

PACIFIC CURRENTS

MEMBER MAGAZINE OF THE AQUARIUM OF THE PACIFIC

SOUTHERN CALIFORNIA STEELHEAD





AQUATIC ACADEMY: NEW ENVIRONMENTALISM

With Earth's human population reaching 10 billion by the end of this century, new attitudes toward energy and resource management are needed to help drive innovative solutions to support both environmental health and human needs.

EACH YEAR the Aquarium hosts Aquatic Academy courses for adults focusing on topics related to the ocean and environment. During sessions held this past spring speakers discussed new approaches to environmentalism that could support the development of innovative solutions to the problems facing our planet. The course was titled *Prospects of Humankind in the 21st Century: Keys to a Better Future*.

The speakers addressed the impacts on the planet caused by activities of a growing human population, namely the burning of coal and oil for energy, water shortages, and impacts associated with agriculture. They also pointed to the need to identify future energy, food, and water sources to meet the demands of a global population of 10 billion by the end of the century, while ensuring the health of our planet.

In the first session of the course Aquarium President and CEO Jerry Schubel discussed the history of life on Earth and the Anthropocene, a termed coined to refer to the era in which humans have become the dominant species on the planet. He asked attendees to consider what sort of future is desired for our planet and what kinds of strategies might help achieve that future. He also asked how those strategies might contribute to improved environmental stewardship as well as a better life for people living in regions without sufficient food, sanitation, water, or electricity. He suggested that Earth's "carrying capacity" is a function of human creativity and innovation, as well as a willingness to embrace innovation.

Jesse Ausubel, director of the Program for the Human Environment and senior research associate at The Rockefeller University, spoke to attendees about a revolution in resource use. He explained that cleaner, more abundant energy is being developed from smaller, more efficient power plants that use sources like biomass and nuclear energy, reducing harmful greenhouse gas emissions. Similar developments in agriculture and materials use point to a potential future driven by innovation and nanotechnology that derives more from less, according to Ausubel. He sees the developed world decarbonizing and heading toward a methane-based economy before arriving at hydrogen as the driving energy source. One resource that has fallen at least a century behind in terms of

progress is the ocean, he said, where overfishing, marine debris, and other human impacts have had deleterious effects.

Michael Shellenberger, president of Oakland, California-based think tank the Breakthrough Institute, used data to analyze energy and resource use in both developed and developing countries and made recommendations for research and policymaking. He said innovation in energy development paired with regulatory reform and public support would be key to achieving modernization in developing countries and creating a sustainable future with minimal environmental impacts. His recommendations included making clean energy cheap to replace fossil energy, developing agricultural innovations to feed the world and take pressure off virgin forests, increasing protected areas, improving product design to reduce toxic discharges, and considering desalinization of ocean water for potable water.

Technological innovation can help create sustainable sources of energy, water, and food for the future.

Steve Chazen, president and CEO at Occidental Petroleum and Aquarium Board member, shared statistics about the U.S. natural gas and oil markets and discussed hydraulic fracturing, or fracking, its associated controversies, and its potential as a source of cleaner energy produced domestically. While fracking has gained a poor reputation, better regulation of properly constructed wells could help the U.S. tap into an abundant resource that could also provide economic benefit, he said.

The Aquatic Academy course urged attendees to rethink such concepts as the fragility of nature and scarcity of resources; examine their beliefs about genetically modified organisms (GMOs), fracking, and nuclear energy; and consider what measures if implemented could help create a better future for both humans and nature.



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PACIFIC CURRENTS is published for members of the Aquarium of the Pacific. Please send your comments to our editorial staff at pacificcurrents@lbaop.org.

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

OUR VISION | To create an aquarium dedicated to conserving and building natural capital (nature and nature's services) by building social capital (the interactions between and among peoples).

PACIFIC CURRENTS STAFF | Editor/Writer: Claire Atkinson | Copy Editor: Cecile Fisher | Designer: Andrew Reitsma | Contributing Writers: Erin English, Nicole Malina, and Lindsay Yates.

AQUARIUM HOURS | Open daily from 9:00 a.m.-6:00 p.m. except December 25 and during the Grand Prix of Long Beach.

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



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.

**ASSOCIATION
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Aquarium Founding Sponsor

Cover: Rainbow trout are on view in the Southern California Steelhead Story exhibit.

PHOTO: HUGH RYON

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(Note: \$2 service charge per ticket, up to \$10.)

Group Reservations.....590-3100

LETTER FROM THE CEO

DEAR MEMBERS,

LONG BEACH is one of the most ethnically diverse cities in the United States, according to census data. Here



at the Aquarium, we celebrate the diversity of Southern California with cultural festivals. The Aquarium is a community gathering place, and the festivals give visitors a chance to learn more about other cultures through live performances, talking with representatives of local community organizations, and hands-on activities like crafts and classes.

When people come together and learn about each other, they are more likely to work together. The challenges we face as the twenty-first century progresses—including climate change, water and food shortages, rising sea levels, and pollution—require that we work together at the local, national, and international levels to find solutions.

I'd like to invite you to visit the Aquarium during a festival weekend to take part in the many facets of these celebratory days, from live music and dance to ethnic cuisine and crafts. Southeast Asia Day, which will be held at the Aquarium on Saturday, October 4, is a particularly apt festival for Long Beach because our city is home to the nation's first Cambodia Town, located along the Anaheim Street corridor. Long Beach is also believed to be home to the largest concentration of Cambodian businesses and families outside of Southeast Asia. The cultures of Thailand, Vietnam, Myanmar, Laos, and Indonesia will also be celebrated at the festival.

Greater Los Angeles is also home to large concentrations of people from other Asian countries, which will be celebrated during the Autumn Festival on November 8 and 9. The Autumn Festival highlights the traditions and cultural practices of Japan, China, Korea, and the Philippines. Visitors to the Aquarium that weekend will have the opportunity to see taiko drummers, acrobats, and martial arts demonstrations, try their hands at origami and other crafts, and experience the thrilling Chinese lion dance.

We also host festivals that offer adults and families the chance to celebrate the holidays together. Scarium of the Pacific is our annual Halloween festival that features fun programs and activities for all ages, including a costume contest with prizes and a display of pumpkins expertly decorated by Aquarium staff members, many of whom will also be in costume during Scarium weekend, October 25 and 26. Then on December 6 and 7 watch as Santa Diver delivers special food and gifts during Holiday Treats for the Animals weekend at the Aquarium. See how the animal habitats have been decorated for the season, and get into the spirit with holiday music, photo opps with Aquarium mascot characters, our decorated tree with an electric train in the Great Hall, and even falling snow.

We look forward to seeing you at the Aquarium this fall to join us for all the celebrations.

Thank you for your ongoing support.

Sincerely,

Jerry R. Schubel



*Penguins born at the Aquarium
this summer are now on view in the
June Keyes Penguin Habitat.*





AQUARIUM WELCOMES NEW PENGUIN CHICKS

PHOTOS: ROBIN RIGGS

SEVERAL MAGELLANIC PENGUIN CHICKS hatched at the Aquarium in June. The chicks were cared for by the Aquarium's husbandry staff behind the scenes during August, where they learned to be fed by humans. Two of the juveniles are now on view in the June Keyes Penguin Habitat with the other penguins.

Magellanic Penguins are a temperate species native to the coasts of Argentina and Chile in South America. It takes between thirty-eight and forty-three days of incubation before a Magellanic Penguin egg will hatch. The chicks hatch with their eyes closed, and they are able to open their eyes about a week later. Magellanic Penguin parents take turns incubating the eggs on the nest and feeding and raising the chicks after they hatch.

The chicks fledge, or replace their downy newborn feathers with water-tight adult feathers, after about ninety days. The Aquarium's penguin chicks fledged in late August.

Viewers online were able to see parents Floyd and Roxy tending their nest via webcam, and watched as their chick hatched and began to grow. Now visitors to the Aquarium's website can view the juvenile penguins in the June Keyes Penguin Habitat. Go to aquariumofpacific.org/exhibits/webcams.

Nicole Leier works on trained behaviors with zebra shark Fern.



HUGH RYONO

TRAINING SHARKS FOR IMPROVED HEALTH AND SAFETY

AQUARIUM HUSBANDRY STAFF MEMBERS have been training the Aquarium's zebra sharks to touch a target pole and swim into a stretcher.

Training the sharks to perform these behaviors helps to decrease aggression during feedings, provides enrichment, improves the ease of moving the sharks from one pool or exhibit to another, improves the ease of health procedures and physical exams, and increases safety for both the shark and staff members.

Over a year ago Senior Aquarist Nicole Leier began working with Fern, a zebra shark that lives in the large shark pool in Shark Lagoon. As a result of the training, Fern is now comfortable swimming into a sling, which can be used to move her to another area or to draw blood, for example. Aquarium volunteer and blogger Hugh Ryono documented the process

in a post on the Aquarium's website at aquariumofpacific.org/blogs/comments/target_training_a_shark.

Another behavior the trainers are working on is to condition sharks to only feed when they touch their nose to a target placed in the water. This target-training method ensures that each animal only eats food intended specifically for it. Also, if a shark is moved to another exhibit in the future, it will know exactly where to go to feed, minimizing the stress of the move.

Leier's presentation about her work on training sharks was the winning entry at the Aquarium's annual husbandry symposium, a gathering in which husbandry staff members share their projects and best practices with their colleagues. "The Aquarium is proud to be the kind of institution that fosters this kind of groundbreaking work in husbandry," said Perry Hampton, vice president of husbandry.

Training the shark to enter a sling helps with medical procedures or moving the shark to a different pool.



HUGH RYONO

SOUTHERN CALIFORNIA STEELHEAD

The lifecycle of the Southern California steelhead demonstrates how the ocean and land environments are connected—what we do on land affects the ocean and marine life. With an increasingly urbanized coast, the steelhead struggles to survive in our local area.

Southern California is home to one of the world's busiest, most densely populated urbanized coasts. Human infrastructure stretches from the ocean shore to the mountains, and migrating wildlife must find a way to negotiate travel along pathways that are now intersected by freeways, dams, concrete river channels, housing developments, and other manmade barriers. In addition, many wildlife habitats have been degraded by pollution and other factors. As people find ways to coexist with nature, humans have begun modifying infrastructure to accommodate the ecology and migratory behavior of wild animals. One such example involves the Southern California steelhead, a fish that faces extinction without our help. The Southern California steelhead

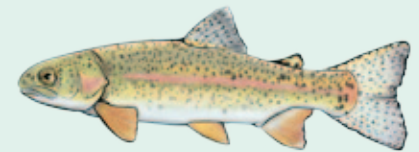


ANDREW REITSMAN

SEVERAL DOZEN RAINBOW TROUT ARE ON VIEW IN THE AQUARIUM'S EXHIBIT. SOUTHERN CALIFORNIA STEELHEAD ARE BORN IN FRESHWATER AS RAINBOW TROUT. SOME TROUT CHANGE INTO STEELHEAD AND MIGRATE TO THE OCEAN AS ADULTS.



