



# Monterey Bay Aquarium

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**THE FIRST 35 YEARS**

Julie Packard

# Monterey Bay Aquarium

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Julie Packard

with illustrations by the author








ONE

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## Opening Day

*On the morning of October 20, 1984,  
I woke up to see a clear and still blue sky  
outside my window. All night I'd lain  
awake listening to the wind howl, fear-  
ing that opening day of the Monterey Bay  
Aquarium would dawn dark and stormy,  
not an auspicious beginning.*

**AS IT TURNED OUT**, the day couldn't have been more perfect. As thousands of expectant visitors lined up for blocks down Cannery Row, hundreds of children paraded down the street in a colorful array of ocean animal costumes. My father's favorite Dixieland jazz band added a festive musical backdrop. While this opening was the culmination of years of work for the team that created it, it was just the beginning for the rest of the world.



**"In all my life I've never been able to see what's under the water. Now I can. Now everyone can."**

**—LUCILE PACKARD**

As ten o'clock approached, a clutch of local dignitaries gathered near the front gates for opening speeches. The founding group—my sister Nancy Burnett and her husband Robin, Steve Webster and Chuck Baxter—gathered for a round of applause. My mother Lucile Packard summed up her feelings: "In all my life I've never been able to see what's under the water. Now I can. Now everyone can." My father

David Packard was characteristically short and to the point: "This is your aquarium." The ribbon was cut and the line pushed forward to buy tickets...unfortunately, a little sooner than staff had expected, resulting in the first of many glitches on opening day. Before the day was over, the ticket sellers ran out of \$1 bills, and enterprising youngsters discovered they could sell the tokens we gave out to paid visitors to allow them to re-enter. To our surprise, more than 10,000 people bought tickets and toured the Aquarium. Overall it was a hectic, grand and glorious day.

Some 35 years later, it's hard to remember and describe how I felt that day. We were all exhausted, anxious yet excited about how people might respond to this dream that had been some eight years in the making. Which exhibits would they like? Had we made mistakes in the graphic information? Most importantly, would they learn and have fun? I spent the day shadowing visitors to gauge their reactions. People loved it. The building was beautiful. The Kelp Forest was stunning. The animals were amazing. So far, so good!



## TWO

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# How It All Began

**THE PEOPLE WHO** came up with the idea to build an aquarium on Cannery Row were the previously mentioned founders—my sister Nancy, Robin, Steve and Chuck. Affiliated one way or another with Stanford University, all were marine invertebrate zoologists.

As for me, I researched marine algal ecology for my master's degree and was first and foremost a plant nerd. I studied botany as an undergraduate, pursuing my lifelong fascination with plants, which I suppose I owe to growing up in an apricot orchard, spending hours driving ranch roads with my father inspecting the quality of the range grasses and tending to the family vegetable garden every summer. My interests ventured seaward to seaweeds when I took an intertidal field biology class in my sophomore year. It was then that I discovered the fascinating diversity and beauty of the marine algae, and spent many foggy mornings at low tide along the shores of Monterey Bay happily rooting around the tide pools with mentors and friends.

The world beyond, though, was a sea of growing environmental activism and unrest, made all too real by the Santa Barbara oil spill in 1969. At the



time, it was the largest oil spill in U.S. history, killing thousands of seabirds and countless other ocean animals. These experiences, among others, combined to shape my worldview to value science and dedicate myself to understanding and protecting the nature that sustains all life. And, as a product of the 1960s era of protests and activism that drove a host of groundbreaking laws to protect the environment and human health, I knew there was one path to change: spread the word about the problems and solutions and raise your voice. The idea of an aquarium dedicated to this vision was compelling, and there was no question that I'd join the founding group to help make it happen!

The germ of the aquarium idea came when my parents asked their children, by then all adults serving on our family foundation board, to think of a big project that would really make a difference. It was in that context that the founding group first discussed the idea of an aquarium and wrote a proposal with a concept for the project. I contributed to that proposal by creating some very amateur sketches of our central idea—a huge ring-shaped kelp forest community tank, complete with sea otters.

What was once the largest sardine cannery on Cannery Row, the abandoned Hovden Cannery next door to Stanford's Hopkins Marine Station was the inspiration for the Aquarium. Stanford purchased the property in the early 1970s and sold it to the Aquarium Foundation in 1978. All of us spent time at Hopkins and were influenced by the seminal work of Ed Ricketts, the legendary marine ecologist fictionalized in John Steinbeck's novel *Cannery Row*. Put simply, without the Hovden Cannery, there would be no Monterey Bay Aquarium.

Our proposal was met with enthusiasm, and we commissioned a feasibility study to assess the market potential for the idea. For my father, it was critical that the Aquarium attract a level of paying attendance that could pay the bills to operate it. Although the projections in the study were way off base, estimating only 350,000 visitors in year one, the project penciled out. My father gave

the go ahead and we created a new not-for-profit foundation to plan, build and operate the Aquarium.

The architectural firm Esherick Homsey Dodge and Davis of San Francisco was selected to design the project, with Chuck Davis as principal architect. We assembled a far-flung team of specialized consultants and got underway. The early years involved a period of intense creative work, technical problem solving, endless meetings, late nights, and a healthy dose of tension, emotions and just plain strife. We each held strong convictions and visions for the project, through differing lenses, depending on our areas of expertise. Add to this mix my father, who was paying the bills and obviously had the final call. He was decisive, impatient, immensely practical and way smarter than the rest of us.

My father's approach to the project reflected the iterative design approach of an engineer. Chuck Davis describes one of his first informal meetings with him shortly after being hired:

“Well, Chuck, the kids and everybody have this idea about doing an aquarium,” my father said. “I don't know whether it's worth a damn or not. So, my deal with you is I'm going to be there every Friday, I'm going to come and look at what you've done and if I like what you've done, we'll go on for another week. If I don't like it, I'll pay you off and send you home. Is that a deal?”

