WE'RE HERE FOR NATURE.

IMPACT REPORT 2021–2022

the nat | SAN DIEGO NATURAL HISTORY MUSEUM

DEAR MUSEUM FRIENDS,

We're unabashed nature lovers at The Nat. We can cite studies about how nature is good for the planet, human health, and well-being, but dig deep down and it's simple: we're here for nature because we love it.

I was reminded of this when I took my summer vacation to the opposite end of the North American tectonic plate, in Iceland. It was a challenging 60-mile trek, but what a privilege to spend all day, every day in southern Iceland's rugged and beautiful outback. It was awe-inspiring, rejuvenating, and invigorating, even though I looked downright cold and miserable in some of the photos. Our San Diego-based group of ten women was a conversation starter on the trails, and everyone I met had heard of our hometown and our considerably warmer and drier brand of exquisite natural beauty.

Nature surrounds us in San Diego, and threads through the county in canyons, parks, and open spaces. With the tremendous variety of habitats that span from ocean to mountains to desert, San Diego County hosts more species of plants and animals than any other county in the contiguous 48 states. At The Nat, we are proud to be here for nature in San Diego, greater Southern California, and the Baja California Peninsula. We take this responsibility and privilege seriously, and our commitment rings throughout this report.

We also know that our work becomes more crucial every year with climate change, habitat loss, and other environmental degradations. Our knowledge and expertise, based on our unparalleled collection and our time in the field, make us an early warning system, keepers of the ecological record of the past, and a partner in designing solutions. While we work with land managers to preserve biodiversity today, we also work to inspire and train the decision-makers of the future. Exhibitions, educational programs, and outdoor activities are an important part of our investment in San Diego's future.

We want everyone to love nature the way we do, and to care deeply about conserving it. Join us on one of our Canyoneer hikes, whale watching adventures, BioBlitzes, or other community science activities. Your life will be richer for the time you spend experiencing the wonder of nature in our region, and you might just fall in love.

Sincerely,

Judy Gradwohl
President and CEO

WE'RE HERE FOR NATURE.

WE'RE HERE FOR BIODIVERSITY.

We do the research that makes conservation possible. Our work—both in the field and the lab—helps species and habitats be more resilient in the face of increasing development and a changing climate.

Keeping Our Coasts Healthy for All Communities

Conserving coastal ecosystems matters. It matters to plants, wildlife, and humans. About 70 percent of Californians, and over 97 percent of people in the Baja California Peninsula live along the coast. Ports as economic hubs, beach towns as tourism magnets, kelp beds as nurseries to fisheries—economically, we depend on these habitats. Dunes serve as storm surge guardians, estuaries as water pollution filters. In the U.S., about 75 percent of endangered bird and mammal species depend on coastal ecosystems too.

With so much riding on these critical ecosystems, it is no wonder that coastal resiliency has become a global priority for government agencies and conservation groups alike. But what does it mean?

Coastal resiliency is the capacity for communities and ecosystems to bounce back from human and natural disturbances. It's healthy dunes protecting beach towns from king tides. It's thriving estuaries and wetlands supporting wildlife while reducing flood risk. With so much at stake, our scientists are working together more and more with other researchers, government agencies, and nonprofits to better understand and improve coastal resiliency in our region.

This spring, our scientists kicked off an ecosystem health assessment of two large coastal lagoons in Baja California: Bahía de Todos Santos and Bahía de San Quintín. Primarily funded by the California Department of Fish and Wildlife and the JiJi Foundation, the study focuses on the population status and genetic health of the endangered light-footed Ridgway's rail, and includes hydrological studies and ecosystem-level assessments of birds, mammals, reptiles, plants, and invertebrates. It is a huge project involving researchers from multiple organizations like Terra Peninsular, Southern California Coastal Water Research Project, University of Idaho, Fauna del Noroeste, U.S. Geological Service, and The Nat. Ultimately, this research will advance conservation of these ecologically and economically important lagoons.

This year also marked a milestone in our long-term dune insect study along the Baja California Peninsula. Nat researchers and our partners in Mexico just concluded a yearlong insect assessment of the glorious dunes of Punto Mazo near San Quintín. This work is critical to understanding dune biodiversity and will be used to propose conservation priorities for governmental or private dune protection throughout the peninsula.

To truly study coastal resilience, it's important to look upstream. That means studying waterways from their mountainous headwaters to their coastal wetlands. This year, our Herpetology Department kicked off a population study of arroyo toads. Though endangered in both the U.S. and Mexico, the U.S. is considering downlisting the species. This is partly due to the presumed—but unverified—well-being of the toad populations in Mexico. Yet, our ongoing conservation work with the California red-legged frog has revealed that amphibians in our binational region are still at risk due to issues like flooding, drought, and invasive species.

This research will have direct implications for the conservation status of the arroyo toad, but will also shine a light on the ecosystem health of the watersheds that feed our coastal wetlands.

Beaches, sunsets, and surfing are the postcard version of our regional cultural identity, but it is the surrounding kelp beds, dunes, and wetlands that are our environmental protectors and economic drivers. Through collaborative research and education, The Nat continues to improve our understanding of coastal ecosystems so that we may better conserve these precious resources so fundamental to us and nature.

Whether tidepools, coastal dunes, estuaries, or sheer cliffs, every inch of our coastline is worth protecting. The effort we put into coastal ecosystems is returned to us tenfold in the form of social well-being and economic and biological security.

COLLECTIONS BY THE NUMBERS

TOTAL NUMBER OF SPECIMENS:
~8.5 MILLION

SPECIMENS/OBJECTS ADDED TO COLLECTIONS THIS YEAR:
252,705

BIRDS
NEW SPECIMENS COLLECTED: 342
TOTAL SPECIMENS: 52,140

BOTANY
NEW SPECIMENS COLLECTED: 3,008
TOTAL SPECIMENS: 282,265

MAMMALS
NEW SPECIMENS COLLECTED: 95
TOTAL SPECIMENS: 25,593

RESEARCH LIBRARY
TOTAL OBJECTS: 117,000
(number now includes previously uncatalogued materials)

HERPETOLOGY
NEW SPECIMENS COLLECTED: 92
TOTAL SPECIMENS: 76,743

MARINE INVERTEBRATES
TOTAL SPECIMENS: 5 MILLION

ENTOMOLOGY
NEW SPECIMENS COLLECTED: 144,170
TOTAL SPECIMENS: 1,368,831

MINERALOGY
TOTAL SPECIMENS: 15,000

PALEONTOLOGY
NEW SPECIMENS COLLECTED: 43,998
TOTAL SPECIMENS: 1,565,669

Environmental Justice Supports Wildlife

In April 2022, coyotes, canyons, and social justice coalesced at the Museum. The Nat resumed its role as a convener with our annual State of Biodiversity Symposium, which brings together conservationists, land managers, students, scientists, and everyday enthusiasts for in-depth conversations about our current ecological condition and what's to come.

The 2022 Symposium explored how social issues, especially economic and racial inequities, shape the ecology and evolution of wildlife. Using a social-ecological and environmental justice lens has improved our understanding of climate and wildlife resilience in a human-dominated world.

Esteemed urban ecologist Dr. Chris Schell from UC Berkeley led this conversation with a focus on mammals and carnivores. He discussed how the coyote is a perfect model for studying animal persistence and evolution, and he brought to light how urban biodiversity is impacted by socio-economic differences between neighborhoods.

The Symposium took on a new form as our first hybrid event of the year (in-person and live-streamed in both English and Spanish) and is available digitally on our YouTube channel.

Collaborating to Conserve Biodiversity—One Kangaroo Rat at a Time

Who else but The Nat would jump at the chance to ensure kangaroo rats were safe from construction holes? In 2020, a local electric company began replacing old power poles throughout Warner Valley—home to the largest remaining population of federally threatened Stephens' kangaroo rats. They contracted our team to ensure the rats were minimally impacted by the construction.

Replacing power poles begins with digging holes 11 feet deep. The first few feet intersect with underground rodent burrows, leaving unsuspecting animals stranded at the bottom of the holes. Mandates required that nets be installed into hundreds of these holes to catch the federally protected rodents—a task easier said than done.

The initially accepted net design caught many critters, but all kinds of animals including kangaroo rats, insects, and lizards continued to (quite literally) fall through the cracks. In summer 2021, after multiple design iterations, our mammalogist Scott Tremor and the electrical crews tried repurposed concrete molds made of cardboard to seal off the holes from all sides. Their latest design has been 100 percent effective so far.

"What made it so successful is that the construction crews contributed to the design as much as the biologists," says Tremor. "Everyone was involved in this solution and, as a result, it's made everybody's job easier and prevented harm to a threatened species."

This ingenious invention is an excellent example of simple tools and stakeholder teamwork achieving a collective conservation goal. Our team will be publishing their design so other developers and biologists can apply it to similar projects around the world.

A Stephens' kangaroo rat sits atop an exclusion net designed to keep it from tumbling into a construction hole. Subsequent designs, re-imagined by our team and contracting partners, have proven to be 100 percent effective at protecting these endangered rodents from incidental harm.

