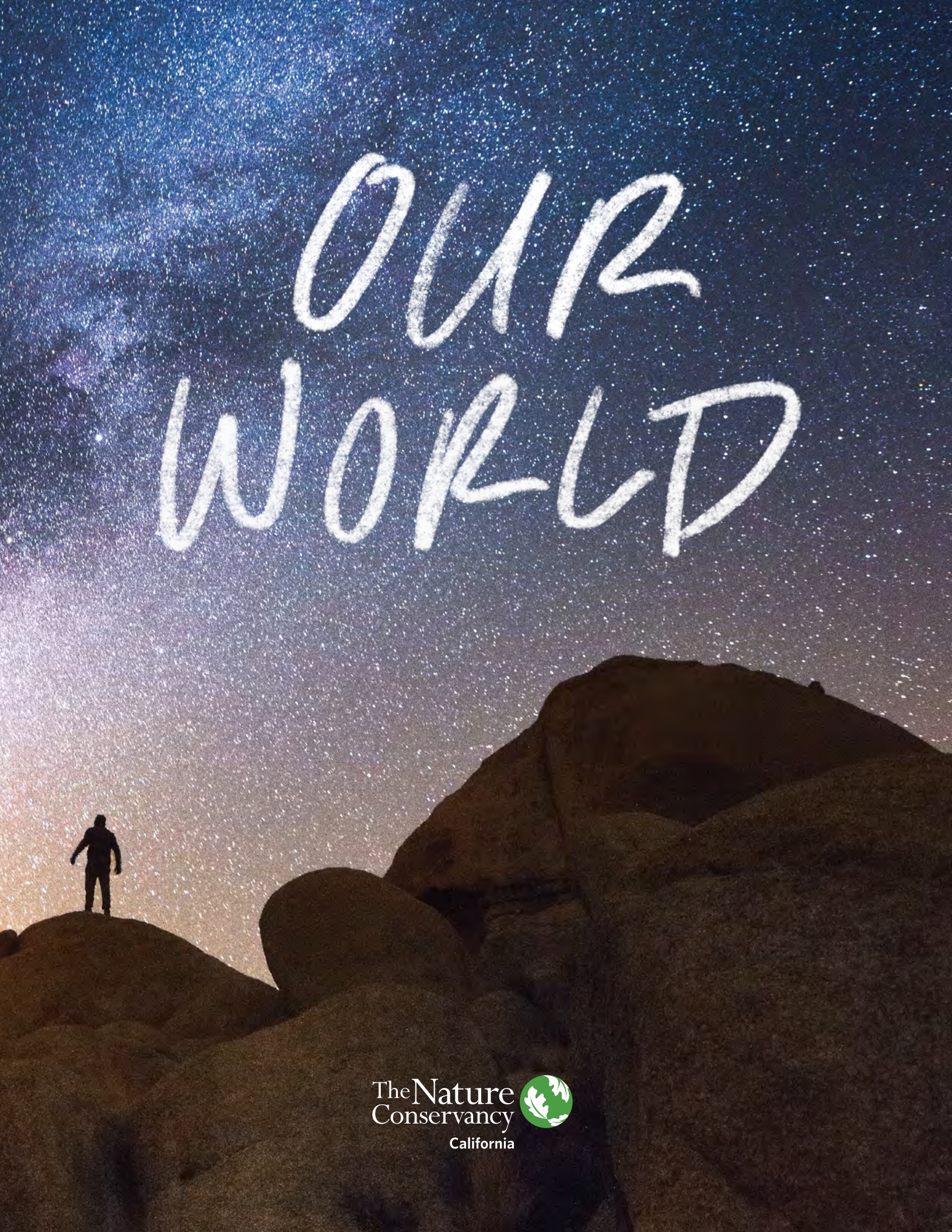

OUR
WORLD
The Nature Conservancy
California

The Nature Conservancy OUR WORLD

CELEBRATING THE OUR WORLD CAMPAIGN

JULY 2013 - JUNE 2020

In 2013, The Nature Conservancy embarked on a seven-year campaign to elevate conservation on a global scale. In California, our goal was to transform the way fisheries and coastal environments are managed, ensure healthy water supplies for nature and people, protect and restore a resilient network of conservation lands across our state and deliver science and technology breakthroughs for conservation.

Now, in the fall of 2020, the Our World campaign is complete. Your support has exceeded our fundraising goals and all our expectations. Your dedication to TNC's mission gives us hope for the future as we head into "the determining decade," the critical window for conservation in the face of climate change.

This book is a celebration of the conservation successes of the Our World campaign.

It is also an invitation to join us, with new energy and resolve, on the path ahead.

NATURE IS OUR SOLUTION

**BY PROTECTING AND RESTORING NATURE,
WE CAN SOLVE HUMANITY'S BIGGEST PROBLEMS.**

Thank you

for your historic investment in nature.

INDEPENDENCE LAKE PRESERVE

© DEVAN KING

Our world is changing.

From rivers running dry to devastating megafires, the natural systems we rely on are breaking down. We've come to an inflection point in human history: allow the status quo to wreak havoc on the environment or change the planet's trajectory using science and innovation.

You invested in change.

The goal of the Our World campaign was simple: elevate conservation on a global scale and build the foundation for a better world. Over the past seven years, you created a groundswell of support for conservation efforts in California and beyond.

Together, we made transformative gains across our campaign priorities of land, oceans, water, cities and innovation. We built diverse partnerships to restore millions of acres of Sierra forests. We worked with fishing communities to protect hundreds of thousands of acres of ocean habitat. We influenced more than $11.5 billion in public funding for conservation in California, from safe drinking water to urban parks. And this is only the beginning.

In these days of environmental and economic turbulence, your support is essential. This is a critical time for conservation and The Nature Conservancy. Science shows that we have a decade to put our planet on the path to a sustainable future. The work you've made possible positions us to tackle the challenges ahead, but we can't slow down.

Sincerely,

MIKE SWEENEY
EXECUTIVE DIRECTOR, CALIFORNIA CHAPTER

The science is clear.

The window is fast closing on our opportunity to avert the worst of the climate and extinction crises that lie ahead.

Fortunately, The Nature Conservancy is well-prepared for this moment. Over the decades, we honed our conservation approach as we ratcheted up our ambitions, evolving from an organization that protects important places to one that also solves complex environmental problems.

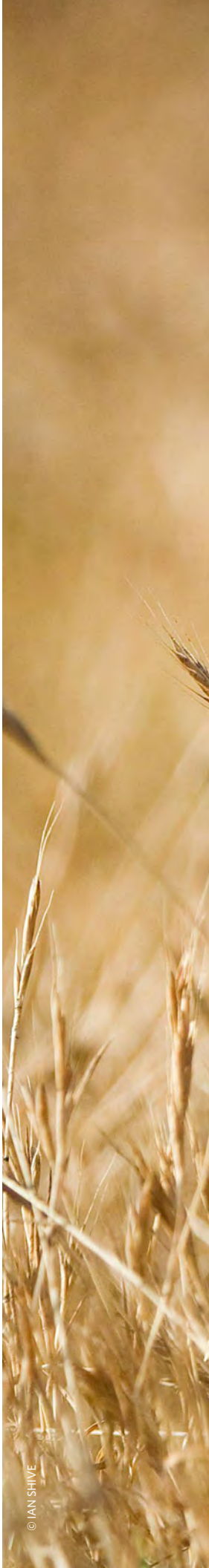
Our approach? We go to where the problem is. Guided by the principle "nature is our solution," we bring to the table our science and multidisciplinary expertise to devise conservation solutions to some of humanity's biggest challenges. In partnership with communities and businesses, we test our ideas on the ground and in the water, proving that people and nature can indeed thrive together. Then, with those same partners, we advocate changes to policy and practice so that the conservation we've pioneered becomes mainstreamed as the new "business as usual."

Through this approach, we demonstrated that society doesn't have to choose between conservation and clean energy development, that collaborative management can rapidly recover collapsing fisheries and help secure the livelihoods of coastal communities and that, together, we can rise to this urgent challenge. A more sustainable, resilient and biodiverse future is possible. And California is one of the best experimental arenas for innovating conservation and leveraging what works to effect change around the world.

Our teams are entering the most important decade of their conservation careers. And the optimism they bring to this work is as inspiring as it is justified. They know that whether they are restoring a muddy streambank, modeling fire dynamics or building a diverse coalition to catalyze policy change, the everyday work they do adds up to far more than the sum of the parts. We invite you to experience this inspiring work in the pages that follow. Collectively, our teams effect systemic change. Collectively, they create the hopeful future The Nature Conservancy's mission envisions.