Thankfully, Chuck agreed.

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Gradually we assembled an amazing team of people, from our project manager Linda Rhodes to Dave Powell, recommended to us as the most knowledgeable aquarium husbandry person in the country, to so many, many others.

From the start, the idea to create an aquarium all about Monterey Bay met with a good deal of skepticism from those outside of our planning group. To



outsiders it sounded limiting. To us it sounded boundless. We wanted to go deep, and for the first time show people what the ocean is really like. Monterey Bay was our inspiration. We were singularly focused on telling its story.

And what a story it was—a diverse and abundant ecosystem thriving with life, enriched by the seasonal upwelling of nutrient-rich water along the Pacific Coast. Best of all, unlike nearly every other aquarium, we had the real thing right outside our doors.

The vision we started with more than 40 years ago has remained constant throughout our history. We sought to recreate what the ocean is really like—interlinked communities of plants and animals that are magnificent in both their beauty and complexity. In our exhibits and interpretive programs, we wanted to create honest and aesthetically pleasing representations of nature that entertained and inspired.

Our vision differed from most existing aquariums at the time. The typical aquarium displayed fish in mostly individual tanks and focused on exotic and colorful species from around the world. Our approach aimed to showcase the communities of fishes, plants, invertebrates and birds as you would find them in nature. The influence of our backgrounds cannot be underestimated—not one of us was a fish specialist. What got us excited were the small, squishy and slimy plants and animals, the bizarre and beautiful, the comical and complicated.

In the beginning, we knew very little about how to pull off this focus on communities. No one had ever tackled the complex challenges of displaying a living kelp forest community before. We needed unfiltered seawater to bring in plankton to nourish the filter-feeding invertebrate animals, as well as larvae and spores of organisms to create a natural community of plants and animals on the rockwork. Unfortunately, this rich unfiltered water makes for poor visibility—like a typical day diving in Monterey Bay—and we needed to filter the water during opening hours so people could see into the exhibit. The kelp needed

ample sunlight, requiring proper positioning in the building, and water motion.

Our guiding principles still hold true today: Enable people to choose their own sequence of experiences through the Aquarium and not be forced to take a one-way path. Maximize the natural light coming in to the public spaces and let the exhibits—and our visitors—spill out onto the decks to continue their explorations, experience the real ocean with their senses and see wild ocean animals in nature. We were intrigued with the new interactive interpretive exhibits we had seen at the leading science museums and committed to use these techniques to go beyond traditional exhibit labels.

From the start, our exhibit concept was to create a tour through the habitats of Monterey Bay, and we wrestled with which species to include. Of course, many had never been featured in aquariums and were of questionable interest to the public. Dave Powell brought his deep expertise to shape what would become our final exhibit program, advising on what was possible and convincing us of what wasn't. We honed in on those requiring research and development. All of us—most of all my father—had to settle on our appetite for risk. We committed to showcasing the lesser known and overlooked creatures in Monterey Bay, like an exhibit of living sand dollars. Dave put a lot of energy into figuring out if he could keep them alive, despite our kidding that visitors wouldn't know either way. But being purists, we wanted them alive and he succeeded.

Over time, the exhibit concepts and species lists came into focus, and our team of architects, engineers and exhibit designers worked side by side with us to shape a building and an experience for the public that realized the vision—and made it better than we ever imagined.

My parents were deeply involved throughout the development and building of the Aquarium. My father provided the funding, and he was not a silent partner. He spent hours meeting with the architects and engineers with his sleeves rolled up and a pencil in his hand. He'd talk through the practical challenges

of building and construction and became especially engaged in the seawater system. My father held huge respect for Dave Powell, Chuck Davis and our project manager Linda Rhodes, and he worked closely with them every step along the way. He would spend hours with John Rutherford, the chief structural engineer on the project, talking about things like concrete formulations and epoxy-coated rebar. My father also helped design and build some of the critical innovations in our exhibits, such as the devices that make waves and water motion in the Sandy Shore Aviary exhibit and the Kelp Forest exhibit.

Most of all, my father was practical. I clearly recall when he said the Kelp Forest was about a \$2 exhibit and the sand dollar exhibit was worth about 10 cents relatively.

“We need people to pay an admission fee to support this thing,” he said, “so let’s count up what we’re offering to the public that’s worth paying for.”

That point of view didn’t sit so well with everyone, but it embodied his cut-to-the-chase style. “We want this to be engaging and yeah, you guys might want to teach them every last thing you learned in college, but this needs to be something that is entertaining,” he would say.

My parents’ generosity in paying for the entire \$55 million original construction cost without outside funding or government grants enabled us to pursue our vision for a unique and innovative institution. As important, it simplified decision-making: my father made all the calls. Through many painful decisions and experiences, the project moved quickly, and you always knew where you stood.

I’ve always loved this comment from him: “I’ve been right and I’ve been wrong, but I’ve never been indecisive.” That reflected him in a nutshell. Either he would decide or he’d say, “We’re not ready to make that decision yet.” That was his way of saying the idea didn’t have merit but he was giving us a chance to convince him otherwise, or that we needed more time to work out a better solution to the problem at hand.

And there was no shortage of problems to be solved. While the biologists pondered how we could convince him that an exhibit of tide pool shrimp could be interesting (we lost that battle), the consultants were grappling with bigger issues of designing a maze of water systems and a building that would endure an environment that was harsh, salty and wet.

Above all else, David Packard was an engineer and he aimed to build an institution that would withstand the test of time. He spent money on the highest quality materials, but it was far from an open checkbook. He valued practicality and abhorred construction details that were unnecessarily pricey or complex, sternly instructing us, “Don’t gild the lily!” He sought the best materials and longest-lasting approaches to every element of the building. He invested enough for the Aquarium to last for hundreds of years, a contribution to the aquarium design field still recognized today.