Balancing the Needs of Wildlife and People

Popular culture would have us believe that wildlife conservation involves scientists in tactical vests trekking into the wilderness in search of species to protect. Some conservation works that way, but many wildlife wins are borne from something much more ordinary: biological consulting.

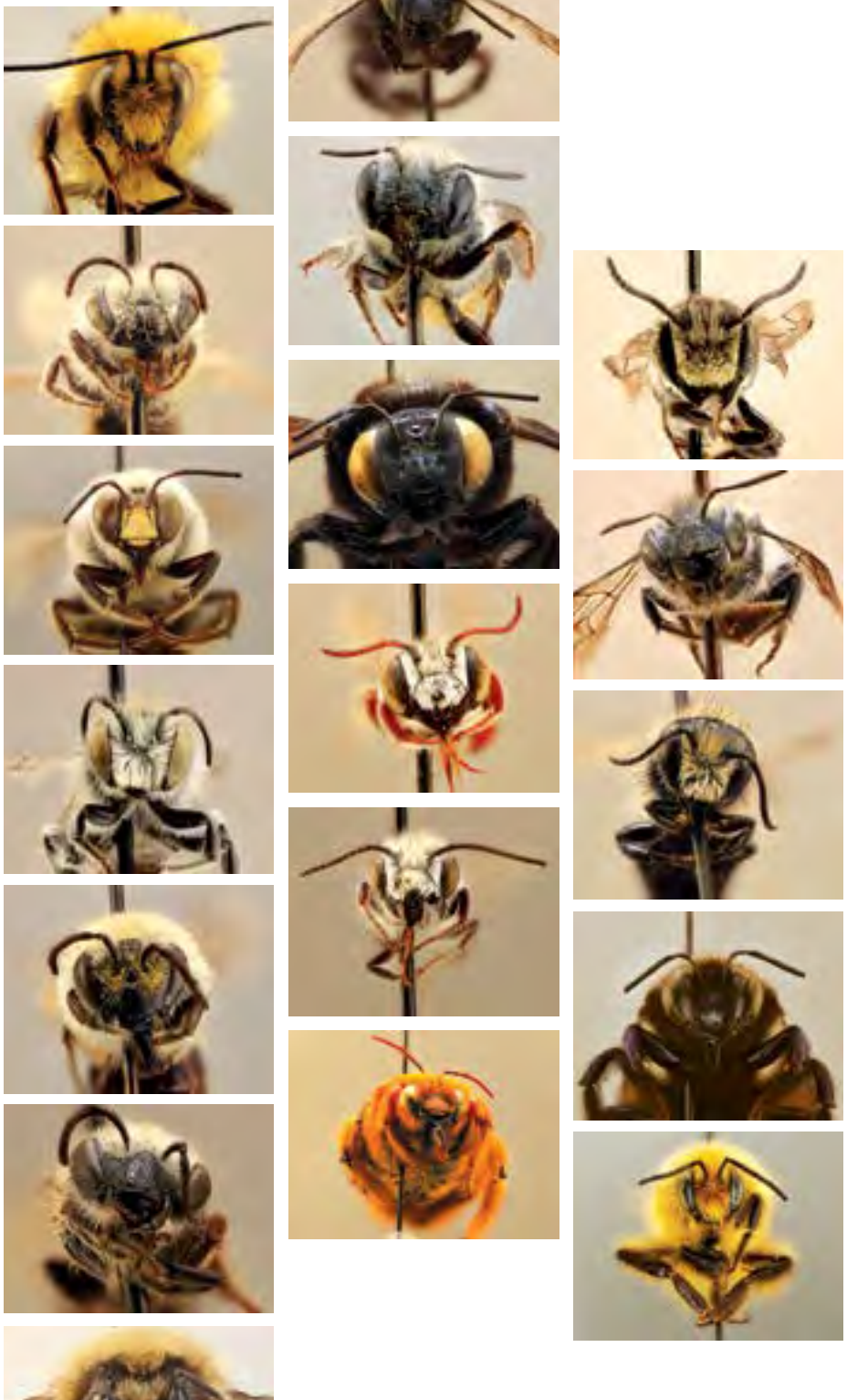
When transportation agencies expand freeways or home developers build new communities, biological consultants like our BioServices team monitor these projects and determine their impact on wildlife. They also advise on ways to lessen those impacts, and collect data to inform conservation efforts.

When bridges needed replacement in urban areas of San Diego County, we found the bats that called those bridges home. We guided project schedules to avoid disturbing the bats during critical times, like when female Mexican free-tailed bats gather to protect their vulnerable, flightless pups.

And long after the last scrape of the excavator, we continue to be there. For the twelfth year in a row, our Bioservices team monitored the population of least Bell's vireos within the Otay Ranch Preserve, a mitigation project for the Otay Ranch development. We guided management decisions so that the preserve continues to provide high-quality breeding habitat for this federally endangered bird.

In many places, land and infrastructure development are at complete odds with environmental well-being. But it doesn't always have to be that way. As beneficiaries of both a healthy ecosystem and a thriving metropolis, we aim to strike a balance that works for everyone—from humans to hummingbirds and everything in between.

Biologist Drew Stokes examines the underside of a local bridge to check for the presence of bats (inset image). When bridges undergo construction, our experts advise on ways to work around these winged residents, if necessary.



Big-Bee Project Takes Flight

San Diego County is a hotbed for bee diversity, with more than 650 species of native bees and counting. In September 2021, the National Science Foundation awarded our Entomology Department, in collaboration with 12 other U.S. institutions, funding for an exciting new project to keep native bee numbers high.

Big-Bee: Extending Anthophila Research through Image and Trait Digitization will create more than 1.2 million images representing 5,509 bee species from around the world (about a quarter of global diversity), many of which are crucial for economic and biological security.

Although The Nat is one of the smaller institutions involved in the project, we have a large role: We'll be the main 3D-imaging hub for the other participating institutions, which include the California Academy of Sciences, UC Santa Barbara, University of Michigan, and Arizona State University.

For the next two years, student technicians will capture thousands of high-resolution photos of our bee collection using a state-of-the-art camera system. These images, the 3D renderings, and the accompanying data for each species will become an unprecedented data set for researchers, government agencies, and enthusiasts looking to identify bees, analyze their distributions, and protect critical bee habitats around the world.

Behold, the bees of America. Our team is photographing thousands of these crucial pollinators as part of a nationwide project aimed at keeping native bees buzzing on our planet.

Vireos on the Verge

Researchers from our Birds and Mammals Department, together with Mexican colleagues, completed four week-long field trips sponsored by the JiJi Foundation to clarify the breeding status of the gray vireo in Baja California.

For the last 75 years, this bird has declined very steeply north of the border due in part to nest parasitism by the brown-headed cowbird (another species our team is studying). Our recent Baja California surveys found that gray vireos are persisting in good numbers in both the Juárez and San Pedro Mártir mountain ranges. Their numbers are so high, they exceed the current population for the entire state of California.

Now more questions arise: Why is the gray vireo faring so much better in Mexico than just above the border in the United States? What can we learn from its ecology in Mexico that would aid its conservation in the United States? How many other species parallel the gray vireo—thriving better in their range south of the border?

We're hoping to answer these questions for the gray vireo in the coming years, and uncovering Mexico's population numbers has proven to be an important and illuminating first step.

A nest-full of gray vireo chicks has become a rare sight in the U.S., but not in Baja California. Our scientists are studying these threatened birds on both sides of the border to find out why.

Big-Picture Botany

When land managers hire botanists to help understand the plant communities on a property, they typically present a research goal centered around an endangered or threatened species. For a newly established ecological reserve, for example, a contracted team may be asked to map out populations of a rare plant and make recommendations on how to protect them.

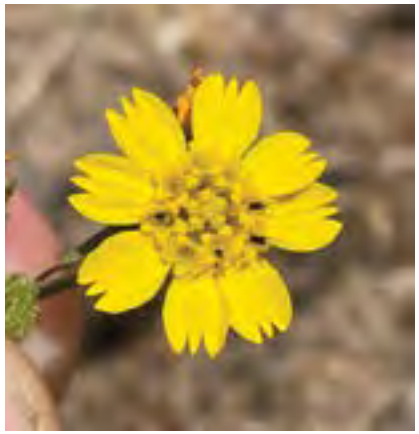
While it's important to give special attention to species at risk, our scientists can't help but take in the whole picture.

In contrast to many other biological contractors, we document all the plant species we encounter, not just those we're asked to look for. This holistic, eyes-wide-open approach is not common practice, yet it can yield some useful and unexpected discoveries.

While mapping rare plants at Hollenbeck Canyon Ecological Reserve this year, we added nine new sensitive species records to the reserve area and doubled the known plants of the site from 205 to 402 different species.

In the summer of 2022, we set out to find new and known populations of the federally threatened Otay tarplant on both sides of the U.S.–Mexico border. Not only did we find several new occurrences of this plant, we also discovered two new and undescribed *Astragalus* species from the pea family, which we plan to publish next year.

For every project that takes us into the field, our Botany team documents all of the plant diversity in front of us. From rare plants to new invasives to species unknown to science—we never know what we might find.



