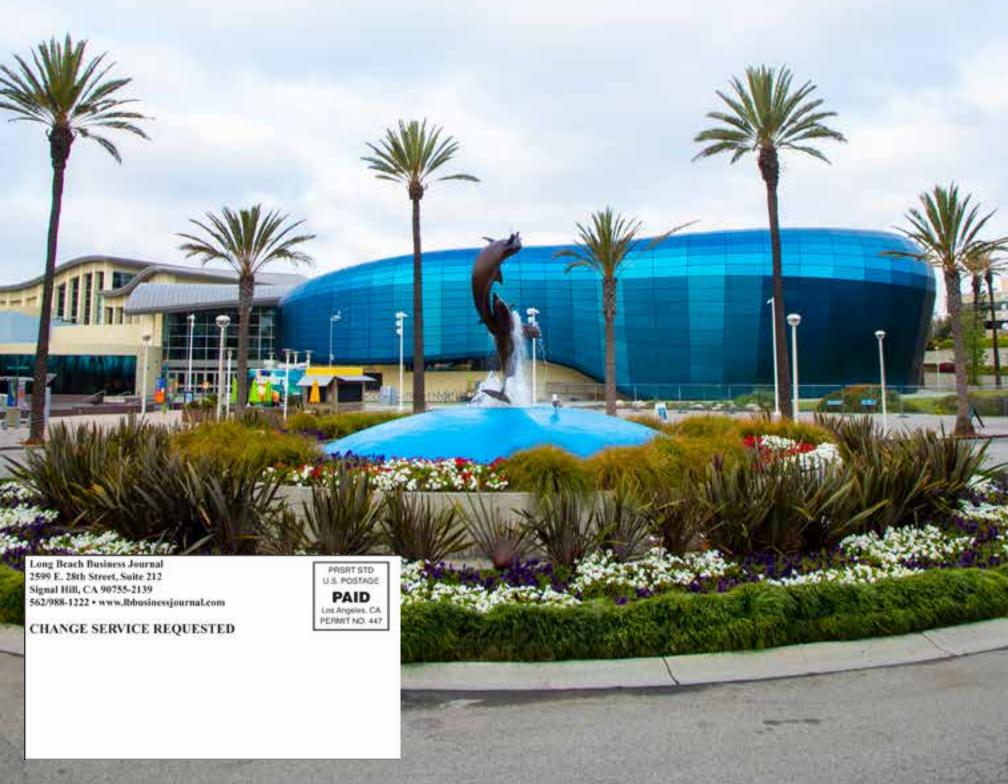
May 21-June 3, 2019

Long Beach Area's Newsmagazine

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MAYOR ROBERT GARCIA

CITY OF LONG BEACH

May 21, 2019

Dear Friends, Staff, and Leadership of the Aquarium of the Pacific, Congratulations!

Just 27 months after breaking ground, the innovative and beautiful Pacific Visions wing opens this week at the Aquarium of the Pacific. I know I speak for the whole city when I say we couldn't be more excited about this bold, rich addition to what has long been one of our community's most beloved attractions.

Pacific Visions is already making a splash with its iconic architecture and design, and we can't wait to get inside and see the new art gallery, immersive theater, multimedia interactive installations, and live animal exhibits. This wing increases the Aquarium's annual educational capacity by 20%!

Just like the entire Aquarium of the Pacific, Pacific Visions is more than just a fun activity for the whole family. The new wing carries on the Aquarium's mission of providing science and education about our marine ecosystems, climate change, and how humans interact with the environment. The Aquarium has helped Long Beach become a national leader on climate science and adaptation, and Pacific Visions will also support this crucial work that is so important to our future.

Pacific Visions couldn't have been realized without the support of the community, the City Council, and the leadership of Aquarium CEO Jerry Schubel, his executive team, and the Board of Directors. My Thank you for bringing this dream to fruition.

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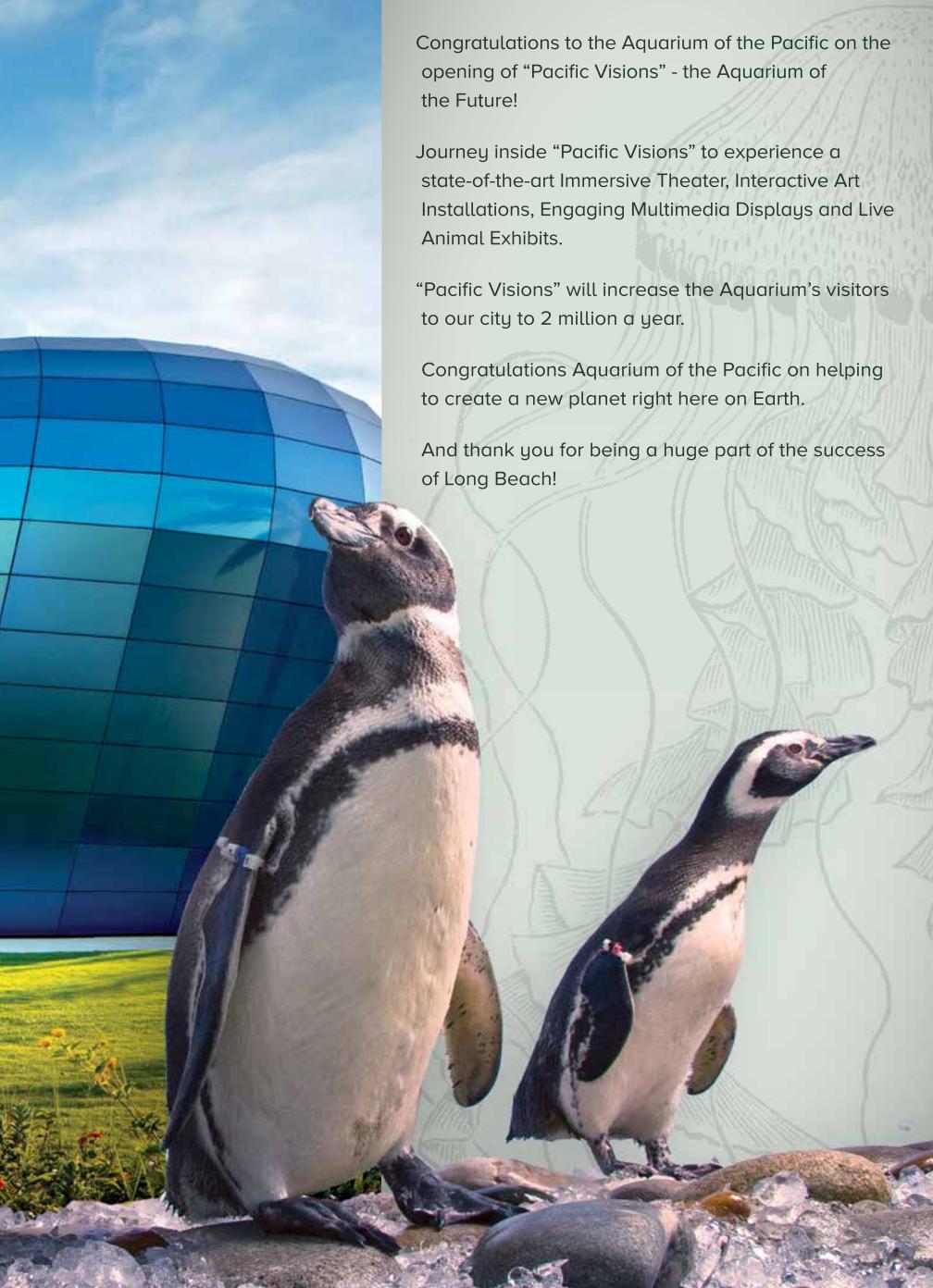
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The History Of Pacific Visions

■ By SAMANTHA MEHLINGER
Editor



Dr. Jerry Schubel, president and CEO of the Aquarium of the Pacific, was the original champion of a plan to expand the Aquarium in an untraditional manner – by creating a new wing devoted to educating the public about humanity's relationship with and impact on world oceans. That plan eventually became Pacific Visions, a wing combining a high-tech theater, an art gallery, interactive displays and live animals to impart a learning experience in a fun, engaging way. (Photograph by Brandon Richardson.)

Though the Aquarium of the Pacific announced its ambitious expansion plans to create Pacific Visions in 2016, the concept was originally approved at a board retreat in 2005. The new wing is centered around a high-tech, state of the art theater designed to engage and educate the public about humanity's impact on the Earth's oceans.

As President and CEO Jerry Schubel tells it, since the Aquarium opened in 1998, many other ideas for future expansions had been floated. "I remember the first week I arrived, they were talking about expansion – and it was a terrible expansion. It was going to be dinosaurs or something," Schubel said with a chuckle, adding that the idea never really got off the ground.

"We knew we had to expand because the attendance was growing, and on busy weekends it was not a great experience. So the question became, what do we do?" Schubel said. "It was the 2005 retreat of the board where we looked at several options. One was a traditional aquarium expansion – more tanks for more fish," he recalled. "Secondly, there was a proposal to create something similar to what the old Marineland used to have, where you could pay an upcharge and you could actually swim with fish and other marine animals. Then the third was at that point a poorly defined Pacific Visions. But it had to do with humans and how we were changing both the Earth and the ocean. And that one won out."