My mother served in an equally important role. Unlike my father, her calm, gentle touch brought peace when he became particularly heavy-handed or intimidating, and smoothed the waters after my father’s unpopular decisions or tough statements.

I admired her endless patience when we spent hours with the interior designer Marie Fisher and Linda Rhodes talking about architectural finishes and details. We’d look at samples and drive up to the stoneware tile manufacturer in San Jose to get special firing runs of different colors for the base tile and stairways. The building’s interior industrial look picked up on the cannery’s open wood truss ceilings and exposed plumbing and mechanical systems. After trying out different finishes on the concrete, we decided to just let concrete be concrete and chose dark green for the steel window frames and gray for everything else. I love that one of our in-house gray colors is called Lucile Gray.

From opening day, the Aquarium reflected my parents’ style and aesthetics. Many of the interior finishes in the Aquarium mirror those in the homes they built. They loved sturdy, practical and long-lasting natural materials. Their taste

is reflected in the way the Aquarium's natural setting stands out more than the building. The most unique feature of the Monterey Bay Aquarium, in my opinion, is its perch on the edge of the ocean. No other aquarium has a site like ours.

Thinking back, my parents' value system also set the foundation for the Aquarium's operations and management philosophies. Exceptionally self-effacing, they conveyed their values to us very clearly: arrogance, taking credit and drawing attention to yourself were frowned upon. They disdained successful people who drew attention to themselves. When my father died, my family



**"The most important thing in life is to get something done and once you've done it, you shouldn't gloat over what you've done and you should go on to the next thing."**

—DAVID PACKARD

pulled together a workshop to talk about my parents' values and capture those guiding principles we could all remember because they hadn't written them down. The resulting document became the Packard Foundation's institutional values, and not surprisingly, resemble the values of Hewlett Packard and the Aquarium.

One of my favorite quotes comes from what my father said at one of his retirement events. When a reporter asked, "What's the accomplishment you're the most proud of?" he said, "The most important thing in life is to get something done and once you've done it, you shouldn't gloat over what you've done and you should go on to the next thing."

They taught us that your deeds and accomplishments should be the focus, not seeking credit. Everyone in my family believes in giving recognition where it's due. We all acknowledge that the Aquarium project was much bigger than those who had the idea and those who paid for it. It takes more than an idea and some money to make something happen, and the entire Aquarium team over the years deserves the credit.



## THREE

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# The Aquarium Grows Up


**ONCE WE OPENED**, the Aquarium's popularity exceeded anything we could have imagined. Nearly 2.4 million people visited the Aquarium the first year. The team scrambled to cope with the crowds—from keeping the bathrooms stocked to managing the lines on Cannery Row. Traffic gridlocked the day after Thanksgiving, giving a new meaning to “Black Friday.” Still, the crowds were thrilled. For me and everyone else, life was insanely busy and about to get busier.

Along with leading the new Aquarium, the year after we opened I gave birth to my amazing twin daughters Sarah and Louise. Having kids gave a new clarity to my life. Juggling work and family was an endless challenge, but unlike many working mothers I was privileged to have a supportive husband and could afford childcare options. Our family placed priority on time together, at times to the dismay of our girls who, like me as a child, were subjected to long jeep rides on ranch roads and windy, wet kayak expeditions on Elkhorn Slough. Experiencing the world through the girls' eyes as they grew up gave me a new lens on the Aquarium's mission. They have grown to be competent, strong young women who are passionate about conservation. They give me

great advice and insights on today's world and I'm so proud of them.

The Aquarium's early success felt gratifying, but like my father, I wasn't comfortable lingering on success and wanted everyone to focus on the present and getting better in the future. And I knew I still had a lot to learn. As a 32-year-old, I found myself supervising people nearly twice my age with vastly more knowledge and experience. Without any business training, I relied heavily on my father's leadership values—work hard, listen, always treat people with respect and admit what you don't know.

My father expected the Aquarium to run like a business and cover its operating costs. I remember well a short note from him in those early years saying



**“Dear Julie, this is the first month since opening [that] the Aquarium has not turned a profit. This is probably not a problem in the long term, but please keep the pressure on.”**

—DAVID PACKARD

something like, “Dear Julie, this is the first month since opening [that] the Aquarium has not turned a profit. This is probably not a problem in the long term, but please keep the pressure on.”

My father was happy to pay to build the original Aquarium, but it gave him great satisfaction to then see us move from being a Packard family enterprise to a publicly supported institution. He was very

active in helping me solicit our first gifts to make the Outer Bay wing a reality and by the time of his death, the Aquarium had a large (and still growing today) donor base and membership. He intended for the public to make the Aquarium its own and knew this would be key to our long-term impact and success. We are deeply grateful for the generosity of our supporters that have enabled this evolution and still do so today.

Upon opening, one area in the Aquarium remained undeveloped to save costs. Our newly hired exhibitions lead Don Hughes and the team eagerly

jumped into creating a series of special exhibitions that let us tell new stories and experiment with interpretive techniques.

Today, special exhibitions are an important part of our visitor experience, and from the start, we gave ourselves license to venture beyond Monterey Bay. I'm especially proud of the team's work to introduce the public to an unfamiliar, at the time unpopular, and critically important group of ocean animals—jellyfish and their relatives, which we promptly dubbed jellies because they're not fish. Our first jellies exhibition—*Planet of the Jellies*—was a big risk. It was the result of months of behind-the-scenes work by one of our young aquarists who reached out to research colleagues around the world to find a tank design suitable for housing these fragile animals and perfected techniques to culture them. Thanks to the ingenuity of our animal care team and exhibit designers, and our willingness to enable time for research and development, we put jellies on the map. Today, jelly exhibits abound in virtually every aquarium and our team continues to lead the way in exhibiting these beautiful, otherworldly animals and making many discoveries about them that are new to science.

