,

Jerry R. Schubel

In the Sandy Bottom and Coastal Corner Exhibits located in the Northern Pacific Gallery, be sure to check out our new sub-adult spot prawns (*Pandalus platyceros*). Thanks to the efforts of our Aquarist Jennifer O'Quin, the Aquarium cultured over 300 babies last year.



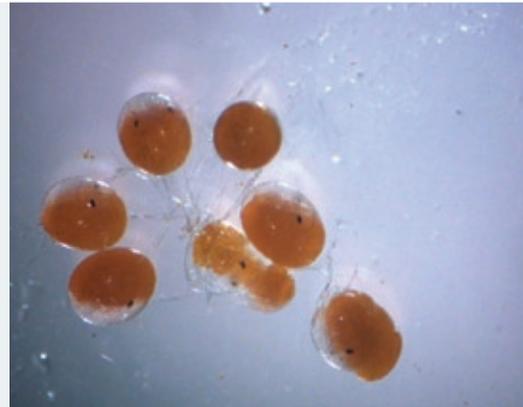
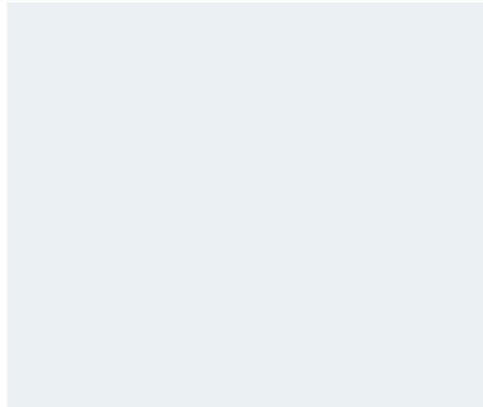
# SPOT PRAWNS

**S**pot prawns are found in the northeastern Pacific Ocean from Unalaska Island, Alaska to San Diego, California and in the northwestern Pacific Ocean from the Sea of Japan to the Korea Strait. They are found from the intertidal zone to depths of 1,600 feet (487 meters). These crustaceans are bottom dwellers, scavenging for food on the sea floor.

The largest shrimp on the West Coast, female spot prawns can grow as long as nine inches (23 cm). They typically live to be seven years old. Not only are these prawns a favorite meal for fishes in temperate waters, but they are becoming more and more popular with people as well.

Spot prawns are protandric hermaphrodites, meaning that they mature as a male first and then pass through a transition stage to become a female. Males become reproductively mature when they are around three inches (7.6 cm) in length. When an adult male reaches a size of roughly four inches (10 cm) long, he can turn into a female if there is demand in the area for more females.

At the Aquarium, once a female is pregnant, she is moved off exhibit and cared for behind the scenes in special holding tanks that are darkened to mimic the depths where the prawns live in the ocean. As Aquarist Jennifer O'Quin continues to master her techniques in breeding spot prawns, the Aquarium will be able to share the offspring with other aquariums.



*Spot prawns are protandric hermaphrodites, meaning that they mature as a male first and then pass through a transition stage to become a female.*

*The Sandy Bottom exhibit is sponsored by Jim and Liz Breslauer.*





ANDREW REITZMA

# HAWAIIAN REEF EXHIBIT

The Aquarium's Tropical Pacific Gallery features the new Hawaiian Reef exhibit, representing the fauna of the Hawaiian Islands. This exhibit will introduce you to some of the animals that call the Northwestern Hawaiian Islands Marine National Monument home.

**T**he Papahānaumokuākea Marine National Monument, established in 2006, is one of the largest marine conservation areas in the world. It encompasses more than 100,000 square nautical miles of the Pacific Ocean, an area larger than all of the country's national parks combined. This protected area is remarkable because of its biodiversity, both in terms of the breadth of animals that live there and the uniqueness of these animals because of the relative isolation of the region. Approximately 25 percent of the marine species in the Northwestern Hawaiian Islands Marine National Monument are endemic to that area.



In the Aquarium's new Hawaiian Reef exhibit, you will see yellow tangs (*Zebrasoma flavescens*), convict tangs (*Acanthurus triostegus*), flame wrasses (*Cirrhilabrus jordani*), striped surgeonfish (*Acanthurus lineatus*), rockmover wrasses (*Novaculichthys taeniourus*), spotted boxfish (*Ostracion meleagris*), lagoon triggerfish (*Rhinecanthus aculeatus*), and yellowtail wrasse (*Coris gaimard*). Be sure to check out this new exhibit.

The Hawaiian Reef exhibit is sponsored by Brittany and Alexander Rogers and Catherine and Dominic DeCristofaro

## SOUTHERN CALIFORNIA/BAJA GALLERY ADDITIONS



ANDREW REITZMA

**O**n your next trip to the Aquarium, take note of a few changes in the Southern California/Baja Gallery. We have added a Pacific seahorse (*Hippocampus ingens*) exhibit. Found off the coast of Southern California and down to Baja, these seahorses grow up to 12 inches in length. Several new animals can be seen in the Abalone exhibit. In addition to red abalone (*Haliotis rufescens*), guests can see lots of blue-banded gobies (*Lythrypnus dalli*), a zebra goby (*Lythrypnus zebra*), blackeye gobies (*Coryphopterus nicholsii*), and opaleye (*Girella nigricans*).

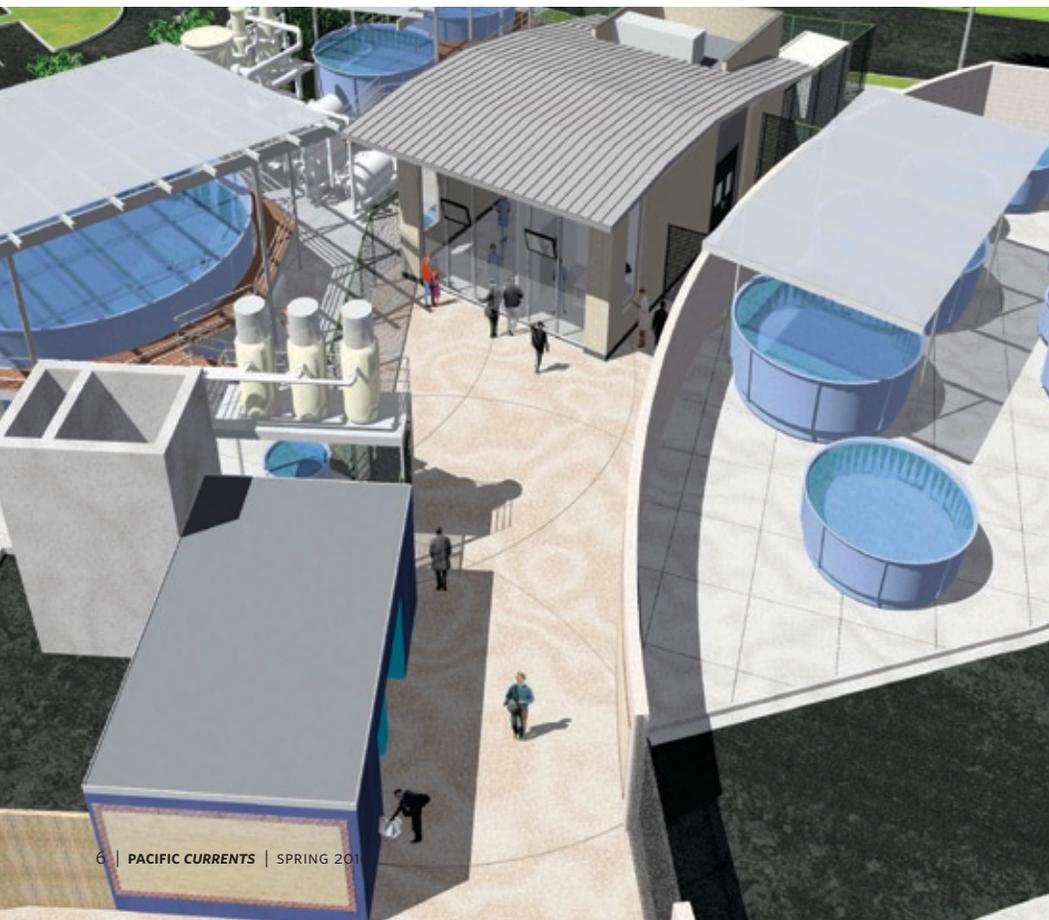
## PLEASE NOTE: TEMPORARY EXHIBIT CLOSING

Starting January 11, 2010 the BP Sea Otter Habitat in the Northern Pacific Gallery will be closed for renovations. The newly designed exhibit will open in May 2010.

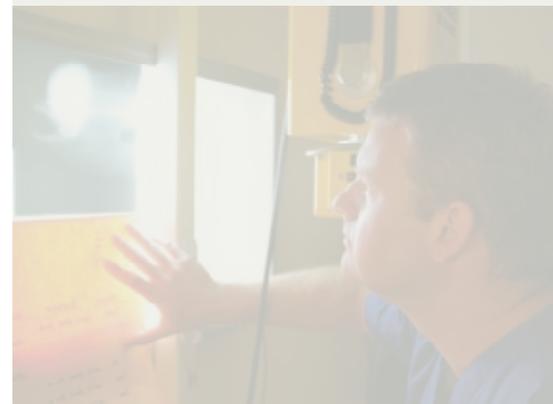




# MOLINA ANIMAL CARE CENTER



The Aquarium of the Pacific's new Molina Animal Care Center includes a veterinary hospital, a holding area, and a public exhibit.



On May 20 the Aquarium of the Pacific will open its new Molina Animal Care Center. The state-of-the-art 14,000-square-foot facility will accommodate mammals, birds, and fishes. It will provide enhanced healthcare as well as opportunities for our guests to view veterinary medicine in action. The Aquarium of the Pacific will be one of the few aquariums that provides an opportunity for guests to observe while the doctor is examining a patient.