SOUTHERN CALIFORNIA STEELHEAD



RAINBOW TROUT

(*Oncorhynchus mykiss*) is a member of the salmon family. Steelhead are anadromous, meaning that they are born in freshwater, migrate to the sea where they spend most of their lives growing and maturing, and then return to freshwater rivers and streams to spawn, or reproduce. Other anadromous fish species include salmon, smelt, striped bass, and sturgeon. Steelhead are the only anadromous fish species in the salmon family that currently reproduces in Southern California rivers and streams. They historically travelled

up and down the Los Angeles and San Gabriel Rivers to spawn and return to the ocean, with a total population of about 40,000 fish around the turn of the twentieth century. In fact, at that time, the San Gabriel River was known as one of the best steelhead fishing rivers in the state with anglers landing hundreds of fish a day. However, many factors have impacted steelhead habitats and made it more difficult for them to reproduce. Experts believe the population has declined to fewer than 500 adult steelhead.

The Southern California Steelhead Story

The Aquarium debuted its new *Southern California Steelhead Story* exhibit in May to increase public awareness about the lifecycle and status of the steelhead. Representing a freshwater mountain stream that flows to the ocean, the exhibit currently holds several dozen of the freshwater form of steelhead, rainbow trout. The exhibit addresses their resilience in the face of challenges, forecasts the species' ability to adapt to future changes to its habitat, and explores what we can do to help. The rainbow trout in the exhibit were obtained from the California Department of Fish and Wildlife.



THE EXHIBIT REPRESENTS THE SPECIES' HABITATS, FROM FRESHWATER STREAMS TO THE OCEAN.

STEELHEAD LIFECYCLE

When newly hatched rainbow trout emerge from their gravel nest in a freshwater river or stream, they begin to feed and grow.

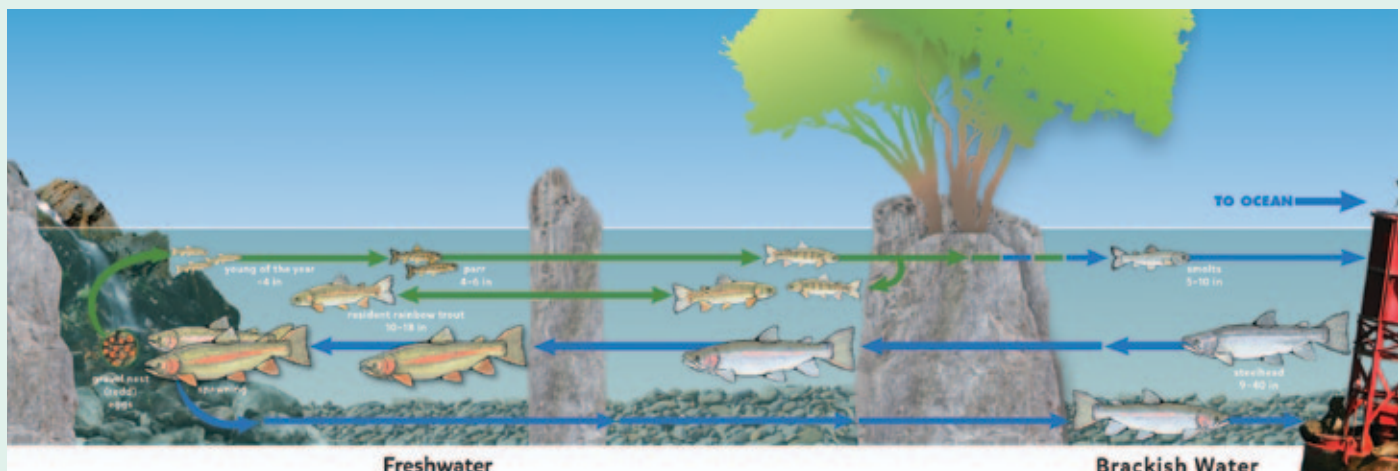
Juveniles primarily eat aquatic and terrestrial insects. Adults feed on fish eggs, small minnows, and freshwater invertebrates. Some rainbow trout may remain in their birth stream for their entire lives. But environmental factors trigger others to take on an anadromous lifestyle and migrate downstream to the ocean. These factors appear to include the volume of water flowing in the stream and availability of food. In years with increased rainfall, more water flows through rivers and streams, transporting more food for the fish in the stream. With greater food availability, more rainbow trout are likely to take on the anadromous form of the species. In coming months Aquarium staff members hope to use the exhibit to investigate the environmental factors that trigger the change from rainbow trout to steelhead and

better understand why some rainbow trout make the change and others do not.

For those juvenile trout that begin to migrate downstream as part of their journey to the ocean, physiological changes begin to occur that will allow them to live in saltwater. This process is called smoltification, and juvenile trout undergoing these changes are called smolts. The gills and internal organs, particularly the kidneys, change so the fish will be able to excrete the excess salt that is normally ingested while feeding and growing in saltwater. The smolts lose the brilliant coloring typical of rainbow trout in streams, becoming silvery or "steely." The tail and fin margins darken, the body becomes slender, and the head is somewhat enlarged. In the ocean, steelhead feed on smaller fish like herring, anchovies, and sardines, as well as squid, shrimp, and krill.

Southern California steelhead may spend up to seven years in freshwater before undergoing smoltification and three years in the ocean to mature before returning to freshwater to reproduce. Steelhead usually return to the stream where they were born to spawn, but they have the ability to spawn in neighboring streams, improving their odds of survival in years when some streams are not flowing or become otherwise unavailable to the fish. Steelhead can travel hundreds of miles upstream to reach the headwaters in a watershed. They have also been known to spawn up to three times, while salmon die after spawning once. They can also skip a spawning season entirely. These factors improve their resilience to environmental changes.

It is estimated that steelhead can live up to eleven years. They can reach up to 55 pounds in weight and 45 inches in length, although the average size is much smaller.



THE SOUTHERN CALIFORNIA STEELHEAD GOES THROUGH SEVERAL PHYSICAL CHANGES DURING ITS LIFECYCLE, ALLOWING IT TO LIVE IN BOTH FRESH- AND SALTWATER.



SOUTHERN CALIFORNIA STEELHEAD WERE ONCE ABUNDANT IN THE REGION'S STREAMS AND RIVERS.

ENDANGERED STATUS

Steelhead are found in coastal streams along the West Coast of North America from Southern California to Alaska and the Aleutian Islands. Southern California steelhead, ranging from the Santa Maria River north of Santa Barbara to the U.S.-Mexico border, are listed as endangered under the U.S. Endangered Species Act. The National Marine Fisheries Service (NMFS) listed the Southern California population of steelhead as endangered in 1997.

As Southern California became more populated and industrialized over the course of the twentieth century, it became necessary to control rivers to reduce flooding and also for domestic, agricultural, and commercial purposes. In 1938 heavy rainfall caused massive flooding in Los Angeles, leading the Army Corps of Engineers to channel the Los Angeles River in a concrete basin. From 1921 to 1957 seven major dams were installed along the Los Angeles and San Gabriel Rivers, mostly for flood control. These projects made it more difficult for steelhead to reach their spawning grounds at the headwaters of these rivers and modified the water flow that is necessary for migration. In addition, urban development along rivers and the coast has reduced and degraded steelhead habitats.

Many other factors attributed to human activity, such as industry, agriculture, recreation, and development, have contributed to the decline of steelhead in Southern California. These include increases in stream temperature, degradation of water quality, removal of vegetation, increased amounts of sediment in steelhead spawning and rearing areas, loss of estuaries and wetlands, introduction of non-native species, and habitat fragmentation. Projected impacts of future climate change also pose challenges to steelhead in Southern California. However, NMFS identifies barriers like dams and alteration of water flow by diversion or withdrawal as the two principal threats.

In 2012 NMFS published the Southern California Steelhead Recovery Plan. The goal of the plan is to ensure the long-term persistence of self-sustaining wild steelhead populations. The recovery

plan identifies priority recovery actions in each of five biogeographic population groups within Southern California. Conservation efforts by NMFS include protecting existing steelhead populations, supporting research on the species, captive rearing in hatcheries, removal and modification of dams that obstruct steelhead migration, restoration of degraded habitat, acquisition of key habitat, and actions to improve water quality and streamflow.

As required in the Endangered Species Act, other federal agencies must consult with NMFS before taking any action that could affect endangered steelhead, such as building a freeway that crosses a steelhead stream. The agencies work together to ensure the project is fish-friendly, says Anthony Spina, chief of NMFS' Southern California Coastal Office. NMFS works with the public, private landowners, and other stakeholders to implement the actions in the recovery plan. For example, NMFS has been working with Southern California water agencies and local governments to improve steelhead passage conditions at existing dams and flood-control structures and access to historical spawning and rearing habitats, Spina reports.

In addition, organizations that grew out of sportfishing and fly fishing in the region have formed coalitions and partnerships with state and federal agencies to conserve steelhead. These include California Trout and Trout Unlimited, as well as several other groups, many of which provided support for the Aquarium's steelhead exhibit. These groups have not only advocated for policies protecting steelhead and testified before state and federal commissions on the consequences of prospective laws, but also have assisted in such efforts as moving fish from low-flowing streams or isolated pools to waters where they have a better chance of survival and reproduction. Also, Friends of the Los Angeles River (FOLAR) recently began regular monitoring excursions to look for steelhead.



LEARN MORE

Historian John G. "Tom" Tomlinson, Jr., in collaboration with the Aquarium of the Pacific, has written a book documenting the local history of the Southern California steelhead, including historic photos, postcards, fishery data, newspaper clippings, and rainfall statistics. *Against the Currents: The Unlikely Story of the Southern California Steelhead* gathers historical information about this fish species and describes its resilience in the face of the region's changing watersheds, rainfall levels, and man-made infrastructure. The book is available for purchase in the Aquarium's Pacific Collections gift store or online at shop.aquariumofpacific.org.

TO LEARN MORE ABOUT SOUTHERN CALIFORNIA STEELHEAD, VISIT the Aquarium's Online Learning Center at aquariumofpacific.org/onlinelearningcenter/species/southern_california_steelhead or the NMFS steelhead profile, which includes a link to the Southern California Steelhead Recovery Plan at nmfs.noaa.gov/pr/species/fish/steelheadtrout.htm.

