

PACIFIC **Currents**

Aquarium of the Pacific

WINTER 2021



Overcoming
the Challenges of
At-Home Schooling

Education in a COVID World

During the pandemic, children are pursuing education in a challenging and unpredictable environment.

BY DARICK J. SIMPSON



AS A CHILD GROWING UP in hurricanes along the Alabama Gulf Coast, I learned that anticipating inevitable destruction was best addressed by detailed preparation. I witnessed mighty oak trees pulled up by the roots and great vessels of the sea tossed onto shores where homes once stood. Life as many knew it was left in chaos at best and lost forever at its worst. I now live in Long Beach, and COVID 2020 reminds me of such storms, because once we realized COVID was headed our way, we didn't have the proper national forecast or resources to prepare. Now our city and nation suffers. Beyond the loss of life, the loss of a high-quality education for youth challenged socially and economically may prove to be one of COVID'S greatest tragedies.

Beyond our schools, our community has become a living classroom for many students...innovative learning environments can teach about our world today and our ecosystem of tomorrow.

My four grandchildren do their best to learn virtually in home school. Their parents strive to help them rise above the disaster that is a dysfunctional education. Teachers lament that some students just can't achieve their personal best virtually. Often, even teachers themselves are challenged to engage students in a way that addresses unique learning barriers remotely. I personally watched as a normally "A" student struggled to understand math assignments with a tutor and wonder, what chance does a "C" student have on their own? How can the latchkey student excel at home alone while working parents struggle to keep the family whole?

Fortunately, one of my granddaughters is part of a learning pod meeting daily with their laptops and a tutor. They are blessed. Thousands more students are not.

COVID is a public health hurricane eroding the foundation of success for a generation, if we do not unite under the banner of EQUITY FOR ALL HUMANITY. Every child that is now academically left behind will show up in the doorway of our socio-economic conscience in the future. Equal does not mean EQUITABLE! In the case of education, for thousands of students, COVID tips the educational scales and the least of us now fail.

Beyond our schools, our community has become a living classroom for many students. They learn survival skills on the streets. They learn economics by subtracting what they desire from the reality of what they have. Fortunately for Long Beach, students can learn science and oceanography at the world-class Aquarium of the Pacific. This amazing facility provides safe harbor for creatures of the sea and students staying afloat in ambiguity. Just as I learned important lessons of life on my grandfather's farm in Vinegar Bend, Alabama, innovative learning environments can teach about our world today and our ecosystem of tomorrow. The fragrance of tall Alabama pines and evening air after strong thunderstorms are replaced by Pacific sunsets and the fragrance of an ocean breeze. However, learning continues relentlessly!

As our youth strive to learn in the most challenging and unpredictable environments we could have imagined, let's ensure they understand that their unique purpose in this life is larger than any problem they face. Let's unite and help a child understand at their level of comprehension the significance of "such a time as this" as young leaders in life. Find ways to show them that united we are much larger than any problem that confronts us. As you sit at home, in a park, or in a beautiful place such as the Aquarium and watch a child's face ignite with smiles of wonder as they learn, open your mind and heart to join them! They are what we once were and will become more than anyone of us could ever imagine!



Darick J. Simpson is the president of the Earl B. and Loraine H. Miller Foundation, a nonprofit grantmaking organization based in Long Beach that has funded the Aquarium's scholarship program for field trips. Previously, Simpson was the executive director of the Long Beach Community Action Partnership. He also serves on the PBS SoCal Advisory Board and the Los Angeles County Department of Public Services Commission.



Letter from the CEO

Dear Members,

As I write this, the headlines note that ICU availability in Southern California is at 0 percent because of the raging pandemic. The Aquarium was fully open for only ninety-one days in 2020, and what was once a staff of 393 on the payroll is today only 184.

But the Aquarium has not let this crisis go to waste. Our education team expanded its virtual offerings and reached hundreds of schools with its expanded Online Academy programming. We launched a TikTok presence that took off like a rocket ship, with some postings capturing over a million views. Animal husbandry established a virtual Animal Encounter program that raises money and allows families to interact with animals. Our conservation programs did not miss a beat, with abalone restoration, sea turtle rescue, and giant sea bass recovery efforts continuing. Worried about the holidays for colleagues who had been furloughed or had their hours cut, staff members collected 332 toys that went home to 115 Aquarium families.

The Aquarium’s mission is to ensure a vibrant ocean for all—2020 reminds us we have much to learn.

The way we have banded together to help each other and to innovate reminds me of what is special about humans. We have white sclera around our cornea—all other primates have brown sclera. Because of the white sclera, we can follow a gaze across the room. Without even uttering a word, we share intentions and can see that others have the same idea. And so our white sclera set the stage for our unique ability to learn from one another and to work together.

The pandemic has also been humbling. Scholars talk about “the Anthropocene” and the human domination of nature. Yes, using total weight as the metric, there is twice as much plastic on the planet today than there are living animals. But that kind of domination does not mean we control nature. California’s wildfires and the tragic COVID-19 toll should vanquish our hubris.

Sincerely,

Peter Kareiva

In This Issue

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In this first edition of the new Fresh Voices column, hear from Darick J. Simpson, president of the Earl B. and Loraine H. Miller Foundation. This new column will feature guest writers offering a fresh perspective on issues facing our planet.

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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 photographer: Robin Riggs | Proofreader: Alyssa Pacaut.

Phone Numbers (562 area code):

General Information.....	590-3100	Lost & Found.....	951-1733
Membership.....	437-3474	Private Event Info.....	951-1663
Development.....	951-1605	Gift Store.....	951-ISEA (1732)



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.





Visitors experienced this new feeding opportunity at the Aquarium this past fall.

Guests Can Feed the Moon Jellies on Harbor Terrace

Brine shrimp will be available to feed the jellies on Saturdays and Sundays when we reopen.

THE AQUARIUM has added the opportunity to feed the moon jellies at the Moon Jelly Touch Lab on Harbor Terrace. Guests will be able to purchase a cup of tiny brine shrimp to gently pour over the jellies and watch as they collect the food. This opportunity will be available on Saturdays and Sundays from 11:30 a.m. to 3:30 p.m., while supplies last.

The cost is \$3 per cup of food or \$5 for two cups. Cups will be available for purchase at the exhibit. Each cup contains tens of thousands of brine shrimp in saltwater. The brine shrimp are grown on site at the Aquarium and feed many of our animals, including the sea jellies, baby fish, and filter-feeding animals.

The moon jellies collect the brine shrimp using their fine sweeping tentacles that line their bell. These tentacles contain stinging cells called nematocysts that use venom to neutralize their prey. Moon jelly venom is too weak for humans to feel, yet it is ideal for capturing small plankton.

The moon jellies' four oral arms (frilled, ribbon-like structures at their center) gather the food from the stinging tentacles as the jellies pulse. The jellies then move the food to the four horseshoe-shaped structures at the center of their bell, where it is digested. After feeding the jellies, look for brine shrimp in the oral arms or the horseshoe-shaped "stomach," which will take on the pinkish color of the brine shrimp.

Watch as the translucent moon jellies collect the pinkish-orange brine shrimp in their fine tentacles and oral arms.



The newcomer began exploring the giant Pacific octopus habitat in November.

New Giant Pacific Octopus Arrives at the Aquarium

Following Aquarium tradition, the new octopus has a name starting with the letter G.