## AMPLE ROOM AND UPDATED TECHNOLOGY

Located behind Shark Lagoon, the new hospital will feature a six-fold increase in its examination area—from 300 square feet to approximately 1,800 square feet. The building is targeted to meet LEED\* Platinum standards, fulfilling the Aquarium’s commitment to environmentally sensitive building practices for all new structures. With the addition of the \$5.5 million Molina Animal Care Center, the Aquarium will be able to provide excellent care more easily.

The Aquarium’s veterinary hospital will become more technologically advanced with new digital equipment. With an Eklin digital radiography system, x-ray film will not need to be processed and images can be more easily stored for diagnostic and record keeping purposes. This new equipment also speeds up the entire process of taking x-rays, which is better for the animals. A high-tech microscope with a camera imaging system can take pictures of slides. Just as with the x-ray machine, this microscope will allow images to be emailed to colleagues. New endoscopy and laparoscopy equipment will provide opportunities to perform minimally invasive techniques and view the patient internally with a camera.

Holding and quarantine areas for fish, marine mammals, and birds will be housed in the Molina Animal Care Center as well. The biggest tank at the Aquarium, a 40-foot diameter tank that holds 56,000 gallons of water, will provide critical holding space for the Aquarium’s sharks and larger animals. For new Aquarium arrivals, there

will be two rooms for animals undergoing the required quarantine. There will also be a reptile room and holding cages for shorebirds and raptors. The holding area will be completed in the next phase of construction.

The Molina Animal Care Center will reach beyond the confines of a place to care for animals. In the spirit of interactive learning, it will allow visitors to watch surgeries, animal examinations, and even interact with the Aquarium’s veterinary staff on occasion. This aspect of the new treatment center will offer unique insight into the world of aquatic veterinary care. It will also showcase the Aquarium’s dedication to stewardship to its wide array of mammals, birds, reptiles, fishes, and invertebrates.

## THE AQUARIUM CARES

We all expect high standards for health care for ourselves and our loved ones. Pet owners value the importance of excellent veterinary care for their animal companions. The Aquarium of the Pacific also believes in providing the best medical care possible for its animals. With the opening of the new Molina Animal Care Center, the Aquarium will be at the vanguard of aquatic veterinary medicine.

Most people are not aware of the level of care that the 11,000 animals receive at the Aquarium. In addition to feeding them restaurant-quality food and ensuring that they have precisely what they need in their customized exhibits, the animals are given regular exams. And over the years, there have been times that an unusual condition developed in a marine animal that allowed

Aquarium staff to blaze new territory in animal care.

Innovative techniques have been used in a number of operations by our veterinary staff. New surgical procedures were successfully conducted on a sea otter to repair internal eye damage to one eye and to remove a cataract in the other eye. A moray eel needed a large growth removed from its head. A sawfish had an unfortunate encounter with a shark and injured its rostrum (a saw-like bill). Luckily, such serious conditions are uncommon, but the Aquarium’s talented staff is prepared to deal with them. And with the new Molina Animal Care Center, they will be better equipped to handle the myriad of veterinary needs of our animal collection.

Diagnosing an exotic animal’s illness can be particularly difficult because they instinctively hide problems. An aquarist might call the doctor if an animal has not been eating normally, but in such cases, observation is the best tool. When necessary, it is important that the Aquarium is equipped to properly investigate and fix problems. Ultrasounds have been done on the female sea lions when pregnancy was suspected.

X-rays have been taken of sharks. Anesthesia has been given to fish when undergoing surgery. When an animal is not well, the Aquarium provides the best care possible.

The Aquarium’s animal care team is composed of more than 50 staff members. Dr. Lance Adams is the veterinarian. Colleen McLaughlin is the veterinary technician. Like many veterinary professionals at zoos and aquariums, providing medical care to the animals means understanding and caring for thousands of species. Still, like other animal doctors,



*The Molina Animal Care Center will reach beyond the confines of a place to care for animals. In the spirit of interactive learning, it will allow visitors to watch surgeries, animal examinations, and even interact with the Aquarium's veterinary staff on occasion.*



Dr. Adams examines a sea otter.

aquarium veterinarians diagnose illnesses, perform surgery and prescribe medicines. Additionally, many other staff members ensure the animals' health and behind-the-scene safety by assisting with medical, quarantine, and breeding activities.

Another extremely important aspect to caring for marine life is water quality. Like the air we breathe, sea water needs to be clean and free of contaminants for aquatic animals to be healthy and thrive. The Aquarium also relies heavily on the staff in charge of life support, which refers to the people who make sure the nuts and bolts of all the exhibits are working properly. Without proper drainage, filtration, and electrical supply, the Aquarium would not be able to create habitats that mimic the real world.

## VISITING HOURS

Aquarium guests will have many opportunities to learn at the new Molina Animal Care Center. Each day a volunteer will explain a live procedure or offer one of several educational shows. As guests pass by the hospital viewing windows, the veterinarian could be working on an animal. Maybe a surgery on a fish will be in progress. Maybe an otter will be getting its teeth cleaned. Windows and overhead computer monitors will make it possible for everyone to see.

Two interactive kiosks offer a chance to delve deeper. One kiosk will feature stories of medical successes such as Dr. Adams' groundbreaking operation to repair the bill of the sawfish. The other kiosk will present a behind-the-scenes look at the duties of various team members. This video will feature interviews with an aquarist, a

mammalogist, the veterinarian, a curator, a life support technician, an aviculturist, and a volunteer. These interactive features will also be available on the Aquarium's website as well as at Miller Children's Hospital.

The Aquarium will be partnering with the Miller Children's Hospital at Long Beach Memorial Medical Center with a new program. Children will be able to watch a live video feed of Aquarium staff working in the Molina Animal Care Center. This collaboration will provide an opportunity for a young patient in the hospital to ask questions and talk directly to the veterinarian or other husbandry professional.

Visitors will also learn about our animals with activities that help show the connections between a healthy animal and a healthy environment. For budding scientists and those interested in zoology, the new center will provide incentives to pursue marine-related careers. As always, we hope our members and guests leave with the desire to help protect the natural environments that marine animals live in and maybe even learn how to become a volunteer at the Aquarium.

## A NEW FUTURE

Aquarium Board Chairman J. Mario Molina, M.D. has been an integral part of the vision of the new animal hospital. With his background as president and CEO of Molina Healthcare, he has had a wealth of expertise to offer throughout the process. "We are very pleased with the progress being made on the Animal Care Center. When completed, it will give the Aquarium of the Pacific a world-class facility to provide

healthcare to our animals and a place for visitors to learn more about the health and biology of our collection," said Molina. "We are also very pleased with the efforts being made to minimize the impact of the new building on the environment and the energy-saving features that have been incorporated into its design." For his support and in recognition of the \$2 million gift from Molina Healthcare and the Molina family, the center has been respectfully named in their honor. Through a staff campaign in 2008, Aquarium employees and volunteers donated \$40,000 for the large holding pool mentioned earlier. Additional donors are listed in the column on the next page.

The new Molina Animal Care Center is scheduled to open to the public May 20, 2010. Members are invited to attend one of the dates below for special viewing.

- May 16: Family Night
- May 17: Adult Night
- May 19: Pacific Circle Event

As an institution that strives to maintain the highest quality standards for animal care, the Aquarium is proud of the addition of the Molina Animal Care Center. This new facility will enable our husbandry team to optimize their practices, while also providing our visitors with a new and interesting opportunity to understand more about our animal ambassadors of the Pacific Ocean. With the completion of the Molina Animal Care Center, the Aquarium of the Pacific will join a small handful of aquariums worldwide with such state-of-the-art facilities.



Several members of the Molina family at the initial unveiling of the Molina Animal Care Center renderings.

## THE MOLINA FAMILY AND MOLINA HEALTHCARE SUPPORT NEW CENTER

# \$2 MILLION GIFT TRANSFORMS ANIMAL CARE

**A**s chairman of the Aquarium's Board of Directors, Dr. J. Mario Molina knows the importance of caring for the Aquarium's 11,000 animals. When the Aquarium

developed an expansion plan that included a state-of-the-art Animal Care Center, he knew that he, his family, and his company would want to be involved.

Dr. Molina brought together his four siblings and his company to make a combined gift of \$2 million. The family contributions are from Dr. Molina and his wife Therese, John and Michelle Molina, Martha and Tino Bernadett, Janet and Laurence Watt, and Josephine Battiste. "Together, the family's commitment demonstrates their shared passion for the ocean, education, and conservation," said Aquarium CEO Jerry Schubel.

"The fact that guests will now be able to observe animal exams and interact with the talented staff that care for these animals is what really drew us to this project," said John Molina, who also serves on the Aquarium Board of Directors and is CFO of Molina Healthcare. Josephine Battiste added, "Not only will animal care be enhanced, but so will the guest experience. My children are eager to see the Aquarium's veterinarian at work."

As president and CEO of Molina Healthcare, Dr. J. Mario Molina is proud to have Molina Healthcare sponsor the Molina Animal Care Center. Having always been committed to serving the less fortunate and underserved communities, Molina Healthcare's

philosophy naturally extends to supporting the Molina Animal Care Center to enhance animal health care at the Aquarium.

Thanks to the Molina family and Molina Healthcare, millions of guests will be able to watch veterinary science in action. Dr. Lance Adams, the Aquarium's veterinarian, is looking forward to moving into his new animal hospital and remarked, "Our hope is that by observing these unique exams and procedures, young students will be inspired to pursue a career in the sciences."

*In 1980 Dr. C. David Molina opened a clinic in Long Beach where he cared for patients regardless of their ability to pay. That clinic has grown into Molina Healthcare, Inc.—one of the fastest growing managed healthcare companies in the country. Today the Molina family continues to honor their father's tradition of helping others by funding the Molina Animal Care Center to care for the animals that help inspire millions of visitors to protect the ocean environment.*

Sponsorship and gift opportunities for the Molina Animal Care Center are still available. For more information, contact the development office at (562) 951-1664.