WHAT YOU CAN DO

The Southern California steelhead has survived variable conditions and man-made alterations to its habitats.

Humans can help speed steelhead recovery by becoming stewards of their local watersheds. Learn about watershed issues and what can be done to keep watersheds healthy and free of trash and pollution. Participate in river and beach clean-up events. Avoid over-watering your home garden and eliminate the use of toxic pesticides or fertilizers that get washed into storm drains as a result. Learn about water conservation and avoid wasting water at home and at work. Get involved at the local level—talk with your local water agency and government representatives about modifying dams and water diversions to improve conditions for steelhead. The more people who become educated about reducing harmful impacts on the environment, especially near their homes, the greater the momentum will be to make the kinds of infrastructure and societal changes that will make it possible for endangered animals like Southern California steelhead to thrive.

Lead sponsors for the Southern California Steelhead Story exhibit include the Annenberg Foundation, City of Long Beach, and The Ahmanson Foundation, with additional support provided by the NOAA Fisheries, the Patricia Duque Byrne Charitable Foundation, the Los Angeles Rod and Reel Club Foundation, the Southwest Council International Federation of Fly Fishers, and other donors.



THE SOUTHERN CALIFORNIA STEELHEAD STORY EXHIBIT IS LOCATED BETWEEN SHARK LAGOON AND OUR WATERSHEDS.



FISH WERE COLLECTED FROM LOCAL RIVERS WITH HELP FROM THE CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE.

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.

NEW MEMBER NIGHT

SUNDAY, NOVEMBER 2 | 6:30 p.m.-9:30 p.m.

Join us for an evening of fun for new members only! Get your hands wet touching the sharks and rays, watch a dive show, and visit with animal ambassadors like Lola the Sulfur-Crested Cockatoo. You will also get a chance to discover the incredible benefits, offers, and opportunities available to you as a member. From day camps, sleepovers, and birthday parties for kids to educational programs for adults, animal encounters, and whale watching, there are tons of fun things to do at the Aquarium. And members get exclusive discounts on it all. From the animals that call the Aquarium home, thank you for your membership, and we look forward to seeing you at our New Member Night!

COST | Free for new members. Members' guests receive 20% off general admission.

RSVP | Call (562) 437-FISH (3474) or purchase tickets at aquariumofpacific.org by October 31

PACIFIC CIRCLE MEMBER FLASHLIGHT TOUR

FRIDAY, NOVEMBER 7 | 7:00 p.m.-10:00 p.m.

Pacific Circle members are invited to a flashlight tour of the Aquarium at dusk with desserts, dancing, darkness, and discovery. Experience the galleries like never before as you locate an animal's favorite sleeping spot or observe a nocturnal fish in action. This event is sure to be one you won't want to miss. To upgrade your membership to the Pacific Circle level and receive a special invitation to this event and many others, please call (562) 951-5387.

COST | By invitation only. Free for Pacific Circle members

RSVP | (562) 951-5387 by November 4



MEMBER EVENTS

SPARK OF LOVE MEMBER LATE NIGHT

THURSDAY, NOVEMBER 20 | 6:30 p.m.-9:30 p.m.

Join us for the annual Spark of Love Member Late Night, where you'll experience the splendor of the Aquarium after sundown. In addition to exploring the galleries and visiting your favorite animals, we encourage all members to bring a new, unwrapped toy valued at \$15 or more for the Long Beach Fire Department's Annual Spark of Love Toy Drive. Donations may include books, toys, sports equipment, or school supplies. This drive will directly benefit Long Beach families and children in need this holiday season.

COST | Free for members. Members' guests receive 20% off general admission.

RSVP | Call (562) 437-FISH (3474) or purchase tickets at aquariumofpacific.org by November 17

MEMBER SHOPPING DAY

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

Kick off the holiday "sea"son with a special trip to the Aquarium for Member Shopping Day in the Pacific Collections gift store, where you'll enjoy a 30 percent discount on all purchases store-wide (cannot be combined with any other offer). Once you've finished shopping, explore the Aquarium and visit the day-long Holiday Treats for the Animals festival. Watch the animals savor special treats, and enjoy holiday music, crafts, unique photo opportunities, and much more.

COST | Free for members.

RSVP | Reservations are not required.

MEMBER EVENTS

SENIOR MEMBER AFTERNOON

WEDNESDAY, JANUARY 28 | 1:30 p.m.-2:30 p.m.

Start your year with a visit to the Aquarium for the next installation of Senior Member Afternoon featuring a special presentation. The Aquarium is in the midst of a \$53 million campaign that is reimagining what an aquarium should be. Through advanced technology, including a digital theater with seating for 300, Pacific Visions will tell epic stories about ocean exploration and provide guests the opportunity for up-close virtual encounters with animals that will never be on view at zoos or aquariums. We look forward to seeing you, our Aquarium members and valued supporters, at Senior Member Afternoon and sharing our exciting expansion plans.

COST | Free for senior members.

RSVP | Call (562) 437-FISH (3474) or purchase tickets at aquariumofpacific.org by January 25

SPECIAL EVENTS

The Aquarium of the Pacific hosts a variety of performances, fundraisers, lunches, and other events throughout the year. Check our website for more details and additional events.

FIRST RESPONDERS DAY

THURSDAY, SEPTEMBER 11 | 9:00 a.m.-6:00 p.m.

Police officers, sheriff's deputies, firefighters, and EMS employees receive free admission on September 11. Contact your union or association to purchase discounted tickets for friends and family members before coming to the Aquarium. Active personnel should present their employee ID or professional organization membership card at the Aquarium.

COST | FREE admission with valid service ID.

INFO | (562) 590-3100, ext. 0

SPECIAL EVENTS

SHARK LAGOON NIGHTS

FRIDAYS, SEP. 12, 19 & 26; OCT. 3, 10, 17, 24 & 31;
NOV. 7, 14 & 28; DEC. 5, 12, 19 & 26 | 6:00 p.m.-
9:00 p.m.

Shark Lagoon is open for everyone for free after 6:00 p.m. Guests can touch and learn about sharks, purchase snacks and drinks, shop, and enjoy live music on select nights.

COST | Free for everyone

INFO | (562) 590-3100, ext. 0

PHOTOGRAPHERS NIGHT

SUNDAY, OCTOBER 5 | 5:30 p.m.-10:00 p.m.

Take the photos you have always wanted at the Aquarium. This night is available exclusively to photographers. It also features free equipment rental, workshops, and booths by photography companies.

COST | \$26.95/member, \$28.95/non-member.

INFO | (562) 590-3100, ext. 0 or aquariumofpacific.org/photonite

SEA FARE

SATURDAY, OCTOBER 18 | 7:00 p.m.-11:00 p.m.

Save the date for the eleventh annual Sea Fare event, which raises funds for the Aquarium's education, conservation, and animal care programs. Local restaurant chefs and beverage providers serve samples of entrees, desserts, brews, wines, and more. See back cover for more information.

COST | \$125 per person

INFO | (562) 590-3100, ext. 0 or aquariumofpacific.org/seafare

LIVE THEATER: DR. KEELING'S CURVE

SATURDAY, NOVEMBER 8 | 8:00 p.m.-10:00 p.m.

The Aquarium in partnership with the International City Theater will present a performance of the play *Dr. Keeling's Curve* by playwright George Shea. This one-man show will be performed at the Center Theater by actor Mike Farrell, star of the TV show *MASH*. Farrell will play scientist Dr. David Keeling, whose research on atmospheric carbon dioxide levels led to the iconic chart now known as the Keeling Curve.

COST | \$30 per person. Tickets available Sept. 15.

INFO | (562) 590-3100, ext. 0, or aquariumofpacific.org/adrkeelingscurve

VETERANS DAY

TUESDAY, NOVEMBER 11 | 9:00 a.m.-6:00 p.m.

In celebration of Veterans Day, the Aquarium of the Pacific honors veterans and military personnel. These men and women are invited to enjoy the Aquarium with free admission on Veterans Day.

COST | FREE admission with valid service ID.

INFO | (562) 590-3100, ext. 0

SPECIAL EVENTS

NIGHT DIVE

FRIDAY, NOVEMBER 21 | 7:00 p.m.-11:00 p.m.

This 18+ event is a night filled with music and art. Enjoy a cocktail and mingle among fishes and friends.

COST | \$14.95 per person

INFO | (562) 590-3100, ext. 0 or aquariumofpacific.org/nightdive



ROBIN REGES

THANKSGIVING LUNCH

THURSDAY, NOVEMBER 27 | 11:00 a.m.-5:00 p.m.

Treat yourself and your family to a day at the Aquarium. Come gobble gobble with the sea otters and the entire Aquarium family. Visit 11,000 animals from the world's largest ocean, and savor a traditional Thanksgiving buffet in the Aquarium's Café Scuba.

COST | \$26/member adult, \$17/member child, \$36/non-member adult, \$20/non-member child.

INFO | (562) 590-3100, ext. 0 or aquariumofpacific.org/events/info/thanksgiving_lunch/

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 festivals.

MOOMPETAM:

NATIVE AMERICAN FESTIVAL

SAT. & SUN., SEPT. 20-21 | 9:00 a.m.-5:00 p.m.

The tenth annual Moompetam Festival will feature traditional cultural crafts, storytelling, educational programs, live demonstrations, music, and dance celebrating the indigenous California maritime cultures, including Tongva, Chumash, Acjachemen, Costanoan, Luiseno, and Kumeyaay.

COST | Festival activities are FREE with general admission. FREE for members. Members' guests receive 20% off admission

INFO | (562) 590-3100, ext. 0

FESTIVALS

BAJA SPLASH CULTURAL FESTIVAL

SAT. & SUN., SEPT. 27-28 | 9:00 a.m.-5:00 p.m.

In celebration of National Hispanic Heritage Month and Mexican Independence Day, the Aquarium will host its twelfth annual Baja Splash Cultural Festival featuring live entertainment, crafts, educational programs, ethnic cuisine, and more. Mariachi music, Mexican folkloric and Aztec dance troupes, interactive mural painting, Salvadoran dance, Guatemalan performances, and other special programs are featured.

COST | Festival activities are FREE with general admission. FREE for members. Members' guests receive 20% off admission

INFO | (562) 590-3100, ext. 0

SOUTHEAST ASIA DAY

SATURDAY, OCTOBER 4 | 9:00 a.m.-5:00 p.m.