The idea was Schubel's. "I was the one who proposed it. It was based on spending a lot of my life studying the ocean, the coastal ocean, the interactions of people with the ocean. . . . And then over the course of a dozen years, we started bringing in scientists from all over the country and all over the world to refine the storyline," he explained. Schubel took charge of the Aquarium in 2002. Prior to that, he was president and CEO emeritus of the New England Aquarium from 1974 to 1994, and also served as dean of Stony Brook University's Marine Sciences Research Center. Additionally, he is a former professor, research scientist and associate director of Johns Hopkins University's Chesapeake Bay Institute.

The story told by Pacific Visions "is that humans have accelerated the rate of change on Earth to the point where nature can't keep up, and the extinction rate is higher than it has been in millions of years – and somehow we have to slow things down," Schubel explained.

The centerpiece of the expansion, a high-tech theater, was nontraditional for an aquarium. "Since we've already got a great traditional aquarium, why

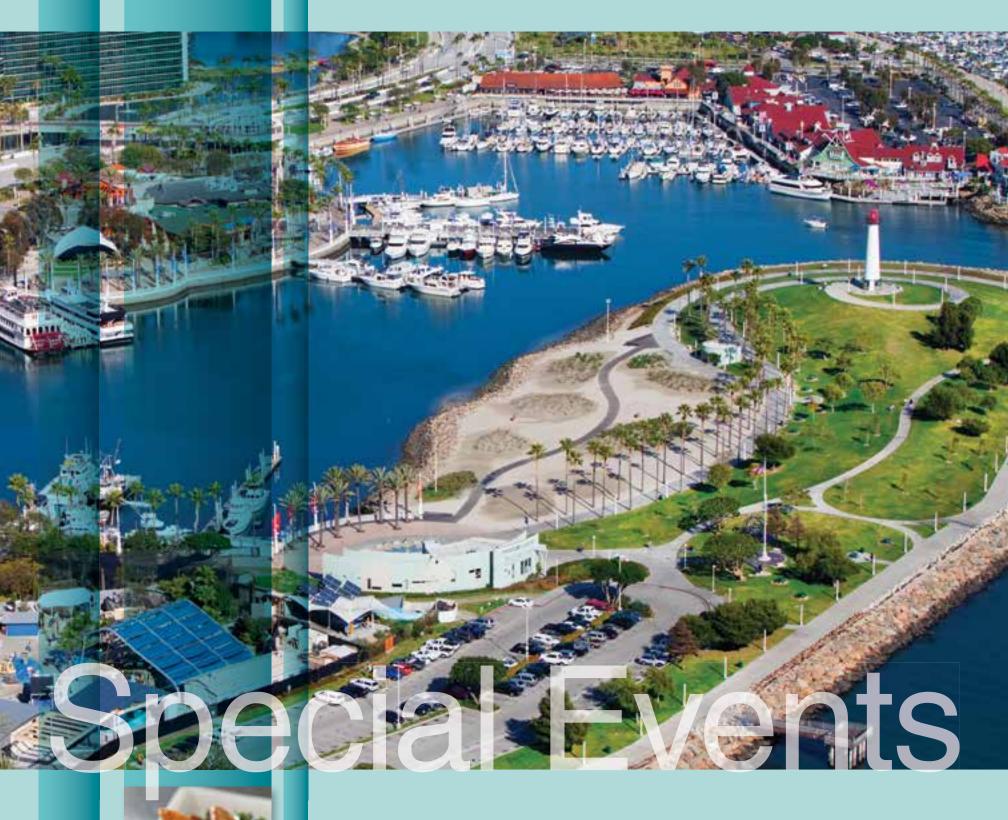
add more fish? Why not explore how we can increase the likelihood that those animals will survive and thrive in the wild? And that's what Pacific Visions is all about," Schubel said of the concept. He noted that he received a great deal of pushback on the idea, but ultimately it won out.

Dr. J. Mario Molina, who was a recent addition to the Aquarium board in 2005, said he was supportive of Pacific Visions from the get-go. "The idea around this expansion was two-fold. First, to provide more physical space so that we could have more visitors, because there is a huge demand. And the second was to be able to tell stories that we couldn't simply tell with animals and tanks." Molina said.

He continued, "People come to the Aquarium to see the animals, and along the way they learn about science, and especially environmental science. Visitors want us to extend that educational experience. I think it's really important, because most of us stop going to school by our early $20s \ldots$. Who is going to teach us about the environment? Who is going to teach us about the consequences of pollution, of plastics, of global warming? This is a way for people of all ages to get that experience."

His brother, John Molina, joined the board a few years later. For both of them, Pacific Visions was a project that resonated personally. Their family ultimately donated \$2 million to the project. "Our dad passed away in 1996. It was during that time that the Aquarium was being built," John Molina recalled. The Molinas' father, C. David Molina, founded Long Beach-based Molina Healthcare. "He used to go sit and watch the building going on. It gave him a great sense of peace, and so when the Aquarium opened, my mother bought us all charter memberships. It's a nice reminder of our dad and his love to see things built, whether that was a building like the Aquarium, a company such as Molina Healthcare, or even building families and communities."

John Molina, who is a founding partner of local investment firm Pacific 6, believes that Pacific Visions will attract more visitors than a traditional aquarium expansion centered around live animal exhibits. "It also is a very unique way to tell some very important stories of how people interact with their environment," he said. "We know that the temperature of the oceans is rising. We know that the level of the ocean is rising. And for a coastal city like Long Beach, these are important things that, if we don't begin to address them soon and in a big way, will fundamentally and irreversibly shape our city, our state and our world. The best way to get people to action is to engage them on an intellectual and emotional level. And that's what Pacific Visions is intended to do."



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A worker gazes up as a steel beam – signed by local dignitaries, Aquarium donors and others – is placed on the framework of Pacific Visions. (Photograph courtesy of the Aquarium of the Pacific.)

(Continued from Page 8)

Pacific Visions is a \$53 million project. According to Schubel, the Aquarium ultimately raised more than that amount. "The board knew that we had to raise significant money to make this happen. And every member of the board made a contribution to it," he said. "There were some rumbles within Long Beach that nobody has ever had a campaign this large in Long Beach except the hospital, and it won't succeed. But I think that made the board and all of us even more determined to make it succeed," he reflected. "The City [of Long Beach] was very important. They came forward with a \$15 million challenge grant. That's the largest grant that we had."

With its \$1.9 million gift, another major donor was the San Gabriel & Lower Los Angeles Rivers And Mountains Conservancy, a Southern California agency that works with cities to create watershed improvements, promote water conservation and restore wildlife habitats. Frank Colonna, a Long Beach businessman who currently sits on the Long Beach Board of Harbor Commissioners and is a past city councilmember, is the chair of the conservancy. Colonna noted that the Aquarium has been the recipient of several grants from the agency over the years. "The Aquarium, in my opinion, has really been a gold badge for our City of Long Beach," Colonna said. "It provides an exciting opportunity for people to learn about what's going on along the California coastline . . . [and] everything

else that's going on with our oceans from contamination of plastics to the vanishing species of aquatic life in certain parts of the state."

Honda, a founding sponsor of the Aquarium, became the title sponsor of the Honda Pacific Visions Theater with its \$5 million donation. "One really interesting thing about the Aquarium that we have always appreciated is that it's not just a place to go and see marine life. It's really a great place to go and to learn about the oceans and the ecosystem and man's role in how we impact them," Erik Wedin, manager of corporate relations for Honda North America, said. "From Honda's perspective, that really coincides well with our own attitudes about innovations and the power of dreams, and how we can work together to make things better for the future."

Wedin said that when the Aquarium approached Honda about becoming a sponsor of Pacific Visions, company representatives felt that the expansion's innovative technological approach to educate future generations made it a good fit, and the next logical step in the relationship between the two entities.

"One of the great things about the Aquarium is they educate without making you feel like you're being educated. That's not an easy thing to do," Wedin noted. "The Aquarium excels in the educational aspect in a way that really inspires future generations."

Wedin noted that Honda's slogan is "the power of dreams," and that Pacific Visions fits right in with that mentality. "It's really about fulfilling the dreams of making the world a better place, making our oceans a better place, and how we can all work together to make the world a better place," he said. "We are looking forward to our doors opening and the public getting to see it."





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The Significance Of Pacific Visions On The National Stage



Daniel Ashe, president of the Association of Zoos & Aquariums, observed that Pacific Visions is unique in its combination of art, technology, live animals and entertainment to engage the public about issues like sustainability. The Aquarium of the Pacific's new wing, he noted, is something for other zoos and aquariums to seek to emulate. (Photograph by Brandon Richardson.)