Thank you for sharing — and fueling — that optimism.

SCOTT A. MORRISON, PH.D.
DIRECTOR OF CONSERVATION PROGRAMS
THE VICTOR E. SHELFORD DIRECTOR OF CONSERVATION SCIENCE



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SANTA CRUZ
ISLAND FOX

NOTES FROM THE FIELD

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CARPENTER VALLEY PRESERVE WAS PROTECTED IN 2017. IT IS HOME TO SPECIES LIKE THE THREATENED WILLOW FLYCATCHER, BALD EAGLE AND BLACK BEAR.
SAVED

IMAGE COURTESY OF ELIZABETH CARMEL

TNC has turned the business of protecting land into the business of building a future for California.

The Land Program is working toward three goals:

Securing a reserve network across California so species have room to roam and adapt to a changing climate

Accelerating the restoration of degraded ecosystems to better support biodiversity and benefit us all

Transforming our preserves and holdings into world-class living laboratories for conservation innovation and management

Thanks to the Our World campaign, we are well on our way to achieving these goals. The campaign helped us complete TNC's first-ever statewide, climate-ready conservation blueprint. We protected key landscapes throughout our state, such as the Jack and Laura Dangermond Preserve at Point Conception. Over the course of the campaign, we made transformative gains in the restoration of Sierra forests, the Channel Islands and the estuaries of the North Coast. And we pioneered applications of remote sensing to make monitoring and management of conservation lands far more efficient and effective.

What follows are some highlights from the Our World campaign that have laid the foundation for us to tackle the years ahead. With your help, we developed and tested conservation solutions in our own backyard that are now scaling across California and beyond. I hope you enjoy reliving some of the wins that you've made possible — and don't miss the history lesson from my friend and one of our longest-tenured employees, Lynn Lozier.

Jason Pelletier

JASON PELLETIER
LAND PROGRAM DIRECTOR

The Road to Restoration in the Sierra

California is not California without the Sierra Nevada. This spectacular mountain range sustains us, inspires us and calls us to action. TNC's successes on the ground and in the policy arena are driving forest restoration at an unprecedented scale.

A century of fire suppression and unsustainable logging has created dense thickets of small trees and brush where majestic, old-growth forests once stood. Now, fires that should regenerate the forest too often explode into catastrophic megafires that destroy it. Climate change has made the problem worse.

Our aim is to restore the healthy cycle of frequent, low-intensity fires and the ecological conditions that better resemble the resilient forests that existed prior to the 20th century. The solution is controlled burns and ecological forest thinning to remove small and unhealthy trees so the plants and animals that depend on the forest can thrive. TNC's science has shown that restoring a forest's health will also bolster its resilience to fire and climate change. Over the course of the Our World campaign, we proved out the science of forest restoration on our own Sierra preserves, building the case for ecological forestry by showing that it works.

Now, we're bringing powerful partners to the table, targeting restoration across 9 million acres of Sierra forest. Two things set this work apart: the geographic scale of our restoration and the scale of our partnerships. We're bringing together federal and state agencies, water utilities, rural counties, the timber industry, environmental groups and many others to scale up restoration. Fires don't distinguish between public and private land, so restoration shouldn't either.

FUNDING THE FIGHT AGAINST FOREST FIRES: POLICY WINS

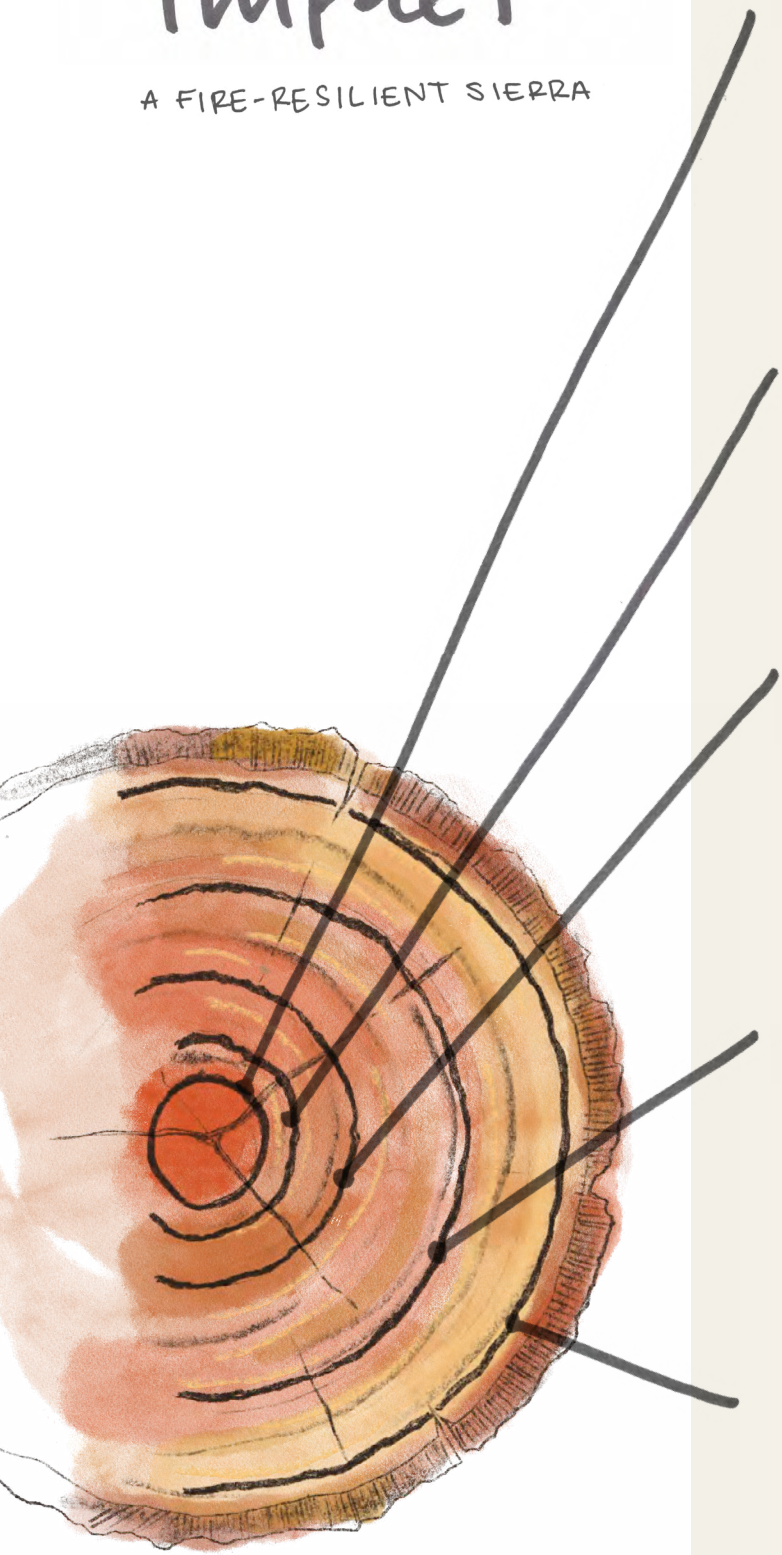
TNC helped shape critical legislation to dramatically increase the use of prescribed fire and ecological thinning as forest restoration tools. We also played a key role in securing an unprecedented $1 billion state commitment to improving forest health. This success is more than a dollar amount — it's a foundation for a groundbreaking collaboration across federal, state and private land.

Federal funding. TNC spent three years helping craft federal legislation that passed in 2018, allowing the government to use disaster-relief dollars to pay for fighting megafires the way it does for other natural disasters. This fix frees up the U.S. Forest Service to spend its budget proactively, improving forest health and reducing fire risk. This policy change gives us a better chance to stop megafires before they start.

State funding. TNC successfully advocated for Greenhouse Gas Reduction Fund dollars to be spent on forest restoration. Former governor Jerry Brown, and now Governor Gavin Newsom, collectively dedicated $1 billion over five years to keeping forests healthy.

Growing our Impact

A FIRE-RESILIENT SIERRA



2,300 ACRES 2010

INDEPENDENCE LAKE PRESERVE

After establishing the preserve in 2010, we launched forest restoration efforts on these lands. To protect the lake's threatened Lahontan cutthroat trout and reduce the risk of high-severity wildfire, we applied ecological thinning and prescribed burning techniques that are now being scaled across the Sierra.