Left to right: A yet-to-be-named species of Astragalus*, a Mission Canyon bluecup, and an Otay tarplant. These extremely rare plants were serendipitously found during botanical surveys in southern San Diego County and Baja California.*

SAVING THE CALIFORNIA RED-LEGGED FROG

Previously extinct in Southern California, red-legged frogs are making a comeback thanks to a binational relocation initiative.

TRANSLOACATED TADPOLES RELEASED IN SOUTHERN CALIFORNIA EACH YEAR

2020 **474**

2021 **3,943**

2022 **2,464**

NUMBER OF TIMES WE'VE TRANSLOCATED EGGS ACROSS THE BORDER **8**

3 **FROG POND FOREVER HOMES IN SOUTHERN CALIFORNIA THUS FAR**

WE'RE HERE FOR DISCOVERY.

We don't claim to be guardians of the galaxy—just our little corner of it. There is no other organization that holds as much knowledge about our region's natural history as we do. And yet, we still have so much to learn, do, and discover.

Small Bones, Big Teeth: Meet San Diego's Cat

Forty million years ago, San Diego was a lush rainforest with myriad mammals at every turn. After taking a closer look at our paleontology collection, we now know that the primates and tapirs that lived here were likely hunted by a bobcat-sized, saber-toothed predator. Paleontology Postdoctoral Researcher Ashley Poust and Paleontology Research Associate Hugh Wagner recently named this cat-like creature *Diegoaelurus vanvalkanburghae*, or "San Diego's Cat."

The new fossil species was described from an ancient jawbone, originally unearthed in 1988 at an Oceanside construction site. *Diegoaelurus* was one of the first cat-like creatures to evolve to eat an all-meat diet—a lifestyle made possible by the smorgasbord of animals roaming San Diego at the time. According to Poust, nothing like this had existed in mammals before.

"San Diego is proving to be a surprisingly important place for carnivore evolution," says Poust. When Poust and Wagner's study was published, news of *Diegoaelurus* made national headlines. You may have read about it in *Smithsonian Magazine*, *Newsweek*, *USA Today*, *Science News*, *Scientific American*, or *The San Diego Union-Tribune*.

Facing page: Curator of Birds & Mammals Phil Unitt examines a collection of brown creepers.
Above: Dr. Ashley Poust is a co-author of the discovery of a saber-toothed predator that garnered international attention. Illustration by Erick Toussaint.

A NOTABLE ACQUISITION

In spring 2022, our Ornithology Department added an adult golden eagle to our collection. So few of these birds remain in Southern California today, that 59 years have passed since a golden eagle skin was last acquired by the Museum!

ONE LIFE, A THOUSAND ANSWERS

The specimen, found dead in the Santa Ana Mountains of Orange County, was donated by the California Department of Fish and Wildlife. The bird had been banded as a chick in 1990 at the Marine Corps Base Camp Pendleton. Not only did the bird die from a rattlesnake bite on its leg, but the rattlesnake was found half-digested in the bird's esophagus —a mutually fatal interaction. "That an eagle of known provenance with band-location data was donated to us is of extremely high scientific value," says Phil Unitt, curator of birds and mammals at The Nat. Eagles are highly protected birds with many threats to their survival. Each specimen—and the information stored within—is a rare gift to our understanding of their existence.

Our County's Richest Bone Bed

The PaleoServices Department recently finished preparing, identifying, and cataloging fossils salvaged from a 42-million-year-old bone bed along State Route 78 in Oceanside—a project nearly four decades in the making.

Roughly the size of a hockey rink, this fossil-rich horizon was discovered in 1984 by 12-year-old Jeff Dahlgren. The youngster's family contacted the Museum and eventually assisted in the recovery of many Eocene-age fossils including crocodiles, boa constrictors, rhinos, tapirs, and extinct hoofed mammals called oreodonts.

Museum paleontologists returned to the site with Caltrans construction crews in 1991, and again in 2019, each time collecting thousands more fossils. This locality, now known as Jeff's Discovery Site, is the most productive and scientifically important fossil locality in San Diego, representing more than 18,000 specimens recovered, a dozen scientific papers published, and three new species named.

These prehistoric fauna help us reconstruct San Diego's ancient ecosystems and, when combined with nearby fossil plant sites, indicate that 40 million years ago climate in San Diego was much wetter and warmer—similar to the mangrove swamps or tropical forests of Florida and southeast Asia. Thus, Jeff's Discovery Site continues to be instrumental in helping us understand regional and global climate change.

Every fossil tells a story. Jeff's Discovery Site in Oceanside revealed hundreds of ecological stories spanning 42 million years as our team prepared, identified, and cataloged its fossils during the last four decades.

Residents Become Canyon Stewards

White mesh tents popped up in backyards and green spaces in 2021 when residents near Ruffin and Chollas Creek canyons began monitoring and collecting insects on their properties. Their goal? To document biodiversity in canyon-adjacent neighborhoods as part of our Healthy Canyons community science initiative.

The multi-year project, developed in partnership with San Diego Canyonlands and Groundwork San Diego and funded by the Gordon and Betty Moore Foundation, aims to connect people with urban green spaces, diversify green space stewardship, and better understand the health of these urban wildlife corridors.

Residents-turned-community scientists collected nearly 65,000 insects in six months. Each specimen was counted by our amazing entomology volunteer, Fran Bookheim. It will take years to identify them all, but we already know some are new to science. Understanding their presence (or absence) in San Diego's canyons will provide insights into our local environmental health.

We are sharing our process and findings with other organizations and community science practitioners around the country, beginning with an easy-to-use toolkit available on our website. Check it out at sdnat.org/canyons.

TOTAL INSECTS COLLECTED FROM JUNE-DECEMBER 2021:

64,847

Ruffin Canyon
32,460

Chollas Creek Canyon
32,387

TOTAL WEIGHT OF INSECTS COLLECTED:

482g (~1 pound)

THAT'S A LOT OF INSECTS.

Families hosted malaise traps, students studied wildlife, and scientists and volunteers identified insects as part of a pilot project to assess the biodiversity of two local canyon systems.

Students Bring Historic Collections into Focus

Two goals set by Research Library Director Arie Hammond, hired in September 2021, were to make the library a community hub and to connect The Nat's resources with diverse communities. She started on that path when she hired local community college students to digitize a hidden collection that's almost a century old.

With funding from The Parker Foundation, Arie recruited three paid apprentices to digitize 2,000 glass plate photographs, taken between 1890 and 1930, that feature the nascent city of San Diego and Balboa Park, and include the earliest images of flora and fauna from San Diego and Imperial Counties. Glass plates are fragile, but once digitized, we can safely glean the scientific and historical information they contain.

This project will convert a relatively unknown collection of historic photographs into a valuable resource that's accessible to people worldwide. It will also familiarize our apprentices with historic photography methods and modern technologies such as digital preservation, image metadata, and online photo sharing.

"We're helping introduce students to careers in science and librarianship," says Arie. "And we're benefiting from the fresh ideas and perspectives these talented, young people are bringing to The Nat."

A collection of photographs printed on glass plates from the early 20th century is seeing the light of day once again—and being digitized for all to see—with help from our Research Library apprentices.

Timely Issues Inspire Dialogue

Nat Talks and other public programs are an opportunity to highlight voices from within and outside our Museum, and to address difficult, fascinating, and engaging topics through public discussion. Whether the dialogue is online or in person, our programs provide an interactive way to learn about current topics in science and conservation.

UP IN SMOKE

Sage smudging has become a viral trend, but what's the truth behind the smoke? Indigenous communities of California and Baja California have tended a spiritual relationship with white sage for millennia. To supply increasing international demand, poachers have stolen thousands of pounds of this plant from the wild. In partnership with the California Native Plant Society, The Nat hosted a documentary screening and discussion about this topic with a panel of Indigenous advocates, spotlighting the ecological and cultural issues surrounding white sage.

CLIMATE SERIES

We cannot tackle issues as large and looming as climate change alone. The Nat and Climate Science Alliance jointly presented a series of evening talks for general audiences and daytime lessons for students on climate change.

These quarterly events dove deep into the complex topic of our changing climate, featuring experts and stories accessible for all ages. Attendees saw the latest research, learned the local impact, and came away with actions anyone can take to contribute to climate resilience.

PICTURE A SCIENTIST

When young people are asked to draw a scientist, they typically draw a man (often bespectacled). We know that broadening representation is a necessary step in diversifying the sciences, but it's not sufficient on its own.

At this panel, hosted in partnership with the National Marine Mammal Foundation, three scientists from underrepresented backgrounds discussed discrimination, inclusion, and how to create a world where students draw scientists of all identities. The insightful conversation was punctuated by clips from the acclaimed documentary *Picture a Scientist*. Audience members lingered in the theater lobby long after the program concluded, connecting, commiserating, and sharing dreams for the future of the field.

Jane Willenbring, a geologist at the Scripps Institution for Oceanography, shares her experiences with gender bias and sexual harassment in the film Picture a Scientist*, which was screened as part of a Nat Talk. Credit: Uprising LLC.*

NAT STAFF PUBLISHED 20 PEER-REVIEWED ARTICLES AND A SCIENTIFIC BOOK THIS FISCAL YEAR. OUR ASSOCIATES PUBLISHED MORE THAN 100 PEER-REVIEWED ARTICLES.