The Aquarium will celebrate its tenth annual Southeast Asia Day. The festival's program will highlight the beauty and diversity of the cultures of Cambodia, Thailand, Vietnam, Myanmar, Laos, and Indonesia. Guests will enjoy live performances, including music, dance, and cultural craft demonstrations. Ethnic dishes will be available for purchase, and children will have the opportunity to partake in arts and crafts.

COST | Festival activities are FREE with general admission. FREE for members. Members' guests receive 20% off admission

INFO | (562) 590-3100, ext. 0

SCARIUM OF THE PACIFIC

SAT. & SUN., OCT. 25-26 | 9:00 a.m.-5:00 p.m.

Discover the creatures lurking in the depths at the Scarium of the Pacific—a spooktacular educational Halloween event for the whole family. Enjoy facepainting, crafts, a magic show, and a costume contest.

Sponsor:

L.A. Parent

COST | Festival activities are FREE with general admission. FREE for members. Members' guests receive 20% off admission

INFO | (562) 590-3100, ext. 0

AUTUMN FESTIVAL

SAT. & SUN., NOV. 8-9 | 9:00 a.m.-5:00 p.m.

Delve into the arts, cuisines, and cultures of China, Japan, Korea, and the Philippines during the Aquarium of the Pacific's thirteenth annual Autumn Festival.

COST | Festival activities are FREE with general admission. FREE for members; members' guests receive 20% off regular admission

INFO | (562) 590-3100, ext. 0

FESTIVALS

NOAA AND OUR PLANET DAY

SAT., NOVEMBER 15 | 9:00 a.m.–5:00 p.m.

Find out what the National Oceanic and Atmospheric Administration (NOAA) does for you, our nation, and our world. The event will feature interactive booths where you can learn more about a variety of NOAA programs, the ocean, and weather. Learn how NOAA, a government agency, works to understand and predict changes in Earth's environment to help protect people and property and to conserve and manage coastal and marine resources.

COST | Festival activities are FREE with general admission. FREE for members; members' guests receive 20% off regular admission

INFO | (562) 590-3100, ext. 0

HOLIDAY TREATS FOR THE ANIMALS FESTIVAL

SAT. & SUN., DEC. 6–7 | 9:00 a.m.–5:00 p.m.

In celebration of the holiday season, Santa Diver will be delivering an ocean of gifts to the Aquarium's sea otters, seals, sea lions, birds, fish, and other animals. Also enjoy crafts and holiday music.

COST | Festival activities are FREE with general admission. FREE for members; members' guests receive 20% off regular admission

INFO | (562) 590-3100, ext. 0

THE AQUARIUM WILL BE CLOSED ON CHRISTMAS DAY

THURSDAY, DECEMBER 25

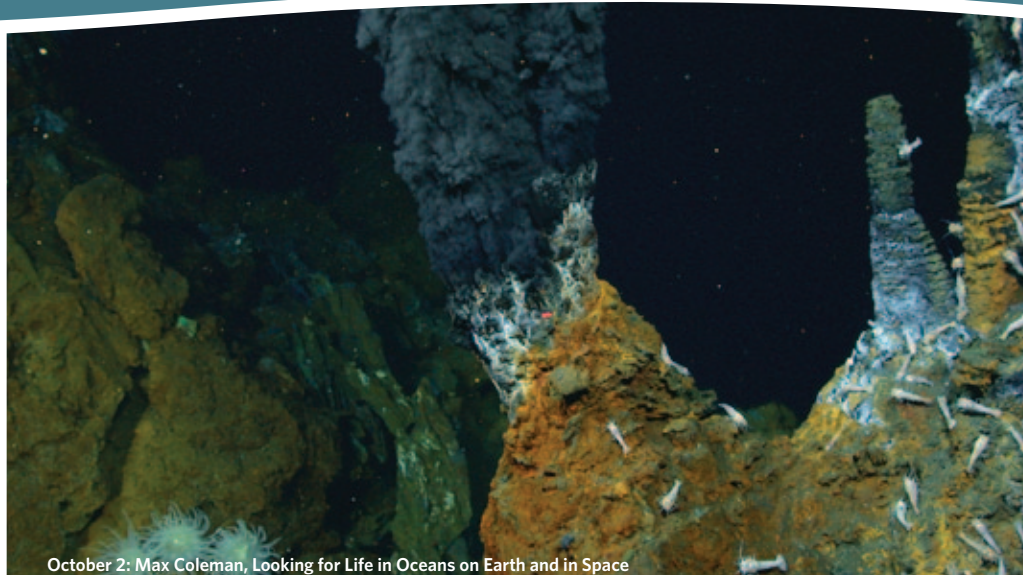
FESTIVAL OF HUMAN ABILITIES

SAT. & SUN., JAN. 24–25 | 9:00 a.m.–5:00 p.m.

Join the Aquarium for its twelfth annual Festival of Human Abilities, a celebration highlighting the creative talents and abilities of people with disabilities. Wheelchair dance, live music, signing choirs, art demonstrations, accessible SCUBA diving demonstrations, service dog demonstrations, and other creative performances will be featured by people who have disabilities. Free interactive classes for people of all ages and abilities will be offered.

COST | Festival activities are FREE with general admission. FREE for members; members' guests receive 20% off regular admission

INFO | (562) 590-3100, ext. 0



October 2: Max Coleman, *Looking for Life in Oceans on Earth and in Space*

GUEST SPEAKERS

The Aquarium hosts guest lectures on a variety of topics presented by experts from across the country. Lectures are held in the Ocean Theater.

MAX COLEMAN | *Looking for Life in Oceans on Earth and in Space*

THURSDAY, OCTOBER 2 | 7:00 p.m.

Max Coleman and his colleagues at NASA's Jet Propulsion Lab have developed ways of detecting signs of microbial activity preserved in minerals from Earth's ancient ecosystems. They are using the same methods to explore for life on other planets. In his lecture Coleman will discuss how he developed these scientific approaches and how they are being tested by exploring terrestrial analogs before being used on other planets. Coleman is the director of the Center for Life Detection and leader of the Astrobiology Research Group at the NASA Jet Propulsion Lab at Caltech in Pasadena.

PERRY HAMPTON | *Project SECORE and Guam's Threatened Coral Reefs*

WEDNESDAY, OCTOBER 8 | 7:00 p.m.

Aquarium Vice President of Husbandry Perry Hampton was one of three staff members who recently participated in a coral project in Guam with the SECORE (Sexual Coral Reproduction) Foundation. The project was aimed at studying coral reproduction and restoration of damaged reefs in Guam. Hampton will discuss Guam's coral reefs and the threats facing those and other reefs worldwide and describe how recent advances in the study of coral reproduction could help restore reefs affected climate change, El Niño, pollution, ship strikes, and diseases.

GUEST SPEAKERS

STEVE HADDOCK | *Glowing Aliens: Diversity and Bioluminescence of Deep-Sea Jellies and Other Unusual Organisms*

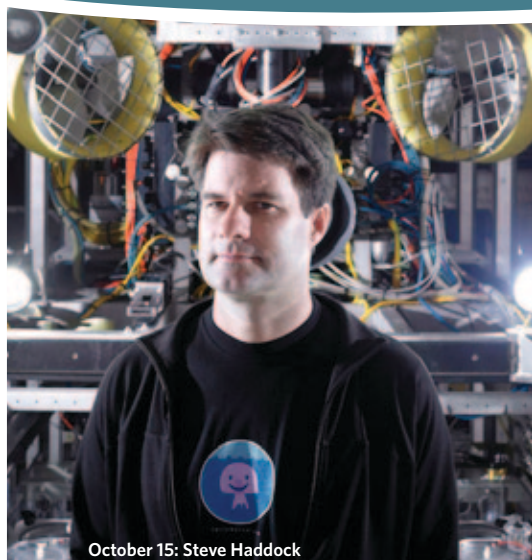
WEDNESDAY, OCTOBER 15 | 7:00 p.m.

A huge diversity of marine life—from bacteria and single-celled algae to jellyfish, squid, and sea cucumbers—use light in their daily (and nightly) lives. Steve Haddock will discuss how in addition to serving a variety of functions for the organisms, bioluminescent and fluorescent molecules have direct biotech applications that improve human life, as well. Haddock studies marine diversity, molecular biology, and bioluminescence at the Monterey Bay Aquarium Research Institute and the University of California, Santa Cruz. He specializes in fragile gelatinous drifters that are abundant in the deep-sea and open ocean.

STEPHEN DUNBAR | *ProTECTOR: Saving Turtles, Helping People*

THURSDAY, OCTOBER 16 | 7:00 p.m.

Stephen Dunbar is a professor of biology at Loma Linda University who studies the endangered hawksbill and green sea turtles of Honduras. He will share the progress his team has made both on the ground and in the lab with their work to promote turtle conservation. He will also discuss his collaborations with communities and other non-governmental organizations in sea turtle research and conservation and what it means to help the people that rely on these natural resources as a source of income and food.



October 15: Steve Haddock



October 16: Stephen Dunbar



January 8: Mark Botton

GUEST SPEAKERS

JARED FARMER | *Green Screen: How Trees Made California Modern*
MONDAY, OCTOBER 20 | 7:00 p.m.

In California's first hundred years as a state, horticulturists planted innumerable trees in formerly shadeless locales.

They imported a profusion of ornamental and commercial species and varieties to create money-making orchards and tree-lined boulevards. Jared Farmer will discuss how tree planters staged a landscape revolution, and in doing so they helped make California modern. Today we are the inheritors of this horticultural legacy in all its beauty, fragility, and hazard. Farmer, a history professor at the State University of New York at Stony Brook, is the author of *Trees in Paradise: A California History*.



TY BOWMAN | *Images of the Grand Canyon in 2014 and Environmental Impacts in the Last Sixty Years*
TUESDAY, OCTOBER 21 | 7:00 p.m.

Photographer Ty Bowman is serving as an artist in residence at Grand Canyon National Park for three weeks in September, taking photographs and giving lectures. His project focuses on capturing the natural beauty of the canyon as well as environmental impacts. He will discuss the contrasting beauty of nature with mistreatment of the environment. Bowman has worked as a photojournalist and sculptor, and taught digital illustration and animation in the fine arts department at Cerritos College.

GUEST SPEAKERS

JOHN WILLIAMS | *Medicines from the Sea*
TUESDAY, NOVEMBER 4 | 7:00 p.m.

John Williams is an associate professor of molecular medicine, director of the X-Ray Crystallography Core Facility, and co-director of Drug Discovery and Structural Biology Core at City of Hope, a cancer research and treatment center based in Duarte, California. In his lecture, he will discuss City of Hope's partnership with the Aquarium to study biologically active compounds in corals and sponges for potential cancer cures.