28,000 ACRES 2015

FRENCH MEADOWS/
AMERICAN RIVER HEADWATERS

In 2015, TNC brought together state, federal, and local partners — including the local water utility — for this first-of-its-kind collaboration. The group took the same restoration approach used at Independence Lake in a landscape 10 times larger.

275,000 ACRES 2019

NORTH YUBA RIVER WATERSHED

Initiated in 2019, this project will be the largest forest restoration of its kind in the Sierra. Using the partnership model we honed at French Meadows, we are working with nine partners to restore one of the most critical watersheds in the region.

2.4 MILLION ACRES 2021

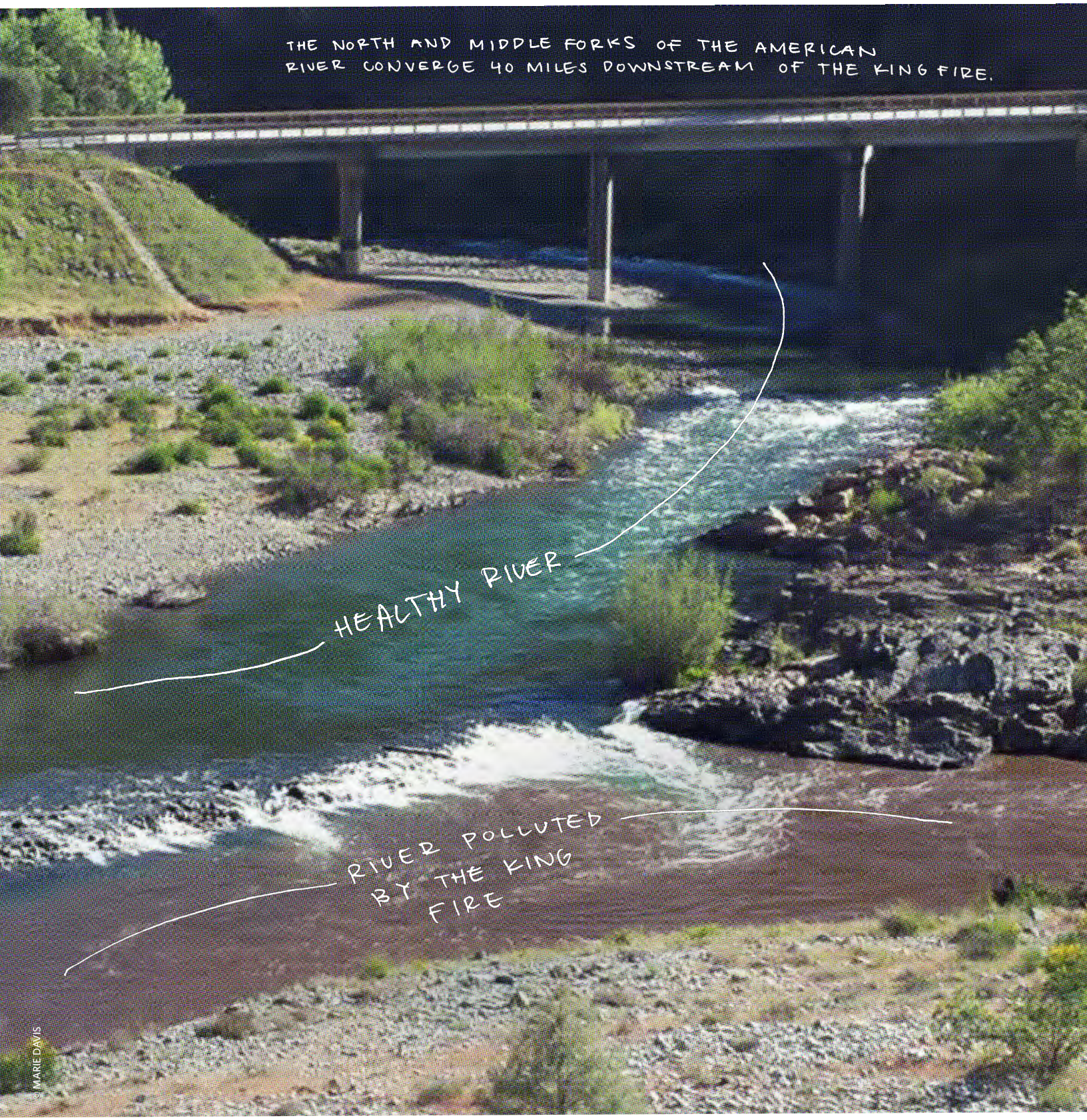
TAHOE-CENTRAL SIERRA INITIATIVE

Thanks to the scientific credibility and strong partnerships we built up through our work in the Sierra, TNC was invited to work with the U.S. Forest Service to lead the science effort that will guide restoration across the 2.4-million-acre band of forest surrounding Lake Tahoe.

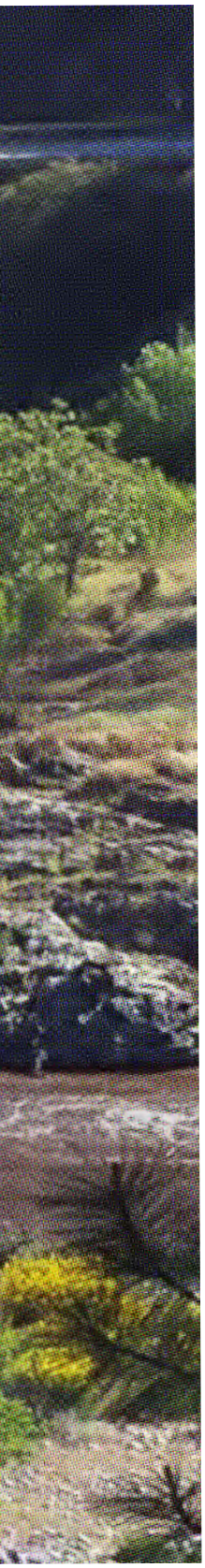
9 MILLION ACRES FUTURE

RESTORATION OF SIERRA NEVADA FORESTS

The ultimate goal of our Sierra strategy is restoring this core forested area within the 30-million-acre mountain range. The Tahoe-Central Sierra Initiative is already helping us develop a strategic plan for the entire system.



95% OF THE WATER FROM PLACER COUNTY SERVES MORE THAN 20 MILLION PEOPLE DOWNSTREAM.



Prevention is better than a cure.

Marie Davis of Placer County Water Agency on protecting a water supply by preparing for fire

"Ours is a success story that started with a tragedy — and that was the King Fire," said Marie Davis, a geologist for the Placer County Water Agency (PCWA). "The fire devastated, with unprecedented severity, one of the watersheds that the people of Placer depend on for their water supply."

Placer County extends from Lake Tahoe nearly to Sacramento. It encompasses more than 200,000 acres of Sierra forest, and its watersheds provide water to millions of people downstream. In 2014, one of the most destructive fires in Sierra Nevada history threatened Placer County's water by filling reservoirs and streams with eroded sediment and debris.

"All water agencies are peripherally aware of their headwater sources of supply, but they have so much to concentrate on that it's not often a real focus," said Davis. "The King Fire woke up our understanding of why we needed to pay attention to the health of our watershed."

The very next year, Davis found herself seated across a table from TNC Forest Ecologist Edward Smith and TNC California Forests Director David Edelson. A group of local stakeholders and environmental groups had assembled because a local land trust was planning to purchase 10,115 acres in the Middle Fork American River watershed and add a portion of it to the Granite Chief Wilderness. The "wilderness" designation meant that it would be legally out of reach of almost all fire suppression and forest management efforts. From PCWA's perspective, additional wilderness spelled further jeopardy for the county's water supply.

"There was a little tension in the room," Davis said. "We were on opposite sides of the table although we had the same concern. But this is where the beauty of The Nature Conservancy blossoms. They're able to make the connection between local interests who haven't really found a way to work together. It turned out that a healthy watershed was the intersection on the Venn diagram of all of our different needs. That's how we figured out we could make a positive difference together."