### ADDITIONAL DONORS

#### \$1,000,000+

Molina Healthcare, Inc.  
The Molina Family:  
Josephine Battiste  
Martha and Tino Bernadett  
John and Michelle Molina  
Mario and Therese Molina  
Laurence and Janet Watt

#### \$250,000+

Anonymous

#### \$100,000+

Steve and Fran Conley

#### \$50,000+

Betty White Ludden

#### \$40,000+

2008 Employee and  
Volunteer Staff Campaign

#### \$25,000+

Jeanne M. Brodeur

#### \$10,000+

Jeanne B. Sleeper  
Dennis C. Poulsen and  
Suzanne M. Poulsen

#### \$5,000+

Anonymous  
Valerie and Bob Hoffman  
Frank and Margie Newell  
John and Susanne Rouse

#### \$1,000+

Dr. Lance and Mrs. Amy Adams  
Andrew and Diana Cohen  
Deanna Davisson  
Theresa Demonte  
Mary Jo Greenberg  
R.J. Kurtz  
Coral and Ron Levin  
Tina and Brian Sarty  
Jerry R. and Margaret H. Schubel  
Jeffrey Spofford  
Henny Struijk  
Richard and Amy Toyama

The Aquarium of the Pacific offers programs and events for all ages and interests. With exclusive events for our members, cultural festivals, a guest speaker series, and educational classes for families and children, there is something for everyone.

# GREAT AQUARIUM ACTIVITIES!

## MEMBER EVENTS

Please join us for one of these select events just for our members and their guests.

### **M** BEHIND-THE-SCENES NIGHT

SUNDAY, MARCH 7 (FAMILY NIGHT)

MONDAY, MARCH 8 (ADULT NIGHT, 21+ ONLY)  
6:30-9:30 P.M.

Members are invited to learn the secrets of the Aquarium at our Behind-the-Scenes Night. Participate in special tours led by husbandry and education staff, get a sneak peek of the new Molina Animal Care Center that opens in May 2010, and explore areas not open to the public, such as the Tropical Reef Habitat from above the water. Please note: Children must be at least 7 years of age to go on the full behind-the-scenes tour; there will be a mini behind-the-scenes tour for all ages in our education classrooms.

**COST** | Free for members; members' guests receive 20% off regular admission

**RSVP** | (562) 437-FISH (3474) required by Thursday, March 4

### **M** ST. PATRICK'S DAY PARTY ON THE QUEEN MARY

WEDNESDAY, MARCH 17 | 6:30-10:00 p.m. (21+ only)

Celebrate St. Patrick's Day on board the historic Queen Mary at our exclusive member event. Join us in the beautiful Queen's Salon as you experience live Irish style entertainment, Irish food and drinks, contests, and a raffle. Be sure to dress "green" for the event as there will be prizes for the person who wears the most color green and for the person whose outfit is the most environmentally friendly. Your ticket includes parking at the Queen Mary, Irish buffet, a beverage coupon, and live entertainment.

**COST** | \$29.95 per person for members and guests

**RSVP** | (562) 437-FISH (3474) required by Tuesday, March 2



## ENJOY AN ENTERTAINING EVENING

## MEMBER EVENTS

### **M** BLUE CAVERN LOUNGE

FRIDAY, APRIL 2 | 7:00-10:00 p.m.

Steward Level and Pacific Circle members are invited to enjoy an entertaining and relaxing evening at the exclusive Blue Cavern Lounge. Stroll through the Aquarium and listen to live music in the Tropical and Northern Pacific Galleries. Desserts and coffee will be served in front of the Blue Cavern exhibit. If you are not already a Steward Level member or a part of the Pacific Circle, please upgrade your membership and join us at our Blue Cavern Lounge. We thank all of our 2009 Pacific Circle members (listed on page 26).

**COST** | Free for Steward Level and Pacific Circle members

**RSVP** | (562) 437-FISH (3474) required by Tuesday, March 30

## MEMBER EVENTS

### **M** MEMBER PREVIEWS

SUNDAY, MAY 16 (FAMILY NIGHT)

MONDAY, MAY 17 (ADULT NIGHT, 21+ ONLY)  
6:30-9:30 P.M.

On this special evening, members will be among the first to view not one, but two special exhibits. Discover the Molina Animal Care Center, where you will see how we care for our animals in our new state-of-the-art treatment and recovery facility. This veterinary hospital includes a viewing area where you can watch animal examinations, surgeries, and interact with veterinary staff. In addition, members are invited to see the newly remodeled BP Sea Otter Habitat, which will not only contribute to a better overall experience for the sea otters and our staff, but also for our members and guests. You won't want to miss this exclusive member preview.

**COST** | Free for members; members' guests receive 20% off regular admission.

**RSVP** | (562) 437-FISH (3474) required by Thursday, May 13

## SAVE THE DATE

**Shark Lagoon Nights** through May 7  
Fridays (except April 16)

## NEW AND NOTEWORTHY

**Aquarium Closed** for Grand Prix  
Friday, Saturday, and Sunday, April 16-18

### FESTIVALS

To honor the rich diversity of Southern California, the Aquarium of the Pacific hosts cultural and family festivals throughout the year. Check our website for more details and additional family festivals.

#### **F** SUSTAINABLE SEAFOOD DAY

SATURDAY, MARCH 6 | 9:00 a.m.-5:00 p.m.

Learn how to help our ocean one bite at a time on Sustainable Seafood Day. The event will feature cooking demonstrations from some of the area's top chefs and will inform guests on how seafood consumption choices can help save our seas. Talk to organizations that promote sustainable seafood practices and pick up some recipes. Learn about the Aquarium's new sustainable seafood program, Seafood for the Future ([www.seafoodforthefuture.org](http://www.seafoodforthefuture.org)). As always, sustainable seafood will be available for purchase in the Aquarium's Café Scuba.

**COST** | Free for members  
members' guests  
receive 20% off  
regular admission

**INFO** | (562) 437-FISH (3474)



**SAVOR...**

#### **F** DIVERS DAY

SUNDAY, MARCH 28 | 9:00 a.m.-5:00 p.m.

Learn all about the history and recent advancements in diving at the Aquarium's annual Divers Day. There will be educational presentations and dive demonstrations in the exhibits. The Aquarium will also host a number of organizations that are related to the sport and science of diving. The diving community is invited to find out about volunteer diving and other opportunities for involvement with dive-related organizations in Southern California. Divers who present valid proof of certification with their photo I.D. will receive free admission.

**COST** | Free for members | members' guests receive  
20% off regular admission

**INFO** | (562) 437-FISH (3474)



**SEE CHILDREN SHINE  
AT DÍA DEL NIÑO**

### FESTIVALS

#### **F** EARTH DAY FESTIVAL

SAT.-SUN., APRIL 24-25 | 9:00 a.m.-5:00 p.m.

Learn what you can do to help our ocean planet at the Aquarium's tenth annual Earth Day festival. Join the Aquarium for a weekend of family fun celebrating Earth Day while learning simple, everyday tips to protect our environment. Visit booths from various Earth-friendly organizations and participate in hands-on learning demonstrations for people of all ages. On Saturday the Long Beach Water Department will host a number of organizations related to water conservation on our front lawn.

**COST** | Free for members | members' guests receive  
20% off regular admission

**INFO** | (562) 437-FISH (3474)



### FESTIVALS

#### **F** DÍA DEL NIÑO

SATURDAY-SUNDAY, MAY 1-2 | 9:00 a.m.-5:00 p.m.

In celebration of Día del Niño (Children's Day), the Aquarium celebrates the amazing talents of children of all cultures. This festival will feature international music and dance performed by youngsters representing Hispanic, Asian, Southeast Asian, African American, and Pacific Islander cultures. Guests can partake in arts and crafts, storytelling, interactive music performances, and face painting. Over the weekend, the Aquarium will present its annual Young Hero Award in recognition of one young person's efforts to make this planet a better place. The event will feature an international Children's Day parade and opportunities to paint and be part of the world-wide Art Miles mural project, which brings people together through art. Celebrate the children in your life through this special annual event for all ages.

**COST** | Free for members | members' guests receive  
20% off regular admission

**INFO** | (562) 437-FISH (3474)



## LECTURES ON A VARIETY OF TOPICS

Hear guest speakers from across the country. Learn about our ocean planet and much more.

### GUEST SPEAKERS

The Aquarium hosts guest lectures on a variety of topics from experts across the country.

**GS SHEILA SEMANS & RIKK KVITEK | *Seafloor Mapping***  
WEDNESDAY, MARCH 3 | 7:00 p.m.

The California Seafloor Mapping Project is a collaborative, multi-institutional campaign creating the first comprehensive, high-resolution base map of California's state waters from the shoreline out to three nautical miles. The creation of a geologic and habitat base map supports the state's Marine Life Protection Act Initiative goal to create a statewide network of Marine Protected Areas. Join us for a lecture by two experts in the field of seafloor mapping.

Sheila Semans joined the Coastal Conservancy in 2000 and has been staff to the California Ocean Protection Council since its inception in 2004. With over seventeen years of experience working in land and water conservation, Semans currently focuses her work on developing the state's ocean observing program and mapping the seafloor.

Dr. Rikk Kvitek is a professor in the Division of Science and Environmental Policy, California State University, Monterey Bay, where he also directs the Seafloor Mapping Lab and the COAST Technology Center for Spatial Information Visualization and Analysis.

### GUEST SPEAKERS

**GS IAN MITROFF | *Dirty Rotten Strategies***  
TUESDAY, MARCH 9 | 7:00 p.m.

From the crippling mortgage crisis to the heated debate on health care reform, our efforts to solve the most pressing challenges continually fail for one simple reason: we're addressing the wrong problems, according to Dr. Ian Mitroff. Join us as Mitroff discusses his latest book, written together with statistician Abraham Silvers. Mitroff will discuss the errors that underlie most major problem-solving mistakes and detail the best strategies for effectively addressing concerns. For nearly 25 years, Mitroff has been the trusted expert on crisis management in virtually every major incident—from Enron to the war in Iraq.