As an authority on nature in our region, we share our extensive knowledge through many outlets. Our staff and research associates have produced informative and innovative research since our founding, and we actively contribute to scientific literature.

This year, our team of experts advanced their respective fields of study by publishing papers on many topics, from baleen whale evolution to island night lizard diversity, from agave reproduction to frog translocation, and everything in between.

Their publications this year have already been referenced more than 1,100 times by other researchers.

Edited Citations: First, second, and Nat authors listed—all others omitted for brevity.

Bold indicates Museum staff and research associates.

STAFF PUBLICATIONS

This essay argues that California Cultural and Historical Endowment funding ultimately supports climate resiliency through the work of museums like The Nat.

Museums Have a Role to Play in Climate Resilience.
K. Lee.
Cal Matters.

Skeletal Transformations and the Origin of Baleen Whales (*Mammalia, Cetacea, Mysticeti*): A Study on Evolutionary Patterns.
M. Bisconti, **G. Carnevale**.
Diversity.

Expert Range Maps of Global Mammal Distributions Harmonised to Three Taxonomic Authorities.
C.J. Marsh, Y.V. Sica, ... **T.A. Deméré**, et al.
Journal of Biogeography.

Using camera traps, or motion-sensing cameras, this study revealed that hooded orioles are a major (if not the primary) pollinator for the Shaw's agave—a rare plant endemic to our region that is struggling to reproduce.

Guadalupe Caracara (*Caracara Lutosa*), Version 2.0.
K.B. Clark
Birds of the World.

Why Is the Shaw's Agave (*Agave Shawii Subsp. Shawii*) Not Reproducing? Investigating a Rare Species' Pollination and Germination in a Fragmented Urban Park.
K.B. Clark, A. Nabors, **D. Stokes**, ... **L. Squires**, ... **S. Vanderplank**, ... **M. Wall**.
Haseltonia.

Evolution of Chollas (*Cactaceae*).
M.S. Mayer, **J.P. Rebman**.
Madroño.

Noteworthy Collection: *Sphenopholis Interrupta Subsp. Californica.*
M.R. Mulligan, J.S. Vinje, **J.P. Rebman**.
Madroño.

This Baja-based paper documents the existence of melanistic, or all black, California ground squirrels for the first time in scientific history.

Melanistic California Ground Squirrels (*Otospermophilus Beecheyi*).
S. González-Guzmán, E. Mellink, **S. Tremor**.
The Southwestern Naturalist.

Taking the Leap: A Binational Translocation Effort to Close the 420-Km Gap in the Baja California Lineage of the California Red-Legged Frog (*Rana Draytonii*).
S. North, J.Q. Richmond, **F.E. Santana**, ... **B.D. Hollingsworth**, et al.
Frontiers in Conservation Science.

A Guide to the Flora of the Sierra de San Pedro Martir / Una Guia a La Flora de La Sierra de San Pedro Martir.
A. Harper, **S. Vanderplank**, **J.P. Rebman**.
Botanical Research Institute of Texas publications.

With its unique photography and expertly written captions, this book offers a hyper-focused yet comprehensive view of all the plants on Baja California's tallest mountain range.

This paper received nearly 1,000 views from other researchers within eight weeks of publication, indicating the research community's excitement for our binational project and its potential to inspire similar endeavors.

Unraveling the Development Behind Unisexual Flowers in *Cylindropuntia Wolfii* (*Cactaceae*).
N. Ramadoss, A. Orduño-Baez, ... **J.P. Rebman**, et al.
BMC Plant Biology.

Pseudognaphalium Martirense (*Asteraceae, Gnaphalieae*), a New Species from Baja California.
J.P. Rebman, GL Nesom.
Phytoneuron.

Three New Species of *Cryptantha* (*Boraginaceae*) from the Southern Channel Islands of California.
J.P. Rebman, MG Simpson.
Madroño.

Impacts of a Non-Indigenous Ecosystem Engineer, the American Beaver (*Castor Canadensis*) in a Biodiversity Hotspot.
J.Q. Richmond, C.C. Swift, ... **S. Tremor**, et al.
Frontiers in Conservation Science.

Population Density Estimation of Scorpions in the Coastal Dunes at Laguna Manuela, Baja California, Mexico.
N. Rodríguez-Revelo, **M. Wall**.
Southwestern Entomologist.

Additional Documented Chromosome Determinations in *Paysonia* (*Brassicaceae*).
A.M. Salywon, **J.P. Rebman**, D.A. Dierig.
Journal of the Botanical Research Institute of Texas.

A New Species of *Cryptantha* Restricted to Dunes in Northwestern Baja California, Mexico.
M.G. Simpson, **J.P. Rebman**.
Madroño.

Announcing Big-Bee: An Initiative to Promote Understanding of Bees Through Image and Trait Digitization.
K. Seltmann, J. Allen, ... **P. Horsley**, et al.
Biodiversity Information Science and Standards.

The Big-Bee project involves many institutions both large and small, and The Nat is proud to serve as the main imaging hub for this national endeavor. Learn more on page 7.

A New Record of Capybara (*Rodentia: Caviidae: Hydrochoerinae*) from the Pleistocene of San Diego County, California with Remarks on Their Biogeography and Dispersal in the Pleistocene of Western North America.
R. Richard, Jim Mead, ... **T.A. Deméré**.
Vertebrate Anatomy Morphology Palaeontology.

Dorsal Color Variation Among Subspecies of the Oregon Dark-Eyed Junco (*Junco Hyemalis [Oreganus]*) *Group.*
E.T. Yang, **P. Unitt**, N.A. Mason.
The Wilson Journal of Ornithology.

This study used modern color-detection instruments on hundreds of our historical bird specimens to determine that color alone is not reliable for distinguishing between Oregon dark-eye junco subspecies.

Diegoaelurus, a New *Machaeroidine* (*Oxyaenidae*) from the Santiago Formation (Late Uintan) of Southern California and the Relationships of *Machaeroidinae*, the Oldest Group of Sabertooth Mammals.
S.P. Zack, **A.W. Poust**, H. Wagner.
PeerJ.

News of this sabertoothed predator discovery made headlines around the world—it appeared in 95 media outlets, nine blogs, 104 tweets, and was referenced on 16 Wikipedia pages. Flip to page 11 to get the full scoop.

SELECTED RESEARCH ASSOCIATE PUBLICATIONS

How Does Urbanization Affect Perceptions and Traditional Knowledge of Medicinal Plants?
C. Arjona-García, ... **X. López-Medellín**.
Journal of Ethnobiology and Ethnomedicine.

Relict Inland Mangrove Ecosystem Reveals Last Interglacial Sea Levels.
O. Aburto-Oropeza, C.M. Burelo-Ramos, **E. Ezcurra**, ... **S. Vanderplank**, et al.
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Therya.

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Revista Latinoamericana de Herpetología.

Use of an Artificial Stream to Monitor Avoidance Behavior of Larval Sea Lamprey in Response to TFM and Niclosamide.
N. Schloesser, ... **R. Erickson**.
Journal of Great Lakes Research.

Waterbird Communities and Wetland Dynamics in the Mexican Highlands, 1951–2006.
E. Sigala-Meza, **E. Mellink**, A. Hinojosa-Corona.
Wetlands Ecology and Management.

Reference Genome of the California Glossy Snake, *Arizona elegans occidentalis,* a Declining California Species of Special Concern.
D.A. Wood, et al.
Journal of Heredity.

WE'RE HERE FOR WONDER.

The Museum is a hub for curiosity and discovery, and we're always making it more amazing—from our front doors to our rooftop. We want everyone to experience the joy of scientific discovery, and leave the Museum inspired.

Conservation on Display

As visitors are introduced to our mission on Level 1 and journey upward through the Museum, they explore our region's past and present on Level 2, get a peek at our research on Level 3, and learn how they can join The Nat in conservation action once they reach Level 4.

Two complementary exhibitions on our top floor reinforced a sense of personal connection to nature in our region and a responsibility to protect it.

Beautiful landscape photography and intimate plant portraits in *California Blooming: Wildflowers and Climate Change in the Golden State* drew visitors to the mezzanine gallery and illuminated the idea that we all have the capacity to protect things both for their aesthetic and ecological value.

While this exhibition was on view for a limited time, the actions it inspires are evergreen. Planting native wildflowers or observing and documenting nature as a community scientist are a few simple actions that everyone can take to help conserve our regional biodiversity.

Our newest permanent exhibition highlights conservation success stories from more than a century of studies in the Baja California Peninsula. In *Expedition Baja*, visitors start their journey outside the Christy Walton Gallery, a brand-new, 2,000-square-foot space. There, a striking mural by Tijuana-based street artist Néstor "Spel" Mondragón provides a colorful introduction to the plants and animals on display within.

The exhibition highlights this important part of our mission region and our legacy of scientific research. It features the cross-border effort to save the California red-legged frog, a specimen of the long-extinct Guadalupe caracara bird collected in 1875, and stunning photographs of the high elevation San Pedro Mártir mountains. *Expedition Baja* gives visitors an in-depth look at the beloved—yet often overlooked—ecosystems between Tijuana and Cabo San Lucas.