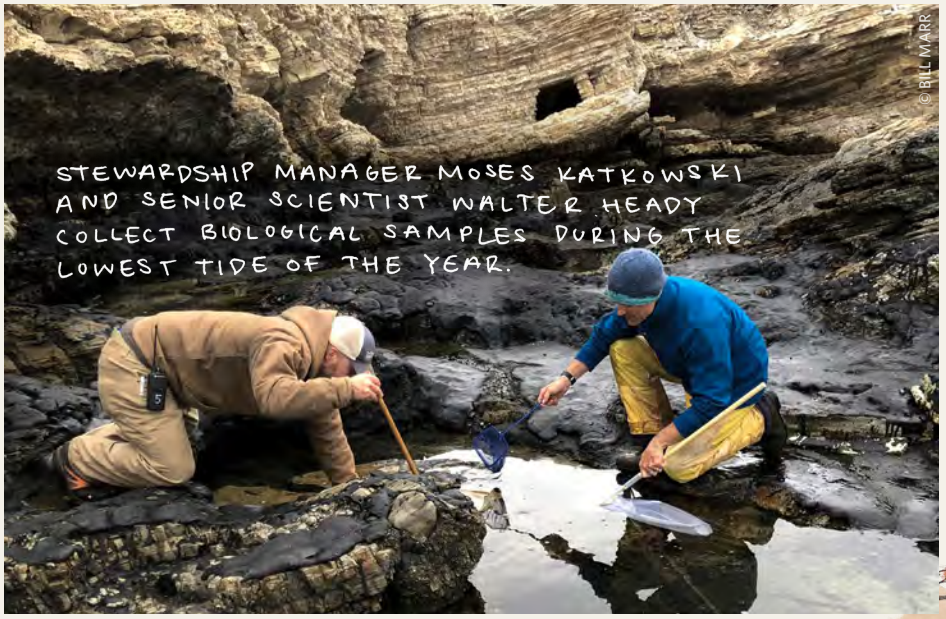
That positive difference would become the French Meadows Project, a first-of-its-kind forest health restoration spanning 28,000 acres across public and private land, now in its second year of implementation. The vital importance of this work is becoming increasingly clear. Even in fall 2020, fire still threatens Placer County. TNC and the PCWA formed a coalition of state, federal and local partners to plan, permit and fund this landscape-scale restoration, proving that the needs of people and nature need not be at odds.

"We were strange bedfellows as a partnership, but there was a lot of strength in that. When a leader in the water industry can walk into government rooms with a leader in the environmental industry and say, 'We agree on this, and this is what we want,' people listen."

BEYOND PRESERVATION

In the era of extreme global change, we know that simply preserving wild places isn't enough. We need to turn our preserves into living laboratories where we can develop the tools to help nature adapt and persist. That's why at our Dangermond and Santa Cruz Island Preserves, we're bringing together researchers from around the world to collaboratively restore, manage and study these critical systems. We're experimenting with cutting-edge science and technology tools — from novel mapping and eradication techniques for invasive plants to wildlife cameras that are connected to the internet for real-time data collection. We are sharing insights with conservation and science communities around the globe because we know that collaboration leads to lasting solutions.

SANTA CRUZ ISLAND PRESERVE



JACK AND LAURA DANGERMOND PRESERVE

BEYOND PRESERVATION

WHERE NORTH MEETS SOUTH

Once in a generation, we get an opportunity to forever save an incredible place. For previous generations, it was the Marin Headlands, Big Sur and the Santa Monica Mountains. For our generation, it's Point Conception.

In December 2017, TNC purchased a 24,364-acre ranch at Point Conception near Santa Barbara. This landmark acquisition was made possible by Jack and Laura Dangermond during the Our World campaign. They gave the single largest gift in the history of The Nature Conservancy to preserve this irreplaceable part of California that was at risk from both residential and energy development. Their generosity inspired a wave of support that allowed us to close this deal entirely with private funding.

Now, we are establishing a world-class nature preserve to protect and study this remarkable landscape. In the years ahead, we'll be hosting researchers and school groups to explore and study the 8 miles of wild coastline and huge expanses of coastal prairie, grasslands and oak forests.

MEET THE SPECIES OF THE DANGERMOND PRESERVE

The Dangermond Preserve's unusual geography makes it a globally important site for conservation. The coastline runs north-south above Point Conception and east-west below it; cold water currents from the north collide with warmer waters from the Santa Barbara Channel, creating diverse marine and terrestrial habitats unlike any other in the state. As a result, the preserve is home to an amazing diversity of wildlife. Sea lions breed on the point, and bears and mountain lions are spotted everywhere from the beach to the highest elevations. We'd like to introduce you to some of the amazing species that call this special place home.

BLUE-EYED GRASS

Blue-eyed grass flowers are open from March through May. The dark lines on the petals act as guides that quickly lead pollinators to the flower's nectar.

BLACK BEAR

Black bears are able to live in varied climates across California. Despite their name, their fur has a variety of colors.

SOUTHERN ALLIGATOR LIZARD

A voracious feeder, this lizard will eat insects, spiders, scorpions, slugs, small mammals, bird eggs and nestlings. It can hang from branches by its tail.

WOOLLY SCULPIN

Though the woolly sculpin spends most of its time in the intertidal zone, it can survive out of water for up to 24 hours.

OPALESCENT NUDIBRANCH

Named for its "bare gills," the nudibranch is a predator that eats sea anemones.

SNOWY PLOVER

In California, snowy plovers can be found in all seasons. They nest in our state's sandy beaches.

COAST LIVE OAK

With their twisting branches and trunk hollows, these oaks provide all kinds of nooks where wildlife can build their homes.

BEYOND PRESERVATION

Wish you were here! A postcard from Santa Cruz Island

Once on the brink of ecological collapse, Santa Cruz Island now offers a glimpse of what Southern California was like hundreds of years ago. The island has emerged as a leading example of successful island restoration and innovative conservation. During the Our World campaign, we celebrated the 40th anniversary of TNC's Santa Cruz Island Preserve, and we also saw the island fox removed from the endangered species list after the fastest recovery of any mammal in the history of the Endangered Species Act.

Today, the island's native plants and animals are rebounding. More than 2,000 foxes now live in the wild, up from fewer than 100 in 2004. As the island recovers from more than a century of degradation by introduced livestock, new species are being discovered and added to our database of the island's native flora and fauna.

Stepping into the unknown

Highlights from the journey of one of California's longest-tenured employees

Lynn Lozier has been with TNC for 44 years. She's worked as a land steward, an ecologist and a program director; she now manages the oversight and monitoring of the California Chapter's 150 conservation easements and 50 preserve properties. Lozier has helped guide TNC's evolution from a land trust to a conservation innovator. As she looks back on her career, it's the willingness to embrace new ideas, even when the road ahead is unclear, that has made the organization what it is today. Lozier describes our chapter's first steps into landscape-scale conservation.

"In the late '70s, we [TNC California] had just completed our first capital campaign — the first capital campaign for land conservation —which raised $4 million in private philanthropy. That was unheard of at the time. We used the money to secure 11 properties that we'd identified as the best examples of natural communities unique to California but not protected anywhere else in the state. Then we did what all conservation organizations were doing and put a fence around it.

"These decades were an especially exciting time to be in conservation because TNC was co-evolving alongside a new scientific field: conservation biology. This whole new discipline was focusing on what conservationists needed to do to keep species from going extinct. And keeping habitats connected was one of the most important things we could do.

We realized that our preserves needed to be in a network much more than they needed to be fenced.

"This was the beginning of landscape-scale conservation. We started working with owners and managers of the land that connected our properties, and we learned a lot from them because — guess what — they knew a thing or two about their land. We found ways to connect but also big gaps, like along the Sacramento River, and that's when the concept of restoration entered the conversation. A few years later, we became another economic driver in that agricultural community, hiring field crews to replant native species.

"For me, this is the most exciting thing about TNC: our willingness to step into the unknown. But to do that, we've needed donors who are willing to take a chance."

When asked about the next challenge TNC will tackle, Lozier turned to climate change.

"It's like any conservation challenge: You address it on a lot of fronts. I am proud of the fact that we worked with Fran Pavley to write the first climate legislation on the planet here in California. When it comes to this issue, we have a whole world of stakeholders."

Climate-ready Land Protection

TNC's work has expanded far beyond our land trust roots, but the process of buying and protecting land is still a critical part of our conservation toolkit. During the Our World campaign, we made a series of land acquisitions designed to prepare California for a future in the face of climate change.

As temperatures warm, species will need to migrate farther to find suitable habitat, sea level rise has the potential to reshape our coastline and freshwater will become more precious than ever before. These strategic acquisitions have jump-started our climate work for the decade to come by creating strongholds of climate resilience.

Frog Lake to Carpenter Valley, Northern Sierra Nevada

In 2017, we worked with the Truckee Donner Land Trust and the Northern Sierra Partnership to protect Carpenter Valley, a pristine meadow at the headwaters of the Truckee River. We identified this 1,320-acre landscape in 1999 as one of the highest-priority places for protection in the entire Sierra because it is a migration corridor and biodiversity hotspot.