With the grand opening of its new wing, Pacific Visions, the Aquarium of the Pacific becomes unlike any other such institution in the United States. Integrating art, technology, live animals and entertainment, the new wing is designed to engage visitors with a combination of factors so that they leave with a deeper understanding of the world's oceans, their impact on them and what they can do to create a sustainable future for all.

Daniel Ashe, president of the Association of Zoos & Aquariums, said that while other Aquariums in the U.S. have begun focusing on this messaging, Pacific Visions is unique. "We have other places like the Monterey Bay Aquarium or Georgia Aquarium that are incorporating technology and, maybe to a lesser extent, art. But I would say they are definitely taking it to a new level here," he told the Business Journal. "I am sure it will attract a lot of attention in our community and inspire other people to think differently."

Incorporating multiple facets – an art gallery, an interactive theater and more – ought to make the concept of ocean advocacy more relatable to visitors, Ashe said. "I think it'll broaden the audience for the Aquarium of the Pacific, and it will make them a more purposeful, relevant, relatable organization," he reflected

Ashe said that Pacific Visions is the sort of project that his association hopes for and expects from its members. "Our vision of a modern aquarium or zoo is certainly a place that is entertaining and fascinating and enjoyable, but [also] one that is purposeful. Clearly, that's what they are striving for here and, from all appearance, what they've achieved," he said. "The important thing about something like Pacific Visions is that it then becomes the standard that our other members will see and then seek to emulate and exceed."

Ashe said that, with its Pacific Visions expansion, the Aquarium of the

Pacific is raising the bar for other institutions among the AZA's members, which collectively receive 200 million visitors each year. He hopes that as other aquariums and zoos take notice, messages similar to that of Pacific Visions will reach this greater audience.

According to a representative for the National Oceanic and Atmospheric Administration (NOAA), the federal scientific agency focused on conditions of oceans and the atmosphere, Pacific Visions will inspire visitors in new and exciting ways. "It is a very interactive way to discuss the challenges and opportunities facing our oceans. Whether through art or visiting speakers, the new expansion will help educate the next generation of ocean stewards," Cindy Sandoval, a communications specialist for NOAA's fisheries division, said.

The Aquarium has worked closely with NOAA over the years, hosting guest lecturers and collaborating on panels and workshops. "NOAA's Office of Aquaculture has a close working relationship with [the] Aquarium of the Pacific and recognizes their work to educate and inform the public," Sandoval said. "Pacific Visions will be a great platform to inspire ecosystem stewardship and increase understanding about many topics including sustainable seafood."

Sandoval explained that the Aquarium has been a leader in educating the public about "complex and often misunderstood topics" such as marine aquaculture and sustainable seafood. "Most of the public still has limited understanding of aquaculture and may encounter information that can be out of date, inaccurate, or incomplete. Having a trusted science source and community member share accurate information can help educate the public."

Sandoval concluded, "The Aquarium of the Pacific is more than just a place to see animals. It already has an outstanding traditional aquarium, but the addition of the state-of-the-art Pacific Visions will help create a space to discuss impacts on ecosystems and ways to collaborate towards a more sustainable future."



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From Design To Construction: The Complexities Of Bringing Pacific Visions To Life

■ By BRANDON RICHARDSON
Senior Writer



The process of making Pacific Visions a reality took about six years from initial conceptual designs to the grand opening. Pictured with the completed biomorphic structure are EHDD President Duncan Ballash, left, and Clark Construction Project Executive Tom Farrar. (Photograph by Brandon Richardson.)

From initial conceptual meetings to the grand opening, the journey to bring the Pacific Visions wing at the Aquarium of the Pacific to life lasted six years and required thousands of work hours. Designed by San Francisco-based architecture firm EHDD and built by Clark Construction, the 29,000-square-foot biomorphic structure is unique within the City of Long Beach.

"EHDD was involved in the original construction of the Aquarium of the Pacific, which was finished in 1998, and we have been continually working with the Aquarium on relatively modest updates and expansions to their exhibits," Quyen Luong, senior associate with EHDD, said. "Pacific Visions represents the first major expansion and realization of their master plan."

In the early days of the Pacific Visions design process, EHDD relied on discussions with the Aquarium and Cortina Productions, the Virginia-based video production firm that created content for the expansion. Luong explained that the vision for new content was centered around telling immersive stories that would otherwise be difficult because of their sheer scope, which require depicting massive or microscopic life forms, and environmental issues on a global scale.

The facade of Pacific Visions is representative of the biodiversity of the Pacific Ocean, according to Luong. The full shape of the structure is reminiscent of a whale, one of the ocean's largest life forms. To represent the microscopic biodiversity of the ocean, more than 800 uniquely shaped and sized glass panels form the skin of the building.

"In nature, there's not really the perfect square or the perfect circle or anything like that. And the geometry is always slightly evolving," Luong said. "That's why the panels themselves are not all regularized. They all reference each other like as in a family or a species. But they all are specific articulations of a characteristic."

In addition to representing biodiversity, Pacific Visions' design is also reflective of the ocean itself – literally. The panels are made of triple-layer laminated glass designed to simulate sunlight passing through and reflecting off the ocean. One of the most difficult aspects of the project was designing panels that interacted with light properly, according to Luong. She said it took about a year and a half working with the Aquarium and various fabricators to perfect the finish – a reflective innermost layer, a blue-tinted middle layer and an acid-etched low-iron glass outer layer. The resulting effect of the three-panel glass is an ever-shifting color scheme of blues and purples, depending on the time of day and weather conditions.

Glass has a high level of recycled content, making it more environmentally friendly than other facade materials, Luong noted. Being located in a highly

sensitive coastal area, she said the non-transparent glass surface promotes bird safety, which is another environmental benefit. Each glass panel can be removed individually for maintenance or replacement.

The interior layout of Pacific Visions is meant to flow naturally from one space to another and to allow for flexible use, Luong explained. Each of the four main areas – art, orientation and culmination galleries, as well as the theater – can accommodate special events such as receptions or performances. Each gallery has ample open space and is designed to allow for easy changes to the curated materials to "reflect the latest information and research emerging from the study of the world's climate change," she added.

The organic glass form of the exterior facade continues inside the Aquarium's Great Hall above the entrance of Pacific Visions, welcoming guests into the art gallery. The floor slopes down slightly as guests are shepherded into the orientation gallery, where they are introduced to topics related to human impacts on climate. The floor slopes again as visitors enter the Honda Pacific Visions Theater. The continued descent through the first three areas of Pacific Visions is meant to give visitors the sense that they have actually "moved through water and are now within the ocean space itself," Luong explained. The theater continues this immersive engagement with a 4D experience, including its 180-degree arced, 130-foot long, 32-foot tall projection wall.

Following the film, visitors ascend out of the "ocean" and into the culmina-

(Please Continue to Page 16)



The skin of Pacific Visions is made up of more than 800 uniquely sized and shaped glass panels designed to simulate light reflecting off the ocean. The last panel was installed by a Clark Construction crew on October 17, 2018. Pictured from left: Long Beach Mayor Robert Garcia, 2nd District Councilmember Jeannine Pearce and Aquarium Boardmember Doug Otto. (Photograph courtesy of the Aquarium of the Pacific.)







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The Aquariun of the Pacific's new Pacific Visions wing provides a unique venue for private events. Host a picinic on the front plaza with the backdrop of the stunning glass biomorphic building. Hold a reception in the new art gallery surrounded by a coral wall and a virtual waterfall. Or choose from a variety of other spaces, including the rooftop Veranda, Great Hall, or even the adjoining Shoreline Aquatic Park. Whether it's for picnics or formal receptions, the Aquarium offers venues that immerse you and your guests in the beauty of the ocean.



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Pacific Visions' glass-panel design continues inside the Aquarium's Great Hall, creating the entryway for the new wing. (Photograph courtesy of the Aquarium of the Pacific © 2019 Tom Bonner.)

(Continued from Page 14)

tion gallery on the second floor. The last stop in the Pacific Visions wing includes interactive and live animal exhibits that allow guests to apply the information they have learned on a personal level.

While EHDD has designed numerous aquariums and zoos internationally, including the Monterey Bay Aquarium, Luong said the Pacific Visions design is unique because each institution is telling a different story. Bringing EHDD's design to life was entrusted to Clark Construction, the same company currently building the new Long Beach Civic Center.

"It was challenging because of the complexity of the project, but we had a team that could think outside the box and work together," Clark Project Executive Tom Farrar said. "But it was actually a fun job to work on immediately because of the complexity."

One of the greatest challenges in constructing Pacific Visions was the lack of right angles, Farrar noted. To achieve the biomorphic shape of the building, he said the panels were positioned in radiuses. EHDD's design provided Clark with geometric points where each panel would be located in space using X, Y and Z coordinates down to one ten-thousandth of an inch, Farrar explained. Those points were used to design the 361 tons of secondary steel, which now supports the glass panels.

Fortunately, Clark was able to pull from its experience constructing the Anaheim Regional Transportation Intermodal Center, another structure with no right angles, that opened in December 2014. Throughout the 18-month buildout of Pacific Visions, Farrar said Clark held many coordination meetings with its team, as well as the Aquarium and EHDD, to ensure each element was executed as intended.