Expedition Baja helps visitors understand how environments change over time, and how these changes—human-induced and otherwise—impact the diversity of species in the region. The stories of extinction are balanced with those of recovery, pointing to the possibility of a better future for our environment.

Every day, locals and tourists alike revel in our region's natural spaces. As Curator of Herpetology Dr. Bradford Hollingsworth explains it, "biodiversity is our key ingredient to the ecological balance on the planet. Studies have proven again and again it is a critical component for healthy environments and healthy cities."

If our exhibits have opened even one person's eyes to that fact, we'll have achieved our goal.

Facing page: A mural by Tijuana artist Spel Uno commands attention on the museum's top level. Below: California Blooming *and* Expedition Baja *address the topics of climate change and conservation through science and nature's beauty.*

Building Exhibitions, Sustainably

Our Exhibits Team has always sought out earth-friendly materials when creating experiences for our visitors. But *Expedition Baja*'s conservation focus made it even more important to keep these practices top-of-mind. From the flooring to the UV-shielding skylights, sustainability was a driving force behind the exhibition's development.

We chose materials with the environment in mind—including carpet tiles made from recycled materials, zero-VOC paint, and LED lighting. Fallen trees were upcycled into exhibition components: the desert diorama is trimmed with local sycamore, the Yeti cooler pedestal is made of coast live oak, and the wooden base of the intro map was an incense cedar killed in the 2003 Cedar Fire. We even turned a dead palm tree from the museum's front yard into a stool for visitors.

Our team is developing their own innovative techniques, too. Exhibits Technician Gabriel Dice collected non-recyclable plastic waste in special bins at the Museum, tightly wound it into pods, and used it as "stuffing" for the desert diorama's fabricated boulders.

We love using exhibits to teach visitors about sustainability, and pride ourselves on creating exhibitions with the most environmentally friendly methods possible.

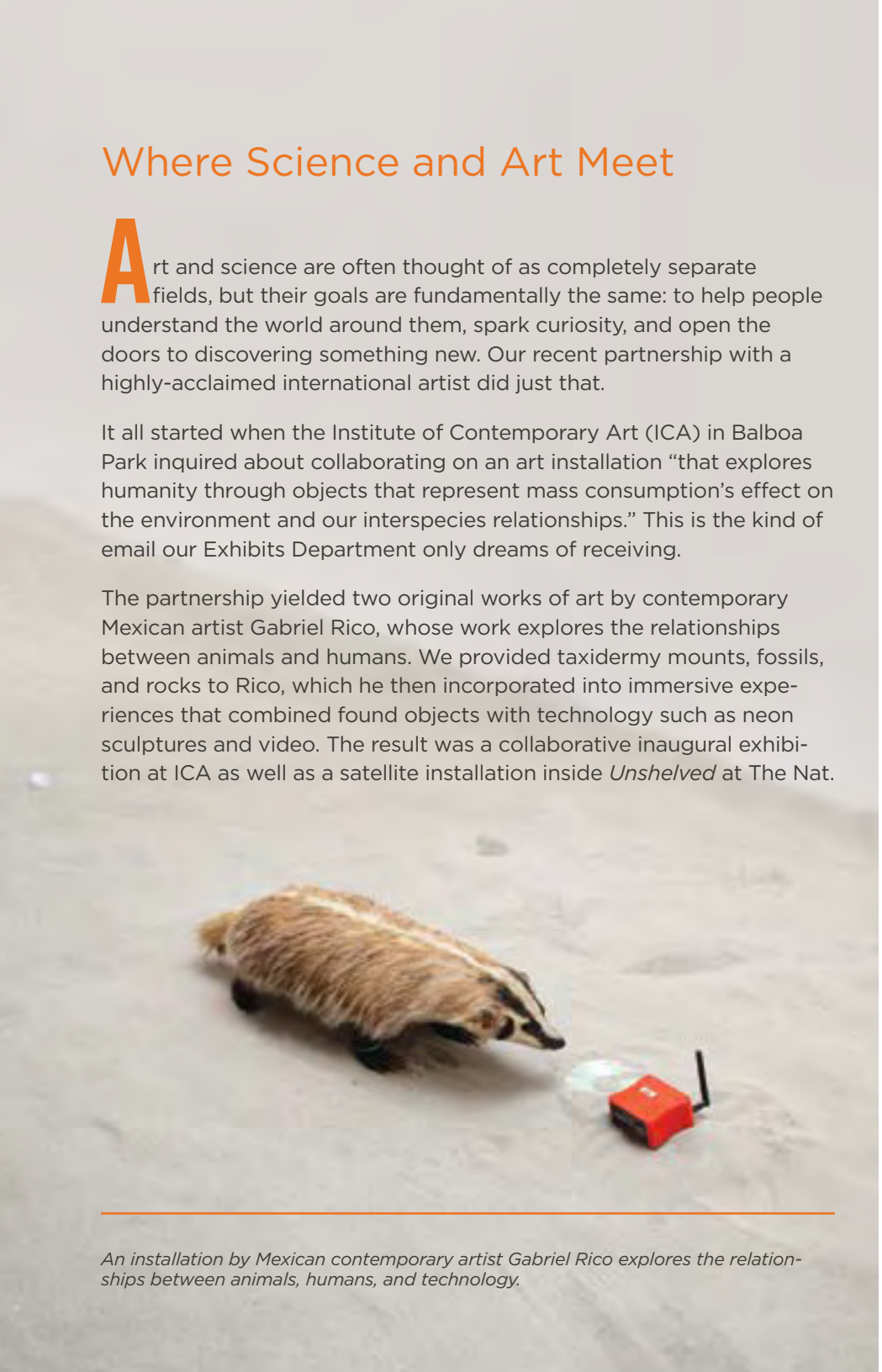
In a full-circle moment, a dead Guadalupe Island palm outside the Museum finds new life as a bench inside Expedition Baja.

Where Science and Art Meet

Art and science are often thought of as completely separate fields, but their goals are fundamentally the same: to help people understand the world around them, spark curiosity, and open the doors to discovering something new. Our recent partnership with a highly-acclaimed international artist did just that.

It all started when the Institute of Contemporary Art (ICA) in Balboa Park inquired about collaborating on an art installation "that explores humanity through objects that represent mass consumption's effect on the environment and our interspecies relationships." This is the kind of email our Exhibits Department only dreams of receiving.

The partnership yielded two original works of art by contemporary Mexican artist Gabriel Rico, whose work explores the relationships between animals and humans. We provided taxidermy mounts, fossils, and rocks to Rico, which he then incorporated into immersive experiences that combined found objects with technology such as neon sculptures and video. The result was a collaborative inaugural exhibition at ICA as well as a satellite installation inside *Unshelved* at The Nat.



An installation by Mexican contemporary artist Gabriel Rico explores the relationships between animals, humans, and technology.

PUBLIC ENGAGEMENT BY THE NUMBERS

OVERALL VISITATION
232,357

MUSEUMS FOR ALL
4,293

NATURE TO YOU LOAN LIBRARY
322 LOANS REACHING
63,632 PEOPLE

MUSEUM ACCESS FUNDS
1,311 STUDENTS FROM TITLE 1 SCHOOLS SERVED

SCHOOL PROGRAMS IN MUSEUM
147 PROGRAMS REACHING
5,230 PEOPLE

ONLINE
11 PROGRAMS REACHING
3,111 PEOPLE

FAMILY & PUBLIC PROGRAMS IN MUSEUM
10 PROGRAMS SERVING
390 PARTICIPANTS

ONLINE
8 PROGRAMS SERVING
556 PARTICIPANTS

HYBRID
2 PROGRAMS SERVING
662 PARTICIPANTS

WEBSITE
533,479 VISITS
~1.3 MILLION PAGE VIEWS

SOCIAL MEDIA
FACEBOOK
48,896 FOLLOWERS

TWITTER
10,600 FOLLOWERS

INSTAGRAM
10,839 FOLLOWERS

LINKEDIN
4,270 FOLLOWERS

YOUTUBE
1,300 SUBSCRIBERS

School's In for Summer

In summer 2021, 80 elementary and middle school students from San Diego Unified School District attended a week-long science program—at no cost. We repeated the experience for 75 more students in summer 2022.

Made possible through the San Diego Foundation, the Level Up San Diego program at The Nat exposed students to the various fields of natural sciences. Participants explored exhibits, enjoyed outdoor activities, toured the Fossil Preparation Lab, discovered amphibians in the Wet Lab, used iNaturalist to document plants and insects, and engaged with live animals, including a Harris' hawk. At the end of the week, they received backpacks full of supplies to continue their growth as budding naturalists.

This program was created in response to the pandemic, which limited student opportunities to learn in person, bond, and go on field trips. The goal of Level Up is to reduce the achievement gap for under-resourced students and provide experiences that create "learning and joy." We were thrilled to help 155 happy children experience all The Nat has to offer.