By 1986, two years after opening, we had worked out many of the operating kinks, attendance was strong, education programs were rolling and new exhibits were underway. Never satisfied to rest on his laurels, my father turned his attention to the third pillar of a great aquarium—research. We always envisioned a strong research program at the Aquarium, and we gathered a panel of leading ocean scientists to help brainstorm how a private research program on Monterey Bay could make a big contribution. My father was struck by the notion of the deep sea as the last frontier on Earth, unexplored and limited by technology to do so. Compelled by this grand challenge, he decided to create a new institution—the Monterey Bay Aquarium Research Institute (MBARI). He envisioned teams of scientists and engineers working side by side in a peer



relationship to develop new technology to explore and understand the vast deep ocean, enabled by easy access to the mile-deep Monterey Submarine Canyon that lies just offshore.

Founded in 1987, MBARI has by all measures exceeded his expectations, contributing new technology and scientific breakthroughs to give us insight into how the ocean works, how it's changing due to human impact and how we can best respond. MBARI has revealed the hidden world of the largest living space on Earth—the deep sea. My father chaired the board for MBARI's first decade and took great delight in its development.

In the early 1990s, again with my father's urging, we began thinking about expanding the Aquarium on the property next door, which he had purchased for this purpose. After much brainstorming and debate, we settled on the topic of the open sea, taking our story offshore to where the bay meets the vast open ocean, home to animals rarely, if ever, featured in an aquarium.

Creation of the \$57 million Outer Bay wing (now the Open Sea wing) stretched the team's experience to new frontiers. The new wing broke ground on many fronts and its design and construction required tremendous ingenuity and collaboration. From creating a million-gallon habitat for open sea animals that know no boundaries in the wild to the world's biggest, most stunning jelly exhibits, our team and consultants did amazing work to pull it off. And, there was the small matter of having to launch our first capital fundraising campaign and raise \$22 million to make it all possible. This meant a new task in my job description—fundraising—and I was totally up for it. I remain ever grateful for the wonderful support provided by our early donors.

The grand opening of the Outer Bay wing on March 2, 1996, was a milestone in more ways than one. The evening of our grand opening gala, MBARI's high-tech research vessel, the R/V *Western Flyer*, took its maiden voyage from Moss Landing to Monterey Bay, carrying my father's close friends and col-

leagues down to the opening party. It was a very special evening, and he was immensely proud. I'm grateful that he was there on that evening to celebrate yet another groundbreaking innovation he set in motion. Sadly, he died only a few weeks later on March 26<sup>th</sup>.

The theme of continuous improvement my father inspired has never slowed. With expanded flexible gallery space in the new wing, we continued to roll out special exhibitions, renovate existing exhibits and remodel everything from the original Aquarium to the stores, lobby and restaurant. As we said at the beginning, we would never run out of stories to tell about Monterey Bay and its remarkable wildlife. But by the 1990s, our notion of the important stories to tell was changing, with the escalating pace of change in the ocean itself. While the Outer Bay exhibits brought conservation issues to light and began to encourage public action, we needed to do more.





**Hovden Cannery viewed from Hopkins Marine Station of Stanford University in the 1970s**



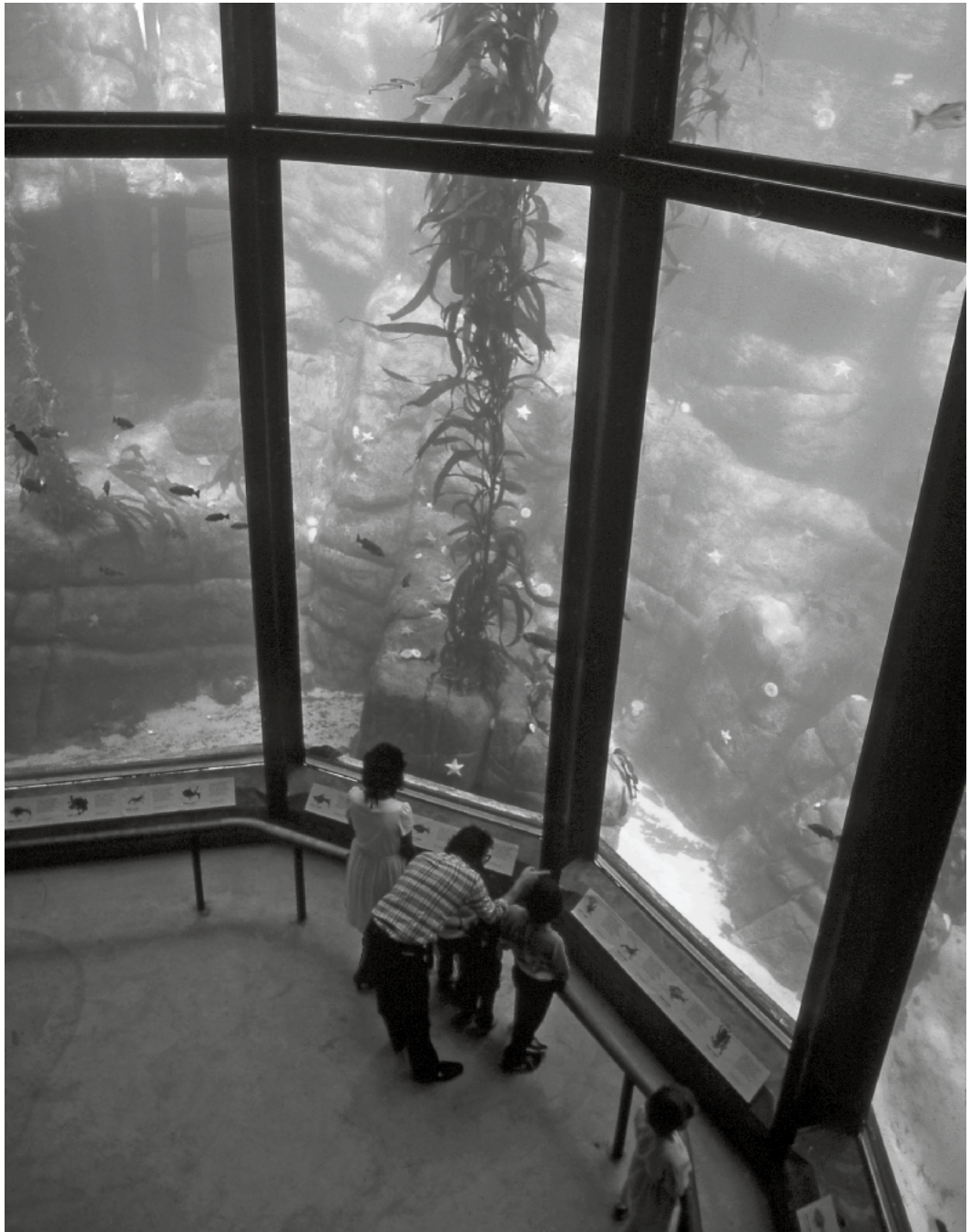
**The profile of the Aquarium closely resembles that of the historic Hovden Cannery it replaced.**