ANEW MALE GIANT PACIFIC OCTOPUS arrived at the Aquarium in October. On his arrival, this young octopus weighed just 2.32 pounds. In contrast, the Aquarium's adult giant Pacific octopus, Godzilla, weighs over 50 pounds.

Aquarium supporters had the opportunity to suggest a name for the new octopus during the our annual Sea Fare fundraiser. In keeping with tradition, the name must start with the letter G. Among the names suggested by Sea Fare donors, the Aquarium's husbandry staff picked the name Groot. The young octopus moved into the giant Pacific octopus exhibit in the Northern Pacific Gallery and Godzilla was moved behind the scenes in November. Godzilla is reaching the end of his lifespan, which is very short for his species.



ROBIN RIGGS

Flamboyant cuttlefish were added to the Tropical Pacific Jewels exhibits.

New Aquarium Residents Arrive

New animals have been added to exhibits inside the Aquarium.

PACIFIC SPINY LUMPSUCKERS

The Aquarium received several juvenile Pacific spiny lumpsuckers from another Association of Zoos and Aquariums-accredited facility in November. Spiny lumpsuckers are found in a variety of habitats and usually attach to solid objects with their suction cups.

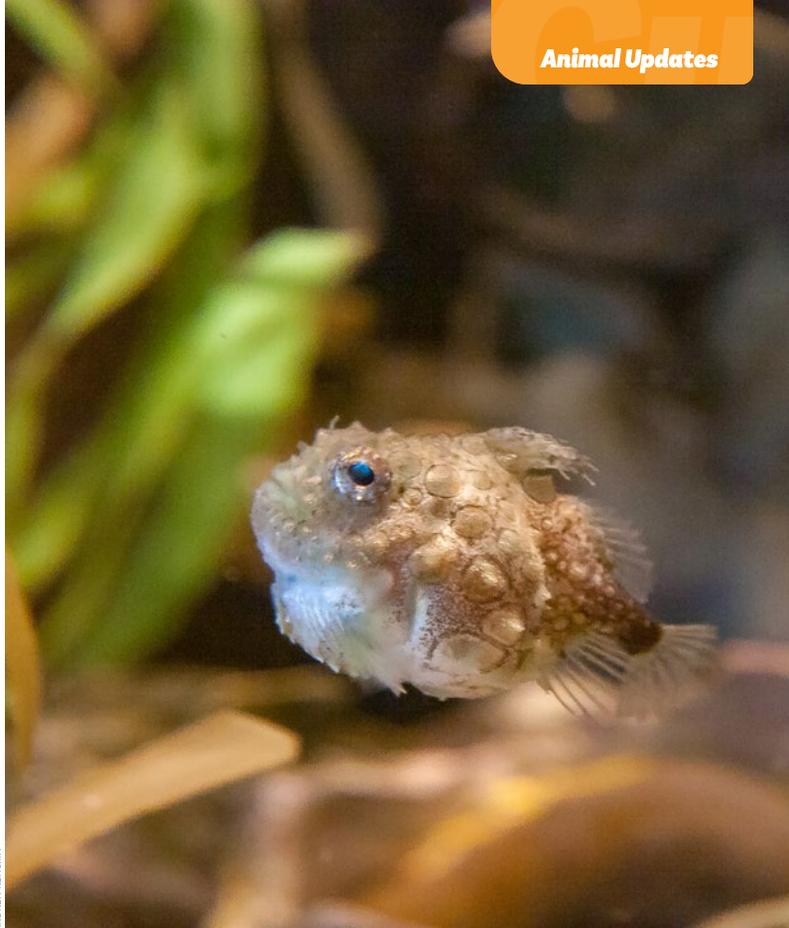
FLAMBOYANT CUTTLEFISH

Several flamboyant cuttlefish were added to the Tropical Pacific Jewels exhibits in November. These animals are cephalopods and are related to octopuses and squid. In the wild, flamboyant cuttlefish can be found in the Philippines, Indonesia, Northern Australia, and Papua New Guinea. They feed on mollusks, crustaceans like shrimp and crabs, and small fish.

MORE UPDATES

Some recent additions to our Bays and Sounds Exhibit in the Northern Pacific Gallery include: baby tubesnout (*Aulorhynchus flavidus*), coonstripe shrimp (*Pandalus danae*) with northern feather duster worms (*Eudistylia vancoveri*), graceful kelp crab (*Pugettia gracillus*), a longhorn decorator crab (*Chorillia longipes*), and a rhinoceros crab (*Rhinolithodes wosnessenskii*).

Follow the Aquarium on Facebook, Instagram, Twitter, and TikTok for the latest animal updates. And see some of these animals on our live virtual tours.



ANDREW REITSMA

Pacific spiny lumpsuckers were added to the Northern Pacific Gallery.



ANDREW REITSMA

Lumpsuckers use a suction cup-like disc on their undersides to attach to surfaces.



Overcoming the Challenges of At-Home Schooling

The COVID-19 pandemic has caused school shutdowns and required a quick adaptation to online learning that has challenged teachers, parents, and students. The Aquarium's educators and other experts share best practices for engaging students in remote learning.

All parents and teachers know that look when a child's face lights up with the excitement of learning or discovering something new. Since the COVID-19 pandemic hit, we have not been seeing that look very often. It does not take a Ph.D. in education to realize that virtual learning is a dim reflection of in-person learning. That said, there are ways to use virtual platforms to generate the engagement and playfulness that sparks emotional and intellectual growth in children.

Creating an Atmosphere for Engagement

You have probably heard the bad news about families struggling through the school day from home. Children are missing their friends and social interactions. Students keep their video turned off and microphones muted. "It's disheartening," a local middle school teacher says. "My pre-COVID classes could be quite noisy at times or silent at others, but this is just quiet the whole time, with a few kids that always participate and others that I have never seen or heard since August."

So what can we do? To counteract the negative impacts of virtual schooling, Mike Flynn, director of Mathematic Leadership Programs at Mount Holyoke College in South Hadley, Massachusetts, encourages teachers to spend time in online classes building a sense of community among their students. In his online course for math teachers, he starts with an ice breaker about pizza toppings, a topic that quickly gets people talking. "Doing stuff that is a little less academic in favor of developing stronger relationships pays off dividends later on," he says. "Once you have good relationships and people can be open and vulnerable with one another, then you've got a great environment for learning."

How Children Learn in a Virtual Environment

Aquarium educators Emily Yam and Alicia Archer explain that there are two aspects of learning: the social/emotional context and building understanding of the content. "In the classroom, students benefit from proximity to other students and teachers," Archer says. "The social and emotional aspects affect how we make meaning of new content and experiences."

In a virtual environment, those aspects need to be replaced in other ways to provide students with positive reinforcement for staying engaged. This can be done through chat messages, having teachers acknowledge students by name, and providing opportunities for students to ask questions and make comments. Teachers can also create a social context by framing the lesson as an activity the group is doing collectively, such as solving a mystery or going on an adventure together. These types of lessons are the focus of the Aquarium's most popular remote classroom programs.

Helping students build understanding of the content requires taking a step beyond validating their participation to validating their ideas. Educators need to help students feel, no matter their age, that their participation is driving the class session through interactivity and real-time feedback.