Students enrolled in the Level Up San Diego summer program explore the Museum's exhibitions and scientific collections. Paleontological Specialist Christopher Plouffe teaches the curious youngsters about our region's ancient past.

Cheers to New Audiences

Summer in San Diego means longer days and more time for fun. Back in 2018, we set out to offer extended evening hours and opened a rooftop patio with refreshments and the best views in the Park.

Earlier this year, we could hardly contain our excitement to host Nat at Night after a two-year hiatus. Memorial Day weekend kicked off the 2022 series, which drew hundreds of after-hours visitors every Friday.

Programming such as trivia nights and specimen sketching activated the galleries. Our new restaurant partner, Mission Hills-based Wolf in the Woods, elevated the dining experience and helped make the series one of Balboa Park's most popular summer events.

Nat at Night has evolved into a successful program that welcomes new audiences and offers a great opportunity for people who would otherwise not be able to visit the Museum during the day. We'll raise a glass to that.

The rooftop is one of many spaces that is activated during Nat at Night. This year, we partnered with local restaurant Wolf in the Woods.

WE'RE HERE FOR THE FUTURE.

Never in our history has it been so important to think about the future. That's why we're constantly building for a better tomorrow: designing inspiring exhibits, training the next generation of conservationists, and strengthening the connection between people and nature.

Inspiring the Next Generation of Scientists

In spring 2022, our Botany Department returned to the Juárez Mountains of northern Baja California to survey the plant communities for several extremely rare species. Along for the ride were four young, Mexican scientists who study wildlife in the region. Our researchers, Botany Curator Dr. Jon Rebman and Research Associate Dr. Sula Vanderplank, invited these budding biologists along for extra help, but more importantly, to build capacity.

By training the next generation of botanists, biologists, and conservationists, not only are we setting them up for successful careers in field research, but we're also ensuring a brighter future for the ecosystems they'll work to protect.

For three days, the team searched for plants listed as extremely rare on both sides of the U.S.-Mexico border. These species are part of the binational Cross-Border Rare Plant Project—a collaboration between The Nat and several institutions in Mexico and the U.S. to create the first population database for rare plants in Baja California.

Carlos Gonzáles, a botanist based in Ensenada, has been working with Sula and Jon on the Cross-Border Rare Plant Project for the past three years. He knew nearly every species they encountered throughout the trip, and took over data collection for each rare-plant sighting.

"Carlos is a fantastic young botanist," says Sula. "Part of the goal on this trip was to make sure he is comfortable identifying the species in this region, so he can take the lead in the future."

Sula was also excited to have young women join the expedition, as botany research in Mexico has been a historically male-dominated field. She invited island biologist Daniela Nuñez along on the trip, as well as Daniela Varela, a Master's student at the Autonomous University of Baja California. Originally from Chihuahua, Daniela Varela decided to study in Baja California after reading about all the botanical work Jon and Sula had done in the region.

"They know all the plants, all the characteristics, they know every detail, and they're transmitting all of that to me," says Daniela Varela. Learning out in the field helps her learn faster, she added. "It sticks with me ... and later on, I'll be able to teach all of this to other people."

Revisiting old localities and using historical field notes and sharp eyes, the scientists documented four species they'd never seen in the region before, and found new populations for four other species on the Cross-Border Rare Plant list.

Throughout the trip, Jon and Sula shared identification tips and explained the biology of the plants they encountered. Each night around the campfire, Jon quizzed his colleagues on the plants they'd seen that day—asking for scientific names, pollination syndromes, unique traits, and more.

"Building capacity isn't just about inspiring young scientists, it's about building their knowledge and awareness of local environments, it's about giving them the skills and abilities they need to be successful botanists," said Jon. "We do all of this with the hope that they'll get into botany and become our future colleagues."

Facing page, left to right: Daniela Varela, Jonathan Villareal, Carlos Gonzáles, and Daniela Nuñez pose for a selfie with a Coulter pinecone. Below: These budding scientists frequently join our expeditions in Baja California—learning all they can from our research staff.

Investing for Good

The Nat's endowment investment portfolio now includes a pilot sustainability-focused ESG fund. This is a rating system that looks beyond financial performance markers to evaluate a company's Environmental, Social, and Governance (ESG) positions. This type of investing has gained prominence in the nonprofit landscape as part of a larger global sustainable development goal launched by the United Nations.

With oversight from the Museum's Investment Committee, we are aiming for both long-term endowment returns and an alignment with environmental mission—truly a double-bottom-line pointing to impact. For several years, we have been closely following the ESG market, with a focus on gathering information and best practices. We took our first active step in November 2021 by investing a portion of our overall endowment portfolio in a fund that focuses on renewable energy and sustainable technologies.

Eventually, we expect a significant portion of our endowment will be geared toward environmentally-sensitive and sustainable assets. Even with this optimistic outlook, we're still in the early stages of incorporating ESG investment into our portfolio.

Serving up Skills for Underrepresented Students

For some, the word "apprentice" conjures scenes from yesteryear when expert bakers and blacksmiths trained young novices to keep their businesses going in perpetuity. At The Nat, we ask not what our apprentices can do for us, but what we can do for our apprentices.

This year we offered seven part-time, paid apprenticeships to underrepresented high school seniors and college undergraduates who are interested in careers in STEM (science, technology, engineering, and math).

"We knew that unpaid apprenticeships really shut out students who might not be able to afford to volunteer their time while in school," says Dr. Michael Wall, vice president of science and conservation and curator of entomology. Although this opportunity pays like a part-time job, it is still considered a pre-entry-level position—welcoming students with little or no experience to the world of research and data analysis.

This year, our STEM Apprentices developed skills in field work, specimen collection and preparation, scientific photography, collection digitization, data management and analysis, artificial intelligence, acoustic monitoring, and public presentations. We can't wait to see where they go next.

STEM apprentices work in the field with Dr. Michael Wall, in the lab with curators and collections managers, and in Mexico with our herpetology team.

The Future of our Past

This year, we made major progress on an important initiative that will bring our region's paleontological past to life—and into the limelight. In 2024, our Paleontology Department will move from the third floor to the Museum's lowest level. Soon, every step of our paleontology work—from fossil preparation and specimen curation to collections storage and research—will be on display.

Addressing the need for more storage for our vast and ever-growing fossil collection, this new space will also make room for all of our oversized fossils (dinosaurs, mammoths, giant ground sloths, and whales), which have been stored off-site for years.

A new public exhibit space scheduled to open in mid-2025 will reveal the inner workings of our Paleontology Department, giving visitors the opportunity to watch staff prepare fossils and see "behind the scenes" of the fossil collection. By sharing our scientific process with visitors, we will be able to better communicate the journey fossils take within the Museum, the importance of our PaleoServices program, and the uniqueness and significance of our region's fossil record.

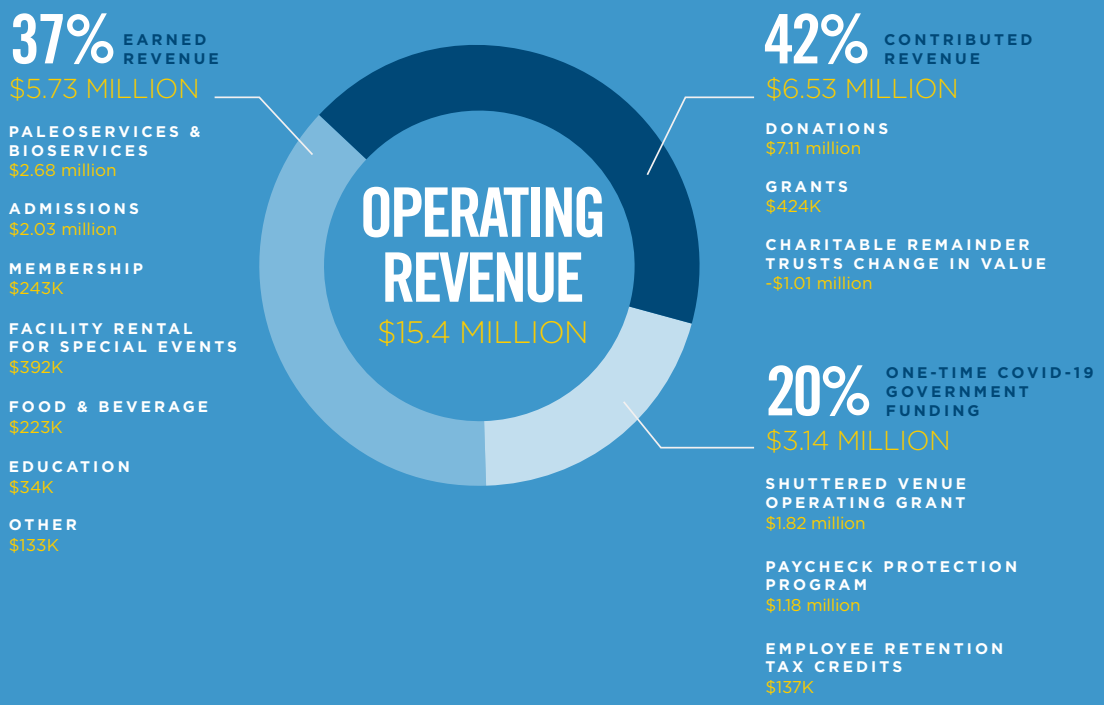
Our fossils are going underground—again. We're making progress on an exciting new paleontology collections space, demonstration lab, and exhibit gallery in our lower level.