**ABOVE** Crowds gathered on Cannery Row for a parade and celebration to mark the grand opening of the Aquarium.

**BELOW** David Packard dedicates the Aquarium, with the four founders who imagined the concept: Robin and Nancy Burnett, Chuck Baxter and Steve Webster.





**The Kelp Forest exhibit looked much more sparse when we opened in 1984. The flow of raw seawater into the exhibit brought with it larvae and spores that settled on the artificial rockwork, creating the lush, living community there today.**



**ABOVE** Construction workers frame in the Aquarium's kelp logo that still greets visitors outside our main entrance.

**BELOW** Members of the Exhibits team transport a life-size model of a mother gray whale to the Aquarium on a flat-bed truck. This and other marine mammal models were fabricated at shops in nearby Sand City.





**Executive Director Julie Packard with David Packard inside the Aquarium entry**





## FOUR

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# Inspiring Conservation of the Ocean

**OUR NEW EXHIBITS** in the Outer Bay blended beautiful immersive experiences with areas explaining the perils faced by ocean wildlife and what people can do to ensure their future. We had taken a bold step in being more direct about our conservation role, and it was time to revisit our mission statement. In 1996, we clarified and simplified it to what it is today: the mission of the Monterey Bay Aquarium is to inspire conservation of the ocean.

The Outer Bay exhibits began our foray into conservation action. The iconic animals in the Open Sea exhibit—sea turtles, tunas and sharks—all face peril in the wild. Their stories needed to be told. Although their world was far offshore from our everyday human reality, we were driving their decline. The Ocean Travelers gallery that focused on long-distance migrators passing through Monterey Bay, and later our Vanishing Wildlife exhibit, told these stories. I continued to push for more conservation content and in a first for us, we created an area asking our visitors to take action by sending postcards to their legislators urging protection of the ocean. They wrote the postcards on the spot



and we mailed them. The public welcomed the conservation action messages. They trusted our science credibility and recommendations on how they could help drive positive change.

Changes also were underway behind the scenes. With the new mission statement, we reviewed every program to ensure it clearly advanced our conservation mission. Our research program gradually moved from focusing on basic science about animals and habitats to conservation science, undertaking research that would help inform conservation policy action. Our sea otter program shifted from a singular goal to rescue and care for stranded sea otters toward a goal to more directly contribute to the recovery of this iconic threatened species. In our education programs, we broadened our goals from ocean literacy to environmental education and eventually a youth leadership focus.

Realizing that the Outer Bay would still be generating large attendance numbers in its second year, in 1997 we took another bold step and opened an exhibit focusing squarely on a critical ocean conservation issue: unsustainable fishing and aquaculture. *Fishing for Solutions* explored the issues around overfishing in the world's ocean. As expected, it did not drive attendance—it was focused on shrimp to tell the story, not exactly a charismatic mega-fauna species—but it was well received by our visitors. We published a popular companion book, *Faces of Fishing: People, Food and the Sea at the Dawn of the Twenty-first Century*, which we handed out to policymakers, including President Clinton at the first National Ocean Conference in Monterey in 1998.

We were pleased with the results but had no idea that this exhibit would mark the start of what would become a program with global conservation impact. Because we wanted to “walk our talk” in our own restaurant and offer only sustainable seafood choices, we reviewed our menus and began evaluating the sustainability of seafood items in the U.S. market. This was the start of the Seafood Watch program, which began as a consumer pocket guide. It would

grow to become a global program leading a worldwide transformation to sustainable fisheries and aquaculture.

With growing awareness of our potential to drive conservation impact, we created a new work group of talented professionals in ocean conservation science, policy and advocacy. Our strategic plan now included an outcome goal to not only reach people but to directly demonstrate conservation results in the ocean itself. Our markets-based strategy took us into new territory, and I found myself immersed in navigating the controversies that surrounded our seafood ratings, hearing from unhappy environmental advocates one day and frustrated fishing associations the next. It was fascinating and challenging work for our team. I believed strongly that only by working with business could we create change, but the going was not easy.

As time passes, I'm more convinced than ever of the power of this strategy. We now work directly with global-scale companies to improve practices in some of the biggest seafood producing nations in the world, from Chile to Vietnam. Our conservation and science team leads a portfolio of work on the biggest threats to the ocean, from climate change to plastic pollution. A focus on credible science, practical policy solutions and consumer and business engagement has been key to their success.




## FIVE

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# Creating the Next Generation of Ocean Leaders

**WHEN I ATTENDED** a California public elementary school as a child in the 1950s, our system was among the best in the nation, with resources for teaching science, music and art, and funds for enrichment activities. By the time the Aquarium opened, we had lost so much ground. California's K-12 science education was on the decline as teachers struggled with the challenges of a growing, diverse population and limited funding. We were not providing the opportunities for learning and success that our kids needed and deserved. Providing support for young people to thrive and succeed was a central theme in my parents' lives, and I believed strongly that the Aquarium had a role to play.