In 2020, we expanded this protection. Through the Northern Sierra Partnership, TNC assisted the Truckee Donner Land Trust and the Trust for Public Land in acquiring the 680-acre Frog Lake property, a spectacular wild landscape nestled in a glaciated bowl below the Sierra Crest.

We also helped the partners acquire 2,240 acres of forested lands known as Carpenter Ridge and Red Mountain, a steep ridgeline that insulates the fens and meadows of Carpenter Valley. By protecting the valley and the slopes that surround it, we're not only conserving essential habitat, we're also securing the health of a watershed that hundreds of thousands of people rely on.

Tehachapi Linkage, Southern California

The Tehachapi Linkage is one of the most essential landscapes for habitat connectivity in California. Located between Bakersfield and Los Angeles, this rugged area is the only remaining connection between the mountains of the California coast and the Sierra Nevada. Species like black bear and the endangered California condor rely on Tehachapi for habitat and migration. As the climate changes, the region could become the key to their survival.

Prior to 2020, TNC protected a network of 33,000 acres in the Tehachapi Mountains, but we have ambitious plans to protect more of the linkage in perpetuity. We recently acquired the 5,520-acre Beard Ranch, connecting two existing TNC properties and conserving important grasslands, oak woodlands and streams. In late 2020, we protected another 3,150 acres of rare, high-elevation forest, or "sky island," of habitat for black bears, mountain lions and California condors.

Nobmann Ranch, Lassen Foothills

In March 2020, TNC acquired the 462-acre Nobmann Ranch, which abuts our Dye Creek Preserve and connects habitat for the state's largest migratory deer herd. The acquisition also helps protect Mill Creek, a haven for at-risk species like Chinook salmon and steelhead, which travel more than 300 miles from the ocean to reach Mill Creek's spawning grounds. Mill Creek is fed by the cold, volcanic springs of the Cascade mountain range, which makes it highly resistant to drought, unlike other rivers that rely on rain and snowmelt.

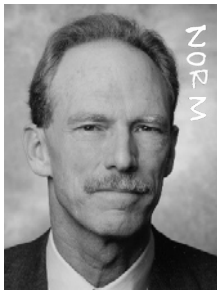
Thanks to this acquisition, TNC has become one of the largest holders of water rights in the Mill Creek system, and we're using these rights to deliver the water that nature needs year-round. With this work, we are creating a model that can be replicated across the state to help California's freshwater species thrive in the face of climate change.

DONOR SPOTLIGHT

The Sprague Family

Giving back may not be the official motto of the Sprague family, but it's certainly their way of life. That includes actively supporting one of their greatest sources of joy: nature.

"We grew up immersed in and appreciating the wonders of nature," said Ben Sprague, CEO at Earl Warren Showgrounds and a member of TNC's California Leadership Council (CLC). "Nature teaches unique lessons you don't always get elsewhere: humility, flexibility and a reverence for the interdependence and fragility of complex systems. As a family, our support of education, the arts and conservation is intricately and passionately tied to nature."



The Sprague family became involved with TNC's California Chapter in 1999, when Ben's father, the late Dr. Norman F. Sprague III, joined our Board of Trustees. A prominent orthopedic surgeon and clinical instructor at the University of California, Los Angeles, Norm was a conservationist through and through. He championed a number of complex initiatives during his 15 years of board service, and with his wife, Marianne, and their family foundation, he established a scholarship to provide promising MBA students with conservation leadership training at TNC. He was passionate about work related to land connectivity, particularly safe-passage corridors for animals, as well as the preservation of Santa Cruz Island and the Monterey Bay fisheries. When Norm passed away unexpectedly in 2014, TNC Executive Director Mike Sweeney dedicated a previously unnamed mountain peak to him on our Santa Cruz Island Preserve. Today, Norm's Peak remains a special tribute to a man who did so much for the island.

"My dad was board chair for the California Chapter for six years, and I remember him going on TNC trips and being excited about the varied conservation projects," said Ben the eldest of Norm and Marianne's six children. "It's fun to continue that work. My participation on the CLC has been a great start—it's a tremendous learning tool and opportunity to participate. I look forward to years of involvement."

THREE GENERATIONS OF THE SPRAGUE FAMILY: MARIANNE, BEN AND BEN'S SONS ELIAS AND SEELEY.

In recent years, the Sprague family — which includes Marianne, Ben and his sisters, and Norm's three sisters and their families — have carried on Norm's legacy through their support of conservation. During the Our World campaign, they were close partners in TNC's efforts to establish the Jack and Laura Dangermond Preserve.

"I've never been more excited about anything in my life in terms of a conservation project. It's a once-in-a-generation opportunity," said Ben.

The Dangermond Preserve has the potential to move conservation in a promising new direction and take it into uncharted territories — and that is exactly the kind of visionary, large-scale project that appeals to the Spragues.

"As a family, our hope is to be net-positive in the geographic areas we inhabit," said Ben. "Whether we are helping underprivileged kids have access to nature and science, setting aside land to protect a last-of-its-kind species or creating scholarships, our goal is to make a constructive difference."

The Nature Conservancy OUR WORLD

Global Land wins

At 253,000 acres, the Cumberland Forest Project protects sweeping forest landscapes across two parcels, one in Southwest Virginia and one along the Kentucky and Tennessee border. Safeguarding this vast stretch of forest tackles climate change on two fronts: by storing millions of tons of carbon and connecting a migratory corridor that could become a lifeline for critical species in the face of climate change.

TNC worked with our partners at the Lewa Wildlife Conservancy in Kenya to ensure that this sanctuary for critically endangered species can remain protected forever. This 62,000-acre wildlife reserve is a long-lost habitat corridor for elephants and black rhino, and thanks to this partnership it has been restored at last.

Conserving Mongolia's grasslands is critical to the nation's future, from the livelihoods of nomadic herders to the snow leopards and argali sheep that call this enormous region home. Since 2008, TNC has worked with multiple partners, including the Mongolian government, to designate 22 national protected areas totaling 8.6 million acres, as well as 30 million acres of local protected areas.

During the Our World campaign, TNC and partners completed a 10-year project that helped 4,100 family farms establish sustainable grazing practices and plant native trees. Thanks to this work, 94,000 acres have been converted to sustainable productive systems, contributing to the conservation of an additional 44,500 acres — key for biodiversity.

PLEASURE POINT IN SANTA CRUZ, CALIFORNIA

© SYLVIA VALENTINE

For much of human history, we viewed the ocean as infinite, limitless in its ability to provide for us. Today, we know better.

Around the world, a large and growing number of fisheries are overharvested. Both human impacts and the climate crisis are driving catastrophic loss of ocean and island habitats, while pollution of all sorts threatens ocean life. We need bold, urgent action to reverse these trends.

Over the past seven years of the Our World campaign, our ocean conservation efforts have proven that together we can change the planet's trajectory. Thanks to your monumental support, our work is demonstrating that it is not only possible but practical to reverse patterns of loss, recover threatened species and ecosystems and increase nature's resilience. We led efforts to recover depleted fish populations faster than anyone expected, protect 270,000 square miles of ocean habitat (an area larger than Texas), reduce the impacts of fishing on whales and sea turtles and develop powerful new tools to gather and use information to improve ocean management.

These incredible successes represent a strong foundation from which to build in the coming decade. Our ambition is to radically increase the pace, scale and coordination of these conservation initiatives, transforming California into a global hub of innovation in ocean conservation. To achieve this, we are focusing on three primary strategies:

Protecting and restoring ocean habitats at unprecedented scales

Improving the sustainability of fisheries and ocean harvest

Investing in new ways of recovering marine species and ecosystems around the world

We can and must do this. Our team is advancing a holistic and ambitious vision of ocean conservation. Thanks to your support, we've laid the groundwork we'll need to make that vision a reality.