One unforeseen challenge in the construction process was the number of grout columns that would be needed to strengthen the subsurface soil to increase the bearing capacity and allow for construction. Farrar said tests were performed and it was determined that columns could be placed seven feet apart. However, once the columns were set, additional tests revealed the soil had not improved to design requirements and more columns had to be installed. Despite the setback, Farrar noted the grout column process was completed on time.

A Long Beach resident and member of the Aquarium, Farrar said he is looking forward to experiencing the culmination of his company's 18-month buildout as a guest of Pacific Visions. He said he feels fortunate being a part of any Long Beach development project. Luong shares his sentiment.

"It seems like this project is part of the city's new energy. The community is really embracing it as an icon representative of the spirit in Long Beach. I think that's really amazing," Luong said. "[We] couldn't be more pleased to have played a small part in the overall development of Long Beach."



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Pacific Visions' Art Gallery Aims To Affect And Inspire

■ By ALENA MASCHKE Staff Writer



Christian Sardet, research director of the Observatoire Oceanologique de Villefranche-sur-Mer in southern France, created an anthology of plankton called "Plankton Chronicles" that has inspired artistic renditions of the micro-organisms across the globe, including a new glass installation at the Aquarium of the Pacific. (Photograph by Brandon Richardson.)

At first glance, the shimmering objects dangling from the ceiling of the Pacific Visions art gallery could be mistaken for snowflakes, illuminated brightly against the dark space around them. But the eclectic shapes greeting visitors on their first steps into the Aquarium of the Pacific's new wing are modeled after plankton, microscopic organisms inhabiting every depth of the sea.

The installation was designed by Convivial Studio, a design studio based in Cologne, Germany. Convivial co-owners Ann-Kristin Abel and Paul Farragut said they drew inspiration from the work of researcher Christian Sardet, who has dedicated his life's work to documenting the limitless variety of plankton populating the world's oceans, rivers and lakes.

"Not many people know about all those incredible creatures that live in the ocean, even though they are extremely important for the world ecosystem," Ferragut explained. Showcasing the beauty hidden below the tides emerged as one of the guiding principles in their work on the Pacific Visions project, Abel and Ferragut noted.

In line with the Aquarium's focus on sustainability, the plankton models were created from glass, rather than plastic, which has come under fire for contributing to aquatic pollution. "It didn't make sense to make a sculpture in plastic material or a material that would be unsustainable, [while] talking about plankton," Ferragut said.

While the verdict is still out on the environmental benefits of glass over plastic, the material is also a direct reference to the organism mimicked in the installation. At the end of their life cycle, plankton descend to the bottom of the sea, becoming one with the sand. Glass, in turn, is made out of sand. "So that was like trying to translate this life cycle with the medium of glass," Ferragut explained.

In the art gallery, visitors are introduced to the life cycles of the ocean's creatures, from plankton to coral reefs, and the impact humans have on them. "It's an interesting combination," Jerry Schubel, the Aquarium's CEO and president, told the Business Journal. "Because the world of plankton, that's where life begins. Those are the basic building blocks of life in the ocean. And then, coral reefs are among the most endangered ecosystem in the world ocean."

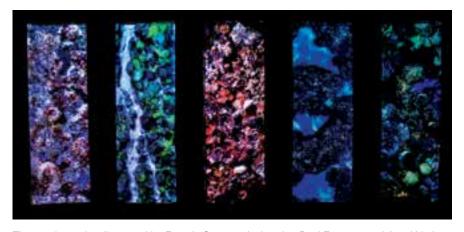
Coral reefs play a major role in this first room of Pacific Visions. The "Infinity Coral" sculpture installation creates an optical illusion of never-ending

coral reefs, modeled after the artist Yayoi Kusama's popular "Infinity Mirrored Rooms," which are currently on view at The Broad museum in Los Angeles. In three boxes, "Infinity Coral" showcases corals in different states of health, including some bleached by unsuitably warm water and lab-grown super corals, which are resistant to the effects of global warming on ocean temperatures.

The mirrors creating the illusion of an "infinite" coral reef are arranged in such a way that reflections on one side show a bleached, lifeless reef, while reflections on the other side present a vibrant coral ecosystem. "Side by side, these contrasting views imply two 'possible futures' for the world's oceans," a proposal submitted by the Designmatters ArtCenter College of Design explained.

ArtCenter students Alexia Chuck, an undergraduate student of graphic design, and Godiva Reisenbichler, a graduate student of media design practices, conceived the concept as part of a semester-long Pacific Visions Fellowship under the supervision of interaction design instructor Todd Masilko. The fellowship was sponsored by the David and Lucile Packard Foundation, which has long supported the Aquarium's educational work.

"We loved the fact that [the installation] is very simple – mirrors, lights and colors – but it creates such a surprising visual environment," Masilko said. Both the "Infinity Coral" installation in the art gallery and the interactive, virtual wa-



The touch coral wall created by French-German design duo Paul Ferragut and Ann-Kristin Abel of Convivial Studio appeals to visitors' tactile and visual senses. It combines an exact replica of a real coral reef molded from Kerrock, a material also used for kitchen countertops, with colorful projections of coral reefs. (Photograph by Brandon Richardson.)

terfall in the orientation gallery were also designed with a potential for social media interactions in mind. "Not only are people captivated by it, but they want to be photographed with it – which is just exactly what we want to happen with our installation," Masilko noted.

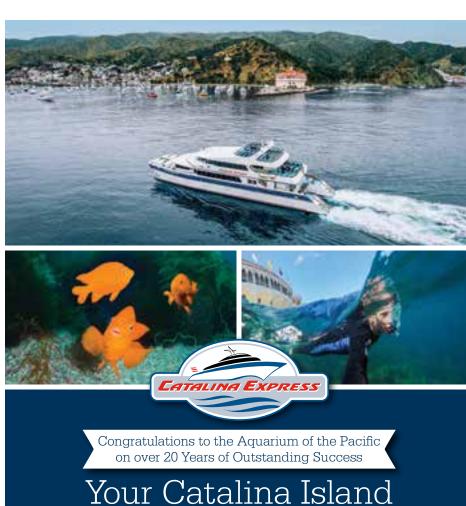
To inform the content of their proposal, the ArtCenter group met with Dr. Douglas McCauley, assistant professor of ecology, evolution and marine biology at the University of California, Santa Barbara. "One thing that struck me was when Doug said, 'You designers are the people who make science matter to people," Reisenbichler recounted. "It's exciting to know that design can be an intermediary for science and communicating it well to the public."

To help visitors forge an emotional connection to the ocean is the main function of Pacific Vision's art gallery, Fahria Qader, the Aquarium's director of Pacific Visions and architecture, explained. "Art is very important to the Aquarium, because we feel like that's a stepping stone to getting into or understanding the science part of what we're teaching," Qader said. "It's really about the emotional connection. When you throw people a lot of facts and figures, it's hard to connect to it."

To make that connection accessible to as many visitors as possible, the art gallery appeals to more than just the visual sense. "We knew we wanted a multimedia type of installation, rather than traditional art installations," Qader explained. In addition to the plankton and "Infinity Coral" pieces, the exhibition also features a series of reliefs resembling real-life coral reefs, inviting visitors to touch and explore the rugged surfaces with their hands.

"The Aquarium was very interested in adding a tactile experience, to enable more people to experience the exhibition," Ferragut noted. The reliefs were modeled after photogrammetric images of coral reefs. Photogrammetry is a technique that allows scientists and researchers to create 3D models from photographs. "We would like to make the entire Pacific Visions wing more accessible and more enjoyable to people who are, particularly, blind and deaf. That was one of the reasons for having a touch component to the art installation," Qader said.

The exhibition also taps into visitors' auditory senses, with a soundbed of underwater recordings collected around coral reefs. "A sea reef is very noisy, and that's something you can hear when you're snorkeling or diving," Ferragut said. This is one of the many things the designers learned in their research of marine life, Abel noted. "I never really paid too much attention to the ocean, until I started researching for this project," she said. "I think that's the beauty of our work, we always get to learn about new topics and we never do the same work twice. It's always something new." Through their installations, the designers are hoping to inspire the same curiosity among visitors of Pacific Visions and its first room, the art gallery, before they enter the educational part of the new wing. "The first part is more like a meditation on the oceans," Abel noted. "An immersive experience that's visually inspiring and hopefully gets people to want to learn more."



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Pacific Vision's Orientation Gallery Unites Art And Education

■ By ALENA MASCHKE Staff Writer

Earlier this month, a United Nations report offered an ominous analysis of human impact on the environment. "Nature is declining globally at rates unprecedented in human history – and the rate of species extinctions is accelerating, with grave impacts on people around the world now likely," the report warned.

Mounting research highlighting concerns about the fate of our planet can create a sense of hopelessness. But visitors walking into the orientation gallery of Pacific Visions, the Aquarium of the Pacific's new wing, are instead enveloped in the sheer beauty of nature and implored to consider their role in preserving it.