Yam and Archer also recommend tailoring the online classroom experience to the students' age. Older students like to participate in online polls, send chat messages, and use other tools that take advantage of the technology available in a virtual setting. Some Aquarium classroom programs use apps like Padlet, allowing students to submit notes and images that are displayed for all participants to see and react to. The Aquarium also takes



advantage of technology like Science on a Sphere, created by the National Oceanic and Atmospheric Administration, which allows students to view real-time datasets on a global display, like live earthquake data, storm systems, and sea surface temperature. This type of high-tech teaching tool can help grab older students' attention.

For younger or less tech-savvy students, teachers can use methods like a group drawing or crafting activity. Yam and Archer also recommend having younger students use hand signals and body motions as a way to participate and share their ideas.

A Shift in Perspective

To ease the stresses of online learning, Flynn says schools should step back and acknowledge that normal metrics of success are not as relevant under these abnormal conditions. "It's hard for some people to change their conception of what education can and should be during this time, so they try to replicate what existing structures are in place, and it's going to lead to failure across the board," he says.

Given the circumstances, he recommends that parents and caregivers do what they can to take pressure off their children. He suggests making the best of the school year by taking advantage of a child's natural tendencies for curiosity and self-directed learning outside of school. For example, Flynn's high school-aged son is interested in cooking and has focused on learning to read recipes and cook at home. "Find ways to spark excitement in your kids and let them dig into what they are curious about," he says.

Even though the challenges are great, Yam and Archer encourage parents and caregivers to appreciate what learning is possible under the current circumstances.

"Sometimes just getting through the day is the goal," Archer says. "Learning is still possible, but it's different from what we expected, and measuring success may look different."

Parents and caregivers have already turned to educational resources available online to help educate and engage children at home throughout the pandemic. The Aquarium's live exhibit webcams saw a significant increase in traffic starting in March, and its other online offerings have received hundreds of thousands of views from across the country and world. "We have an advantage in that the Aquarium appeals to everyone, and there is no test at the end of our classes," Archer says. "We can help promote learning, even if it's not material that is teaching to certain standards or checking boxes for students meeting certain metrics."

Children learn differently in a virtual environment.

Take advantage of your child's natural curiosity to encourage self-directed learning. What gets them excited?



Allow children to have their own personal workspace and check in with them regularly to go over what they are learning.

Expert Tips for Parents and Caregivers

The Aquarium asked its local network of teachers, staff educators, and other experts to provide tips and advice for parents and caregivers to help set their children up for success with at-home schooling during the pandemic.

Spend extra time with your children to provide support and help them build confidence.

To counteract the stress and frustrations of remote schooling, teachers and other experts encourage parents and caregivers to spend more time with their children. “Go for a walk, read a book, or visit the Aquarium. The best learning happens in the most interesting situations,” says John Newell, a K-5 science lab teacher in the Pasadena Unified School District.

Yam and Archer suggest that caregivers talk to their children about the at-home school experience and ask about their favorite part of the day or to share some element of what they learned. Students may be too shy to interact with their class online, but might talk to a parent about the class. “Parents can encourage confidence to participate, just like they try to be encouraging about the first day of school,” Archer says.

Let your student design their workspace.

Whether it’s a seat at the dining room table, a desk in their room, or a side table in the living room, their own personalized workspace allows your child to help them feel a sense of ownership. “Even younger children can help design the space,” Flynn says. “Let them make a list of things they want and decide where things go.”

Plus, creating a space that they don’t have to set up and take down each day can smooth the process of getting started in the mornings.

Familiarize yourself with the online learning platforms your child’s school and teachers are using.

Teachers explain that while it’s important for students to practice independence during the school day and learn how to effectively navigate and use various programs to participate, it is easy to lose track of assignments and forget what time to come to class without a strong support system. Parents who have a basic familiarity with the programs being used by their students’ teachers can help students get up and running for the day. Periodic check-ins will help ensure that the student is participating and not getting distracted by other uses of the computer.

Communicate with teachers.

Establish a reliable communication system with your child’s teachers to relay information quickly and let them know if your child is having any difficulty.

“Teachers have lost communication with some parents, making it difficult to track what’s going on with students and provide help if they are having trouble keeping up with assignments,” a local teacher says.

Establish a routine.

Help your student establish a routine that replaces what your family did before the school closures. Consider checking in with your student at least twice a day. Talk

Tips for success include letting your child design their own workspace and establishing a routine.

with them in the morning before they start school to see if they have a plan for the day. Then follow up in the afternoon to see how the day went, find out what assignments they are working on, and if they need any support. “This is a way to help prime kids and create independence,” Flynn says. “You’re prompting your child to reflect on what they need to do, and that will eventually be internalized.”

He also recommends scheduling time away from screens and movement or exercise breaks. “Find ways to provide some downtime for the brain,” he says. “Any time you have unstructured time, that’s where great ideas come from. Something like taking a walk for fifteen or twenty minutes can provide students with the right amount of focused energy they’re going to need later on.”

Go outside and experience nature.

Studies have shown that connecting to nature by visiting an urban park, the wilderness, or the ocean relieves stress and primes your mind to learn more effectively. It also provides interactive learning opportunities.



Aquarium educators broadcast ocean science classes live from a green screen studio inside the education offices.

Virtual Aquarium Programs

For most of 2020 the Aquarium was unable to provide in-person experiences for kids, so we focused our efforts on virtual engagement, an area where our educators already have developed expertise. Our commitment to science education and to connecting children to animals and nature spurred us to quickly develop and put out a variety of programs for kids at home.

During the pandemic, the Aquarium has provided free virtual ocean science classes for all ages.

The Aquarium's educators have engaged in distance learning since establishing an onsite videoconferencing studio in 2012. The Aquarium has also invested heavily in professional development for its educators and hosted regular training workshops for teachers. Because of this, the education staff has learned best teaching practices and how to help students learn, particularly in STEM (science, technology, engineering, and math) topics. Over the years, the Aquarium has connected with classrooms all over the world to provide ocean learning remotely. Programs are available for kindergarten through twelfth grade and are now being offered to schools as Virtual Field Trips.

This experience readily translated into producing the live ocean education classes for kids the Aquarium launched at the start of the pandemic. The classes are targeted to various age groups, from preschoolers, kindergartners, and elementary students to middle and high schoolers. They are based on programs the Aquarium taught pre-pandemic, plus eleven new programs have been added, with topics ranging from ABCs for preschoolers to animal healthcare for teen students. Visit aquariumofpacific.org/education/aquariumacademy for the schedule. The classes are part of the Online Academy, which includes all of the Aquarium's online offerings for both children and adults.

"The Aquarium has always been an educational resource to our community and a way to connect and learn about nature," says Archer. "We are thrilled that we are able to continue to serve families to help them engage and educate their children as they navigate the unique challenges brought on by the pandemic. Our goal is to support them and spark an interest in lifelong learning. Our advice to parents is to remain positive, flexible, and use it as an opportunity to engage your family in new and unique ways."

* Member Events

Please join us for events just for our members and donors.

Member Night

■ Thursday, March 11
6:30 P.M.–9:00 P.M.

Join us for exclusive hours at the Aquarium for members only! Enjoy an evening visiting with your favorite animals without the public.

- Free for members (reservations required)
- Call (562) 437-3474 to reserve



* Festivals

📍 Experience our community's diverse cultures and their connections to the ocean and environment. Virtual festivals stream live at aquariumofpacific.org.



Virtual International Children's Festival

■ Saturday, March 20
10:00 A.M.–3:30 P.M.