TOM DEMPSEY
OCEANS PROGRAM DIRECTOR

RESTORING OUR UNDERWATER FORESTS

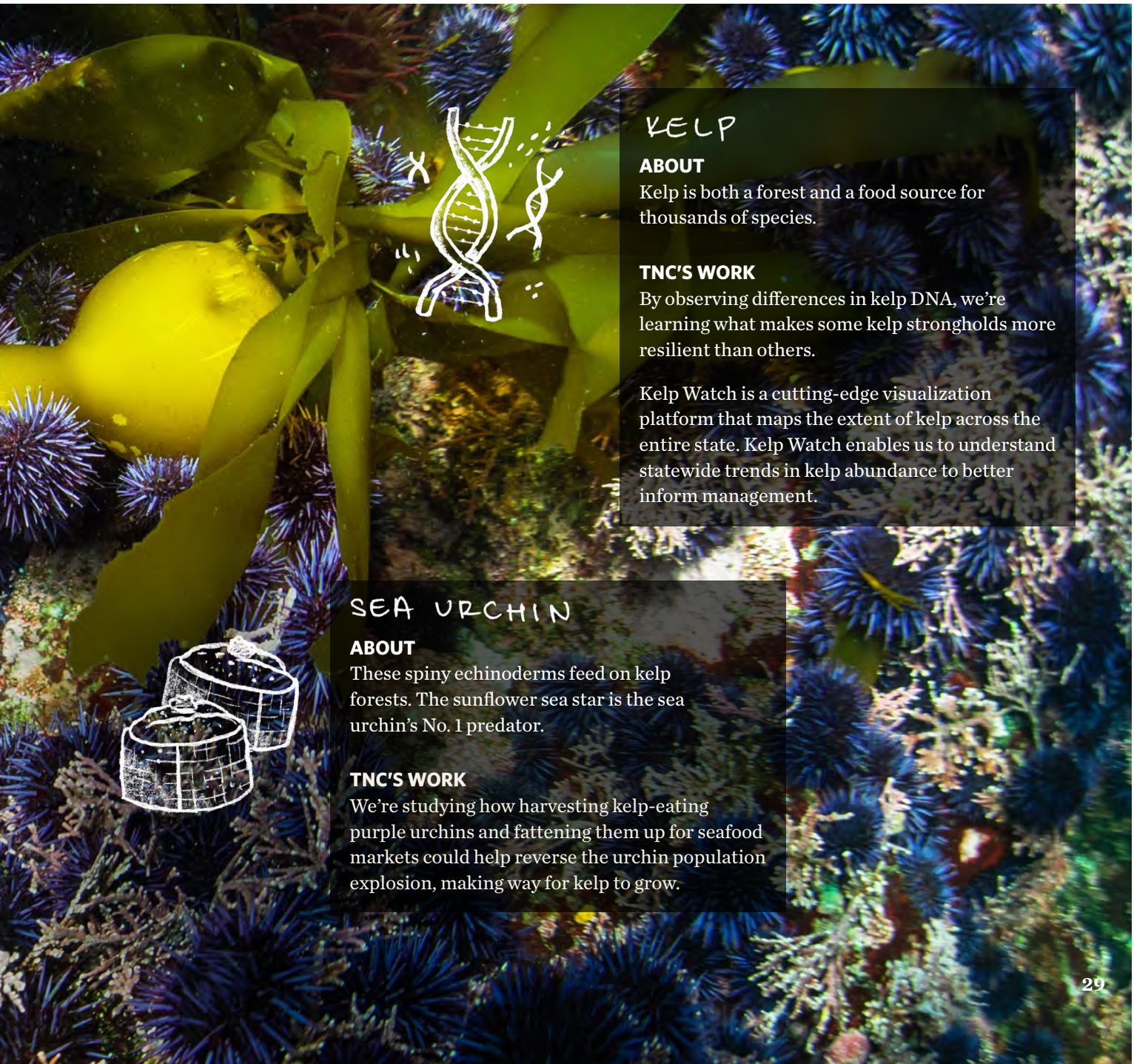
California's kelp forests form the foundation of our state's coastal ecology. They reduce acidification, stave off coastal erosion and support more than 1,000 marine species. But in the past decade, the North Coast of California lost more than 96% of its bull kelp forests.

WHAT WENT WRONG

A climate-driven warming event gave rise to a deadly disease that wiped out California's sunflower sea stars. Without a predator to keep the urchin population in check, urchin numbers exploded, mowing down kelp forests across the North Coast. Now, "urchin barrens" stretch out where iconic kelp forests once stood, the equivalent of clearcutting 96% of Sierra forests in less than a decade. This decline is having a serious effect on nearshore habitats, commercial and recreational fisheries and coastal communities and economies.

WHAT WE'RE DOING

Thanks to the Our World campaign, TNC is deploying a suite of innovative approaches to address this crisis and protect and restore our kelp forests. This work is quickly becoming one of the most ambitious ocean conservation efforts in California history — one that will deliver benefits for both people and nature and lead the world in protecting this irreplaceable resource.



KELP

ABOUT
Kelp is both a forest and a food source for thousands of species.

TNC'S WORK
By observing differences in kelp DNA, we're learning what makes some kelp strongholds more resilient than others.

Kelp Watch is a cutting-edge visualization platform that maps the extent of kelp across the entire state. Kelp Watch enables us to understand statewide trends in kelp abundance to better inform management.

SEA URCHIN

ABOUT
These spiny echinoderms feed on kelp forests. The sunflower sea star is the sea urchin's No. 1 predator.

TNC'S WORK
We're studying how harvesting kelp-eating purple urchins and fattening them up for seafood markets could help reverse the urchin population explosion, making way for kelp to grow.

THE MOST EFFECTIVE WAY TO PROTECT OCEAN HEALTH IS TO EMPOWER LOCAL FISHING COMMUNITES TO LEAD THE CHARGE.

Bringing a Historic Fishery Back to Life

Groundfish like black cod, rockfish and petrale sole were a mainstay for generations of Californians. Up until the 1980s, the groundfish fishery was vital to economies up and down the coast. But unsustainable fishing practices nearly caused the iconic West Coast fishery to collapse, and in 2000 it was declared an economic disaster.

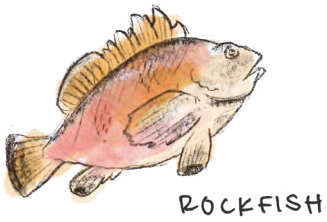
In response, TNC began working with local coastal communities to turn the tide for groundfish and California fishermen. We conducted a private buyout of fishing permits in exchange for local fishermen's help to design protections for 6,000 square miles of seafloor habitat that groundfish rely on. As a result, we found ourselves owning a significant portion of California's groundfish harvest rights. This gave us the opportunity to revitalize the industry.

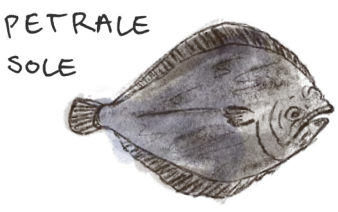
TNC shared a goal with local fishermen: an environmentally and economically sustainable groundfish fishery.

We learned that the most effective way to protect ocean health is to empower local fishing communities to lead the charge. We developed new nonprofit "fisheries trusts" to make fishing rights community owned, and now California is home to the largest regional fisheries trust network in the country, spanning from Fort Bragg to Santa Barbara. These trusts are governed by fishermen, scientists and local business leaders, who determine the best use of fishing rights for long-term community and environmental benefit.

Today, California's groundfish fishery is on the path to success. Many overfished species recovered decades ahead of schedule, and fishing opportunities that have been off limits for almost 20 years are now open again. In 2019, TNC transferred the last of our fishing rights back to the communities that now steward the waters off California. These years of partnership and policy work also led to additional protection across hundreds of thousands of square miles of ocean habitat.

CALIFORNIA GROUNDFISH SPECIES





Where Swordfish Fishing Meets Sea Turtle Protection

Meeting the consumer demand for luxury seafood products comes at a cost to our oceans. Swordfish is in particularly high demand, and the majority of swordfish fisheries around the globe operate in nutrient-rich areas that are home to a diverse array of species, such as sea turtles, whales and dolphins. Fishing in these areas puts protected species at risk, especially when fishing boats lack the necessary gear to more effectively target swordfish.

With the help of the Our World campaign, we joined with partners in science and industry to develop fishing gear right here in California that protects at-risk species by targeting swordfish when they migrate away from areas with a higher diversity of life. Now, we're scaling this gear to Chile, a country with a swordfish fleet 30 times larger than that of California and where as many as 770 endangered leatherback sea turtles are injured or killed annually in drift gillnets. Seafood should never come at the cost of our most precious marine species. With innovations like these, it doesn't have to.