**GS NEIL SIMS | *Marine Conservation Initiative***  
THURSDAY, MARCH 18 | 7:00 p.m.

Responsible open ocean mariculture—the environmentally sound farming of marine fish in the ocean—is a relatively new term that seeks to break free from the stigma widely associated with “fish farming.” In this presentation, Neil Sims will examine current public perceptions concerning farmed fish, their roots, and influencers. He will discuss how growing awareness of the need for sustainable seafood is presenting an opportunity for a major shift in consumer attitudes about mariculture. Kona Blue's pioneering open ocean mariculture operation will be described as an example of how the Blue Revolution can positively impact the marketplace.

### GUEST SPEAKERS

**GS ED HUMES | *Eco Barons***  
THURSDAY, APRIL 22 | 7:00 p.m.

In the latest book by Ed Humes, he examines a number of environmental leaders and thinkers who are addressing the climate, extinction, and energy crises in novel ways, offering realistic assessments of the challenges before us. These leaders include such examples as the former CEO of Esprit, who has preserved and donated more rainforest than anyone on the planet. Humes also looks to Roxanne Quimby, the founder of Burt's Bees, who has preserved the great Maine Woods Thoreau explored and wrote about. Not to mention Andy Frank, the father of the plug-in hybrid car.

A journalist and author of ten narrative nonfiction books, Humes has received the Pulitzer Prize for his newspaper coverage of the military and a PEN Center USA Award for *No Matter How Loud I Shout: A Year in the Life of Juvenile Court*. Humes has written for numerous magazines and newspapers and is presently writer at large for *Los Angeles Magazine*.



# EXPLORE OUR NATIONAL PARKS



## SEEKING SUSTAINABLE SOLUTIONS

### AQUATIC ACADEMY

#### MYTH BUSTERS SEEKING SOLUTIONS

WEDNESDAYS, APRIL 21, 28 AND MAY 5, 12

Sustainability and greening have become buzz words for strategies that will ensure that planet Earth will continue to support human life. Unfortunately, some issues have become stumbling blocks on the road to sustainability. For instance, does nuclear energy have an important place in the portfolio of non-fossil fuels or a threat to human health? Are cities a burden on the environment or a green way to live? Are genetically engineered crops the work of the devil or a way to increase productivity, save land area for nature, and reduce the use of pesticides and herbicides? And is ocean aquaculture (mariculture) needed to meet demand and protect wild fish stocks or a threat to the ocean?

We invite you to join us in the exploration of issues like these in our four-week course.

**COST** | \$50/members | \$60 public | \$10 extra fee for CEU credit

**WHERE** | Watershed Classroom  
Aquarium of the Pacific  
100 Aquarium Way  
Long Beach, CA 90802

**RSVP** | 562-590-3100, ext. 0

#### GUEST SPEAKERS

**GS IAN SHIVE** | *Storytelling with Nature Photography: From the Top of the World to the Depths of the Ocean*  
TUESDAY, APRIL 27 | 7:00 p.m.

Take a photographic journey from the underwater ecosystems of the Biscayne National Park to the highest mountain in North America with Ian Shive, author and photographer of the book *The National Parks: Our American Landscape*. Shive's discussion will explore the challenges of finding new ways to capture the classic and iconic American National Parks—parks that have been photographed hundreds of times over the years. Shive will reflect on the role of landscape photography in storytelling: how a single photo can reveal a place through composition, layers, color, and light and how all of these elements not only tell a story, but can also capture the emotion of nature. In addition, Shive will specifically discuss the challenges of shooting underwater, how he overcomes these challenges, and the importance of shooting in underwater ecosystems to show the complete picture of our wilderness and national parks.

#### GUEST SPEAKERS

**GS JIM SANCHIRICO** | *Ocean Zoning*  
THURSDAY, MAY 13

We need an adaptive ocean governance that fosters a sustainable and wise use of the ocean and coastal resources. We also need to reward innovation and establish ways other than regulation to address use conflicts in the marine environments. This lecture will focus on the two steps that are necessary in the development of adaptation policy for U.S. marine and coastal ecosystems. The first step establishes better-defined rights and responsibilities for commercial and recreational fisheries, and the second step establishes a broader ocean governance framework that includes comprehensive planning, dominant use zones, and ecological standards.

Dr. Jim Sanchirico is a professor of Environmental Science and Policy at the University of California, Davis. His expertise encompasses the economic analysis of policy design and implementation for marine and terrestrial species conservation, the development of economic-ecological models for forecasting the effects of resource management policies on the economics and ecology, and the control and prevention of invasive species. He recently served on the National Research Council's committee to review the U.S. Ocean Research Priorities Plan.

**COST** | Free for Pacific Circle members | \$4/members | \$8/non-members

**RSVP** | (562) 437-FISH (3474)

Guest speaker sponsor:





Bring your whole family and spend an evening exploring the Aquarium after dark during our Aquarium sleepovers. Discover the unique relationships and habitats of our ocean critters through hands-on activities and gallery observations.

# FUN AQUARIUM SLEEPOVERS!

## AQUARIUM TOURS

These programs are opportunities to see the Aquarium and its animals in a different light.

### **AT** BEHIND-THE-SCENES TOURS

DAILY | *times vary*

Guests will go above our largest exhibit to feed the fishes, get a glimpse of areas behind Shark Lagoon, and see the development of our new Molina Animal Care Center.

**COST** | \$11/member | \$15/non-member  
*does not include Aquarium admission*

**AGES** | 7+ years

**LENGTH** | one hour

**GROUP SIZE** | maximum 10 participants

**RSVP** | (562) 951-1630, *online, or sign up on day of visit*

### **AT** ANIMAL ENCOUNTERS

SATURDAYS and SUNDAYS | *see times below*

Join us for a very special experience to learn about feeding and caring for some of our marine animals. Roll up your sleeves, prepare some food, and get ready to be up close and personal for a feeding with a seal, sea lion, sea otter, or even a shark. There are lots of surprises along the way, so be prepared to get your hands wet!

**THEMES** | *Seals & Sea Lions 9:30-11:30 a.m. | Sharks 12:30-2:30 p.m. | Sea Otters 12:30-2:30 p.m.*

**COST** | \$80/member | \$90/non-member  
*includes Aquarium admission*

**AGES** | 10+ years | *Seals & Sea Lions* | *Sea Otters*  
13+ years | *Sharks*

*Some height restrictions apply. Participants under 16 years must be accompanied by an adult*

**RSVP** | (562) 951-1630

## AQUARIUM SLEEPOVERS

Pack your sleeping bag and toothbrush for a night of adventure at the Aquarium of the Pacific. These programs include a pizza dinner, snack, craft, cereal breakfast, and T-shirt.

### **SL** BIRTHDAY PARTY SLEEPOVER

*based on availability* | 5:00 p.m.-7:00 a.m.

Join us for an all-night celebration with a special birthday party sleepover featuring animal touch time, a feeding opportunity, presentations, a behind-the-scenes tour, and crafts. Please bring your own birthday cake.

**COST** | \$60/member | \$70/non-member

**AGES** | 5+ years | *one adult required per 10 children*

**THEMES** | *Sharks, Marine Mammals, or Turtles*

**GROUP SIZE** | 20-50 participants

**RSVP** | (562) 951-1630

### **SL** ADULT SLEEPOVER

FRIDAY, MARCH 5 | 6:00 p.m.-9:00 a.m.

Enjoy the tranquility and serenity of the Aquarium at night. Unwind with yoga and meditation before meeting an animal, hearing an informal lecture by a marine educator, taking guided tours, seeing special presentations, and sleeping next to one of our large exhibits. Included are a gourmet pizza dinner with wine, beer, or soda and a continental breakfast.

**COST** | \$60/member | \$70/non-member

**AGES** | 18+ years

**GROUP SIZE** | 20-60 participants

**RSVP** | (562) 951-1630

## AQUARIUM SLEEPOVERS

### **SL** FAMILY SLEEPOVER

*based on availability* | 5:00 p.m.-7:00 a.m.

Bring your whole family and spend an evening exploring the Aquarium after dark. Discover the unique relationships and habitats of our ocean critters through hands-on activities and gallery observations.

**COST/PERSON** | \$50/member | \$60/non-member

**AGES** | 5+ years, *plus adult chaperone*

**GROUP SIZE** | 20-60 participants

**RSVP** | (562) 951-1630

### **SL** YOUTH GROUP SLEEPOVER

MONDAY OR WEDNESDAY EVENINGS

*based on availability* | 5:00 p.m.-7:00 a.m.

Anchors aweigh as we become sailors in search of the missing treasures of the sea. Investigate the fascinating aquatic food web and follow a treasure map in search of ocean knowledge!

**COST/PERSON** | \$50/member | \$60/non-member

**AGES** | 5+ years, *plus adult chaperone*

**GROUP SIZE** | 20-60 participants

**RSVP** | (562) 951-1630

**SPECIAL PROGRAMS**

**SP BIRTHDAY PARTIES**

AVAILABLE BY RESERVATION ONLY

Let us make your child's next birthday celebration special. The Aquarium will supply all the ingredients for an unforgettable party, including a themed one-hour classroom program featuring animal touch time, biofact discovery, and a take home souvenir craft project. The party concludes with an additional half hour in the classroom for the birthday celebration. Please bring your own birthday cake. Aquarium admission is included. All you need to do is call us a least two weeks prior to reserve a date (subject to availability), and then invite your guests. We also offer birthday sleepovers.

**COST** | \$33/member | \$39/non-member | 15 person minimum, includes Aquarium admission

**AGES** | all ages, one adult required per 10 children

**THEMES** | Sharks, Marine Mammals, or Turtles

**GROUP SIZE** | 15-45 participants

**INFO** | (562) 951-1630



**SP AQUARIUM ON WHEELS**

AVAILABLE BY RESERVATION ONLY

The Aquarium on Wheels is dedicated to developing children's appreciation for the wonders of the ocean environment. Along with an educational presentation, hands-on activities, and environmental message, our outreach educational program provides children the chance to touch sharks, sea stars, anemones, urchins, and other marine inhabitants. This mobile tidepool exhibit is not just for schools—it is also great for display at festivals, fairs, and even birthday parties. Aquarium on Wheels will deliver a memorable experience for all!