PAUL GREENBERG & RUSS PARSONS | *The Future of Food*
MONDAY, NOV. 10 | 6:30 p.m.-9:00 p.m.

This talk will be the first in a year-long, four-part series hosted by *Los Angeles Times* Food Editor Russ Parsons called *The Future of Food*. The Aquarium will be open so attendees can view the exhibits before and after the lecture. Paul Greenberg will discuss and sign copies of his books, *Four Fish: The Future of the Last Wild Food* and *American Catch: The Fight for Our Local Seafood*. While the U.S. controls more ocean than any other country, 85 percent of the seafood Americans eat is imported. Greenberg will discuss ways to reestablish sustainable local fisheries and connect them with consumers.

COST | \$8/member; \$10/non-member; \$32/member and \$35/non-member for the entire series (includes parking).

GUEST SPEAKERS

MARK BOTTON | *The Horseshoe Crab: National and International Perspectives*
THURSDAY, JANUARY 8 | 7:00 p.m.

For the past two decades Mark Botton has been actively involved in the international efforts to protect and conserve horseshoe crabs. He is the co-chairman of the International Union for Conservation of Nature's Horseshoe Crab Specialist Group and a professor of biology in the Department of Natural Sciences at Fordham University in New York City. He has studied the biology and ecology of horseshoe crabs since 1977.

ELLEN PRAGER | *The Shark Whisperer*
TUESDAY, FEBRUARY 10 | 7:00 p.m.

Marine scientist Ellen Prager will discuss and sign copies of her latest book, *The Shark Whisperer*, the first in a five-part series of adventure novels for young adults. She will explain how some of her own adventures in marine science were incorporated into the book and provide a sneak peek at what's to come in the next books in the series. Dr. Prager has made many television appearances, including on *The Today Show*, NBC News, and *Good Morning America*.

COST | Free for members, teachers, seniors 62+, and students with valid I.D. and advanced reservations. \$5/non-members.

INFO | (562) 590-3100, ext. 0

WEB | All lectures are streamed live on the Aquarium's website at aquariumofpacific.org/aquariumlive

Sponsor:



Live Lecture Webcasts

Tune in to a live lecture webcast by visiting aquariumofpacific.org/aquariumlive or capture this QR code with your smartphone.



ROBIN REIGS

Learn interesting facts about the Aquarium's 11,000 animals, such as this leafy sea dragon, as well as daily operations during a Behind-the-Scenes Tour.

AQUARIUM TOURS

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

BEHIND-THE-SCENES TOURS

DAILY | times vary

Venture behind the scenes and go above Tropical Reef, our largest exhibit, to feed the fish. This tour provides a sneak peek into the Aquarium's daily operations. Guests will enter the "wet side" of the Aquarium, a section not normally open to the public. See what it takes to maintain a world-class aquarium, from water filtration to animal care and feeding.

COST | \$15/member | \$19/non-member; does not include Aquarium admission. Combo price: \$42.95/adult, \$39.95/senior, \$28.95/child

AGES | 7+ years

LENGTH | one hour

GROUP SIZE | maximum 10 participants

RSVP | (562) 590-3100, ext. 0, online, or sign up on day of visit

ANIMAL ENCOUNTERS

THURSDAYS-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, shark, or penguin. There are lots of surprises along the way, so be prepared to get your hands wet!

THURS. & FRI. | *Penguins* 8:00-10:00 a.m.

SAT. & SUN. | *Seals & Sea Lions* 9:30-11:30 a.m. | *Sharks* 12:30-2:30 p.m. | *Sea Otters* 2:45-4:45 p.m.

COST | \$99/member | \$109/non-member, includes Aquarium admission

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

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

RSVP | (562) 590-3100, ext. 0

AQUARIUM TOURS

HARBOR TOUR

DAILY | times vary

Tour the Long Beach and Los Angeles Harbors with Harbor Breeze Cruises for a 45-minute narrated cruise around one of the most active ports in the world. See the downtown shoreline, ocean vistas, ships from around the world, and even sea lions. Tours are offered throughout the day on a daily basis. Tickets may be purchased in advance or at the ticket window upon arrival. Meet 15 minutes prior to departure at Dock 2. This program is led and staffed by Harbor Breeze Cruises.

COST | Members: \$12/adult, \$10/senior (62+), \$6/child (3-11) | Non-members: \$39.95/adult, \$34.95/senior, \$19.95/child includes Aquarium admission

RSVP | (562) 590-3100, ext. 0

DIVE IMMERSION

DAILY | 3:00 p.m.-5:30 p.m.

Certified divers can dive in our warm 350,000-gallon Tropical Reef Habitat with more than 1,000 animals. Tour the dive program facilities, dive in the exhibit, and receive a certificate of completion, souvenir towel, use of an underwater camera, and a memory card of your photos. All equipment is provided. Requires advance reservations.

COST | \$279/member | \$299/non-member

AGES | 15+ years | ages 15-17 require participating adult chaperone

RSVP | (562) 590-3100, ext. 0

AQUARIUM SLEEPOVERS

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

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, an educator-led tour, and crafts. Please bring your own birthday cake.

COST | \$70/member | \$80/non-member

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

GROUP SIZE | 15-40 participants

RSVP | (562) 590-3100, ext. 0

YOUTH GROUP SLEEPOVERS

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

AGES | 5+ years, plus adult chaperone

GROUP SIZE | 20-60 participants

RSVP | (562) 590-3100, ext. 0

HALLOWEEN FAMILY SLEEPOVER

FRIDAY, OCTOBER 24 | 5:00 p.m.-7:00 a.m.

Have a "spooktacular" evening at the Aquarium with creepy crawly critters, pumpkin painting, and a freaky flashlight tour. Included in your sleepover will be a pizza dinner, light snack, animal interactions, cereal breakfast, and more. Family-friendly costumes welcome.

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

AGES | 5+ years, plus adult chaperone

RSVP | (562) 590-3100, ext. 0

AQUARIUM SLEEPOVERS

WINTER FAMILY SLEEPOVER

SUNDAY, DECEMBER 28 | 5:00 p.m.-7:00 a.m.

Celebrate the winter season and party with the fishes! Bring your family to the Aquarium for a very memorable experience. Included in this program are a pizza dinner, snack, cereal breakfast, and T-shirt.

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

AGES | 5+ years, plus adult chaperone

RSVP | (562) 590-3100, ext. 0

SPECIAL PROGRAMS

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 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 at least two weeks prior to reserve a date (subject to availability), and then invite your guests.

COST | \$33/member | \$39/non-member, includes Aquarium admission

AGES | All ages, one adult required per 10 children

GROUP SIZE | 15-40 participants

INFO | (562) 590-3100, ext. 0

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 offsite experiences in the great outdoors.

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 other marine life 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): \$48.95/adult, \$44.95/senior, \$30.95/child

WHEN | Spring and fall season

LENGTH | 2-2.5 hours

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

RSVP | (562) 590-3100, ext. 0

OUTDOOR ADVENTURES

GRAY WHALE WATCHING TRIPS

SEASONAL

Enjoy a voyage out in the open Pacific Ocean in search of one of the world's longest-migrating mammals. These gentle giants make their way past Long Beach each year between the months of November and April. Learn new, exciting information about gray whales and other local marine life from an on-board Aquarium educator.

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

Non-members (includes Aquarium admission): \$48.95/adult, \$44.95/senior, \$30.95/child

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

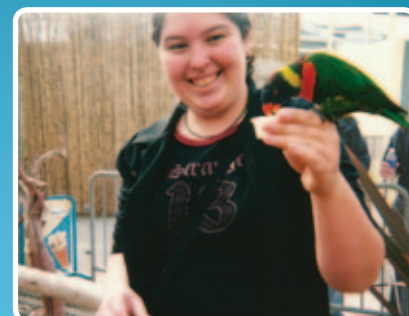
LENGTH | 2-2.5 hours

RSVP | (562) 590-3100, ext. 0

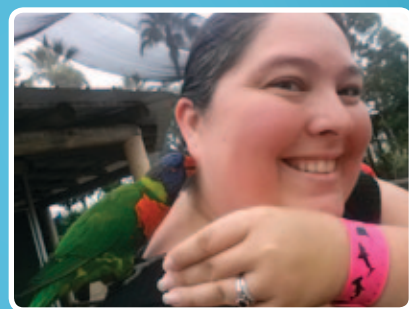
#AquariumMember Photos



Lana Dot watches as a harbor seal glides through the water of the Seals and Sea Lions Habitat. Her father, John Bibeau, tweeted "#AquariumMember - We love this place!!!"



2003



2014

"I have a special love for the birdies and always stop in on my trips to say hello," says Janelle Allen. Here she is with a lorikeet back in 2003 and earlier this summer.

For a chance to be featured, tag your public photos with #AquariumMember on Instagram, or email us your favorite photos at MemberServices@lbaop.org.



Kids ages 7 to 12 learn about animals of the Northern Pacific, like sea otters, in the Junior Biologist Program, and 7th to 12th graders study marine mammals in the Job Shadow program.

DAY CAMPS

SEA SQUIRT WINTER CAMP

DECEMBER 22-24 | 8:30 a.m.-11:30 a.m.

This three-day camp offers an exciting introduction to marine biology for five- and six-year-olds. Campers will discover an underwater wonderland filled with wiggly fish, furry mammals, and fluffy birds. This camp encourages little ones to interact and explore independently from parents. Through hands-on activities, stories, crafts, and tours, your child will prove that little learners can learn big things!

AGES | 5 to 6 (children only)

COST | \$90/member | \$115/non-member

RSVP | (562) 951-1630

WINTER DAY CAMP

DECEMBER 29-31 | 8:00 a.m.-12:00 p.m.

Join us as we explore the Pacific Ocean and its inhabitants during our three-day winter day camp adventure. Campers will learn about marine life through hands-on activities, games, and crafts. Participants will even get the chance to go behind the scenes at the Aquarium, meet our animal husbandry staff, and help us take care of some of the animals that make their home at the Aquarium.

AGES | 7-9

COST | \$125/member child | \$150/non-member child

RSVP | (562) 951-1630

YOUTH PROGRAMS

JUNIOR BIOLOGIST PROGRAM

SATURDAYS | 9:30 a.m.-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 to you, or take all the classes to learn about the variety of animals found at the Aquarium.

TOPIC | *Southern California/Baja* Oct. 11
Northern Pacific Nov. 8
Tropical Pacific Dec. 13
Sharks Jan. 10

COST | \$25/member | \$29/non-member
 (does not include Aquarium admission)

AGES | 7-12

RSVP | (562) 951-1630

JOB SHADOW

WEDNESDAYS | 3:30 p.m.-6:30 p.m.