The Aquarium's annual Virtual International Children's Festival will be a special event for kids. Celebrating the amazing talents of children of many cultures, this festival features music, dance, games and crafts. The Aquarium will also honor a local youth with its annual Young Hero Award in recognition of his or her efforts to make our planet a better place.

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 twentieth annual Earth Day Celebration. Join the Aquarium for a weekend of family fun celebrating Earth Day while learning simple, everyday tips to protect our environment. See displays from various Earth-friendly organizations, and watch learning demonstrations for people of all ages.

Urban Ocean Festival*

■ Sat. & Sun., May 1–2
9:00 A.M.–5:00 P.M.

Explore and celebrate Southern California's coast during the Aquarium's annual Urban Ocean Festival. The event will include art exhibitions, a fashion show and contest for designs using recycled materials, mural painting, poetry readings, displays, and educational activities.

Virtual Festival of Human Abilities

■ Saturday, January 30
10:00 A.M.–3:30 P.M.

The eighteenth annual Festival of Human Abilities will be a virtual online festival, streaming live from the Aquarium. Anyone can tune in for free. This virtual event will celebrate the creative spirit of people with disabilities, including dancers, musicians, and artists. The Aquarium will present the Glenn McIntyre Heritage Award to Infinite Flow Dance at 3:15 p.m. Visit the Aquarium's website to tune in.

Virtual African American Festival

■ Saturday, February 27
10:00 A.M.–3:30 P.M.

The Aquarium will host its annual African-American Festival as a virtual event, celebrating the rich diversity of African-American and African cultures. The weekend will feature live entertainment and arts. Festival performers include dancers, musicians, drum circles, and storytellers.

*Note these events may be virtual.

For information, visit aquariumofpacific.org or call (562) 590-3100, ext. 0.

* Guest Speakers

Lectures are streamed on the Aquarium's website. Visit aquariumofpacific.org/news/lectures.

Drift Dive

NEW THIS YEAR!

Drift Dive, an extension of the popular Night Dive series, is a live-recorded podcast for adult audiences presented by the Aquarium of the Pacific. Each episode will highlight and amplify diverse voices from people who are innovating in the fields of nature, sustainability, and conservation and working to make the world a better place.

The first podcast episode, which will be released in early 2021, will feature a conversation with Jasmin Graham, project coordinator for Marine Science Laboratory Alliance Center for Excellence at the Mote Marine Laboratory. She is also the founder of Minorities in Shark Science, an organization dedicated to supporting women of color interested in shark science.

Animal Talks

Hear from members of the Aquarium's animal care team as they share their stories and latest research. Each month Curators Nate Jaros (fish and invertebrates) and Brett Long (mammals and birds) will select speakers from the animal husbandry department to present lectures about the latest development surrounding the care, studies, and conservation news about Aquarium's animals. This series will also include presentations by the veterinary staff, who will discuss animal healthcare, rescue, and rehabilitation. Visit our website for the latest offerings.

IN-KIND SPONSORS:



Ken Kurtis - Journey to the Island of Yap: Stone Money, Massive Manta Rays, and More



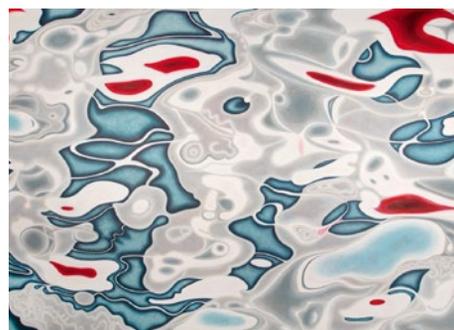
Nate Jaros and Briana Fodor - Coral Reef Restoration in Palau and the Bahamas

Aquacasts

Many visiting guest speakers at the Aquarium have recorded short video Aquacasts, providing a three- to five-minute overview of their talk and answering questions about their area of expertise. Learn about the Great Pacific Garbage Patch, conservation of the vaquita porpoise, venomous sea creatures, and many other topics by visiting our Aquacast archive at aquariumofpacific.org/multimedia/video.



Susan Gerros - Saving Birds in the Northern Mariana Islands



Danielle Eubank - One Artist, Five Oceans

Visit our website for information on additional lectures coming in early 2021.

VIRTUAL EXPERIENCES

Online Learning Resources

The Aquarium offers a library of free virtual resources to engage Aquarium members from home. Check out the following opportunities to connect with the Aquarium.

Children's Classes

Tune in to the Aquarium Online Academy for live and interactive programming for kids of all ages. Visit aquariumofpacific.org/news/aquariumacademy for current scheduling. In addition to live programming, the Aquarium Online Academy offers a large library of pre-recorded sessions on the Aquarium's YouTube channel.

- Grades PreK-12

The Pacific Pals Show

After creating nearly forty episodes of *The Daily Bubble* from home, the Pacific Pals are in studio at the Aquarium creating new episodes of *The Pacific Pals Show*. Join your favorite Pacific Pals on the Aquarium's social media channels weekly to see more educational storytelling.

- All ages

Webcams

Want to check in on your favorite Aquarium animals from your living room? Seven different webcams placed in six exhibits allow your family to visit the Aquarium virtually. Now, you can take webcam exploration even further with the Aquarium's Webcam Resource Kits (available at aquariumofpacific.org/teachers/webcamkits). These kits include lesson plans and videos that provide guided exploration of the Aquarium webcams.

- Grades K-8



Career Connections

Introduce your teenager to a variety of STEM careers through the Aquarium's Career Connections series. By exploring the careers of scientists working at the Aquarium, you will learn more about current research and career opportunities. The series is available at aquariumofpacific.org/teachers/career_connections

- Grades 6-12

Conservation Series

Explore current conservation projects and meet the professionals who have dedicated their lives to conservation. Visit aquariumofpacific.org/teachers/conservation_series for videos, discussion guides, and activities related to conservation and sustainability.

- Grades 6-12

Virtual Field Trips

The Aquarium is offering Virtual Field Trips for schools, homeschools, and care facilities for learners of multiple ages. These educator-led programs run live from our studio on site. Our educators will help you and your students explore various topics based on grade level, like recognizing shapes and colors, comparing sharks and fish, and even discussing conservation and human impacts on ecosystems. Prices range from \$100 to \$250 depending on the program.



Virtual Tours and Encounters

Connect with the Aquarium virtually through programs that offer up-close views of our animals, the chance to ask our animal experts your questions, and glimpses of our behind-the-scenes areas. Your purchases help support the Aquarium as it recovers and grows from the impacts of the COVID-19 pandemic.

Virtual Seal and Sea Lion Encounter

Saturdays

11:15 A.M.-11:45 A.M.

Meet one of our seals and sea lions in a virtual Animal Encounter. See our animals up-close, watch as they participate in a training session, and hear from animal care staff.

- Bookings close 3 hours prior to each program
- Visit aquariumofpacific.org for tickets
- \$10 per household



ROBIN NEGUS

Virtual Sea Otter Encounter

Sundays

2:00 P.M.-2:30 P.M.

Come face-to-face with one of our adorable sea otters in our new virtual Animal Encounter. Watch as they enjoy a snack and learn about how we care for them from our animal care staff members.

- Bookings close 3 hours prior to each program
- Visit aquariumofpacific.org for tickets
- \$10 per household

Virtual Tours

Northern Pacific Gallery

Saturdays

1:30 P.M.-2:15 P.M.