**INFO** | (562) 951-1630

**OUTDOOR ADVENTURES**

Go beyond the Aquarium to participate in one of these offsite classes in the great outdoors.

**OA NATURE BY KAYAK**

SUN., MARCH 14 | SUN., APRIL 18 | SAT., MAY 15  
9:00 a.m.-12:00 noon

Join us for a morning of gentle paddling in the Upper Newport Bay Ecological Preserve for an up-close view of nature. After an introductory lesson, you will be led on a naturalist-guided kayak expedition. Both double and single kayaks are available in this off-site class.

**COST** | \$53/member | \$58/non-member

**AGES** | 11+ years, plus adult chaperone if under age 16

**WHERE** | meets offsite | map included in confirmation materials

**RSVP** | (562) 951-1630

**OA GRAY WHALE WATCH**

SEASONAL

Take a voyage with Harbor Breeze Cruises in search of whales as they migrate along our coastline. Learn about these gentle giants from an Aquarium onboard educator.

**COST** | Members: \$25/adult | \$20/senior (ages 62+) \$15/child (ages 3-11)

Non-members (includes Aquarium admission): \$42.95/adult | \$39.95/senior | \$28.95/child

**LENGTH** | 2-2.5 hours

**AGE** | Children under 16 must be accompanied by an adult

**RSVP** | (562) 951-1630

**OA DOLPHIN AND SEA LIFE CRUISE**

SEASONAL

The Pacific Ocean is home to many wondrous animals year 'round. Join us as we search for dolphins, seals, sea lions, and marine birds on our Dolphin and Sea Life Cruise. This is an experience you and your family will not soon forget.

**COST** | Members: \$25/adult, \$20/senior (ages 62+) \$15/child (ages 3-11)

Non-members (includes Aquarium admission): \$42.95/adult, \$39.95/senior (ages 62+) \$28.95/child (ages 3-11)

**AGES** | Children under 16 must be accompanied by an adult

**LENGTH** | 2-2.5 hours

**RSVP** | (562) 951-1630



ANDREW HETTINGER

**YOUTH PROGRAMS**

**YP JUNIOR BIOLOGIST PROGRAM**

SATURDAYS | 9:30-11:30 a.m. | topics vary, see below

Participants will independently investigate marine life during this exploratory program. This class offers hands-on animal touch time, Aquarium animal observation, and activities relating to each topic. Select the topic that is most interesting, or take all the classes to learn about the variety of animals found at the Aquarium.

<b>TOPIC</b>   Northern Pacific	MARCH 13 (ages 7-10)
	MARCH 20 (ages 10-12)
Tropical Pacific	APRIL 3 (ages 7-10)
	APRIL 10 (ages 10-12)
Sharks	MAY 8 (ages 7-10)
	MAY 15 (ages 10-12)

**COST** | \$19/member | \$24/non-member due to the popularity of this program, all participants must RSVP and pre-pay; does not include Aquarium admission

**RSVP** | (562) 951-1630

**YP JOB SHADOW**

SATURDAYS | 9:00 a.m.-12:00 p.m. topics vary, see below

This program is for students who are interested in animal husbandry or marine biology careers. Students will learn what it takes to run a world-class aquarium and get a hands-on opportunity to participate in everyday activities that help maintain the Aquarium. Students will go behind the scenes, shadowing education and husbandry staff.

**TOPIC** | Aquarist MARCH 6 | Mammalogist APRIL 3  
Aviculturist MAY 1

**COST** | \$24/member | \$29/non-member does not include Aquarium admission

**AGES** | grades 7-12

**RSVP** | (562) 951-1630



In the Aquarium's education classes, children investigate the ocean world in programs that include interactive and hands-on activities. These classes foster discovery as well as interaction in relationships.

ANDREW RETSWA

# DISCOVER THE OCEAN WORLD!

## SATURDAY FAMILY FUN PROGRAMS

Children, along with a parent or adult chaperone, will investigate the ocean world in a structured classroom program that includes interactive and hands-on activities. These programs foster the students' discovery as well as interaction in relationships.

### **FP SHARK SLEUTHS** SATURDAY, MARCH 27 | 10:00-11:30 a.m.

Discover how sharks' amazing adaptations make them excellent predators. Get an up-close view of these creatures and others as we learn all about sharks!

### **FP MAGNIFICENT MARINE MAMMALS** SATURDAY, APRIL 24 | 10:00-11:30 a.m.

What is warm-blooded, hairy, breathes air, and lives in the ocean? Marine mammals! Join us as we learn the special ways sea otters, seals, sea lions, whales, and other marine mammals survive in the sea.

### **FP SEA JELLIES AND OTHER INCREDIBLE INVERTEBRATES** SATURDAY, MAY 29 | 10:00-11:30 a.m.

They may be spineless, but they are the backbone of nature. Join us as we learn all about jellies and their invertebrate relatives that inhabit the ocean.

**COST** | ADULT-CHILD PAIR: \$24/member  
\$36/non-member  
EXTRA PERSON: \$10/person  
(includes Aquarium admission)

**AGES** | 4-6 years, plus adult chaperone

**RSVP** | (562) 951-1630

## AQUA TOTS

Toddlers team up with their parent or chaperone for a first look into ocean life. Each of the Aqua Tots programs focuses and expands on a particular concept while encouraging adult and child interaction.

### **AQ SOUNDS OF THE SEA** THURSDAY, MARCH 4 | 3:00-4:30 p.m.

Shake, rattle, and roll as we listen to the sounds of the ocean. Experience the wonderful world of sea sounds, from the songs of a big blue whale to the barking of a sea lion.

### **AQ COLORS OF THE OCEAN** TUESDAY, MARCH 16 | 4:00-5:30 p.m.

Below the surface of the blue ocean are animals with amazing colors. Some are bright and flashy while others blend into the ocean bottom. Discover some of these colorful animals, and search for those that may be hiding.

### **AQ SHORELINE SHAPES** TUESDAY, APRIL 13 | 4:00-5:30 p.m.

Did you know a sea jelly is shaped a lot like a bell or that some fishes are as flat as pancakes? In the Aquarium, there are eels so skinny they look like shoestrings! Explore the exciting shapes of ocean life through a craft, songs, and hands-on activities.

### **AQ MOVIN' & GROOVIN' BENEATH THE SEA** THURSDAY, APRIL 29 | 3:00-4:30 p.m.

Roll like an otter and slide like a snail as we discover animals through movement. Explore the world of sea creatures by taking a closer look at the way they move. Join us as we move and groove like the animals beneath the sea!

## AQUA TOTS

### **AQ SLIPPERY TO PRICKLY** TUESDAY, MAY 4 | 3:00-4:30 p.m.

Whether it's a slippery sea cucumber, soft and velvety bat ray, prickly sea urchin, or simply the smooth shell of a hermit crab, discover the many lovable and touchable creatures that live in the ocean. Learn what can be explored safely as we use our sense of touch on a journey through the Pacific Ocean.

### **AQ SUPER SENSES OF THE SEA** THURSDAY, MAY 20 | 4:00-5:30 p.m.

Smell the salty air and feel the cool breeze as we use our senses to explore how ocean animals use their sight, taste, touch, and hearing in their watery home. Immerse yourself in the wonder and discovery of this interactive program.

**COST** | ADULT-CHILD PAIR: \$24/member  
\$30/non-member | ADDITIONAL PERSON:  
\$10/person, includes Aquarium admission

**AGES** | 2-3 years, plus adult chaperone

**RSVP** | (562) 951-1630

# A CHANCE TO EXPLORE OCEAN LIFE

Most educational programs include animal touch time.



ANDREW REITSMA

## PRESCHOOL PROGRAMS

Designed for young children to independently explore marine life, each Preschool Program class offers hands-on animal touch time, a craft project, story time, time to explore the Aquarium, a snack, and activities relating to the project.

### PP COLORFUL CORALS

THURSDAY, MARCH 18 | 2:30-4:30 p.m.

Join us as we discover the undersea city of the coral reef. Learn about the busy residents that make their home in the cracks and crevices of the reef. And see how colorful both a reef and its inhabitants can be.

### PP SPINELESS WONDERS

THURSDAY, APRIL 8 | 2:30-4:30 p.m.

What do a sea anemone, an octopus, and a snail all have in common? None of these animals have backbones! Come along as we explore these amazing spineless creatures and learn the fascinating ways they survive in the ocean.

## PRESCHOOL PROGRAMS



### PP "O" IS FOR OTTERS

SATURDAY, MAY 22 | 9:30-11:30 a.m.

Find out how a sea otter spends its day, both above and below the water's surface. Discover what tools they use to eat, what keeps them warm, and why their teeth are sometimes purple.

**COST** | \$19/member | \$24/non-member  
*does not include Aquarium admission*

**AGES** | 4-5 years

**RSVP** | (562) 951-1630

## OTHER CLASSES

### OC UNDER THE SEA SHAPES

AVAILABLE BY RESERVATION ONLY

The ocean is full of incredible animals and vibrant colors. In this interactive educator- and video-led program, children will match ocean animals, such as sharks and sea anemones, to their shapes. This exciting program is designed especially for preschool and daycare groups.

**COST** | \$9/member or non-member (March-June)  
\$7.50/member or non-member (July-February)

**AGES** | 4-5 years | *plus one free adult chaperone per 10 children*

**LENGTH** | 45 minutes

**GROUP SIZE** | 20 student minimum

**RSVP** | (562) 951-1630

### OC SEA LIFE STROLL

TUESDAY, APRIL 27 | 8:30-9:30 a.m.