SATURDAYS | 9:00 a.m.-12:00 noon

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 members.

TOPIC | *Veterinarian* Oct. 1 & 4
Marine Biologist Oct. 29, Nov. 1, Jan. 3 & 7
Mammalogist Dec. 3 & 6

COST | \$35/member | \$39/non-member
 (does not include Aquarium admission)

AGES | Grades 7-12

RSVP | (562) 951-1630

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 with adults and peers.

TOTALLY TURTLES

SATURDAY, OCT. 25 | 10:00 a.m.-11:30 a.m.

You may enjoy a sweet treat of Jelly Bellies, but a sea turtle prefers having a belly full of jellies! Discover fun facts and turtle trivia as we explore these reptiles.

SHARK SLEUTHS

SATURDAY, NOV. 22 | 10:00 a.m.-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!

MAGNIFICENT MARINE MAMMALS

SATURDAY, DEC. 27 | 10:00 a.m.-11:30 a.m.

Who are warm-blooded and hairy, breathe air, and live 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.

SEA JELLIES AND OTHER INCREDIBLE INVERTEBRATES

SATURDAY, JAN. 24 | 10:00 a.m.-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: \$36/member
 \$49/non-member
 EXTRA PERSON: \$15/member
 \$20/non-member
 (includes Aquarium admission)

AGES | 4-6 years, plus adult chaperone

RSVP | (562) 951-1630



ROBIN REGGS

Children ages 2 and 3 can learn about the shapes of sea animals like eels in the Shoreline Shapes session of the Aqua Tots program.

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.

MOVIN' & GROOVIN' BENEATH THE SEA SATURDAY, OCTOBER 18 | 10:00 a.m.-11:30 a.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!

SLIPPERY TO PRICKLY SATURDAY, NOV. 15 | 10:00 a.m.-11:30 a.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.

SHORELINE SHAPES SATURDAY, DEC. 20 | 10:00 a.m.-11:30 a.m.

Did you know a sea jelly is shaped a lot like a bell or that some fish are as flat as pancakes? At 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.

SOUNDS OF THE SEA SATURDAY, JAN. 17 | 10:00 a.m.-11:30 a.m.

Do you love the calming sound of the waves on the shore? Did you know that there is a commotion of noise just under those waves? Immerse yourself in the wonder and discovery of this interactive program.

COST | ADULT-CHILD PAIR: \$36/member, \$49/non-member
EXTRA PERSON: \$15/member, \$20/non-member (includes Aquarium admission)

AGES | 2-3 years, plus adult chaperone

RSVP | (562) 951-1630



ROBIN REGGS

One of the Aquarium's Magellanic Penguins visits the Southern California Steelhead Story exhibit

“My curiosity and love of the ocean made becoming a Charter Member and growing to a Pacific Circle supporter and husbandry volunteer a natural progression. I feel renewed after each visit and love to share the Aquarium with friends and guests. I see something new and learn something on each and every visit.”



Photo taken by Peggy Morrison.

— PEGGY MORRISON, CHARTER PACIFIC CIRCLE MEMBER AND AQUARIUM VOLUNTEER

Steelhead Lifecycle Craft

Learn about the lifecycle of Southern California steelhead! These fish are born in freshwater rivers and streams, migrate to the ocean as adults, and return to freshwater to lay eggs and hatch their young.

WHAT YOU NEED:

- ☐ glue
- ☐ scissors
- ☐ crayons
- ☐ two paper plates
- ☐ one brad or a paperclip



STEPS:



1. Color the pictures showing the steps of the steelhead lifecycle, and then cut them out.



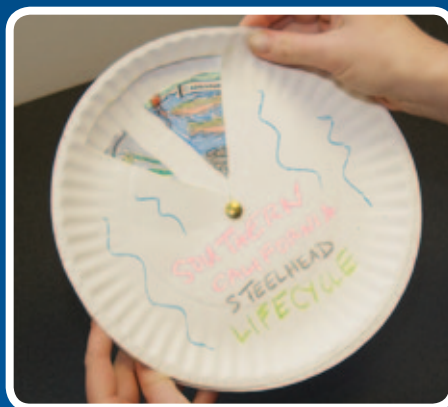
4. Place the plate with the wedge cut out on top of the plate with your drawings. Fasten them together using a brad or paper clip.



2. Glue these wedges around the edge of one of the paper plates, making sure to place them in numerical order.



3. Cut a wedge out of your other paper plate. The wedge should be about the same size as one of the lifecycle drawings so it only shows one at a time.



5. Spin your plates to see the incredible lifecycle of the Southern California steelhead!



Fishing for KNOWLEDGE! ? ? ?

1. Southern California steelhead begin their lives in freshwater rivers and streams as _____ trout.
2. Fish species that spend part of their lives in the ocean and return to freshwater rivers and streams to reproduce are _____.
3. _____ and flood-control structures can be modified to allow steelhead to pass through on their way upstream.

Last Issue's Questions and Answers:

1. The Aquarium's security and **life support** departments have staff members on site twenty-four hours a day.
2. On average, about **1,000** students visit the Aquarium on a regular school day for field trips.
3. The staff members who take care of fish and invertebrates at the Aquarium are called **aquarists**.

SOUTHERN CALIFORNIA STEELHEAD

Oncorhynchus mykiss



SOUTHERN CALIFORNIA STEELHEAD STORY

ZEBRA SHARK

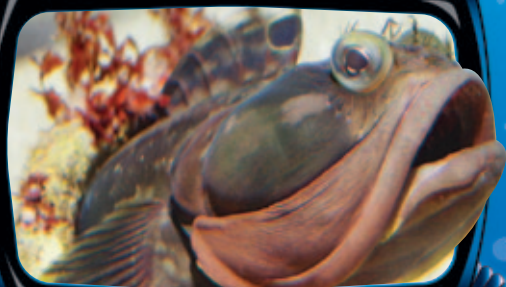
Stegastoma fasciatum



SHARK LAGOON/TROPICAL PACIFIC GALLERY

SARCASTIC FRINGEHEAD

Neoclinus blanchardi



SOUTHERN CALIFORNIA/BAJA GALLERY

SOUTHERN CALIFORNIA STEELHEAD

Oncorhynchus mykiss



FUN FACT

Southern California steelhead are estimated to live up to eleven years.

PHYSICAL CHARACTERISTICS

Adult steelhead are long, slender fish with a paddle-shaped tail fin. They are silvery, or "steely," in color. On average, they reach between 19 and 33 inches long and weigh 3 to 15 pounds.

DIET

In freshwater, steelhead feed on insects, invertebrates, fish eggs, and small minnows. In the ocean, they feed on small fish, squid, shrimp, and krill.

HABITAT

Steelhead begin their lives as rainbow trout in flowing freshwater streams with gravel or rocky bottoms. Some change into steelhead and migrate to estuaries and eventually the ocean.

ZEBRA SHARK

Stegastoma fasciatum



FUN FACT

Zebra sharks are around 10 inches long at birth but may grow up to 11.5 feet long as adults.

PHYSICAL CHARACTERISTICS

Zebra sharks are born with stripes that turn into spots as they get older. They are light gray-brown with black spots. They have ridges that run from head to tail on their dorsal side.

DIET

These sharks are nocturnal foragers. They prefer to eat snails and bivalves, but they also eat crabs, shrimp, and small bony fishes.

HABITAT

Adult zebra sharks prefer inshore waters up to about 100 feet deep, where there are reefs and sandy, rubble, or coral bottoms. Juveniles inhabit deeper waters to hide from predators.

SARCASTIC FRINGEHEAD

Neoclinus blanchardi



FUN FACT

These fish aggressively defend their territory from intruders, even divers, snapping their jaws and spreading their gill covers.

PHYSICAL CHARACTERISTICS

Averaging 3 to 8 inches long, sarcastic fringeheads are typically brown or gray in color with a large head, prominent lips, and fringe-like appendages over their eyes.

DIET

Fringeheads are ambush predators, jumping out from their shelter to surprise prey swimming by. What they eat in the wild is not known. However, they probably use their needle-sharp teeth to catch slippery fish or crustaceans.

HABITAT

Sarcastic fringehead live along coastlines from the San Francisco Bay to Baja California. They typically live inside shelters like shells, burrows, or human trash like cans or bottles.

Adopt a Penguin Chick

For a limited time, when you adopt a penguin chick at our \$100 level or above you will have the opportunity to suggest a name!

aquariumofpacific.org/adoptachick
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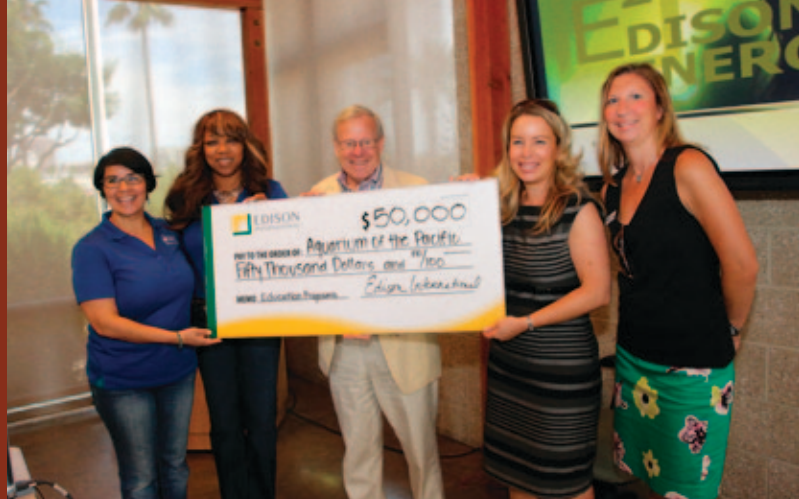
PACIFIC CIRCLE

JOIN THE PACIFIC CIRCLE
to explore the Aquarium's
nocturnal mysteries by flashlight.

Pacific Circle Flashlight Tour
Friday, November 7
7:00 p.m.-10:00 p.m.

Visit aquariumofpacific.org/pacific_circle
or call (562) 951-5387 to join the
Aquarium's leadership gift society, the
Pacific Circle, and attend the Flashlight
Tour and many other exclusive events.

Southern California
Edison Community
Investment Manager
Flor Tolley and Director
of Philanthropy and
Community Investment
Tammy Tumbling
present a check to
Aquarium President
and CEO Jerry Schubel,
Vice President of
Development Theresa
Duncan, and Grants
Manager Lindsay Yates.