Tropical Pacific Gallery

Sundays

12:45 P.M.-1:30 P.M.

Virtual tours of the Northern Pacific and Tropical Pacific Galleries are now available. Viewers can learn more about their favorite animals, see behind-the-scenes areas not currently open to the public, and meet the animal care experts and ask them questions.

- Visit aquariumofpacific.org for tickets.
- \$10 per household

Zoom Animal Appearances

Add some fun to your conferences, business meetings, or family virtual meet ups with a live guest appearance by a sea lion, penguin, or sea otter. Get your own private time with one of our animals and meet their caretakers who will answer questions and engage with your meeting attendees in a 30-minute program. Available daily between 8:30 a.m. and 3:30 p.m. with reservations made one week in advance.

- Call (562) 590-3100 to reserve.
- \$750

Call (562) 590-3100 for
more information.





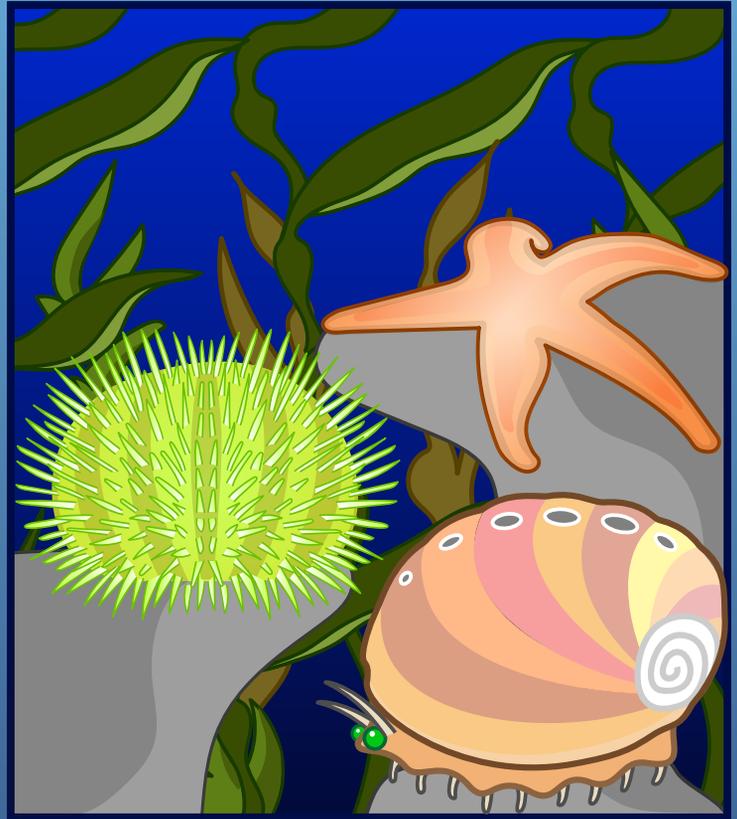
California sea lions haul out of the water to rest and relax in the sun, often forming large noisy groups. Parker and Harpo like to haul out together in the Seals and Sea Lions Habitat.

*Aquarium
of the Pacific*



Meet Elsie Sweetmitten !

She's a rescued otter pup and the newest Pacific Pal!
Help Elsie spot four differences in the kelp forest.



ABALONE

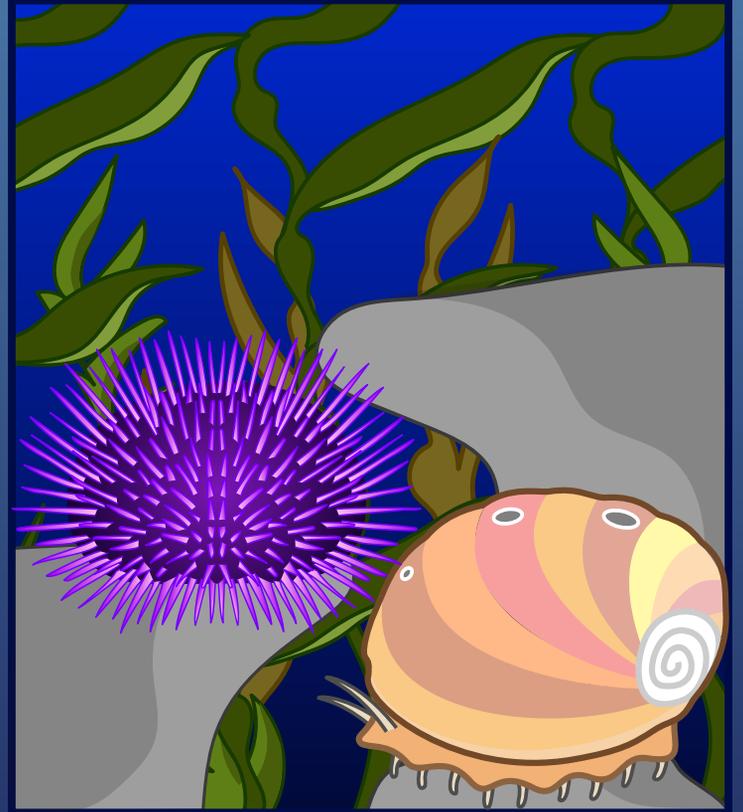
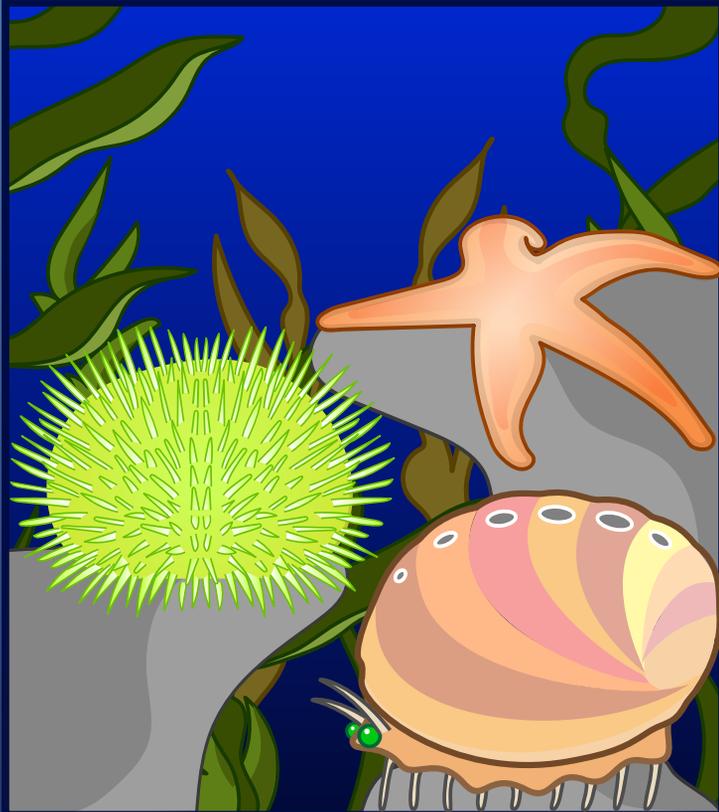
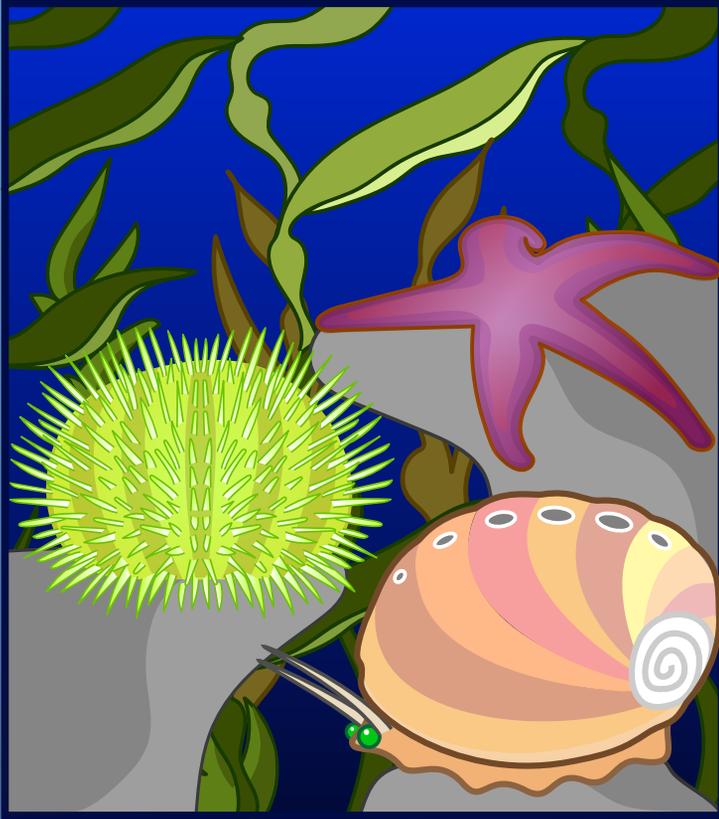
A favorite food of sea otters!
They are so endangered you can
hardly find them today.