View the Aquarium before it opens! Bring your child in a stroller for a close-up look at our exhibits. This class features a personalized Aquarium tour designed with your toddler in mind.

**COST** | ADULT-CHILD PAIR: \$14/member  
\$20/non-member  
EXTRA PERSON: \$10/person, *includes Aquarium admission*

**AGES** | toddler, *plus adult chaperone*

**RSVP** | (562) 951-1630



# VOLUNTEEN

## EVAN WRIGHT

Growing Up at the Aquarium

**E**van Wright's path to volunteering started when his parents Phillip and Lena signed up as charter members of the Aquarium of the Pacific more than 10 years ago. The Wrights were frequent visitors to the Aquarium, and Evan, now 15, started attending summer day camps at age eight. He went back year after year. "I loved it. Every year there was new information," said Evan. "It never got old, and I always enjoyed it."

Once her son was too old to attend day camps, Lena started thinking about other ways Evan could stay involved with the Aquarium. She suggested that he could volunteer, which is exactly what he did when he was old enough.

As a VolunTEEN, Evan worked five hours twice a week during the summer of 2009. He provided information for Aquarium guests, assembled mystery boxes, and helped guests interact with animals. "Volunteering last summer made it my best summer ever," he said. "I was basically living the dream." Although Evan is just starting to think about the future, he is sure that he has found a lifelong interest. "I'll always be happy to tell people about the animals."

For more information on the VolunTEEN program, visit [www.aquariumofpacific.org/volunteer](http://www.aquariumofpacific.org/volunteer).



*"Volunteering last summer made it my best summer ever," Evan said. "I was basically living the dream."*



# Dive in!



Let the Aquarium of the Pacific turn your next special event into a night to remember. Available for unique evening events, ranging from a casual reception to a formal sit-down dinner. Shark Lagoon and Cafe Scuba are also available for early evening events.

For more information call 562.951.1663 or visit [aquariumofpacific.org](http://aquariumofpacific.org).

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100 AQUARIUM WAY LONG BEACH, CA 90802



PERRY HAMPTON



ANDREW WELSH

# LONG BEACH BREAKWATER

Should the Long Beach Breakwater be Altered to Restore Vitality to the Beaches?  
A Sea of Debate Surrounds this Issue.

**L**ocated about two miles offshore, the Long Beach Breakwater makes up two-and-a-half miles of the world's largest manmade breakwater. The other two portions of the 8.4-mile long federal breakwater are the San Pedro Breakwater and the Middle Breakwater (named for being between the Long Beach and San Pedro segments).

The Long Beach barricade was built during World War II to protect the U.S. Navy's Pacific fleet from the threat of submarines and torpedoes. Construction began in 1941 and was completed in 1949. In 1996 the Naval Shipyard closed, leaving residents wondering whether the breakwater was still necessary.

Once in place, the breakwater eliminated surf and increased the average time the water remained inside of it, compromising water quality. Removing the breakwater would restore waves and improve water quality, but might pose problems of shore erosion and rough waters for boats, the Ports of Long Beach and Los Angeles, and the THUMS Oil Islands.

Supporters say altering the breakwater will cut water pollution and debris, increase tourism in Long Beach, and increase property values. Opponents argue that shippers and property owners need the breakwater for protection from storm damage. The U.S. Army Corps of Engineers maintains jurisdiction over the breakwater, meaning that its fate is ultimately in the hands of the federal government.

The City of Long Beach has long been considering ways to improve water quality and restore vitality to its beaches. In 2007 the City approved spending up to \$100,000 on a study. The results of a Moffat & Nichol study, presented in July 2009, made it clear that complete removal of the breakwater was not a viable option because of the potential effects on shorelines, the Port of Long Beach, and coastal homes. There are four alternatives for reconfiguring the breakwater, each with its own pros and cons. The alternatives range in cost from \$10 million to \$310 million.

The four alternatives vary in the amount of change to the breakwater, ranging from lowering it, breaking it up into staggered sections, or leaving it alone. In one option that does not modify the breakwater, runoff from the Los Angeles River is redirected away from the Long Beach Harbor with the construction of a 6,000-foot long rock structure in an effort to keep pollutants out of the harbor. Each of the four options has a positive impact on the water quality. It is a matter of degree and other contentious tradeoffs.

Overall, the Moffat & Nichol study states that Long Beach could see economic benefits from changes to the breakwater. It estimates that the beach might draw an additional three million visitors annually and that the City may take in additional revenue in taxes and parking fees. The study also stresses that much more detailed analyses and a significant financial commitment will be required before any decision is made.

In October 2009 President Obama signed an appropriations bill that gives the U.S. Army Corps of Engineers \$90,000 to review the City's study on reconfiguring the Long Beach Breakwater. The next step, which is entirely up to the Corps of Engineers, would be a four-year, \$7 million feasibility study. The feasibility study must be completed before any alternative could be pursued, and the City of Long Beach would have to pay half of the cost.

Meanwhile, the Long Beach Breakwater is a protected habitat that is used by several bird species for roosting and nesting and for several invertebrate species. Below the ocean's surface, a variety of invertebrates and fish live on and around the breakwater. Pink coralline algae, sea stars, sea urchins, lobsters, and many fishes call the breakwater home. Above the surface, the breakwater is a popular resting spot for California sea lions, pelicans, cormorants, and other sea birds. The quiet waters inside the breakwater create a juvenile nursery where young fishes thrive.

The Aquarium of the Pacific's Southern California/Baja Gallery features an exhibit on the marine environment found on the breakwater. Guests can see California golden gorgonian, California scorpionfish, horn and swell sharks, rock wrasse, and the yellowfin croaker. To learn more about the four alternatives for the breakwater, please visit the Aquarium's website at [aquariumofpacific.org](http://aquariumofpacific.org). Look under the multimedia section for podcasts on each of the options.

## KIDS CORNER

# Behave to Amaze!

*An animal's mind is very active in the wild: staying alert for predators and prey, looking for a mate, looking for safe areas to rest, and more.*

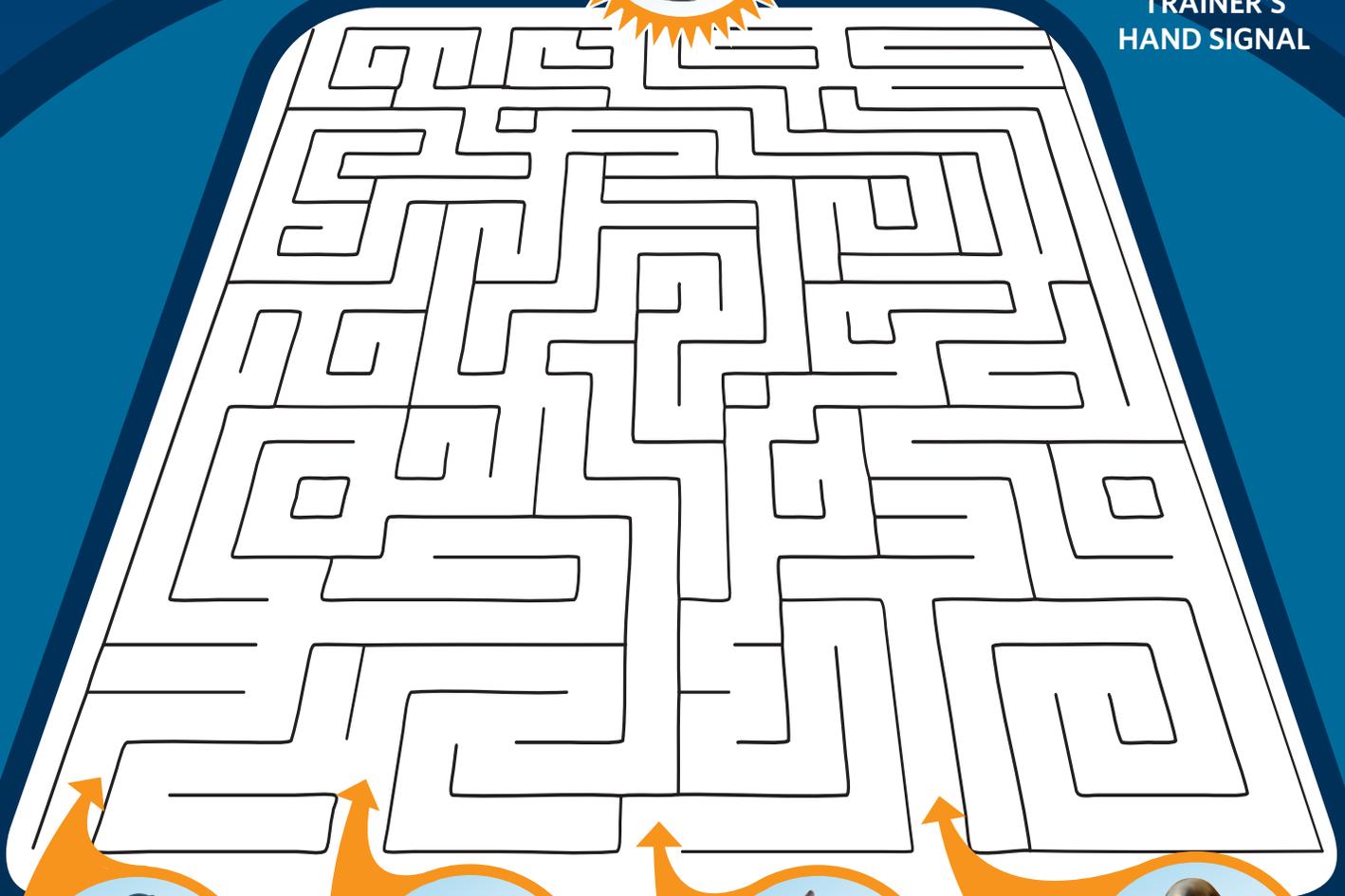
CONTRIBUTED BY SABREENA KASBATI

**A MAJOR PART OF ANIMAL CARE** is stimulating brain activity through various kinds of exercise. Animal training does exactly that. For example, our sea lions are trained to do a variety of activities such as moving to designated areas in an exhibit, moving specific flippers, speaking (or "barking," rather), jumping, and balancing. Some animals are given toys and some also have to figure out a puzzle to get their food. Such activities help the animals stay healthy and intelligent.