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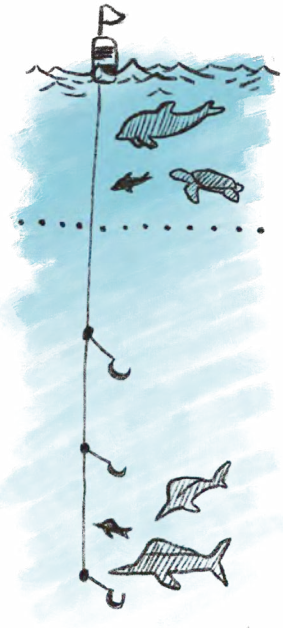


THE NEW GEAR TARGETS DEEP-DIVING SWORDFISH ONLY, KEEPING SPECIES LIKE DOLPHINS OUT OF HARM'S WAY.

Stewarding the Waves: Welcome to El Manglito Fishing Community

On a sunny afternoon in August 2020, divers are searching for scallops in the warm waters of La Paz, Baja California Sur. When the fishermen of El Manglito fishing community land their catch, they photograph a sampling of animals to measure their width. This isn't your average Baja fishing activity; it's TNC's new fisheries tool in action: Poseidon.

Poseidon uses machine learning to transform photos into datasets that help fishing communities make real-time decisions about how to keep their fisheries healthy. We first developed the tool here in California's red abalone fishery because we needed a faster way to collect and standardize data. Now, Poseidon is making a splash in Baja. Nicole Corpuz is the president of Amigos Marinos, a nonprofit that helps small-scale fisheries increase their sustainability. Corpuz is a fisheries scientist and acts as consultant to the community.

"I did my master's thesis here in the community in 2013 and just never left," Corpuz said. "As I got to know the fishermen, I realized that they knew so much more about the sea than I did. They've spent their whole lives learning from it. They know where the species are and what their actions will do to the species. The problem is that sometimes the need for an income can impact what they take.

"They're constantly trying to strike a balance between making a living and keeping the fishery healthy. I started to really understand the battles they're fighting."

The fishermen of El Manglito hold a concession, or exclusive license, to dive for scallops, clams, sea snails and mussels, but they need to know how to set sustainable harvest levels to ensure the future of their fishery. When the community started working with Poseidon, they realized that the size index the government had set wasn't stringent enough.

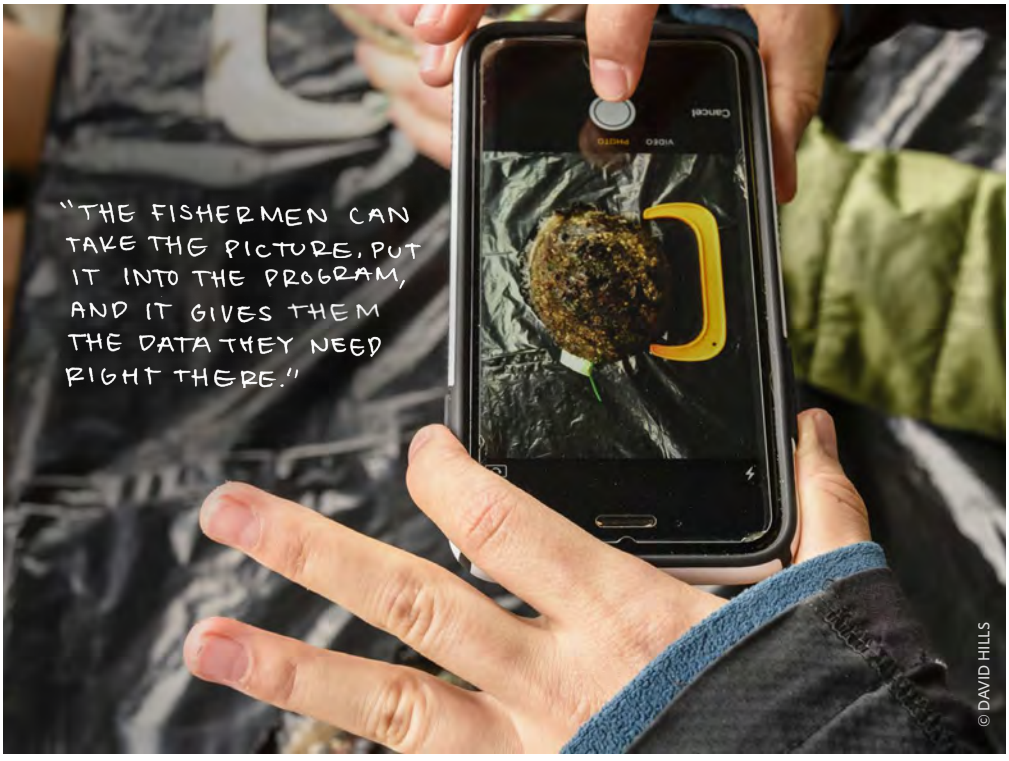
"The limit for mussels was 7 cm, but when we looked at the data, it turned out that the animals were actually reaching maturity at a slightly larger size. When I showed the fishermen, they had me make laminated rulers with the new size limits that they could tape to the side of their boats. Managers from the community would even get mad at fishermen for selecting smaller mussels!"

The mussel fishery was discovered only last year, and it has become particularly important to El Manglito. Though the community's concession includes multiple species, only mussels and scallops are at commercially fishable sizes.

"We did an evaluation where we looked for other species that the community could fish at a commercial level, and we found an extremely large mussel bank. That isn't common in Mexico," Corpuz explained. "In Baja, most fishermen have species they can fall back on, restoring one population while they focus on anther fishery. But this community only has one, maybe two options. That's why the mussel harvest is really exciting. The community realized that if they found the right buyer, they could sustain themselves on that product while they restored the scallop fishery."

The mussel fishery is on its way to becoming an important stopgap for the community, and with Poseidon, integrating this new harvest into their fishing practices has become even easier.

"Poseidon minimized the need to manually write down data and have someone like me analyze it," Corpuz said, describing a process that normally takes weeks. "The fishermen can take the picture, put it into the program, and it gives them the data they need right there."



THE FIGHT AGAINST OCEAN PLASTICS

Looking toward the decade ahead, the health of our oceans will depend not only on what is coming out of the water but also what is going into it. A blue whale's worth of plastic enters our oceans every nine minutes, and if bold action isn't taken in the next five years, an additional 80 million metric tons of plastic will be beneath the waves by 2040.

With the help of the Our World campaign, TNC is leveraging science, policy and innovation to tackle plastic waste at all levels, from the tiniest microfibers to our plastic takeout containers.

WHAT WE'RE KEEPING OUT

MICROFIBERS

We are conducting a flows analysis to estimate of the volume of microfibers that enter the lands and waters off California from washing synthetic clothing.

We are developing corporate partnerships to explore textile design and infrastructure solutions to reduce the generation of microfibers.

SINGLE-USE PLASTICS

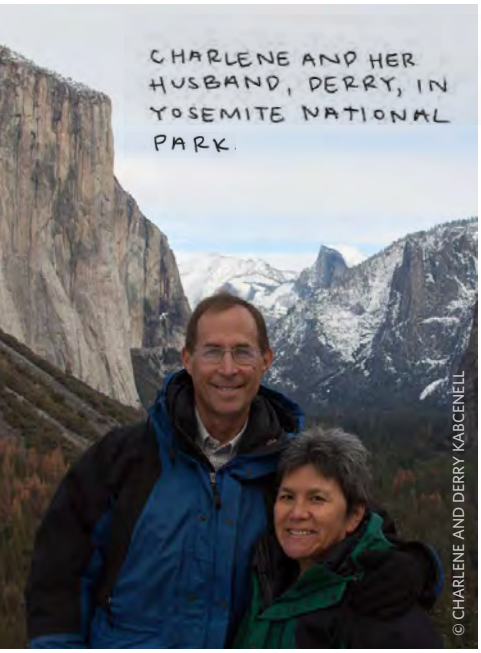
We are supporting bills in the California State Legislature that push for statewide reductions in waste generated from single-use plastic packaging and foodware while improving data reporting requirements for retailers to better track progress toward state waste reduction goals.

WASTE FROM CITIES

We are partnering with IDEO, a leading Silicon Valley design-thinking firm, to unlock new ways to monitor flows of plastic waste from cities into the natural environment, and we are convening with state agencies, NGOs and researchers to better monitor plastic across California.

DONOR SPOTLIGHT

Charlene Kabcenell



Conservation is often a long game. It requires that we invest in the future without the promise of a quick return. Trustee Charlene Kabcenell has made this kind of investment over nearly three decades as a TNC donor, and she's seen impressive results much earlier than expected.

A case in point is the California Groundfish Project, a collaboration between TNC and coastal fishing communities that dates back to the early 2000s. Kabcenell, a retired vice president of software development at Oracle and the current president of the Massachusetts Institute of Technology Alumni Association, followed the project from its inception.