Fortunately, our initial success enabled us to make a big commitment to education early on. A short six months after opening, our Board decided to waive admission fees for schoolchildren and their chaperones. It represented a major commitment to education and access, as nearly all aquariums (and most zoos and museums) charge for school visits. This free-access policy has been reaffirmed year after year and was recently made permanent thanks to the



creation of a dedicated education endowment fund that we remain committed to growing. Over 35 years, the Aquarium has hosted more than 2.5 million kids on school field trip visits, and our education programs have continuously grown and evolved to meet the needs of the kids and teachers we serve.

We began by focusing on programs for the 80,000 students that were visiting us annually on school field trips and soon started offering professional development programs for teachers, leveraging their ability to reach even more students throughout their careers. These programs were quickly over-subscribed. Teachers were eager for new ideas and hands-on experience teaching science, and many felt unprepared, with no formal science training. Our inquiry-based approach and focus on using the ocean as a theme were welcome tools.

As concerns about the global ocean conservation crisis grew, we shifted our content to go beyond science learning to an environmental education goal. Our research pointed to teens as a focus for expanded programs, building their readiness to tackle tough environmental problems and helping them develop leadership skills. We adopted a strategic goal that drives our work today: to develop the next generation of ocean conservation leaders.



**Our teen programs have yielded remarkable results and the participants' passion and energy are truly a gift to their communities, the Aquarium and the world.**

Our teen programs have yielded remarkable results and the participants' passion and energy are truly a gift to their communities, the Aquarium and the world. Along with programs at the Aquarium, one of our most impactful decisions was to engage in a deep partnership with a brand new high school

in nearby Watsonville, a coastal farming community with a largely low-income Hispanic population. This Watsonville Area Teens Conserving Habitats (WATCH) program embedded our team in the high school, partnering with

educators and students to enable student field research experiences and a solid environmental science curriculum.

Since its inception ten years ago, the WATCH program has reached 400 young people who are now pursuing college and careers. We see our programs now as an integrated pathway through an educational and experiential journey to leadership. Many of these talented young people now work for the Aquarium. I'm especially proud of our work to engage women in the sciences, still a huge need in our society.

To enable expansion of our education programs, early in 2019 we celebrated the opening of the new Bechtel Family Center for Ocean Education and Leadership. With the new center, we'll be doubling our programs for students and teachers in a new technology-enabled space primed for collaboration and creative problem solving. Our strategy focuses on building cultural competency in teacher learning and preparation and building a teacher workforce that reflects the faces of California's students.

When I listen to the stories of our students, I know we're making a difference. Along with bolstering educational attainment, we're providing a community of trust and support that builds confidence for success. It's immensely gratifying to know that already the rising generation of kids who grew up experiencing the Aquarium is mentoring the next generation. It gives me hope.



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## Reflections on What We Have Accomplished

**FORGING A VALUE** for nature is at the heart of our mission to inspire conservation of the ocean. We began with a goal to provide a place where families could explore, learn about and revel in the beauty of what lies beneath the surface of the ocean. We sought to create a new kind of aquarium that's more than just fish tanks, to push the boundaries of aquarium exhibit design to reveal ocean communities and ecosystems as they really are, and to deeply engage people in learning and discovery. Over the years, through building on the platform of a remarkable aquarium in a remarkable setting, and with the tremendous help of so many people, we've aspired to a much larger vision—to build a constituency for the ocean, a world in which people value the ocean and act on its behalf. So what do I count as our biggest accomplishments in our first 35 years?

First and foremost, we have succeeded in creating a new kind of aquarium, remaining true to the core elements of the founders' vision. Our focus on Monterey Bay and our dedication to showcasing the diversity of ocean life with



an ecosystem-based approach set us apart, coupled with our beautiful building and location on the edge of a wild ocean teeming with life.

As I have often reflected, though, the most challenging animal in the Aquarium has always been the human species. We owe our success to a focus on our visitors, investing in data-driven experience planning and marketing, meeting people where they are, and putting them at the heart of everything we do. California has experienced major demographic change in these 35 years, and we have worked hard to meet the needs and interests of our ever-changing audience. Thanks to a dedicated strategy, today our California attendance nearly matches the state's demographics in terms of age and diversity. Our visitor audience looks vastly different than it did 35 years ago.

We built a reputation as a trusted voice for conservation, and we did so by ensuring that everything we say and do reflects credible science and the highest integrity. And at the same time, we have worked to retain the sense of joy and fun that embodied the guest experience from the start.

What about our influence on the ocean itself? Once again, it starts with Monterey Bay. One hundred years ago, Monterey was a major whaling center, sea otters had already been hunted to near extinction by fur traders, and the sardine fishery was just ramping up to become one of history's most famous tales of fishery collapse. Today, it's a wildlife spectacle, heart of a vast national marine sanctuary and home to a host of ocean research and education institutions. These victories were made possible by people who cared about this place and understood the role that science should play. The Aquarium catalyzed this progress, showcasing and celebrating what can happen when people care and take action on their convictions. I'm proud that we've helped California continue to lead the way on environmental solutions that work, and I know there are many more successes ahead.

The impact of our conservation work has gone way beyond the bay, though, far exceeding our original vision for the Aquarium. Our team is present at



the table with global decision makers in business and government alike. The Aquarium's reputation as a trusted voice, grounded in science, willing to collaboratively forge solutions that work for both people and nature, has made this possible. Our team is driving tangible ocean conservation results, from sustainable seafood to sea otter recovery.

Beyond the impact of our own conservation work, I am truly proud of the influence we've had on other aquariums throughout the world. We have proven that a public aquarium can be a force for change, not just an attraction. We can inspire and delight but we can also engage people in caring for the ocean and acting on their convictions. Our emphasis on conservation in our own exhibitions, programs and outreach has led a transformation in the aquarium world that is growing day by day.