VolunTEENS Sarah
O'Connell, Marky
Gorski, and Sara Shin
and Lisa Woon, Edison
employee, investigate
horseshoe crabs at the
touch exhibit at the
Molina Animal Care
Center.



EDISON INTERNATIONAL SUPPORTS OCEAN EDUCATION

THE AQUARIUM'S PARTNER-
SHIP WITH EDISON
INTERNATIONAL, parent
company of Southern California

Edison, began before the Aquarium's doors opened to the public sixteen years ago. Edison International has consistently provided support for many important projects—from the life-sized blue whale models in the Great Hall, appropriately named Edi and Son, to the *Whales: A Journey with Giants* film that immerses guests into the underwater world of many majestic whale species. Edison International has also contributed funding for the educational programs and initiatives for the Aquarium's most recent expansion projects, the Molina Animal Care Center and the Ocean Science Center, which have become key elements of the Aquarium's educational offerings for visitors.

Edison International supports environmental programs that educate and engage the public in preserving a healthy and sustainable environment and that are geared toward preserving protected species and their habitats; avian protection; and land conservation, restoration, and protection. In alignment with this philanthropic priority, in July Edison International provided a grant of \$50,000 in support of the Aquarium's high school education and VolunTEEN programs. With this support, thousands of high school students from throughout the greater Los Angeles area will have access to hands-on learning experiences and exposure to multimedia and technology-rich education. The Aquarium provides opportunities to spark students' curiosity and desire to explore and solidify their commitment to environmental stewardship.

FUNDRAISING HIGHLIGHTS

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

■ The Rudolph J. and Daphne A. Munzer Foundation Supports Long Beach Students

The Aquarium received a \$30,000 gift from The Rudolph J. and Daphne A. Munzer Foundation to bring the wonders of the ocean to the students of underserved schools in Long Beach. With this support, the Aquarium's education department will continue to spark curiosity and interest in science education by introducing marine science, conservation, and stewardship concepts to disadvantaged students in an inviting and inspiring atmosphere. It is a goal of The Munzer Foundation to provide greater access to education for the underserved in Long Beach, and the Aquarium is proud to partner with them in this important mission.

■ The Ahmanson Foundation Helps to Tell the Southern California Steelhead Story

The Ahmanson Foundation granted \$100,000 toward the Aquarium's new permanent outdoor exhibit, the *Southern California Steelhead Story*, which is centered on one of California's most threatened and distinctive species. These funds will help the Aquarium communicate the history of this unique fish native to Los Angeles waterways and illustrate the connections between human actions, watershed health, and the longterm conservation of a critically endangered species.

■ BCM Foundation Supports the Sciences

A \$50,000 grant from the BCM Foundation will connect many Whittier students and educators to contemporary scientific research and discoveries at the Aquarium. School field trips, interactive science classes, and access to the Aquarium facility will help encourage students to become more engaged in science. Additionally, programs and resources can equip teachers with the necessary tools to encourage their students to speculate, investigate, and to explore the underwater world as both scientists and stewards. The BCM foundation's latest gift will aid the Aquarium in expanding its educational programming to more disadvantaged students in the coming year.

■ Target Provides Funds for Underserved Students

As part of the company's corporate philanthropy, Target gives five percent of its profits to organizations in local communities across the country, including the Aquarium. Target again provided \$50,000 to the Aquarium's needs-based field trip program that directly serves Title I schools throughout the greater Los Angeles area. Over the past several years Target's support has allowed more than 12,000 underserved students to wonder, explore, discover, and learn about the world of ocean science.

■ The Miller Foundation Supports the Local Community

The Earl B. and Loraine H. Miller Foundation pledged \$50,000 to the Aquarium's Ocean Science Education Program, supporting dynamic, hands-on education experiences for schoolchildren and families visiting the Aquarium. The Miller Foundation aims to improve the local community by "treating the whole family," with particular emphasis on health, education, moral citizenship, the arts, and family and child development. The Aquarium is a partner in this mission, inspiring children and families of all backgrounds and circumstances to become responsible environmental stewards while becoming accomplished and contributing members of the community.

■ Honda Continues Sponsorship Support

A founding Aquarium sponsor, American Honda Motor Co., Inc. has continued its support for another year with a gift of \$350,000. Honda supports the Aquarium's commitment to environmental education and conservation and using advanced technologies to make these topics relevant to the citizens of Southern California. Honda's presence is reflected throughout the Aquarium, such as at the Honda Blue Cavern and the Honda solar arrays at the June Keyes Penguin Habitat and the Molina Animal Care Center. Honda's support and partnership helps the Aquarium educate and inspire millions of visitors each year.

■ Confidence Foundation Provides Leadership Gift

The Confidence Foundation, managed by the Whittier Trust Co., has been a longtime Aquarium partner. Thirteen years ago the foundation helped fund the first Aquarium on Wheels, a program that has transformed the Aquarium's outreach presence throughout Southern California. Today the Confidence Foundation is partnering with the Aquarium once again during a pivotal phase in the Aquarium's history. The foundation has pledged \$300,000 to the Aquarium's expansion project, Pacific Visions, which will transform the Aquarium's educational programming, expand the institution's capacity, and provide a new technology that will turn the guest experience into an extraordinary journey of scientific discovery.

■ Longtime Supporters Advance Pacific Visions Campaign

Kurt Schulzman and Richard Neri, Pacific Circle members since 2000, pledged \$200,000 toward the Aquarium's capital campaign in April. Both Schulzman and Neri have been actively involved in the Long Beach community and several local non-profit organizations for many years, including serving as Trustees of the Pacific since 2006. Most recently, Schulzman joined the Aquarium Board of Directors in 2012, where he and Neri have played an integral role in planning and fundraising for the Pacific Visions campaign.

AQUARIUM ACCOLADES

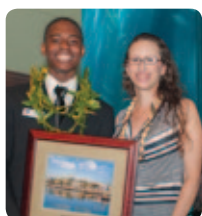


Homeboy Industries | Heritage Award

For more than twenty-five years, Homeboy Industries has been serving high-risk, recently incarcerated, and formerly gang-involved individuals looking to

change their lives. It offers free services and programs that break the cycle of gang violence and provide hope in communities across Los Angeles County. Founded by Father Gregory Boyle in 1988, Homeboy Industries is one of the largest gang intervention, rehabilitation, and re-entry programs in the country. Through its therapeutic community and belief that community trumps gang membership, Homeboy Industries has helped thousands of men and women. The organization was presented with the Heritage Award during Noche de Estrellas, the Aquarium's Latin-themed evening event.

Pictured: Dr. Martha Bernadett, trustee of the Aquarium of the Pacific, and Jose Osuna, director of employment services at Homeboy Industries.



Callum Watson | Young Hero Award

Callum Watson is a volunteer in the Aquarium's VolunTEEN program, which teaches marine biology to high school students who then share their knowledge

with Aquarium visitors. He has completed fifty-two hours of service to the Aquarium. Watson has also served as a volunteer at Coral World Ocean Park in the Virgin Islands and at the Riverside Art Museum. He has also participated in humanitarian trips to Honduras, Nicaragua, and Ghana, assisting with construction projects and leading arts, sports, and health lessons for children. Through his efforts, Watson has demonstrated a strong sense of leadership, a passion for the environment and ocean conservation, and a commitment to service to his local community and the world. Watson was presented the Young Hero Award at the Aquarium's International Children's Day Festival.

Pictured: Callum Watson, Young Hero Award honoree, and Cecile Fisher, vice president of marketing, Aquarium of the Pacific.



Artland Ka'ai | Heritage Award

Artland Ka'ai is a founding member of the `Āinahau o Kaleponi Hawaiian Civic Club, a nonprofit organization. Ka'ai served as its initial treasurer, laying

the foundation for its thirty-four years of serving Hawaiians and the community at large. He has also held other leadership roles to help the club fulfill its purpose of perpetuating the traditions, beliefs, language, and arts of the indigenous people of Hawaii. As a cancer survivor, he devotes time to the Cancer-Kickers of Southern California Edison, and for the past seventeen years he has helped raise funds for breast cancer research and treatment. His community service includes dedicating numerous hours to serving people with developmental disabilities, coordinating programs that provide transportation and activities. He also leads Thanksgiving programs to feed people who are homeless. Ka'ai was presented the Heritage Award at the Aquarium's Pacific Islander Festival.

Pictured: Artland Ka'ai, Heritage Award honoree, and Theresa Duncan, vice president of development, Aquarium of the Pacific.



Jason deCaires Taylor | Award of Excellence

Trustee of the Pacific Michelle Molina presented the Aquarium's Award of Excellence to artist Jason deCaires Taylor in honor of his work in the fields of art

and conservation. In 2006 Taylor founded the first underwater sculpture park off the coast of Grenada in the West Indies. It is now listed as one of the 25 Wonders of the World by National Geographic. His latest sculptural works can be found submerged off the coast of Cancún, Mexico, at the Museo Subacuático de Arte, or MUSA, as part of a program to take pressure off local reefs.

Pictured: Jason deCaires Taylor, Award of Excellence honoree, and Michelle Molina, Trustee of the Pacific.

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The microscope is connected to a 3-D TV screen.

VISITORS CAN NOW VIEW MICROSCOPIC OCEAN ANIMALS IN 3-D

A 3-D MICROSCOPE WAS INSTALLED in the *Wonders of the Deep* gallery this past summer. This device allows visitors to use 3-D glasses to view specimens on a full-color 3-D television connected to the microscope. Staff members collect live plankton from nearby Rainbow Harbor each

For optimal viewing, wear 3-D glasses provided at the exhibit.

morning and add them to the microscope's small viewing tank. For the best view, stand about six feet away from the television screen to see the image in 3-D.



Dr. Keeling's Curve, a play by George Shea, will be performed by actor Mike Farrell, star of the TV show *MASH*.

AQUARIUM PRESENTS THEATER PRODUCTION

ON NOVEMBER 8 the Aquarium in partnership with the International City Theater will present a performance of the play *Dr. Keeling's Curve* by playwright George Shea at the Center Theater in Long Beach. This one-man show will be performed by actor Mike Farrell, star of the TV show *MASH*. Farrell will play scientist Dr. David Keeling, whose research on atmospheric carbon dioxide levels led to the iconic chart now known as the Keeling Curve. This documentation of rising CO₂ levels was among the first early warnings about global climate change. For more information, see the event listing on page 11.