KELP FOREST

The kelp forest is home to hundreds of species
and one of the most important habitats in the world!

SEA URCHIN

Elsie can help the Kelp Forest by eating as many sea urchins as she can.



SEA STAR

Sometimes eaten by otters, sea stars are also predators themselves!

AQUARIUM

Animal Facts



LORIKEET FOREST

Swainson's Lorikeet

Trichoglossus haematodus moloccanus

Swainson's lorikeets are one of the three types of lorikeets you can find at the Aquarium. Swainson's lorikeets have a yellow and orange chest. The other two types in Lorikeet Forest have different coloration: Edward's lorikeets' chests are all yellow, and green-naped lorikeets have black and red striped chests. Lorikeets are native to Australia and the surrounding islands and feed on nectar, fruit, pollen flowers, and berries.

SHARK LAGOON

Brown-banded Bamboo Shark

Chiloscyllium punctatum

Brown-banded bamboo sharks are found in the Indo-West Pacific, from Japan to Australia. They hunt at night on the muddy seafloor between the shore and the reef, using the sensitive barbels on their snouts to find crabs, worms, and other food. They grow to a maximum length of 41 inches and can live for about twenty-five years. Look for brown-banded bamboo sharks in the smaller touch pool in Shark Lagoon.



SEALS AND SEA LIONS HABITAT

Harbor Seal

Phoca vitulina sp

Harbor seals can be found in many locations around the world in the Pacific and Atlantic Oceans. They grow to between 5 and 6 feet long and can weigh up to 285 pounds. They eat 5 to 6 percent of their weight in food per day, hunting for fish, octopus, squid, lobsters, and crabs. The Aquarium is home to four harbor seals, Ellie, Shelby, Troy, and Kaya.



* Visit Our Video Library

View archived lectures and short films curated and produced by the Aquarium.



ROBIN RIGGS

Aquarium Animals and COVID-19: Implications for Sea Otter Programs at the Aquarium of the Pacific

In a lecture recorded in September 2020, Aquarium experts discuss the potential impacts of COVID-19 on sea otters. Dr. Lance Adams, Aquarium veterinarian, presents a summary of information about SARS-CoV-2 (COVID) in zoo animals, why sea otters may be susceptible, and what the Aquarium's staff does to keep the sea otters healthy. Brett Long, curator of mammals and birds, discusses operational changes that have affected the sea otters, staff, and programs, including the sea otter surrogacy program.



KEN KURTIS

Sylvia Earle at the Aquarium of the Pacific

In January 2020 famed ocean explorer Sylvia Earle spoke at the Aquarium to give her perspective on California's unique relationship with the ocean and what we can do to ensure a healthy ocean in the future. Her talk kicked off a forum on oil rig decommissioning. This event gathered regulators from federal and state agencies, scientists, representatives of commercial and recreational fishing organizations, divers, and other experts to discuss the possibilities and sustainable options for decommissioned oil rigs off the coast of Southern California.



Fish Story

The global demand for seafood continues to increase along with the population. Wild-capture fisheries cannot meet the growing demand alone. There is great potential to reduce pressure on land-based resources by farming fish in the ocean. Aquaculture can also take pressure off of wild stocks and reduce the carbon footprint associated with seafood. According to the UN Food and Agriculture Organization, the U.S. has the most area suitable for environmentally responsible marine aquaculture within its exclusive economic zone, but it lags behind the rest of the world in marine aquaculture production. Marine aquaculture will play an increasingly important role in a healthful and environmentally responsible food supply, but what role will California play?



The Time is Now, the Future is Here

The Aquarium's short film *The Time is Now, The Future is Here* is designed to inspire viewers to take action in response to climate change. The film uses examples of people of all ages and various backgrounds around the world developing sustainable solutions in the face of a changing climate, from high school students who learned to make biodiesel from algae to farmers in Bangladesh growing different crops to adapt to sea level rise.



This stranded sea turtle was given a check-up and released the same day

MACHELINE BANGBER

Aquarium programs have reached thousands of students.



Aquarium Rescues and Releases Stranded Sea Turtle

LAST OCTOBER the Aquarium took in a green sea turtle found stranded near Marina del Rey. After a full health assessment by Veterinarian Dr. Lance Adams, it was determined that the turtle was strong and healthy enough to be released the same day. The veterinary staff cleaned and treated a few scrapes, took x-rays, tagged the sea turtle with a microchip, and then released it back into the ocean.

Since 2000 the Aquarium has rehabilitated and released sixteen sea turtles that were found stranded or injured along our coast.



HUGH RYONG

Aquarium Provides Ocean Science for Los Angeles Unified School District Students

THE AQUARIUM JOINED A PARTNERSHIP with more than two dozen other institutions that are providing online STEM (science, technology, engineering, and math) classes for students in the Los Angeles Unified School District (LAUSD) through the Mayor's Fund of Los Angeles. These classes primarily serve fifth graders in Local District Central.

The participating organizations rotate virtual programming in three-week sessions. The Aquarium taught Next Generation Science Standards-based programs for fifth graders and a free one-hour afterschool program for kindergartners through fifth graders for ten weeks.

Aquarium educators reached hundreds of LAUSD students each day with ocean science learning programs.

The Aquarium's educators broke up into teams to teach these classes and get to know the students over an extended period. The educators reported that the students asked interesting questions and made unexpected observations during these classes.



@tdoan70



@babybossbabes



@museuseum



@erikaruz

#LoveAOP

THANK YOU TO EVERYONE who was able to visit us in 2020. Here is a sampling of the many photos we received from visitors and members.