On a wall opposite the entrance, a 26-foot-wide LED screen radiates with brilliant images of deep blue oceans, bright green rice patties – perfectly arranged like the scales of a fish – and glowing desert dunes. On another, a glistening virtual waterfall invites onlookers to take a splash and watch animated schools of fish, guided by motion sensors, swim around their feet.

The aquarium's president and CEO, Dr. Jerry Schubel, knows that to preserve our planet's future, it's not enough to stoke fear of its demise. "All great stories follow the same story arc, where you drag people down into the pits of despair, but you don't leave them there," Schubel explained. Instead, he hopes that by showcasing the wealth of resources humans have been gifted with by their environment, the orientation gallery will help cultivate a desire to maintain it. "If there's going to be a hero in this story, it's going to be all of us," he said.

The orientation gallery helps shape the overall experience that Schubel and the Pacific Visions team are hoping visitors of the new wing will walk away with. "It puts in perspective human beings and how we've modified the earth, but that we're a creative, innovative species and it's not too late to re-shape what we do," he explained. A pre-show film, with colorful images of nature across the globe and a narration voiced by actor Keith David, prepares the audience for the main show to follow inside the Honda Pacific Visions Theater.

"It's almost like a transition space between the art gallery and the theater. We use concepts from both areas," Fahria Qader, director of Pacific Visions and architecture for the Aquarium, told the Business Journal. While the imagery flashing across the LED screen emulates the colorful exhibits of the art gallery, a narration toward the end of the film introduces visitors to the three



The orientation gallery serves as a holding space for groups of visitors entering the Honda Pacific Visions Theater. It also acts as a preface to the main film shown inside by introducing Pacific Visions' three main topics: food, water and energy. (Photograph by Brandon Richardson.)



In addition to an introductory movie, the orientation gallery also features an interactive waterfall projection. Emblazoned with the name of the Aquarium's new wing, the projection is designed to invite selfies and videos posted to social media, and help promote the newest addition to the Aquarium's offerings. (Photograph by Brandon Richardson.)

main concepts covered by Pacific Visions: food, water and energy.

The decision to limit the narrative portion of the pre-show film to the last two minutes was made consciously, Qader explained. "You can't get everyone in at the same time, so that's why we developed the film to have more visuals in the beginning," she said. "So that if they miss it, they wouldn't be missing out on really important content."

The architecture of the space reflects its transitional role. Walking across the room, one can sense the floor sloping down ever so slightly towards the doors leading into the Honda Pacific Visions Theater. "We wanted people to feel like they're going deeper and deeper, to feel like they're going into the ocean," Qader said. Once the video concludes, the theater's doors open, inviting a new group of guests into the big show.



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Envisioning An Inspiring Future: The Honda Pacific Visions Theater

■ By **PIERCE NAHIGYAN**Staff Writer



The screen in the Honda Pacific Visions Theater is 133 feet long and 32 feet high. Three high-resolution laser projectors form the image on the screen, with a fourth directed at the 30-foot disc installed in the floor. The theater also contains a fifth projector that meets the cinema industry standard for feature films. (Photograph by Brandon Richardson.)

How do you tell the story of the world's oceans? Their endless blue waves defy easy summary. Miles in depth, teeming with life, and nearly as old as the Earth itself, oceans remain as mysterious now as in ages past. "Designing Our Future," the film made for the Honda Pacific Visions Theater, was created to shed light on one aspect of that great blue mystery: how it influences, and is in turn influenced by, the several billion people who share the planet.

Featuring high-resolution footage of marine animals, animated segments and computer-generated imagery, "Designing Our Future" is the center of the Pacific Visions experience. Highlighting the link between humanity and the ocean, the narrative ranges from the beginning of life itself to the challenges of the present moment – namely, providing enough food, water and energy for all. Media company Cortina Productions produced the film with guidance from Dr. Jerry Schubel, the Aquarium of the Pacific's president and CEO, as well as input from science advisors, artists and marine experts.

Dr. Douglas McCauley, assistant professor at the Department of Ecology, Evolution and Marine Biology at the University of California, Santa Barbara, consulted on the project. "The Aquarium brought together... scientists, thinkers and writers. It was just a delightful series of days to sit down and really grapple with some of these questions," McCauley said. "They wanted to hear in our own words what we thought the most important parts of the past and future were for oceans."

Joe Cortina, founding partner and creative director of Cortina, said Schubel wanted to do more than just entertain or educate. His vision was to teach "stewardship" of the ocean. "He's always very ambitious in wanting to make sure that not only is it an aquarium for people to enjoy seeing live animals, but also that it's a teaching environment," Cortina said of Schubel.

Cortina's company has worked on various projects at the Aquarium for over a decade. Their first collaboration, "Whales: Voices of the Sea," featured a catalogue of whale sounds that visitors could attempt to mimic on a spectrograph. The exhibit went on to win the 2005 MUSE Silver Award from the American Association of Museums' Media and Technology Committee.

With "Designing Our Future," Cortina aimed to tell a story that enumerated the problems of today without losing the audience to despair. "Everybody's struggling with how to address some of the environmental challenges that we have now with the planet, and not do it in a way that turns people off, but in a way that's positive. I think this project, more than anything we ever worked on, does that," Cortina said.

In the film, after introducing the challenges of food scarcity and energy production, solutions are presented in the form of ocean-based technologies that could eventually be commercialized. Offshore aquaculture farms would provide food and help to stabilize eroding shorelines, desalination plants could transform the ocean into the most abundant source of fresh water, and renewable, non-polluting energy could be derived from solar, wind and tidal power.



The two-story Honda Pacific Visions Theater seats 300 people. A separate channel has been built into the audio system to generate vibrations in the seats. (Photograph by Brandon Richardson.)

"[The film] introduces the history of the whole planet and how the ocean is an essential part of that, and then goes through the different technologies and innovations that can really play a huge part in relation to the ocean," Katie Engel, a producer at Cortina, said.

Computer-generated graphics in the film visualize a future built on this new technology. It wasn't enough to envision an "okay future" or a merely sustainable future, Cortina said, but a great future for both humans and the ocean. It's a contrasting vision to the bombed-out dystopias offered by Hollywood, he noted. "So much of what younger people see now about the future is either apocalyptic futures in movies or stories about how the planet isn't going to be in very good shape by the time we grow up. The idea is to get them invested in the future, and that all these things we're facing are achievable."

McCauley lauded the Aquarium for its Pacific Visions expansion, which he said empowers visitors to think about how they can make a difference. "They're in a great position to get people on their own journeys thinking about what's going on in the oceans," he said. "I really admire that the Aquarium has taken on this extra charge of responsibility of saying: look, come see it [and] love it like we do. But just like we do, when you love it you have a responsibility, which is to care for it."

Tom Bowman, whose company Bowman Change designed the Pacific Visions Culmination Gallery in partnership with Cortina Productions, said the dual message of inspiration and information was the founding principle of the Aquarium's new wing. "What's not productive is to overwhelm people with fear, because people become paralyzed," he said. "What proves to be more productive is not fear but worry, and especially worry that's combined with hope. Because if you're worried about something but you're hopeful, you can do something about it – you'll be motivated to do something about it."

With Pacific Visions and its signature film, Schubel said he was excited to present the Aquarium's vision to the public. "The theater, we hope, will really make an emotional connection with people," he commented. "Every time I look at that film, I find it very moving."

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Honda Pacific Visions Theater Offers A Multi-Sensory Experience

■ By **PIERCE NAHIGYAN**Staff Writer

With 22 discrete audio channels, a 9K-resolution screen, seat shakers, scent and fog machines, and the latest innovations in accessibility technology, the new Honda Pacific Visions Theater offers a dazzling multi-sensory experience. Three 20,000-lumen laser projectors are directed at its curved 133-foot screen, with an additional projector aimed at a 30-foot diameter disc that rises up from the floor.

"It's something that you don't normally see at your home theater or [when] you go to a commercial theater to see the latest Marvel superhero movie," Richard Ortiz, a senior engineer at Edwards Technologies, the firm that installed the audio and visual components of the theater, said of the floor projection disc. "The content shown on the floor relates to what's going on in the curved screen . . . and all of this adds to the sensory perception of what you're viewing."

The system is unique among the theaters that Edwards Technologies has installed in cities like Osaka, Shanghai and Dubai, Ortiz noted. After six years of planning and one year of construction, he was excited for Aquarium visitors to finally experience it for themselves.

The Aquarium worked with media production company Cortina Productions on the design and direction of the Pacific Visions expansion. Cortina produced "Designing Our Future," an original feature created exclusively for the Honda Pacific Visions Theater. It was during the creative process for that film that Aquarium and Cortina staff arrived at the idea to build a fully-immersive, state-of-the-art theater. "First, we developed the storyline, [but] we had no idea how we were going to tell that story," Dr. Jerry Schubel, Aquarium president and CEO, told the Business Journal. Schubel believed that a multi-sensory presentation could resonate with the audience in a uniquely compelling way.

"We wanted to create a theater that . . . has a lot of really vast possibilities for other productions, other performances, and [to] really create a multimedia environment," Joe Cortina, founding partner and creative director of Cortina Productions, said.