Today's successful U.S. aquariums have words like conservation, protection and preservation in their mission statements, and they're working to make good on this promise in their exhibits and programs. We've led the way by modeling how to do this, from enlisting them to be Seafood Watch outreach partners to leading creation of a coalition of more than 20 U.S. aquariums to advocate for the ocean. This Aquarium Conservation Partnership aims to mobilize the power of our collective 25 million visitors a year to turn the tide on ocean plastic pollution and other critical ocean issues.

Of course, all of our accomplishments are due to the skills and dedication of our talented team of staff and volunteers. For this I am eternally grateful. The Aquarium entailed a host of risky ideas, new animals, untested systems and unprecedented collaboration across work groups. So many things have happened over these years that could have been disasters, from flooding the basement where the life support systems are located to a tour bus running into the building. All of these incidents—and many others—were handled with care and professionalism that saved the day.

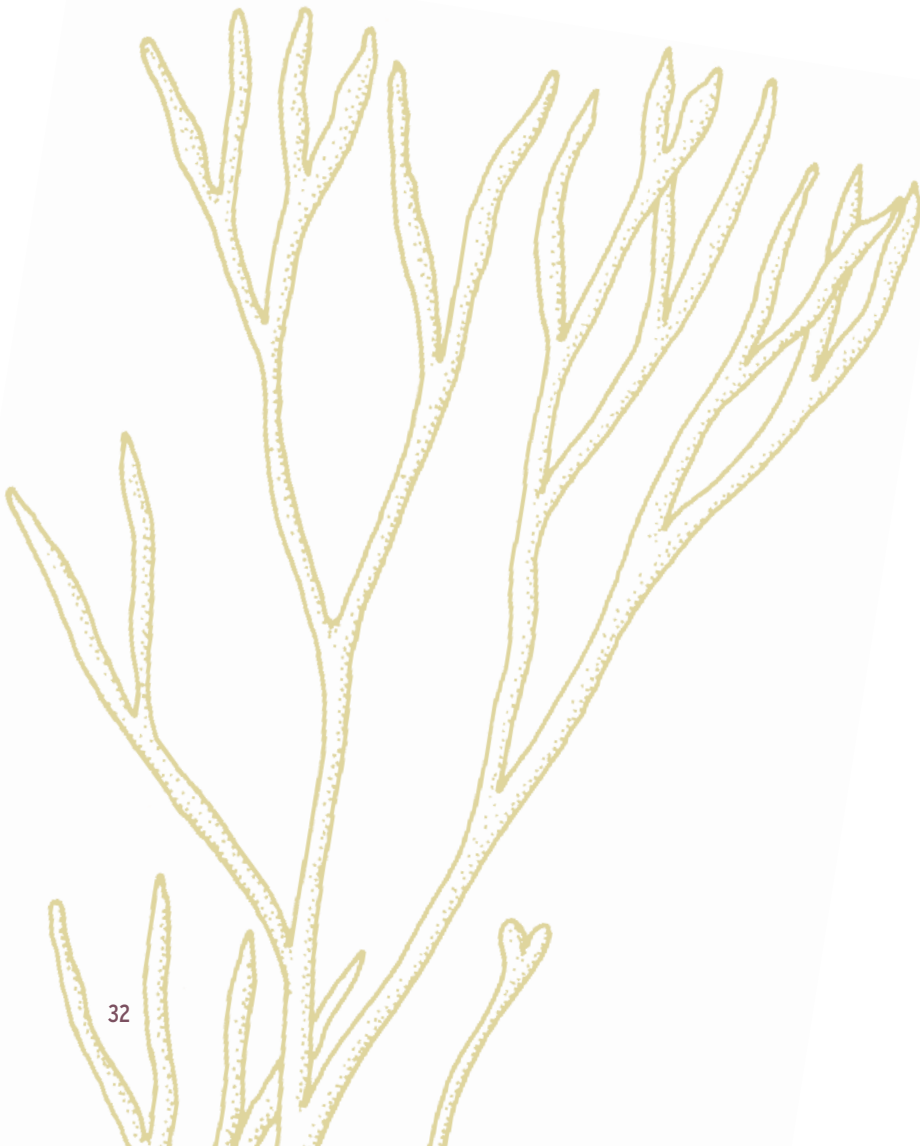
Our incredible animal care staff has worked miracles over the years and never ceases to be up for a challenge, from culturing a flamboyant cuttlefish to exhibiting a white shark and releasing it to the ocean. Nature is vastly complex and trying to recreate it in an aquarium setting is no easy task. Thanks to the expertise of hundreds of animal care specialists over the years, we've enabled people to see things they never imagined.

Just as important are the team members who take care of our remarkable building. The life support systems require constant vigilance. Imagine the complexities of operating a 320,000 square-foot building that's home to more than 35,000 plants and animals representing over 550 different species (without even counting the tiny species that come in through the open seawater system) every day and every hour of the year. Along with keeping the animals healthy, I'm proud that over the years we've kept up with building maintenance, repair and improvements. Thirty-five years and some 65 million visitors later, the building looks as good—in some cases better—than it looked on opening day, not only in the public spaces but also in the back-of-house areas. Having been involved in the creation of the building, it is meaningful to me to see it being cared for in a way that respects my parents' legacy and would make them proud.

Alongside our amazing paid staff, we are fortunate to have one of the most robust volunteer programs of any aquarium in the country. Starting with a core of some 150 volunteers at opening, today 1,400 people contribute over 160,000 hours of their time every year. We would not be the aquarium we are today without the help of these remarkable, generous people.