Animal trainers communicate with animals with hand signals. It takes



TRAINER'S  
HAND SIGNAL



time and patience to train an animal to do different things. If an animal does the correct behavior in response to a trainer's cue, it gets rewarded with food. If the animal does not do the correct behavior, it does not get rewarded. This is called positive reinforcement. They reinforce the good behavior with something the animal wants and needs. Over time the animal will learn different hand signals and behaviors for mental and physical health.

### DIRECTIONS:

1. Look at the trainer's hand signal near the maze.
2. Then look at the images of the sea lions reacting to the hand signal.
3. By figuring out the maze, can you figure out which sea lion has responded correctly to the trainer's hand signal? The correct sea lion is the one that connects to the food.

## Fishing for KNOWLEDGE!

1. Reinforcing an animal's behavior with food or other rewards is called \_\_\_\_\_ reinforcement.
2. Animals are asked to do different activities or behaviors for mental and physical \_\_\_\_\_.
3. It is important and healthy for an animal to \_\_\_\_\_ just as you do at school.

#### Last Issue's Questions and Answers:

1. Baby fish in the larval stage are known as **larvae**.
2. One obstacle that can stop fish from surviving is **overfishing**, which is caused by people taking too many fish from the ocean.
3. Fish have a stage in their life where they are **zooplankton**, a microscopic animal that drifts in the water.

### GREEN NAPE LORIKEET

*Trichoglossus haematodus haematodus*



LORIKEET FOREST

### PREHENSILE-TAILED PORCUPINE

*Coendou prehensilis*



EXPLORER'S COVE

### GIANT PACIFIC OCTOPUS

*Enteroctopus dofleini*



NORTH PACIFIC GALLERY

## GREEN NAPE LORIKEET

*Trichoglossus haematodus haematodus*



### PHYSICAL CHARACTERISTICS

This subspecies of Rainbow Lorikeets reaches 10 inches (26 cm) in length and about 5 ounces (133 g) in weight. This colorful bird is distinguished by its blue-violet head, a green stripe across the nape or back of its neck, its red breast feathers edged in blue, and green wings tipped in black. Its underside is red-orange and yellow.

### HABITAT

Found in Northern and Eastern Australia, they live in a variety of habitats: rainforests, woodlands, mangroves, forest, parks, orchards, and coconut plantations.

### DIET

The majority of their food is nectar and pollen, but they will occasionally eat fruits, unripe grains, seeds, and insect larvae.

### FUN FACT

When lorikeet chicks are born, they are about the size of a quarter. When the chicks are this small and fragile, the parents must take care of them.

## PREHENSILE-TAILED PORCUPINE

*Coendou prehensilis*



### PHYSICAL CHARACTERISTICS

Prehensile-tailed porcupines are arboreal mammals, meaning that they live in the trees. They wrap their tails around tree limbs to help with balancing and climbing. Their bodies are covered in short, barbed quills, which help with defense. They live up to 10-12 years old and grow to 2-3 feet (61-91 cm) in length.

### HABITAT

They live in the forests of Central America and Mexico to northern South America.

### DIET

They feed on a variety of forest fruits, leaves, flowers, roots, and stems.

### FUN FACT

The Aquarium's staff spread a variety of scents around our porcupine's home to encourage his natural behavior of using his nose to find food. He enjoys a variety of vegetables and fruits.

## GIANT PACIFIC OCTOPUS

*Enteroctopus dofleini*



### PHYSICAL CHARACTERISTICS

On average, giant Pacific octopuses grow to be 16 feet (5 m) long and up to 110 pounds (50 kg) in weight. They live for three to five years. These intelligent animals are typically red-brown in color, but can change color, shape, and texture to camouflage. Each of their eight arms has around 2,000 suction cups for grasping food.

### HABITAT

They live in temperate to cold waters of the Pacific Ocean from California to Alaska to Japan.

### DIET

They hunt at night on a variety of fish, shrimp, crab, lobster, and sometimes sharks and birds.

### FUN FACT

To provide intellectual care and keep our octopuses happy, aquarists challenge them with puzzles and mazes to find their food, live crabs, and complex toys.

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OCEAN  
CONSERVATION  
AWARDS GALA

SATURDAY, JUNE 12, 2010

Join the Aquarium of the Pacific in honoring writer and director Jerry Zucker and producer Janet Zucker for their outstanding achievements in connecting science to the entertainment industry.



AQUARIUM OF THE PACIFIC

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MEMBERS-ONLY  
SPECIAL



Jeanne M. Brodeur, the Aquarium's vice president of development, passed away on October 19, 2009 after a long and valiant battle with cancer. Jeanne joined the staff of the Aquarium on October 7, 2003.

# JEANNE M. BRODEUR

## *In Loving Memory*

**D**uring Jeanne Brodeur's time at the Aquarium, she launched the capital campaign, started the annual Sea Fare fundraising event, and secured critical funds for numerous conservation and education programs. Her more than 35 years of philanthropic experience in strategic planning and major gift and capital fund raising, along with her strong track record in raising millions of dollars for other non-profits as a consultant, helped to take the Aquarium's fundraising programs to the next level.

When Jeanne was diagnosed with cancer in 2004, she was quick to notice that there were others in greater financial need than her. At the time she said, "I sit in the chemo infusion room for hours. Looking around the room, one of the things that struck me is that some of the people don't have access to good medical insurance and don't have the means to pay for the extra expenses over and above what is covered. How do these people get treatment?" Being the consummate philanthropy professional, Jeanne began a campaign to answer her own question.

Through the Pacific Shores Hematology-Oncology Foundation, Jeanne began the Woman to Woman Campaign, which has now been renamed in her honor.

The Jeanne M. Brodeur Woman to Woman Campaign provides women who are undergoing cancer treatment and who are in financial need access to tests, procedures, investigational drugs, and other medical expenses that can save or extend their lives and increase their quality of life.

The Aquarium will always be grateful to Jeanne for her steadfast leadership and dedication. She was a mentor and a friend. Her passion for life and her giving nature will be remembered and will always serve as an inspiration. The entire staff and board are extremely grateful for her contributions.

A scholarship fund has been created in Jeanne's memory to carry on her passion for education. Donations made to the Jeanne M. Brodeur Scholarship Fund will bring underserved students to the Aquarium. The Engvall family, the DeCristofaros, Ira Goldstone, the John W. Carson Foundation, and many other donors have already contributed to this special endowment fund that now totals more than \$43,000. For more information about the Jeanne M. Brodeur Scholarship Fund, please call (562) 951-1605.

# FUNDRAISING HIGHLIGHTS

The Aquarium of the Pacific relies on support from individuals, corporations, foundations, and government partners to support its mission with contributions to the operating budget or to a diverse range of projects.

## ■ Eisner Foundation Contributes to New Education Program

The Eisner Foundation awarded a grant of \$100,000 in October, providing crucial support for the Aquarium's new RISEabove (Raising the Impact of Science Education) program. RISEabove will strategically broaden and deepen the success of the existing Aquarium partnership with César E. Chavez Elementary School and will allow the Aquarium to extend similar efforts to Washington Middle School. The program will measurably enhance and strengthen science education at these two underserved schools that serve a segment of Long Beach Unified School District's K-8 student population.

## ■ NOAA Supports Ocean Science Education

In October 2009 the Aquarium received a NOAA (National Oceanic and Atmospheric Administration) grant to fund a new exhibit that will focus on ocean science and climate change education programs. The \$985,000 grant will help the Aquarium tell global stories on the rapid changes confronting our planet as a result of climate change.

## ■ Boeing Company Charitable Trust Supports Ocean Education

A \$50,000 grant from Boeing Company Charitable Trust provided sole funding for the 2009 Boeing Teacher Institute (BTI) as well as support for the Aquarium Scholarship Fund. This year's BTI provided 28 enthusiastic local educators with an intensive weeklong workshop through hands-on exploration at Catalina Island and a valuable introduction to the Aquarium's resources. At the end of the week, teachers were invigorated by their renewed enthusiasm for teaching. Each was ready to return to their classrooms with an increased comfort with teaching ocean science. Funding for the Scholarship Fund allows more students from underserved communities in the Greater Los Angeles area to visit the Aquarium and participate in one of our conservation-themed classes.

## ■ Bureau of Reclamation Doubles Funding

Last April the Bureau of Reclamation donated \$40,000 for the addition of a drought-resistant garden on the Aquarium's front lawn. This fall the Bureau increased the funding to \$80,000. Aquarium visitors will see a working model of sustainable gardening and low-flow irrigation. Free native landscaping classes are held in the Aquarium's Watershed Classroom.

## ■ Miller Foundation Provides Grant to Scholarship Fund

Long-time supporters of the Aquarium, the Miller Foundation granted \$35,000 towards the Aquarium Scholarship Fund. Underserved children from Head Start programs and Title I schools in Long Beach will be given the opportunity to visit the Aquarium, participate in the Aquarium's engaging classroom and theater educational programs, and explore 32 focus exhibits showcasing 19 major habitats and 11,000 inhabitants of the Pacific Ocean.

## ■ NOAA Fisheries Service Funds Red Abalone Cultivation

The Aquarium received a grant from the Southwest Regional Office of NOAA Fisheries Service for a two-year red abalone captive rearing, cultivation, and outreach project. NOAA Fisheries pledged \$32,695 in 2008. By successfully cultivating red abalone while becoming certified as a disease-free facility, this project will pave the way for the Aquarium to serve as an additional West Coast abalone culturing resource for other abalone species, including the endangered white abalone. The Aquarium has also created an interactive educational display to inform our visitors of the ecological, economic, and cultural significance of this valuable coastal species.