AQUARIUM HOSTS TWO ART EXHIBITS THIS FALL

THIS FALL AQUARIUM VISITORS will be able to view works of art in addition to live animals. From October 1 through December 1 the Aquarium will host an exhibit of photographs by Ty Bowman. He is serving as an artist in residence at the Grand Canyon National Park in September. His photos from the Grand Canyon, focusing on water in all its forms, including snow, waterfalls, clouds, and rapids, will be hung on the second floor landing outside the Tropical Gallery. He will present a lecture at the Aquarium on October 21. See page 13 for details.

At the Aquarium this fall, view nature photos and art inspired by ocean pollution.

Starting December 1 sculptures and images from The Plastic Ocean Project will be on display at the Aquarium through January 31. Plastic debris researcher Bonnie Monteleone traveled to three of the five gyres in the World Ocean and collected plastic trash, which she incorporated into the art exhibit, *What Goes Around Comes Around*. The traveling art show brings awareness to the issue of plastic pollution and the impacts on both wildlife and humans.



Top: Panels and a sculpture comprise *What Goes Around Comes Around* from the Plastic Ocean Project. Below: Photography by Ty Bowman from the Grand Canyon.



Top: Jerry Schubel, Aquarium president and CEO; honorees Jim Fowler and Jack Dangermond; Michelle Molina, gala committee chair; and John Molina, Aquarium Board Chairman.

MAPPING EXPERT AND WILDLIFE CONSERVATIONIST HONORED AT BLUE WHALE GALA

NEARLY 380 GUESTS attended the Aquarium's Blue Whale Gala on June 14. The event celebrated the Aquarium's mission and vision, featured a special presentation of the Ocean Conservation Awards, and raised \$294,000 in support of the Aquarium's education, conservation, and animal care programs.

The Ocean Conservation Award recognizes individuals or organizations that have made significant contributions to ocean conservation and environmental education. This year's honorees were Jack Dangermond and Jim Fowler. Dangermond is the founder and president of GIS (geographic information systems) services and software firm Esri. His honors include the British Cartographic Society Medal received in 2013, the United Nations' Champions of the Earth Award in 2013, *The*

The Blue Whale Gala raised \$294,000 in support of the Aquarium's education, conservation, and animal care programs.

Economist magazine's Innovation Award in 2012, and the National Geographic Society's Alexander Graham Bell Medal in 2010. In 2012 Esri launched the Ocean GIS Initiative to provide effective mapping tools and techniques to better understand the ocean. Fowler is an educator, advocate, and spokesman for wildlife and conservation all over the world. He is best known as the host of the pioneering wildlife television series, *Mutual of Omaha's Wild Kingdom*. He also was the official wildlife correspondent for NBC's *The Today Show* for several decades and was regularly seen on *The Tonight Show Starring Johnny Carson*, making forty appearances in total.

To see photos from the Blue Whale Gala, visit aquariumof-pacific.org/give/oca/galagallery.



Students pose with Aquarium Educator Manager Alie Lebeau (back row, left) and Tamera Schulz (back row, right) of SAVOR...Long Beach.

SAVOR SPONSORS STUDENT FIELD TRIPS DURING GRAND PRIX

HUNDREDS OF STUDENTS from area schools visited the Aquarium in April during the Grand Prix of Long Beach, thanks to a donation from SAVOR...Long Beach. The corporation donated to the Aquarium's scholarship program for the twelfth consecutive year, allowing children to visit during the Grand Prix, when the Aquarium is closed to the general public. Over 1,000 students from Barton Elementary, Henry Elementary, International Elementary, John Muir Elementary, New City School, and Riley Elementary had the opportunity to visit the Aquarium to partake in educational programs under the scholarship. The students explored the Aquarium with the entire facility to themselves. Since 2003 SAVOR...Long Beach has donated more than \$140,000 in scholarship funds, providing Aquarium visits for more than 12,000 students.



Members of the Long Beach City Council interact with Aquarium staff members and horseshoe crabs.

AQUARIUM SHARES SUMMER OF WONDER WITH CITY COUNCIL

ON MAY 20 Aquarium staff members took horseshoe crabs to a Long Beach City Council meeting to announce the opening of the Summer of Wonder. Aquarium President and CEO Jerry Schubel and Aquarist Chris Plante discussed the new exhibits and programs and also talked about the horseshoe crab's unique role in human health care.



Wyland invites schoolchildren to submit murals for his foundation's annual national art contest.

AQUARIUM TO HOST EVENT FOR WYLAND NATIONAL ART CONTEST

LONGTIME AQUARIUM SUPPORTER and artist Wyland is holding a national art contest, which will kick off with an event for schoolchildren at the Aquarium. The Wyland National Mural and Art Challenge 2014 begins September 25 and runs until November 25. As part of the national competition, the Wyland Foundation will be providing grants of art supplies, including mural canvases, paints, and teacher lesson plans, to schools in 100 cities to depict the relationship of people to the ocean. Classrooms are encouraged to display the murals in public settings to raise community awareness about ocean conservation. Teachers can visit wylandfoundation.org/artchallenge/ to enter their class early for the chance to win a free mural canvas for the contest.

NEW AQUACULTURE SHOW DEBUTS IN OCEAN SCIENCE CENTER

A NEW SHOW examining aquaculture as a source of sustainable seafood is now playing daily in the Aquarium's Ocean Science Center, which features the National Oceanic and Atmospheric Administration's (NOAA) Science on a Sphere® (SOS).

For more than 3 billion people around the world, seafood is the major source of animal protein and essential fatty acids. Aquaculture, or the farming of fish and shellfish for seafood, could sustainably help meet the demand for food for our planet's growing population. The Aquarium's new show looks at the growth of the aquaculture industry and the benefits of environmentally responsible aquaculture.

The Aquarium is continually developing new content for the SOS, and these shows are shared with other institutions participating in the SOS user network. The Aquarium also leverages the SOS and its content through its long-standing partnership with NOAA. The two organizations have collaborated on national forums, the annual NOAA Day event held at the Aquarium, and other initiatives to connect NOAA experts to the public. In recent years, the Aquarium has hosted live web broadcast events that take advantage of SOS capabilities to illustrate ocean and climate concepts with NOAA scientists sharing their expertise. During these webcasts, the public can submit questions via Twitter. NOAA meteorologist Mark Jackson, who heads the National Weather Service Los Angeles Weather Forecasting Office in Oxnard, California, discussed extreme weather and Hurricane Sandy during a live broadcast in November 2012. He used NOAA satellite imagery showing Sandy making landfall on the East Coast and talked about the potential for similar superstorms in the future. In February the Aquarium hosted a live broadcast on the Southern California drought. NOAA National Weather Service Science and Operations Officer John Dumas and General Manager of the Long Beach Water Department Kevin Wattier discussed California's drought, used NOAA satellite data projected on the SOS to illustrate and analyze its impact, and offered suggestions on ways the public could help reduce the impacts of the drought. To be informed of future webcasts, follow the Aquarium's Facebook and Twitter feeds.



The Pacific Collections gift store features a glass façade with a life-sized image of a kelp forest.

AQUARIUM GIFT STORE RECEIVES TWO DESIGN AWARDS

THE AQUARIUM'S REDESIGNED Pacific Collections gift store received two 2014 A.R.E. (Association for Retail Environments) design awards. One award recognized the store in the category of sustainability, and the other went to the design of its glass façade. A.R.E. is an international 700-member, non-profit trade association advancing the retail environments industry.

The Aquarium's newly designed retail space officially opened in May 2013. The "green" building design, operation, and management of the Pacific Collections store received a 3 Green Globes rating. Its glass façade features a large-scale underwater image of a kelp forest off the coast of California's Channel Islands. The Aquarium commissioned underwater photographer Jim Hellemn to create the kelp forest image.



A Hawaiian monk seal (*Monachus schauinslandi*) explores the shallows at Laysan Island, Hawaii.

USE SOCIAL NETWORKS TO STAY INFORMED

FACEBOOK AND TWITTER can be a great source of up-to-the-minute news you might not otherwise see via traditional outlets and a fast way to share information on issues you care about.

Many organizations that focus on the ocean maintain Facebook pages, where they share news of their own activities and achievements, tips on ways to help the ocean, and updates on developing stories. Keep up with the Aquarium's partner organizations, like the Nature Conservancy, One World One Ocean, Thank You Ocean, World Wildlife Fund, Science for Nature and People (SNAP), and other groups, by following them on Facebook. Learn about ocean advocacy and ocean health by following 5 Gyres, Surfrider Foundation, Heal the Bay, and OceansWatch. Educational organizations also maintain science education pages, like The Ocean Portal, a Facebook page created by the Smithsonian Institution's National Museum of Natural History.

You can also keep track of government agencies in charge of ocean and marine policy, such as NOAA Fisheries Service and National Marine Protected Areas Center, and coalitions like Coastal America and The Ocean Project.

Facebook has also contributed to widespread and rapid sharing of photos and videos that inspire people to care more about ocean animals. The advent of readily available underwater cameras and even drones has allowed people to capture photos and video of the ocean and its inhabitants from never-before-seen angles. Using these platforms to share awe-inspiring images can build momentum and increase the number of people who care about the ocean.

Twitter is also used for these same purposes. It is also useful for following live updates of such events as Capitol Hill Ocean Week, when agencies like the National Marine Sanctuary Foundation live-Tweet the proceedings and invite the public to join the discussion

using hashtags. Using a hashtag in a Tweet (like #aquarium or #ocean) automatically groups it with other Tweets using that hashtag. You can view those Tweets by clicking on the hashtag to see the whole conversation.

Visit facebook.com/aquariumofthepacific,
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instagram.com/aquariumpacific.

The Aquarium uses social media outlets to connect with followers and share news, blog posts, photos, events, discounts, and interesting and educational links. You can use Twitter to ask questions during our live web streaming events, including lectures, forums, episodes of Coastal Conversations, and other broadcasts. The Aquarium's sustainable seafood program Seafood for the Future also maintains Facebook (facebook.com/SeafoodfortheFuture) and Twitter (twitter.com/seafoodfuture) accounts to share relevant news articles and information.

Social media networks can help inspire dialogue about ocean protection and can help people connect to advocate on behalf of the ocean and environment.



SEA FARE

SATURDAY, OCTOBER 18, 2014 7:00-11:00 PM

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Aquarium Education,
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and Animal Care
Programs!

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GO FISH
Opportunity Game

**Unique Silent and Live
AUCTION ITEMS FOR BIDDING**

**TASTES
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PROVIDERS**

**VISITING WITH
ALL THE ANIMALS**
That Call the Aquarium Home **And More!**

**PARTICIPATING RESTAURANTS AND
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THE AULD DUBLINER IRISH PUB	KINCAID'S BAY HOUSE	SLAPFISH
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