The three laser projectors aimed at the theater screen seamlessly fit the projection surface and create a combined 9K resolution image, enabling Cortina to film "Designing Our Future" in the most vivid detail currently possible. "The highest [resolution] camera right now is an 8,000-pixel camera, so that's what we used to shoot our live action stuff," Cortina explained. "Only a few people shoot in 8K . . . [and] that's what we have for the big nature shots on the screen. They look stunning."

The theater was built to accommodate a variety of events, from live performances to feature films and seminars. "Also built into the theater is a whole broadcast infrastructure so you can do live television from there," Cortina said.

Describing the audio system, Ortiz said the theater's custom vinyl screen is perforated to allow the high-frequency sound of the speakers behind it to be heard more clearly. There are seven speakers located behind the screen and installed on two 12-foot columns, nine speakers installed in the overhead catwalks, and four in the rear of the theater. Including subwoofers, that totals 21 separate audio channels, he explained. An additional audio channel generates the vibrations of the amplified feet shakers installed in some of the seats. "If you're sitting in one of the upholstered cushioned theater seats, you'll feel the vibrations," he said.

A scent-producing system developed by Southern California-based SensoryCo was installed beneath the screen. Scents are activated at key moments during the feature and are blown over the audience by fans. According to Ortiz, "Designing Our Future" features three scents: sea, oranges and moss.

Of particular note are the theater's handicap-accessible features, which include assisted listening devices and portable screens to view captions, as well as more cutting-edge technology. "We've tried to raise the level of accessibility beyond



Engineering firm Edwards Technologies (ET) was contracted by the Aquarium of the Pacific to design and build the audio and visual system for the Honda Pacific Visions Theater. One of the many tasks of ET Senior Engineer Richard Ortiz was ensuring the various multi-sensory components work in harmony with each other. (Photograph by Brandon Richardson.)



Conceived by media company Cortina Productions, the 30-foot diameter floor disc is a unique feature of the Honda Pacific Visions Theater. A 4K 20,000-Lumen laser projector is aimed at the disc to display images and footage that complement the content on the larger screen. (Photograph courtesy of the Aquarium of the Pacific © 2019 Tom Bonner.)

what the Americans with Disabilities Act requires," Schubel said. The Aquarium partnered with Ultrahaptics, a company that uses ultrasonic speakers to create the impression of texture against the skin, to interpret the film at a tactile level.

"The sound waves create pressure points that give you the sensation of an object in your hand," Vince Fung, director of product marketing at Ultrahaptics, explained. "In terms of accessibility, when you have folks who might be able to see or listen, this is a way for them to experience what's being shown."

This is the first time that Ultrahaptics' technology has been used to enhance a film in an aquarium or museum setting, Fung said. The company worked closely with Cortina and the Aquarium to create haptic experiences that sync with the content of the film. These included the sensations of bubbles popping in the users' hands or waves splashing against them, Fung explained. "Our common goal is to make it as immersive as possible and as meaningful an experience as possible," he said.

Haptic transducer panels are available to visitors who are blind or deaf. Schubel emphasized that the technology was tested in the Aquarium, Silicon Valley and elsewhere, to find the right level of sensation. "One young man who'd been deaf since birth, in one of the early trials, we were about halfway through the film and he said, 'I can't take it anymore," Schubel said. "Because he'd never experienced anything like that. It was sensory overload." The panels have since been modified to soften the level of haptic intensity.

"We wanted to make the theater unique in both its scale and its presentation . . . to create a venue that can then live beyond just this production, or changing productions, and be utilized for all kinds of teaching," Cortina said.

For visitors to experience the wonder – and also fragility – of the ocean, Cortina and the Aquarium designed the Honda Pacific Visions Theater to engage with its audience beyond sight and sound alone. They will smell the ocean, feel the condensation of the fog, and plunge into the sapphire fathoms of the deep. "It is a wonderfully immersive experience . . . and it all just makes a strong connection that you want to protect the ocean," Schubel said.



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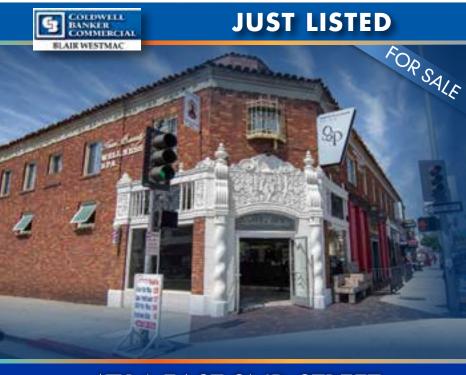
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The Culmination Gallery: A Playful Exploration Of The Future

■ By PIERCE NAHIGYAN



Sandy Trautwein, vice president of husbandry at the Aquarium of the Pacific, manages the live animal exhibits in the culmination gallery. She said the three animals featured in the gallery – oysters, delta smelt and yellowtail jack – were selected for their critical role in California's present and its future. (Photograph by Brandon Richardson.)

As its name implies, the culmination gallery is the final stop of the Aquarium's Pacific Visions wing. "It is called the culmination gallery because it meant to be the culmination of the whole Pacific Visions experience," Director of Pacific Visions and Architecture Fahria Qader told the Business Journal. "It is the place where people, after learning about . . . the future, will get to connect it to their lives through their choices and build the future we want to live in."

Visitors enter the culmination gallery from the Honda Pacific Visions Theater, where the film "Designing Our Future" explains the challenges of the planet's growing population. The short feature focuses on three essential resources – food, water and energy – and the potential of the ocean to produce all three. In the culmination gallery, guests interact with exhibits that build on the themes of the film in entertaining and educational ways. The gallery was designed by the Aquarium in collaboration with media company Cortina Productions and Tom Bowman, founder and CEO of Bowman Change, Inc., a design consultancy firm.

"Tom has been working with us for quite a few years, and he's designed a lot of our changing exhibits," Qader explained. "We started with him and [by] talking with a lot of experts in the field [as well as] scientists, gathering information from them on what they would like the public to know."

After exiting the theater, the first exhibit that guests encounter is a tall, triangular column that Qader referred to as the population tower. Users can guess how the populations of California and the world are projected to grow by 2050 and enter a figure into a panel. The tower then pulls real-time data on population and resource consumption from the United Nations Population Division, the World Health Organization, the International Monetary Fund and World Bank, and displays the information.

"It's a cool thing to do, but the scale of it lets you know something important about the growth of population," Bowman said. "We don't want to bury that on a 13-inch monitor on a tabletop, because then you have to stop and think, 'Am I going to read that? Does it sink in?' Well, it's definitely going to sink in when it's a tower of lights."

These are the type of aesthetic and educational concerns that Bowman and the Aquarium discussed when designing the gallery. "It's a combination of all the tools of good design and thinking through what the content priorities are – and how to express them so that everybody is impressed by them,"

Bowman explained.

The next eye-catching exhibit visitors encounter is the 50-foot-long media wall designed by Cortina Productions. "It shows this beautiful scenery underwater, and then you have all of these bubbles flowing through," Qader said. The digital bubbles pop when touched, and facts, videos or images of animals spring out. The content of the bubble varies by height, with simpler information for children accessible near the bottom of the wall and more detailed information floating above.

Three interactive tables located in the center of the gallery ask visitors to answer questions about food, water and energy. "They're all focused on California," Bowman explained. "The great water game: how will we ensure California has enough water in the future? The energy game: how will we make sure there's enough electricity in California that is low in carbon emissions or free of carbon emissions? And the great food game: what happens to agriculture [and] how do we increase production of agriculture in a changing climate?"

The goal of the game is to make sure there's enough food, water and clean energy to sustain the population in 2050. Each table hosts 10 people at a time, for a maximum of 30 total players. After answering all the questions, the players discover whether or not they've allocated enough resources for everyone. "The underlying message is that the future is something we'll create together; the future will be the net of all the choices that we make," Bowman said.

Other exhibits in the gallery include a machine that invites visitors to test the weight of carbon emissions from various vehicles and a virtual tour of a future sustainable city.

This interactive gallery is a far cry from traditional aquarium exhibits, which typically only feature tanks with live marine creatures. "As Jerry [Schubel], our CEO, likes to say, we want to be the aquarium of the future," Qader said. "We don't want to be just an aquarium. We want to be a combination of an art museum, a science museum, a natural history museum, a community gathering place, a place where scientists come and discuss important matters."

The culmination gallery does feature three animal exhibits, which highlight the themes of food, water and energy sustainability. The first displays a tiny yet notorious fish that lives only in the Sacramento-San Joaquin River Delta. The delta smelt is critically endangered due to human development and diversion of its fresh water habitat. "It's been portrayed as this evil little fish because it keeps Californians from taking more water out of the delta for agriculture and urban use," Jerry Schubel, Aquarium president and CEO, said.



The 50-foot bubble wall was designed by media company Cortina Productions. Visitors can pop the digital bubbles simply by approaching them, and then read the interesting facts that emerge from inside. (Photograph by Brandon Richardson.)