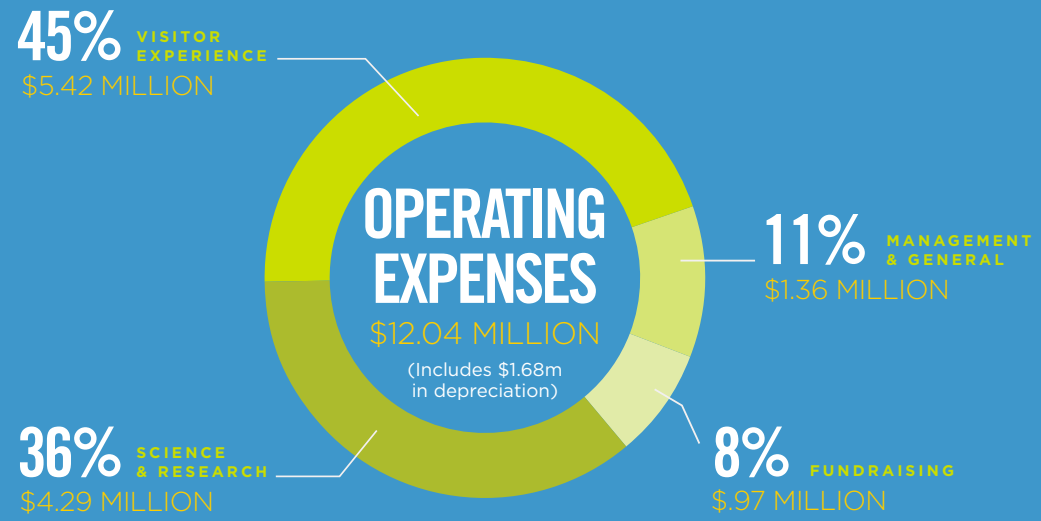
Watch our Garden Plans Grow

Native gardens will add a new dimension to the Balboa Park experience when living displays burst outside our museum walls. In 2024, a new outdoor exhibit featuring pocket gardens, interpretive trails, and planters will surround The Nat with living nature. The gardens will showcase plant and insect diversity, promote native and low-water species, provide habitat for pollinators, and serve as the centerpiece of a new outdoor education initiative. This free amenity for all Park visitors is our present back to the community that has supported the Museum for almost 150 years.

This year, we made substantial progress on the new garden, including completion of a conceptual plan, development of a general design plan, and approval to move forward by Parks & Recreation and the Balboa Park Committee.

Blooming to life in 2024, a native garden will soon surround our building—extending our mission, greening our city, and inspiring visitors to plant waterwise gardens that support local wildlife.





Read the full FY 2022 audited financial report at **sdnat.org/about-us.**

Financials

This fiscal year represented a significant step forward operationally and financially for the Museum. It was a welcome return to pre-pandemic (relative) normalcy from an operations standpoint, while also providing an opportunity to continue some of the popular virtual programming developed while we were closed.

The Nat was open for the full year, and we saw a three-fold increase in admissions and membership revenue over the previous fiscal year (but still off 25% from earlier years). Additionally, we saw a rebound in facilities rentals with special events revenue returning to near pre-pandemic levels.

We received forgiveness of the second round of Paycheck Protection Program funding and successfully secured and utilized Shuttered Venue Operating Grant funds, which helped sustain operations through the uncertainty brought about by the Omicron and Delta variants. Moreover, through continued support from our generous donor base, we were able to meet our mission needs and increase our endowment, solidifying our financial sustainability.

The Museum generated a total of $12.3 million in operating revenue, before considering one-time COVID-19 government funding sources. Contributions and grants represented 53% of this revenue ($7.5 million), with $4.5 million designated for the endowment or future capital projects. On the other hand, due to the struggling financial markets we had to de-value

our interest in Charitable Remainder Trusts by $1 million, nearly erasing the market gains from the year prior.

Our diversified earned revenue base generated 37% of total operating revenue ($5.7 million), with half coming from paleontological and biological consulting services, 40% from admissions and membership, and the remainder from other auxiliary services. The Museum also received more than $3 million in one-time COVID-19 government funds, which were utilized to sustain operations.

The Nat recorded $12 million in operating expenses for the fiscal year, 20% higher than the prior year and nearly in line with pre-pandemic spending ($11.9 million in FY 2019). The largest area of investment continued to be staffing with 67 cents out of every dollar spent directed to salaries, wages, and employee benefits. We continued to make investments in energy conservation and upgrades for the building, improving technology for our distributed workforce, and bolstering the security of both our physical and digital assets. From a functional perspective, more than 80% of all expenditures were directed toward program services, with 45% supporting the Visitor Experience and 36% for Science and Research.

The Museum realized a modest net operating surplus of $224,000, before considering the COVID-19-related government funding. These one-time grants increased the operating surplus to $3.37 million. However, consistent with the markets at large, our investment portfolio suffered significant losses during the year. The endowment recorded a $3.31 million loss, yielding a total increase in net assets of just $61,000.

Our balance sheet continues to be healthy overall. Cash increased by more than $1 million and we finished the year with strong reserves. Depreciation continued to exceed capital asset investments by a margin of $1.1 million this year, resulting in a net decrease in the value of our property, equipment, and leasehold improvements to $16.4 million. Total liabilities were reduced from $2.8 to $1.7 million, down by 38% over the prior year, driven largely by the $1.2 million forgiveness of the Paycheck Protection Program Second Round funds. Additional details of The Nat's financial health can be found in the audited financial statements posted on our website at sdnat.org/about-us.

Our people are our biggest asset. We're committed to investing in our world-class staff, with 67 cents out of every dollar going to salaries, wages, and employee benefits.

Our paleontological and biological consulting services help balance the needs of people and wildlife. They also help balance our budget, contributing $2.68 million to the bottom line.

Facility rentals and related bar services are an important part of our budget, bringing in approximately $600,000. We hosted 74 events—far exceeding our goal of 50 events—with nearly 17,000 attendees being introduced to our mission.

WE'RE HERE BECAUSE OF YOU.

Our work is made possible through a dedicated community of philanthropists, staff, volunteers, and partners. We gratefully acknowledge your support and we thank you for joining us in this journey—for the love of nature.

Volunteer Milestones

Volunteers keep us running—they support our organization's mission and help connect people to it.
Join us in honoring volunteers who have reached significant service milestones.

40 YEARS+

Janet Dort
Susan Randerson
Ellen Smothers

35 YEARS

Ellen Bevier
Mary Lytle
Roseanne Stogner
Carole Ziegler

30 YEARS

Uli Burgin
Barbara Elis
Nico Goossens
Ellen Shively
Melissa Swann-Bloom
Brian Swanson

25 YEARS

Maureen Abare-Laudy
Theresa Acerro
Ramona Bush
Joan Dowd
Evelyn Jackson
Martha Jacobson
Enrique Medina
Linda Pardy
Sonya Sale
Susan Stiver
Carol Wilson

20 YEARS

Judy Alvarez
Betty Ball
Ollene Brown
Alice Johnson
Margaret Fillius
Rebecca Keller
Anne McCammon
Anita Musser
Eric Ross
Jeanne Shenkman
Gloria Sonnabaum
George Varga

15 YEARS

Carolyn Anderson
Jack Berdy
Mary Borchard
Debbie Bushong
Janet Domnitz
Wendy Esterly
Carrie Huckell
Rosemary Kelley
John La Grange
Karen Marshall
Victoria Marshall
Rolf Milocco
Sheila Moss
Lori Myers
Carol Norman
Judy Peacock
Merrilyn Pope
Valerie Quate
Leslie Rapp
Warren Schmidtmann
Michael Simpson
Charles Wolfinger

10 YEARS

Apolonia Akins
Terry Baird
Christine Baltuth
Frances Bookheim
Richard Campbell
Yee Ching Chang
Mary Connole Howard
Camille Doane
Elizabeth Eklund
Frederick Fitch
Don Fosket
Rochelle Gaudette
Marjorie Hale
Pauline Jimenez
Julie Johnson Lavelli
Kimberly Lowe
Alin Maxon
Glenda Maxwell
Robert McCurdy
Scott Primack
Ann Sixtus
Stacey Vielma
Peter Vroom
Robert Wallace
Lorena White
Theresa Williams
Maritza Witmer

5 YEARS

Millie Basden Thomas
Nora Bodrian
Richard Breisch
Deborah Buffington
Mark Burgett
Christine Caponelli
Russell Carlson
Dayle Cheever
Jacqueline Corbeil
Stefanie Curtis
Julia Deardorff
William Doane
Leigh Anne Gibbons
Sonia Hernandez
Vryce Hough
Jane Howell
George Huling
William Huntly
Daniel Keddy
Dolores Keyes
Linda King
Jeanine Kleeman
Birgit Knorr
John Meitz
Janice Meliska
Christine Meza
Marilyne Panzica
Jean Payne
Thomas Payne
Jennifer Picha
Emily Pittman
Erika Rodarte
Lousie Russell
Peter Sadori
John Schuler
Jennifer Spearel
Pamela Stahlak
Jim Stary
Marilyn Thoman
Robert Vinton
Jerry Wilson
Theresa Williams
Maritza Witmer