We have a wonderful group of trustees who are extraordinarily generous with their time and support in every way. I will always be especially grateful to Dr. Peter Bing, who stepped in after my father died and became chairman of our Board of Trustees. As our chair for nearly two decades, his wise, steady and thoughtful leadership has been a gift to me and was appreciated and respected

by all. He helped us build the strong and dedicated Board we have today. Our current Board, chaired by Steve Neal, is doing a tremendous job taking us forward and ensuring the Aquarium endures.



## SEVEN

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# Looking to the Future


**THE AQUARIUM'S SUCCESS** and the recovery of Monterey Bay are remarkable stories that give me energy and hope every day. At the highest level, however, this is a momentous time in the life of our planet. The fate and future of 7.7 billion people hinge on decisions we make in the next few years.

The ocean provides food and livelihoods for billions of people. Its currents and winds create the stable weather patterns that have enabled civilization to flourish. It tempers the harmful effects of climate change, absorbing carbon dioxide and excess heat we produce. A healthy, living ocean is critical to our survival.

As the heart of Earth's climate system, the ocean has been working hard on our behalf. But there is a limit to how much the ocean can take. Fossil fuel emissions are making the ocean more acidic, altering life at every level of ocean food webs. As the ocean warms, fishing grounds people depend on for food and income are shifting. Sea level rise and escalating storms are putting tens of millions of coastal residents in harm's way. Plastic pollution is flowing into the ocean at an accelerating pace.

And, our most basic and ancient relationship with the ocean—fishing—has escalated in scope and practice to threaten ocean health and the food security of millions.

Sounds gloomy? Yes, but here's the good news: The ocean is resilient. It can recover. But it needs our help. We know what to do to turn things around, and the Aquarium will have a powerful role in this transformation.



**The ocean is resilient. It can recover. But it needs our help. We know what to do to turn things around, and the Aquarium will have a powerful role in this transformation.**

First and foremost, we will be a voice for the ocean, inspiring tens of millions of people from around the world about the ocean's value and importance. But this is just the beginning. Today, Monterey Bay Aquarium's social media channels reach millions more, far exceeding

our onsite visitation and engaging people to learn and take action in their own communities and from their own convictions. Millions more visit the world's aquariums that are increasingly focused on the global ocean crisis. Together, we are building a worldwide constituency for the ocean that will continue to drive change near and far, from creating protected areas to forging better fishing treaty agreements.

Second, we will continue to demonstrate how to restore ocean health by promoting sustainable seafood, protecting ocean wildlife and ecosystems, reducing plastic pollution and addressing climate change. We've become leaders in the movement to create a sustainable global seafood supply. We are mobilizing public and business action on reducing plastic pollution, and we are working with our partners at Monterey Bay Aquarium Research Institute to generate the science and technology necessary to inform decisions about the future of the ocean.

Third, we will create a next generation of ocean leaders who are ocean literate, inspired and ready to act on the ocean's behalf. The young adults who have come through our programs are impressive and there are more to come. They will carry their values and convictions to leadership positions far beyond Monterey Bay, engaging young people coming up the ranks to grow a future environmental workforce that reflects the values and diversity of today's youth.

These are vital strategies for the future, but I also believe that all of us concerned about the future will need to redouble our efforts. Simply put, we need to act as if our lives depend on the health of the ocean. Because they do.

People, philanthropies and other institutions at all levels must engage in the critical levers for change: science, business and government. Societies and governments must acknowledge that science and technology provide an understanding of how the ocean works, how it is changing, and what lies in the future. We need to understand how the ocean responds to the myriad human perturbations underway.

Business leaders at all levels—whether a shrimp farmer or a corporate CEO—need to be at the table. The global progress on sustainable seafood is proof of the power of this strategy.

Finally, we need governments to fulfill their responsibilities to act on these issues for the public's benefit. Effective science-based government policy, monitoring and enforcement are absolutely essential. Markets-based solutions and good governance must go hand in hand.

To make all this happen, people worldwide need to raise their voices.

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World leaders have issued a global call to action to all of us who care about the future of the ocean and the people who depend on it. For the first

time, the U.N. Sustainable Development goals have a dedicated goal for the ocean: “Life Below Water.” It is a mandate to “conserve and sustainably use the oceans, seas and marine resources” with specific goals and timeframes for action. We must rally around this opportunity.

But there is something more that needs to change—the voices around the table.

The traditional environmental movement has been driven by people of privilege. As we forge solutions to the ocean crises at hand, human needs must be front and center. It’s human nature to place top priority on health, security, education and opportunity for one’s family. I’m proud of the groundbreaking work our team and others are doing to enable communities to thrive, whether it’s new approaches to sustainable shrimp farming or bringing an end to seafood slavery. Empowering communities—and elevating women’s voices especially—is the only path to progress.

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I am often asked how I can remain hopeful in the face of so much bad news.

My answer is that I believe in people, especially young people all over the world, to embrace the future by overcoming the inaction of the past. More people than ever before are aware of the degradation of the ocean and importance of reversing this trend. Young people in particular are recognizing that a healthy ocean is central to avoiding catastrophic climate change and its impacts. They are making their voices heard, and our political leaders need to start listening—and acting.

We now know more about the ocean and our climate systems than at any time in history, and we’re learning more every day. We must demand change and make it happen—and we are.

Reflecting on our first 35 years, our original vision stands: the Aquarium will continue to amaze and delight families from all over the world, spark a love of science and nature in young people, offer a sanctuary for wonder and reflection and become an experience infused in the lifetime memories of millions of people. Our next 35 years will be about putting that experience into action. Thanks to you, we are already on our way.





# Acknowledgments

**IT WOULD BE** impossible to acknowledge here the thousands of people who have shaped the Monterey Bay Aquarium's first 35 years. Suffice it to say that the Packard family and I are deeply grateful to you all for your part in creating, launching, supporting and steering this great institution to become what it is today. I want to especially thank Jim Hekkers for his guidance and partnership as my co-author on this writing project. —**Julie Packard**





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