The exhibit showcasing delta smelt highlights the delicate balance between humans and the natural ecosystem. It is the first time that delta smelt have been publicly exhibited in an aquarium, according to Schubel. "We try to make the argument [that] it's not about fish versus farmers; it's about humans learning to share water with nature," he explained.

About two-thirds of Californians get their water from the delta, Schubel said. Diverting fresh water from the smelt's habitat, combined with predation from invasive species, has reduced the species' population to near extinction. Only one specimen was found during a 2016 survey of the delta, according to the Aquarium's fact sheet. Zero delta smelt were found in a 2018 survey. "We included the delta smelt because it can be seen as an indicator of our commitment to sharing water with nature," Schubel said. "Unfortunately, nature usually 'bats last' when allocations of freshwater are made."

The other two animal exhibits in the culmination gallery focus on marine aquaculture, according to Dr. Sandy Trautwein, vice president of husbandry at the Aquarium. One tank holds yellowtail jack, a popular sport fish of Southern California. Trautwein said the fish are a great candidate for marine aquaculture farms. They supply a rich and abundant source of protein and, unlike cattle, require no diversion of fresh water and contribute less methane to the atmosphere.

Two species of oysters are also on display: the Pacific oyster, primarily grown for food, and the Olympia oyster, which is native to the coast of California and protects the shoreline from contamination and erosion. "They're feeding on the plankton and other microorganisms in the water that help to keep our waterways clear and clean and healthy so that things like eel grass can grow and survive," Trautwein said.

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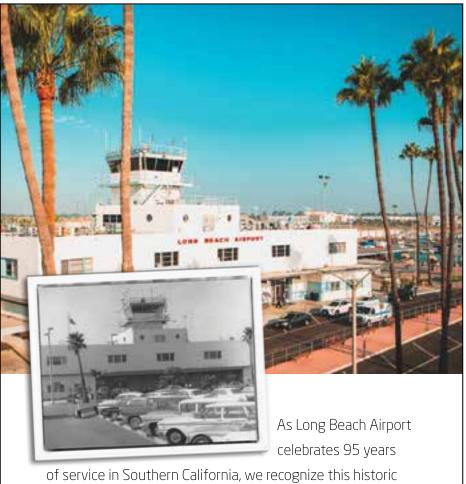
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Tom Bowman, founder and president of design consultancy firm Bowman Change, Inc., has worked with the Aquarium of the Pacific for over a decade. He told the Business Journal one of the biggest challenges of the culmination gallery was designing the space to avoid overcrowding and facilitating a natural flow through the exhibits. (Photograph by Brandon Richardson.)

"They also protect the shorelines from storm surge because they are a hard substrate that protects the softer substrates from washing away." That hard substrate also provides an excellent habitat for small species of fish and snails that are essential to a healthy coastal ecosystem, she added.

With its animal displays, interactive games and focus on the future, the culmination gallery was designed as a place of playful learning, Bowman said. "What we designed for is to keep that sense of hope and fun really front and center in these exhibits, so that you learn and feel motivated to learn, and feel inspired."

Throughout his career, Bowman has worked with many organizations, museums and academic institutions on environmental topics. Science museums and aquariums have traditionally taken scientific information and distilled it for public consumption, Bowman explained. What is unfortunate, he noted, is that there is no companion institution to offer suggestions for how this science should be applied to address the leading issues of the day. "I give a lot of credit to the Aquarium for taking this bold step, beyond just telling us about the science but actually beginning the conversation."



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The Educational Mission Of Pacific Visions

■ By SAMANTHA MEHLINGER

In addition to serving as a new entertaining attraction for Long Beach and surrounding communities, the Aquarium of the Pacific's new wing, Pacific Visions, is designed as an educational experience. This goal is in keeping with the Aquarium's longtime dedication to education, which has been embodied not only through its exhibits but also through its lecture series, onsite classroom, traveling Aquarium on Wheels and other programming.

David Bader, the Aquarium's director of education, has worked for the institution for 20 years. In that time, he has seen the educational staff grow from six people to 60. "As long as I have been here, we have always been working to engage as many people as possible and to think beyond the four walls of our institution." Bader said.

"For Pacific Visions, the main components of [educational] programming started with our executive team meeting with world leaders and experts [about] the science content of the exhibits," Bader said. According to Dr. Jerry Schubel, the president and CEO of the Aquarium, he and his staff met with scientists from Stanford University, University of California (UC) Los Angeles, UC Santa Barbara and the University of Notre Dame. Over the course of two days, they discussed the overarching storyline for Pacific Visions and how to weave it together, Schubel recalled. In the time since the Aquarium's board first approved the concept for the new wing at a 2005 retreat, numerous guest lecturers invited to the Aquarium have also provided input on the project, he noted.

"The overarching educational goal is to let people explore pathways to alternative futures and discover that the actions we take over the next couple of decades – particularly relevant to the choices we make of energy, food and water – will determine the future that we will all live in and our children and grandchildren will live in," Schubel explained.

Pacific Visions' storyline – told through technology, art displays, films and live animal exhibits – ties together the concepts of food, energy, water, climate change and population growth to explain how humanity is impacting the oceanic environment, and steps to take for a more sustainable

future.

"We want people to be able to wrestle with some pretty big ideas," Bader said. "We know that in the next 50 years or so we are going to see population increasing on the planet by maybe as many as an additional two or three billion people. And we know that the resources we have on our planet are limited. We have to find a way to utilize our resources as best as we possibly

Young Aquarium visitors check out an interactive display in the new Pacific Visions wing that is designed to help viewers learn about sustainable foods. (Photograph by Brandon Richardson.)



can, making sure there is enough food, energy [and] water for that growing population." Ultimately, Pacific Visions leads to this realization, as summarized by Bader: "We have to make some critical decisions in the near future to plan . . . so that it is a resilient future for everybody."

Pacific Visions imparts this lesson through a variety of media – from interactive technology like touchscreen tables that function both educationally and as conversation starters, to tactile experiences such as a mock coral reef. After guests watch a film in the Honda Pacific Visions Theater, they are able to interact with a variety of touchscreens in the culmination gallery, each focused on ways they can effect sustainable change in their own lives, Bader explained.

"We know that learning is a social endeavor, and some of the best ways we can make a lasting and meaningful impact on people is to create those social experiences," Bader said.

Schubel noted that most guests do not come to the Aquarium for education, but to be entertained. "Even with Pacific Visions, most people come to have fun," he said. "Once they're in the door though, then it's up to us to snooker them into learning." Rather than taking a didactic approach to learning, Pacific Visions is focused on learning through entertainment, he explained.

Bader reflected, "As an Aquarium, as a traditionally live animal focused space, we are also asking our guests to engage in some really deep and meaningful ideas in terms of kind of the future of our whole planet."



David Bader, director of education for the Aquarium of the Pacific, explained that Pacific Visions allows visitors to envision a more sustainable future through a series of interactive displays, films and other media. "We are not providing people with a single answer. We are providing them with the opportunity to wrestle with problems and think of ideas that might help to manage those solutions across a broad spectrum," he said. (Photograph by Brandon Richardson.)



The culmination gallery is the last stop in Pacific Visions. As visitors exit the Honda Pacific Visions Theater, they are greeted by a gallery full of interactive exhibits, including touch-screen walls and tables, which allow them to imagine a more sustainable future by making theoretical choices about their own lives and seeing how those choices would impact the planet. (Photograph courtesy of the Aquarium of the Pacific © 2019 Tom Bonner.)







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iome of the listed projects have scheduled mandatory pre-bid meetings which may have already occurred due to publication lead times."

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Congratulations

Dr. Jerry R. Schubel and the City of Long Beach on the opening of Pacific Visions at the Aquarium of the Pacific!





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Pacific Visions Boosts Aquarium's Capacity As An Events Venue

■ By ALENA MASCHKE Staff Writer



Vice President of Operations John Rouse and Director of Pacific Visions and Architecture Fahria Qader are pictured in front of the entrance to the Aquarium of the Pacific's new wing. Parts of Pacific Visions have already been used for small events and gatherings, and Rouse said he is expecting a steady flow of clients. (Photograph by Brandon Richardson.)

Anyone passing by the Aquarium of the Pacific on a Friday night this time of year can expect to see a long line of teenagers dressed in black tie attire, sequins sparkling in the evening light, snaking around the building's entrance. Whether it's prom nights, weddings or corporate get-togethers, the Aquarium has long been a popular space for events. With its new Pacific Visions wing, the venue will be able to host more guests and offer more diverse experiences.

"We will have the ability to do very large events," John Rouse, the Aquarium's vice president of operations, told the Business Journal. "Plus, we have a lot more hardscape out front, so we'll be able to do events [with] over 3,000 people, which in the past were a little more complicated." Under the expansive glass facade of the new wing, a patio and lawn framed by drought-resistant plants offers opportunities for mingling al fresco.