VOLUNTEERS BY THE NUMBERS

579 TOTAL VOLUNTEERS

27,926 TOTAL VOLUNTEER HOURS

$993,048 DOLLAR VALUE OF VOLUNTEER HOURS
(in California in 2021 per Independent Sector)

CANYONEERS

LED **56** PUBLIC HIKES
FOR **1,719** PEOPLE

LED **10** SCHOOL HIKES
FOR **289** STUDENTS AND CHAPERONES

DOCENTS

REACHED **158** STUDENTS AND CHAPERONES WITH **6** PROGRAMS

WHALERS

REACHED **8,636** PASSENGERS ON **109** CRUISES THROUGH HORN-BLOWER CRUISES AND EVENTS

NATURALISTS

13 USED INTERACTIVE GAMES AND CRAFTS TO ENGAGE GUESTS AT THE MUSEUM

SCIENCE VOLUNTEERS

LOGGED **11,823** HOURS

THANK YOU

July 1, 2021 – June 30, 2022

We are deeply grateful to the many donors who supported the Museum this year through new gifts and pledge payments.

$100,000 AND ABOVE

Anonymous (2)
Alumbra Innovations Foundation
Ms. Anita Busquets and Dr. William A. Ladd
California Institute for Biodiversity
City of San Diego
Ms. Dale H. Clark
JiJi Foundation
San Diego Foundation
J. W. Sefton Foundation
US Small Business Association
Mrs. Christy Walton
Mr. and Mrs. Dennis C. Wilson

$50,000-$99,999

Stephen and Mary Birch Foundation
Tracy and John Downing
Downing Family Foundation
The Andrew and Kathryn Garman Foundation
Institute of Museum and Library Services
Price Philanthropies
Subaru of America

$10,000-$49,999

Patrick Abbott, Ph.D.
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Mona Baumgartel and John DeBeer
Steven and Susan Bell
The Bell Family Fund of the Northern Trust Charitable Giving Program at The Chicago Community Foundation
Beyster Family Foundation Fund IV
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Patrick Dugan
Dr. Bernard J. Eggertsen
The Hattie Ettinger Conservation Fund
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Judy Gradwohl
Robert & Helen E. Grant Foundation
Dr. and Mrs. David E. Groce
Heller Foundation of San Diego
Linda Hervey in memory of James (Jim) Jessop Hervey at Schwab Charitable
The Hervey Family Fund
KPBS**
Mrs. Lisa Maloy and Dr. Stanley Maloy
The Gilbert J. Martin Foundation
Mrs. Margaret D. Mercieca
Mineo/Stephenson Charitable Fund at UBS Financial Services
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Ellen Browning Scripps Foundation
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Phyllis J. Whitney Rev Trust
Mr. Philip Unitt
Mandell Weiss Charitable Trust

$5,000-$9,999

Alberts Family Fund at Fidelity Charitable
Carol Baird and Alan Harper at Schwab Charitable
Karen Berger
Jim F. Beyster
The J.F. Beyster Fund
Vicki and Thomas Blackman
Martha E. Blake-Jacobson and Gary C. Jacobson
SBC Fund at the American Endowment Foundation in memory of Suzanne Bond, recommended by Laura Bond and Patrick Sewall
William A. Ladd and Anita I. Busquets Charitable Fund at Schwab Charitable
Mr. Tom Fleming
Genentech Inc.
The General Atomics Sciences Education Foundation
Jo and Thomas Hazard
Michelle and Ron Hebdon
Greg Hoover
Ms. Conny Jamison
James Hervey Johnson Charitable Educational Trust
Ms. Silke Laqua and Mr. Jason Shidler
Dawn Lawson and John La Grange
Alan G. Lehman and Jane A. Lehman Foundation
Dr. Ellen Lehman and Dr. Charles Kennel
The Simpler Life Fund at the National Christian Charitable Foundation
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Jan and Donald Maxted
Dr. Ann McGowan-Tuskes and Dr. Paul Tuskes
Nordson Corporation Foundation
Jean and Bill O'Daniel
Dr. Rebecca Papendick and Dr. Jay Savage

The Allison and Robert Price Family Foundation Fund
Valerie and Jim Quate
Carla and Rudolph Rehm at Fidelity Charitable
Mark Cookingham Fund
Amee Wood and Eric Mustonen
WWW Foundation

$2,500-$4,999

Anonymous
An Anonymous Fund
Jolene and Walter Andersen
Ms. Mary Ann Beyster
The M.A. Beyster Fund II
The Jeffrey Block and Michele Gerus Giving Fund at Bank of America Charitable Gift Fund
Susan and Richard Breisch
Anne and Gregory Bullard
Maryruth and Charles Cox
Arlene Esgate Charitable Gift Fund at Fidelity Charitable
Arlene Esgate
Mr. Steven Garsson in honor of Karen Garsson
The Heilbron/Limoges Giving Fund at Fidelity Charitable
Ms. Allison Henderson and Dr. Jay Miles
Hologic Charitable Fund
David K. Jordan Charitable Fund at Schwab Charitable
Helen and Webster Kinnaird
Anneli Kyner and Tim Stahl
Ann Laddon and Adrian Jaffer at Schwab Charitable
Lindblad Expeditions
Ms. Barbara J. Lohne
Mrs. Carol Netterblad
Samuel I. & John Henry Fox Foundation
San Diego County Fish & Wildlife Advisory Commission
Strauss Family Foundation
Nita and Henk Van Der Werff at Schwab Charitable

$1,000-$2,499

Anonymous (2)
Irene Abraham and Gabriel Vogeli
Mr. K. A. Achterkirchen
Dr. Janet A. Anderson and Dr. Victor Van Lint
Ms. Christine A. Baltuth
Eowyn Bates and Christopher Croom
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President and CEO Judy Gradwohl and Curator of Paleontology Dr. Tom Deméré lead a group of Leadership Circle members on a walk at Torrey Pines State Beach. Participants learned how to identify the rock formations, some from the Eocene that are 48 million years old. Leadership Circle members are the Museum's upper-level annual donors. They enjoy exclusive access to programs and events to recognize their extraordinary commitment to The Nat.

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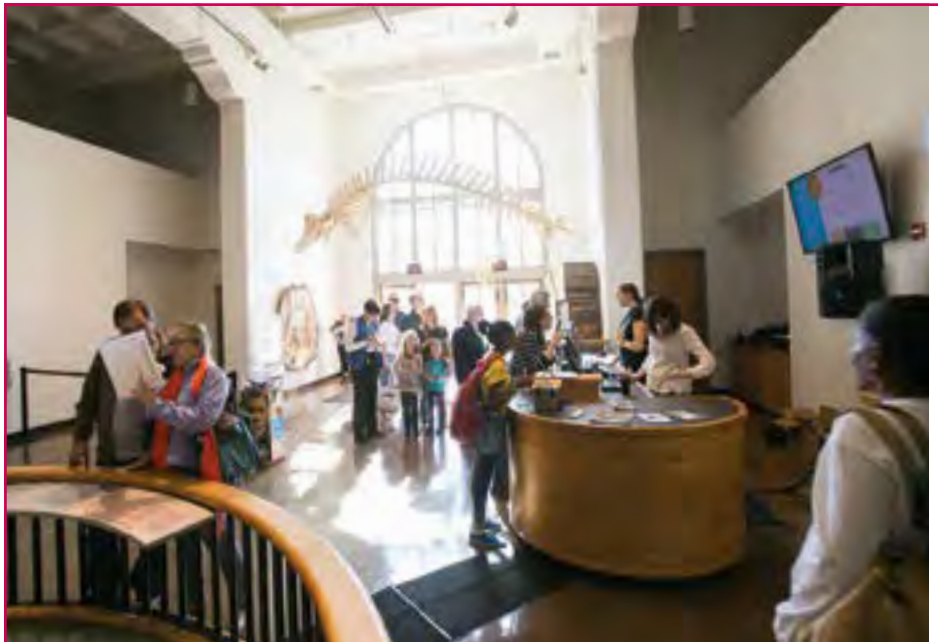

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In June 2022, we achieved accreditation once again by the American Alliance of Museums (AAM), crystalizing our commitment to excellence, accountability, and high professional standards. AAM found us to be "a historically significant yet future-focused institution that has developed innovative, responsive, and community-minded programs that serve audiences in both its immediate environs and beyond."

The Committee members went on to say, "We applaud staff and leadership for the level of innovation and commitment each has brought to their work. We also commend the museum's effort to infuse diversity, equity, accessibility, and inclusion principles throughout its goals and policies, most notably in the STEM programs for students."

We're downright blushing.

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BACK COVER PHOTO
Michael Field
In the face of a changing climate and increasing development, we are working to ensure that our shared ecosystems—from deserts to mountains to estuaries—remain resilient and enjoyable for all. (Anza Borrego State Park)