## ■ Norris Foundation Gives to Education Fund

The Kenneth T. and Eileen L. Norris Foundation continued their support of

the Aquarium with a \$30,000 grant in October to the Aquarium Education Fund. This funding supports the entire range of educational opportunities and outreach programs offered by the Aquarium and serves more than 240,000 students, teachers and community members each year through innovative classroom programs, internships for high school and college students, distance learning and teacher resources, as well as numerous seminars, lectures, and events for Aquarium members and the public.

## ■ B.C. McCabe Foundation Provides Youth Scholarships

The Aquarium Scholarship Fund brings science and environmental education to life for disadvantaged youth, and the B.C. McCabe Foundation has provided \$25,000 in order to do just that. With schools facing ever-increasing budget cuts, support for informal education programs is now more critical than ever. The Aquarium is uniquely positioned to provide interactive, hands-on, standards-based learning experiences to children with limited access to quality science education.

## ■ Engvall Family Supports Brodeur Scholarship Fund

In October the Engvall family donated \$25,000 to the Jeanne M. Brodeur Scholarship Fund to honor the lifetime achievements of a non-profit executive who served as the vice president of development at the Aquarium until her passing in October 2009. The fund was created to commemorate her passion for education. In addition to the Engvall's donation, many others have contributed to this fund, which now totals more than \$43,000. The Jeanne M. Brodeur Scholarship Fund is an endowment to be held in perpetuity. Each year a portion of the interest will be used to bring underserved schoolchildren to the Aquarium and to carry on Brodeur's legacy of philanthropy. Please see the tribute to Brodeur on page 23.

# AQUARIUM ACCOLADES

The Aquarium celebrates two successful fundraisers: Sea Fare and the Honda Raffle. We also congratulate three outstanding individuals that received honors at our cultural festivals.



## Successful Sea Fare Fundraiser

The Aquarium's sixth annual Sea Fare fundraising event was held on Saturday, October 17, 2009. More than \$135,000 was raised by over 600 supporters for Aquarium education and conservation initiatives. Guests bid on auction items while sampling cuisine from over 20 local restaurants and other food providers. A first-ever \$500 cash raffle was a huge success along with the popular "Go Fish" opportunity game. Many thanks to our guests, sponsors, participating restaurants, and auction donors for their support.

## Honda Raffle Winner

Congratulations to Robert Coy, winner of the 2009 Honda Go Green Raffle! This year's raffle raised nearly \$45,000 towards the Aquarium's vital education and conservation efforts. Thank you to all who purchased tickets and to American Honda Motor Co., Inc. for their donation of the raffle prize of a 2010 Honda Insight Hybrid.

## Aung M. Naing, Southeast Asia Day | Heritage Award

The Aquarium presented its Heritage Award to community leader Aung M. Naing on Southeast Asia Day. Naing is the president and cofounder of the Network of Myanmar American Association, called NetMAA. The non-profit organization serves the Myanmar community and promotes the art and culture of Myanmar, also known as Burma. Because of Naing's efforts, younger generations of Myanmar Americans who have become removed from Burmese culture can become reconnected with their heritage. Under his leadership, NetMAA has been able to provide community outreach programs, including Myanmar arts and culture events, a Myanmar film festival, a photo exhibition, and benefit concerts.

## Antonio Resendiz, Baja Splash | Heritage Award

In recognition of his ocean conservation efforts in the Gulf of California and his dedication to the local Hispanic communities, Antonio Resendiz received the Baja Splash Heritage Award. The Aquarium honored Resendiz for his lifelong achievements in sea turtle conservation and his work in creating a sustainable coastal community in Bahía de Los Angeles. Resendiz has been a champion of conservation through sustainable eco-tourism that benefits both wildlife and the local economy. In his work, he has transformed poachers to eco-tourism guides and has been instrumental in endangered sea turtle conservation. If you ever visit Bahía de Los Angeles to swim with whale sharks or sea lions, your boat guide will most likely be someone whose life was changed because of Resendiz. Today he is involved on developing a management master plan of the Bahia de Los Angeles Reserve.

## Angi Ma Wong, Autumn Festival | Heritage Award

At the Autumn Festival, California Assemblymember Ted W. Lieu (D-Torrance) presented the Aquarium's Heritage Award to Angi Ma Wong, who is also known as the Feng Shui Lady. She retired from the Los Angeles Unified School District after 33 years as a teacher, job developer, coordinator, and public relations advisor. Wong founded her feng shui consulting and corporate training services in 1989, and she opened Pacific Heritage Books in 1993. Wong is an award-winning businesswoman and the author of several children's books and feng shui publications. Through consulting, seminars, training, public speaking, and writing, Wong facilitates communication and profitability between Asians and non-Asians globally. Passionate about community service, literacy, and empowerment for women and girls, Wong is one of the rare Asian-American women on the international speaking circuit. Wong has done much to empower her clients, readers, and her community.

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The Aquarium of the Pacific is proud to recognize the society of donors known as the Pacific Circle.

These committed individuals and corporations provide critical support for the Aquarium's annual operations and mission-driven programs. The Aquarium sends its sincerest thanks to each member and appreciates their inspiring dedication and generosity.

*This listing does not include donations to our Education Fund, Scholarship Fund, Ocean Conservation Awards Gala, Capital Campaign, and other special projects.*

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To learn more about how to become a Pacific Circle member, please contact the Aquarium of the Pacific development office at (562) 951-1664. This list is current as of December 2009.



# COPENHAGEN AND CARBON COMPROMISES

## AN UNCLEAR CONSENSUS ON CLIMATE ACTIONS

This past December the largest international gathering on climate change took place in Copenhagen. Expectations were high, and people from all over the world hoped that the almost 200 world leaders attending would agree to a binding international treaty.

**I**f you attended the Aquarium's Scarium of the Pacific last Halloween weekend, you may have noticed our focus on International Climate Action Day. In addition to providing education on the importance of reducing the carbon in the atmosphere, our staff encouraged guests to sign postcards to President Obama. The cards urged the President to speak strongly in favor of lower emissions at the United Nations Climate Change Conference.

The 15th meeting, held this past December in Copenhagen, was the largest international gathering on climate change actions since the international meeting in Kyoto, Japan in 1997. A binding treaty from Copenhagen was not agreed upon. Instead, world leaders pledged to reduce carbon emissions and increase aid to developing nations. The resulting Copenhagen Accord that was finalized by the U.S., India, China, Brazil, and South Africa stipulates that global warming must not exceed two degrees centigrade, but did not set out precisely how this will be accomplished or regulated. The European Union and the rest of the countries have not signed the accord. As of now, it is only a draft and has to be adopted by consensus by the 193 members of the United Nations Framework Convention on Climate Change to come into effect. Therefore, a binding agreement has been promised for the 16th climate change conference in Mexico City in 2010. In the meantime, the U.S. has work to do in passing its comprehensive climate and energy legislation and starting enforcement.

Climate change affects the ocean, which in turn affects each of us. Greenland, the Arctic, Antarctica, and the Himalayas are areas that have ice sheets melting beyond the average predictions of the Intergovernmental Panel on Climate Change (IPCC) climate models. Sea level has risen in accordance with the melting of glaciers and sea ice at a rate of about 80% more than IPCC projections. Such sea level rise can create extreme weather, potentially intensify the bleaching of coral reefs, and would demand the relocation of coastal populations.

A rise in sea level of even one or two feet could have significant negative consequences for low-lying coastal areas along the continental U.S. as well as on islands in the Caribbean and the Pacific. Many of these coastal areas are heavily populated cities, where erosion, flooding, and rising groundwater levels could flood buildings, roads, subway systems, agriculture, various other essential services, and (not the least of all) people's lives. In addition, while not part of climate change directly, ocean acidification is a result of carbon dioxide emissions being absorbed in the ocean, decreasing pH (raising acidity), and causing negative impacts on many marine animal's habitats and biodiversity collectively.

Much is at stake, and it is imperative that each country takes responsibility to solve its problems of climate change. The world's two largest emitters, the U.S. and China, have agreed to reduce emissions. While the Copenhagen conference was taking place, the U.S. courts gave the Environmental Protection Agency the power to regulate carbon dioxide emissions through the Clean Air Act. But the U.S. is offering to cut its emissions by only 4% from its 1990 levels by 2020. In order to get at or below the 350 parts per million of carbon dioxide that scientists say is the uppermost limit to be safe, the U.S. and the rest of the developed world would need to reduce carbon emissions by at least 40 percent.

Ultimately, each and all of us need to be active to sustain a healthy ocean and planet. The Aquarium of the Pacific has a responsibility to share information with our guests in ways that inspire and engage people's interest. Since research shows that ocean systems are being disrupted quickly by human activities, we each need to intensify our actions as ocean stewards. Our guest speaker series and Aquatic Academy classes offer several sources for education.

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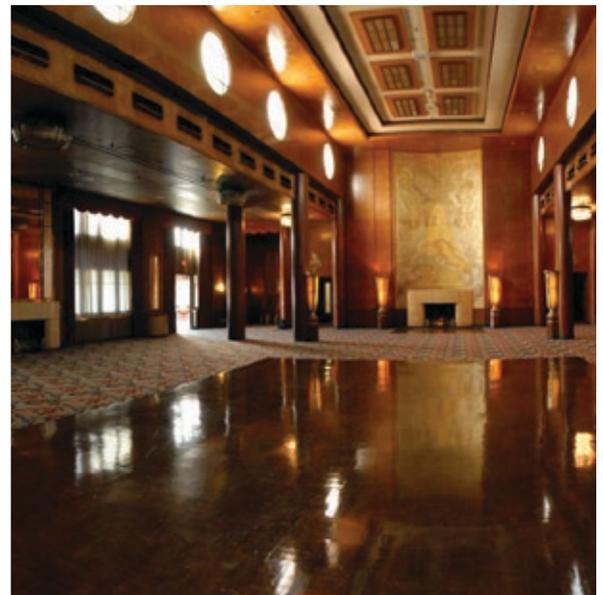
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