But it's not just the added outdoor space that is expanding the Aquarium's event capacity. With four new exhibition halls and a new conference room, the inside offers plenty of square footage, too. "It gives us a lot more space," Rouse noted. Thanks to these new spaces, Rouse is expecting to host as many as 30 additional events per year. Currently, the Aquarium welcomes around 85 annually. He expects event revenues to increase by approximately 10% from the current \$2 million per year.

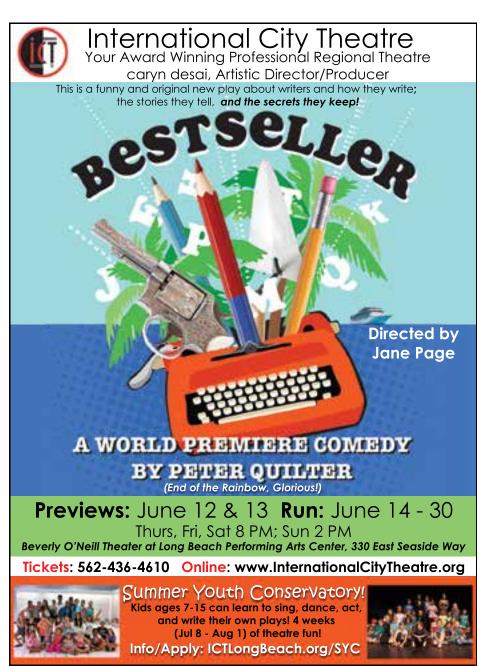
For bigger events, the ample open space of Pacific Visions' art, orientation and culmination galleries can be set up based on clients' needs, Rouse noted. The Honda Pacific Visions Theater is fitting for corporate presentations and TED-style talks, he explained. The theater accommodates 300 people with auditorium-style seating. The rounded space features a 32-foot tall, 130-foot long digital projection wall and a 30-foot-diameter projection disc on the theater floor that tilts toward the audience for immersive visual displays.

The orientation gallery, which visitors pass through before entering the theater, also offers opportunities for multimedia presentations. A 26-footwide LED screen and a wall projection equipped with ceiling-mounted motion sensors create a captivating visual landscape. "It's quite impressive looking, really bright and beautiful," Fahria Qader, director of Pacific Visions and architecture at the Aquarium, told the Business Journal. The floor is tilted slightly toward the screen, ensuring a clear view from all areas of the room.

The pre-show area, which consists of the art and orientation galleries, has already been used for events prior to the new wing's official opening date of May 16. So has the building's new conference room, which is fully soundproof to allow for undisturbed meetings and can host approximately 40 people, depending on seating arrangements. The conference room expands the Aquarium's options for hosting smaller events, which had previously been confined mostly to the watershed classroom in the main building. "We get multiple requests for that, so we'll be able to double up, basically," Rouse said.

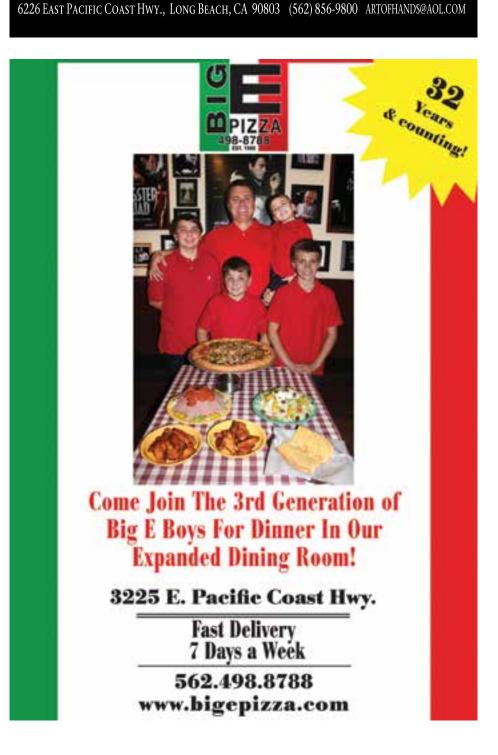


The new conference room inside the Pacific Visions wing can be set up differently depending on the type of event booked there. It has been used for meetings of the Aquarium's board of directors in recent months. (Photograph courtesy of the Aquarium of the Pacific © Tom Bonner.)



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After A Decade Of Teamwork, Pacific Visions Emerges As A 'Labor Of Love'

■ By ALENA MASCHKE
Staff Writer



According to Director of Pacific Visions and Architecture Fahria Qader, about 60 companies came together to make the dream of the Aquarium's new wing a reality. Donors, such as the City of Long Beach and the Molina and Ginsburg families, helped fund the \$53 million undertaking. Pictured from left in front of the Pacific Visions construction site are: Aquarium Assistant Curator of Mammals and Birds Michele Sousa; Magellanic penguin Admiral Fancypants; Long Beach Mayor Robert Garcia; Aquarium Boardmember John Molina; Clark Construction Senior Vice President, Western Region, Marc Kersey; Aquarium President and CEO Jerry Schubel; Clark Construction Senior Project Manager Tom Farrar. (Photograph courtesy of the Aquarium of the Pacific.)

For the team in charge of making the Aquarium of the Pacific's new Pacific Visions wing a reality, May 24, 2019, has been a long time coming. On opening day, the massive, \$53 million expansion will finally open its doors and present to the public the results of over a decade's worth of planning, fundraising and manual labor necessary to accomplish this ambitious project.

In the early aughts, the Aquarium was already eyeing expansion, but the details were still unclear. "The question was: where are we going?" Doug Otto, vice chair of the Aquarium's board of directors, remembered. "There were a variety of competing ideas and Pacific Visions was the one that won out."

In 2009, the search for collaborators began. Otto, who chaired the committee overseeing the Aquarium's long-range plans, said there was a common theme to the selection of companies that ultimately worked together to create Pacific Visions. "We were looking for people with a vision that carried on the mission of what the Aquarium was," he explained.

For the design of the building, leadership decided to award the contract to EHDD Architecture, which had devised the plans for the Aquarium's original building. "EHDD knows us well in terms of the design of this building, so we felt like they would be very good at figuring out what new facade or new look would go well with the existing building," Fahria Qader, the Aquarium's director of Pacific Visions and architecture, told the Business Journal.

Turning EHDD's vision of a rounded glass facade, emulating the ever-changing shades of the nearby surf, emerged as one of the project's biggest challenges. "It wasn't just about constructability and the structural aspect, but it was also about the look," Qader said. Requirements set by the California Coastal Commission that the building facade be non-reflective to protect the lives of sea birds added another level of complexity. "We wondered whether we were ever going to find exactly what we wanted, because there's not a lot of people that do this," Otto remembered.

Eventually, the Aquarium found two California-based companies, Woodbridge Glass, Inc., of Tustin and Burro Happold of Los Angeles, to accom-

plish the feat of producing and engineering a paneled glass facade that was earthquake-safe, bird-friendly and as iridescently blue as the ocean. "At the end, we finally got something we were happy with, but it took a while," Qader said.

Despite this challenge, Qader said bringing Pacific Visions to life was smooth-sailing all around. "There were really no conflicts. People would be very solution-minded," she remembered. John Rouse, the Aquarium's vice president of operations, agreed. "We were surprised, at least I was surprised, how easy it went. We had very few contentious meetings. That's atypical of a construction project of this nature, and we remained friends throughout the whole thing," Rouse said. "The other thing that was surprising was how little effect it had on the regular attendance. We had budgeted our attendance to be down a certain percentage, and we really haven't seen that. We never really had any guest complaints."

Considerations for the guest experience remained front and center throughout the process, said Qader, especially in the plans for the new wing. "We focused on the components, the need for the spaces and the sizes of the spaces, and that developed the exterior form. That doesn't always happen when you're designing new projects," she noted. "We really worked from the inside out."

The result is an experience that furthers the Aquarium's long-standing mission of promoting sustainable practices, and inspiring curiosity and compassion for the oceanic world. "A lot of people think of aquariums as places where you go and look at fish or fish tanks, and we were not doing that," Otto said. "This was more of an opportunity to engage people in a sophisticated, technological way and make them think about the future and what's going to happen to the ocean, the importance of the ocean to everybody's lives."

Raising the funds necessary to make this vision a reality was no small feat, either, but the unique character of Pacific Visions made it an easy sell, said Charlotte Ginsburg. Ginsburg is a member of the Aquarium's board of directors and a long-standing ambassador. Together with her husband, Dr. Allen Ginsburg, she contributed over \$1 million and helped fundraise for the remaining cost of the project. "This is something that's going to be around for a long, long time," Ginsburg said. "It's a labor of love."





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Local elected officials and Aquarium boardmembers, executives and donors celebrated the groundbreaking of Pacific Visions on February 2, 2017. Through a capital campaign, the Aquarium ultimately raised more than \$53 million for its new wing. Pictured in the background is a 2016 mural painted by Portuguese street artist Pantonio as part of POW! WOW! Long Beach, an annual festival that invites international muralists to decorate buildings throughout the city. The mural was temporary, as the wall it was painted on had to be reconfigured to make way for Pacific Visions. (Photograph courtesy of the Aquarium of the Pacific.)

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