New Pacific Pals Short Now on YouTube

THE PACIFIC PALS released a short video in fall of 2020 celebrating Halloween. *The Splashing*, a parody of Stephen King's *The Shining*, was created as a trailer for a feature film. During the Aquarium shutdown due to COVID-19, the Quinn family, headed by Captain Quinn the hermit crab, became caretakers for the Aquarium's indoor galleries. Novelist Quinn hopes for peace and quiet but finds himself inside a spooky nightmare!

You can find this and all the other episodes of The Pacific Pals Show on the Aquarium's YouTube channel at youtube.com/aquariumofthepacific.

Aquarium to Host Film Festival for High School Students

THIS COMING SPRING the Aquarium will host a film festival for high school students. Students in grades nine through twelve are invited to submit short films on ocean and environmental topics.

The Aquarium will screen the finalists' films and present awards on Tuesday, May 18, 2021.

For more information including details on how to submit a film, visit our website.



Fundraising Highlights

The Aquarium of the Pacific spotlights recent stories of supporters who have helped further our mission and vision.



Donations to the Aquarium of the Pacific for Long Beach Gives supported our 12,000 animals, educational programs, and conservation work.

Long Beach Gives Raises Important Recovery Funds

ON SEPTEMBER 24, 2020, the Aquarium joined 150 local nonprofit organizations for the second Long Beach Gives, an annual day of giving that celebrates and supports organizations working in our community. Long Beach Gives donors raised over \$8,500 to help the Aquarium recover and grow from the impacts of COVID-19.

“We would like to send a special thank you to Barbara Bixby Blackwell and Jean Bixby Smith for their generous matching donation of \$2,500,” Aquarium Vice President of Development Ryan Ashton said. “Thank you to all those who donated to the Aquarium for Long Beach Gives! We could not do it without you!”



Aquarium VolunTEEN Marivi Vergara poses with her educational yard sign created for the Ocean Neighbors project.

Edison Supports Aquarium's Remote STEM Education Efforts

THE AQUARIUM'S Online Academy and Ocean Neighbors project were featured in a story and video on Edison International's ENERGIZED website in October. These programs provide important learning opportunities to keep students and families engaged and involved at home during these difficult times.

Aquarium educational programs are reaching students of all ages, including our own teen volunteers, during the pandemic.

“Nonprofits like the Aquarium of the Pacific are finding innovative ways to educate and inspire students to share their love of the ocean, even during the pandemic,” said Alex Esparza, SCE principal manager of Corporate Giving. “Edison International is proud to continue its support of nonprofits who are making a positive difference in our communities.”

A supporter of the Aquarium since 1997, Edison International recently provided a grant of \$45,000 to fund these virtual and at-home education programs that are reaching students across Southern California and beyond.



Rosa Ayala, Dario Orellana, and other Bank of America Financial Center employees from East Lancaster and Quartz Hill cleaned up their local park.

Aquarium Supporters Participate in Local Clean-Ups

IN SEPTEMBER 2020 the Aquarium invited the public to celebrate California Coastal Clean-Up Month by hosting their own clean-up events. Participants and their families or housemates were encouraged to safely clean their favorite local park, beach, or neighborhood streets.

More than fifty community volunteers from Bank of America joined in the effort. One Bank of America associate, Margaret Lee, cleaned up a local park with her three children and wrote, "It felt great to do a clean-up, but also teaching the kids about the importance of keeping our planet clean! We filled two bags of trash over two hours." The program, which encouraged people to make a positive impact in their local community, was sponsored by The Boeing Company.



Virtual Sea Fare Raises Record-Breaking Funds for Recovery

THE AQUARIUM'S FIRST-EVER virtual Sea Fare fundraiser was held on Saturday, October 17, 2020, and was a great success. Proceeds exceeded \$214,000, which directly supported the Aquarium's world-class education, conservation, and animal care programs.

"Thanks to all Sea Fare auction bidders and winners, those who made donations of all sizes, and everyone who watched from home. You are part of the Aquarium family and we are so appreciative that you celebrated with us," said Ryan Ashton, Vice President of Development.

THE AQUARIUM THANKS SEA FARE SPONSORS:

- Esther S.M. Chui Chao
- Don Temple Family Charitable Foundation
- Kathleen M. Eckert
- U.S. Bank
- Johnny Carson Foundation

- Mark Bertrand
- The Boeing Company
- Norman and Diane Delaterre
- Dr. Allen and Charlotte Ginsburg
- Bob Gordon
- Bob and Val Hoffman
- JBS & Associates
- Keesal, Young & Logan
- Northrop Grumman
- Susann Norton
- Mark Paullin
- Schulzman-Neri Foundation
- TMH Tippet
- Morrhead and Haden

Did you know that you can start a fundraiser for the Aquarium?

[Learn More!](#)

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- **Mr. Anthony T. Brown**, VP of Finance/CFO
- **Ms. Cecile Fisher**, VP of Marketing/Corporate Secretary

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- **Mr. Stephen Young**

(as of December 31, 2020)
aquariumofpacific.org

Aquarium Accolades



Aquarium President and CEO Dr. Peter Kareiva and Heritage Award honoree Dr. Stanley Rodriguez.

Dr. Stanley Rodriguez

Heritage Award

Dr. Stanley Rodriguez was the Heritage Award honoree at the Aquarium's Moompetam: Native American Festival on September 19, 2020. The Aquarium presented the award in recognition of Dr. Rodriguez's efforts on behalf of Native American people in California and his work to preserve and share Kumeyaay culture.

Dr. Rodriguez is from the Santa Ysabel Band of the Iipay Nation, a part of the Kumeyaay people from the area now known as San Diego County. He is a Tribal Councilman for the Santa Ysabel Nation and director of Kumeyaay Community College. He is a member of the Board of Directors for Advocates for Indigenous California Language Survival. He is also a renowned Kumeyaay Wildcat song singer and Tipai song singer, along with bird singing.

Dr. Rodriguez is dedicated to educating Native American communities about Kumeyaay history, culture, and language revitalization. He serves as an educator and mentor to Native students of all ages through several teaching positions. Dr. Rodriguez is an instructor at Kumeyaay Community College, a faculty member at Cuyamaca Community College, and adjunct faculty member at California State University, San Marcos.



Cindy Montañez, CEO of TreePeople and Heritage Award honoree.

Cindy Montañez

Heritage Award

The Aquarium presented its Heritage Award to Cindy Montañez, CEO of TreePeople, during the Baja Splash Cultural Festival on September 26, 2020. The award was presented in recognition of her work to make Los Angeles resilient to the impacts of climate change while improving quality of life for all Southern Californians. TreePeople is an environmental nonprofit organization that empowers Los Angeles residents to care for the urban environment.

At age 25 Montañez was elected the youngest mayor and councilmember of San Fernando. At 28 she became the youngest woman elected to the California State Legislature. Next she served as assistant general manager at the Los Angeles Department of Water and Power, where she was involved with transitioning the utility to cleaner energy and a more sustainable water supply. Currently she serves as a board member for the University of California, Los Angeles' Institute of the Environment and Sustainability and is a legislator-in-residence at the University of Southern California's Jesse M. Unruh Institute of Politics.

At TreePeople, Montañez works with the community and public agency partners to make Los Angeles a model for sustainability, focusing on both environmental challenges and social justice.

“We are blessed here in Los Angeles to have the Aquarium of the Pacific, where we can demonstrate how humans and wildlife can coexist together and how we must take care of each other – for the sake of the animals, for the sake of the fish, but especially for the sake of humanity.”

– Cindy Montañez

Heritage Awards were presented to honorees during each of the Aquarium's fall festivals, which were held virtually.



Aquarium Vice President of Development Ryan Ashton and Heritage Award honoree Chanwantha "Sam" Limon.

Chanwantha "Sam" Limon

Heritage Award

The Aquarium presented the Heritage Award to Chanwantha "Sam" Limon at the Southeast Asia Day festival on October 10, 2020. Limon is a human resources branch manager for the Los Angeles County Department of Public Social Services.

Limon has dedicated much of her time to her community. In addition to serving as a board member of the United Khmer American Coalition, she is also the scholarship chair on the board of the Los Angeles County Cambodian Employees Association. She has volunteered with the association in various capacities for the past thirty years, helping to connect local communities with services, raising funds for several scholarships and charitable giving to address issues like homelessness and poverty, participating in Cambodian community events, and leading community service days. Through the association, Limon has organized cultural events, connected county leaders with the Cambodian employee workforce, and served as a team captain for targeted fund drives.

Limon also has strong ties to the Cambodian community and culture in Long Beach. She is one of the co-founders of Spirit of Khmer Angkor (or SKA) under the Cambodian Association of America. SKA provided the association with a cultural center in Long Beach where Cambodian children can learn and practice traditional dance, cultural crafts, and music, and learn Cambodian history and folklore.

For over fifteen years, Limon has served as SKA's volunteer organizer and coordinates cultural programs and events. She has organized SKA's participation in the Aquarium's Southeast Asia Day festival.



Chinese Historical Society of Southern California President Susan Dickson.

Chinese Historical Society of Southern California

Heritage Award

The Aquarium presented the Heritage Award to the Chinese Historical Society of Southern California (CHSSC) during the Autumn Festival on November 14, 2020. CHSSC President Susan Dickson accepted the award on the organization's behalf.

The Chinese Historical Society of Southern California was organized in 1975 to share and celebrate the important history and historical role of Chinese and Chinese Americans in Southern California.

The organization provides walking tours of Chinatown, coordinates an oral history project, raised funds for the Chinese American Museum at the El Pueblo de Los Angeles Historic Monument, and has developed or co-sponsored several exhibits at museums throughout Southern California. It hosts free public meetings each month with guest speakers, supports preservation and protection of historical landmarks and buildings, and publishes both academic and general interest books, journals, and a newsletter.

Its outreach efforts include youth education, scholarships, and workshops, an annual banquet, participation in community events including festivals and parades, and networking with other historical societies and cultural groups to engage in cross-cultural events and celebrations.

BOOKING FUTURE DATES



A Unique Setting for Your Event

The Aquarium of the Pacific's award-winning Pacific Visions wing provides a unique venue for private events. Host a picnic on the front plaza with the backdrop of the stunning glass biomorphic building. Hold a reception or sit-down dinner in the art gallery surrounded by a coral wall, projections of ocean life, and a virtual waterfall. Or choose from a variety of other spaces, including the rooftop Veranda, Great Hall, Shark Lagoon, or even the adjoining Shoreline Aquatic Park. Whether it is for picnics, formal receptions, or sit-down dinners, the Aquarium offers a variety of venues that immerse you in the beauty of the ocean and will create lasting memories for your guests.

*Aquarium
of the Pacific*

yourevent.aquariumofpacific.org

562-951-1663 AOPCatering@longbeach.cc.com

100 AQUARIUM WAY LONG BEACH, CA 90802



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Coral Reefs Can Survive Threats and Flourish

BLEACHED CORALS, broken corals, and corals smothered in algae are now so widespread some scientists predict that coral reefs will disappear by 2100. Climate change and ocean acidification get most of the blame, but pollution, overfishing, and dynamiting (an illegal practice used to capture fish) are all contributing to corals' global demise.

But it may be premature to deliver the coral reef eulogy. For every coral reef scientist proclaiming doom, there is a scientist exploring ideas that may help corals survive these many threats.

The Aquarium's *Coral Reefs: Nature's Underwater Cities* exhibit is intended to tell the story of survival. The Coral Restoration exhibit, which is the last display visitors will see before they exit the Tropical Pacific Gallery, showcases a story of hope. It highlights the work that scientists are doing to better understand how corals withstand threats and to restore reefs around the world.

SUPER CORALS

The Coral Restoration exhibit simulates a reef where a mass bleaching event has occurred but a colorful, healthy stand of coral survives among the devastation. It is these survivors that can be collected, bred, and selected to produce so-called super corals after many generations. Scientists coined the term "super corals" to identify those that have demonstrated the ability to tolerate or recover from stress and successfully reproduce after a stressor, such as ocean warming.

In 2018 the Aquarium partnered with the Phoenix Island Protected Area Trust and Woods Hole Oceanographic Institution to host a workshop on super corals with coral experts from around the world, including representatives from Pacific Island nations. The attendees planned to create a living bank of super coral specimens for research that could be housed at an institution like the Aquarium. To read the workshop report, visit aquariumofpacific.org/mcri.

OUR CORAL CONSERVATION FIELD WORK

Since 2013 Aquarium staff members have traveled to Guam, Palau, and the Bahamas to assist with coral reef restoration projects through SECORE International, a global network of scientists, aquarium professionals, and locals dedicated to restoring coral reefs.



KEN KURTIS

SECORE collects coral larvae in the wild during spawning events and brings them into a laboratory setting to settle and grow. The goal is to secure unique genetic material for coral restoration. The larvae settle onto coral restoration tiles, or tetrapods, that are later used to reseed wild reefs with young corals. Some of these tetrapods are in the Aquarium's Coral Restoration exhibit and are seeded with coral larvae collected in Guam with SECORE.

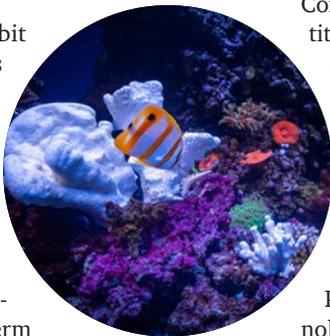
CUTTING-EDGE SCIENCE HOLDS PROMISE FOR CORALS

Genetic engineering also holds promise for saving corals or, more accurately, for helping corals to save themselves. Corals breed once or twice a year by ejecting huge quantities of eggs and sperm into the ocean, which mix freely and fertilize each other. If scientists can capture the coral embryos when the egg and sperm have just met, but before the newly formed embryos start dividing, they can edit the coral's genes.

This was done successfully for the first time in 2018. Since then this gene editing technology, known as CRISPR, earned scientists Emmanuelle Charpentier and Jennifer Doudna the 2020 Nobel Prize in Chemistry for their work developing the technology. It has been widely used by labs around the world and has allowed researchers to identify specific genes for heat tolerance in corals.

The coral story is not a story of inevitable decline and loss. Rather it is a story of corals themselves having some resilient lineages, of scientists' ingenuity in discovering and applying new techniques to help save corals, and biologists in the field monitoring and restoring reefs.

Super corals are those that can tolerate and recover from stress and successfully reproduce after a stressor, like an ocean warming event.



Staff examine coral larvae.

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and make a
difference.*



You can support students, teachers, schools, and families with a gift to the Aquarium's Ocean Science Education Program.

MAKE A DONATION