"The groundfish fishery had basically collapsed, and fishers were in a dire state," she said. "TNC and partners came in and helped restore not just the fishery but also the communities that depend on the economic prosperity a robust fishery provides."

Recognizing that fishing communities were critical to achieving healthy oceans, TNC purchased fishing permits and collaborated with fishermen to find new ways to protect habitat and improve fishing practices.

In 2019, during the final stretch of the Our World campaign, we transferred the last of our fishing rights to newly established community fisheries trusts, putting stewardship responsibilities in the hands of local conservation leaders.

Now, less than 15 years after TNC purchased fishing rights, fish populations are rebounding decades ahead of schedule, and extensive habitat protections are in place.

"It was a long and difficult process," said Kabcenell, "but it showed the best of TNC: its science-based and collaborative approach, creativity, innovation and just plain perseverance and hard work."

Kabcenell is inspired by these outcomes not only as a conservationist and businesswoman but also as an outdoors enthusiast.

"I am an avid scuba diver, and I've seen firsthand how much our oceans have deteriorated," she said. "I don't think most people realize this because oceans look fine from the surface. That is why I want to do all I can to advocate for the oceans and keep them from being overlooked."

CAPT. STEVE FITZ AND HIS CREW ARE PART OF TNC'S GROUNDFISH PARTNERSHIP

Resilient Islands for Our Changing World

Islands are remarkable features of our planet. While representing only 5% of the Earth's land area, islands host extraordinary concentrations of unique species. They're also key features of healthy marine ecosystems and support the health and livelihoods of communities around the world.

Unfortunately, islands are also extinction hotspots — a trend driven largely by invasive species and exacerbated by climate change. These biodiversity losses reduce the capacity of islands to recover from threats in a changing world.

Yet islands give us hope. Conservation action has led to remarkable recovery stories on TNC's Santa Cruz Island and Palmyra Atoll Preserves, giving us the opportunity to think bigger and leverage this foundation of success. With this legacy of successful island stewardship and TNC chapters embedded in multiple island nations, we are embarking on an exciting Island Resilience Program to accelerate the pace and scale of conservation on important island geographies in California and around the world.

Building big conservation visions with partners is at the core of our approach. Together, our goal is to guide action at scale, such as planning restoration across the Subantarctic Islands in the Southern Ocean.

As global thought leaders, we are investing in scientific partnerships to track conservation interventions on islands worldwide, including efforts to eliminate the key threat of invasive species. And on the Santa Cruz Island and Palmyra Atoll Preserves, we are testing innovative and scalable solutions, such as "seabird discotheques" to reestablish these charismatic species and their critical roles in island ecosystems.

The No. 1 killer of whales in the world today isn't hunting; it's entanglement in fishing gear. In 2014, our California fisheries team noticed a spike in the number of whales getting caught on the ropes and buoys of crab fishing gear. Warming ocean temperatures had shifted not only whales' migratory patterns but also the timing of Dungeness crab season — a deadly combination for whales.

We moved fast. Together with our partners, our team developed an index of early-warning signs for whale entanglement, ranging from the temperature of the water to the location of fishing boats and whales' food sources. Then we worked with fishermen, state agencies and fisheries managers to track these risks in real time.

Now, once danger is detected, fishermen can act immediately, changing their practices to keep their lines out of the path of whales.

The model was so successful that it caught the attention of state lawmakers, who voted in 2018 to fund scaling the approach across California to all fisheries that pose entanglement risks. The Our World campaign allowed us to prove that by working together with the people on the water, we can protect whales. That proof led to transformative change for our entire state.

HELPING WHALES SWIM FREE

The Nature Conservancy OUR WORLD

Global Ocean Wins

Across the Caribbean, three new Coral Innovation Hubs launched by TNC and partners are accelerating large-scale reef restoration, with the goal of bringing millions of corals to life. In 2019, TNC hosted a virtual field trip to explore these state-of-the-art lab facilities that helped 171,000 students in 60 countries learn about the importance of saving coral reefs.

TNC supported eight Pacific Island nations that came together in 2019 to commit to full transparency in their national tuna fisheries by 2023. The Technology for Tuna Transparency Challenge, led by the Federated States of Micronesia, is a historic initiative. For the first time ever, developing countries have committed to 100% transparency through on-board observers and state-of-the-art electronic monitoring. This California-born program is spreading across the Pacific, equipping thousands of boats with the oversight they need to support sustainable fisheries.

The future of global ocean health depends on coastal nations, but many of these countries are being forced to choose between protecting the ocean and their own economies. TNC launched Blue Bonds, a program that buys up and restructures coastal nations' debt in exchange for commitments to protect large areas of their coasts. We proved out this model in the Seychelles, where we worked with the government to protect a piece of ocean habitat the size of Germany. Now we're scaling the model to 20 countries after winning a TED Audacious award for this work in 2019.

To replenish vital fishing grounds, Belize announced a bold plan to place nearly 12% of its waters under protection — almost tripling its marine reserves. TNC played a key role in this effort, conducting spatial analysis, modeling and consultations with fishers to identify critical areas for protection.

SUNSET VIEW OF MT. SHASTA. TNC HAS SPENT MANY YEARS RESTORING SALMON HABITAT AND PROTECTING FLOWS FOR NATURE IN THE NEARBY SHASTA RIVER.

WATER

Water is essential for all life.

Freshwater ecosystems account for less than 1% of the Earth's surface yet host 10% of all species. Unfortunately, as human water use has increased, nature has been left with too little to survive. TNC is proving that it's possible to meet the needs of both people and nature.

California is a microcosm of the global water challenge. Much of California's remarkable biodiversity is at the mercy of the state's highly engineered water system. But that system is struggling to meet the needs of people and nature. In our children's lifetimes, more than half of California's freshwater plants and animals — and 90% of the species found nowhere else on Earth — could go extinct. But you are helping us change this trajectory.

With funding from the Our World campaign, TNC has been able to conduct scientific research to help answer big questions like: How much water do ecosystems need to survive? How much water is flowing in our streams at any given time, and how much is being diverted for human use? How will climate change affect the water availability for human and natural communities? Science and a commitment to partnership underpin all of our conservation solutions. And we are combining that expertise with technology, policy and market tools that will help transform the way California manages water for sweeping, systemic change. We have brought together farmers, ranchers, universities, community groups and public agencies to test and implement new approaches to get water to nature and provide communities with a clean, reliable water supply — stretching and sharing every drop.
Our water program is focused on three areas:

Healthy rivers: restoring rivers and protecting the biodiversity and communities that rely on them

Thriving birds and wetlands: securing habitat for migratory birds on the Pacific Flyway

Sustainable water supply: balancing water demands and refilling underground reservoirs

Your support is helping create a future that we can all be proud of — one where our children will have safe drinking water; where our rivers, meadows and wetlands will support thriving plants and wildlife; and where our farms will produce an abundance of fruits and vegetables. Together, we are demonstrating what an innovative and sustainable water system looks like — not only in California but around the world.

SANDI MATSUMOTO
WATER PROGRAM DIRECTOR

HEALTHY RIVERS

Rivers are one of the defining features of our terrestrial landscape. They feed life on Earth, carve out canyons, meander through valleys and meadows and cascade down sheer cliffs as misty waterfalls. The foundational health and well-being of our communities hinges on rivers. Over time, we've harnessed our rivers to meet human demands with little regard for the natural systems that they also nurture. California developed a complicated system of pipes, canals and dams to move water hundreds of miles across the state for agricultural irrigation and municipal drinking water, governed by water regulations that are equally complex.

An important focus of TNC's California water strategy is ensuring that rivers and streams flow with enough water to take care of both nature and people. To achieve this goal, we're advancing the science to quantify nature's water needs, collaborative water management strategies that unlock the transformative power of partnerships and policy initiatives to ensure that water laws and permitting support — rather than impede — conservation efforts.

IN THE UPPER EEL RIVER, TNC IS WORKING WITH WATER DISTRICTS, CONSERVATION GROUPS, COUNTY GOVERNMENTS AND TRIBES TO REMOVE AN OBSOLETE HYDROPOWER DAM, OPEN UP MORE THAN 300 MILES OF VITALLY IMPORTANT SALMON AND STEELHEAD HABITAT AND MAKE IMPROVEMENTS THAT WILL INCREASE WATER SUPPLY RELIABILITY FOR FARMS AND COMMUNITIES.

Protecting California's Salmon and Steelhead

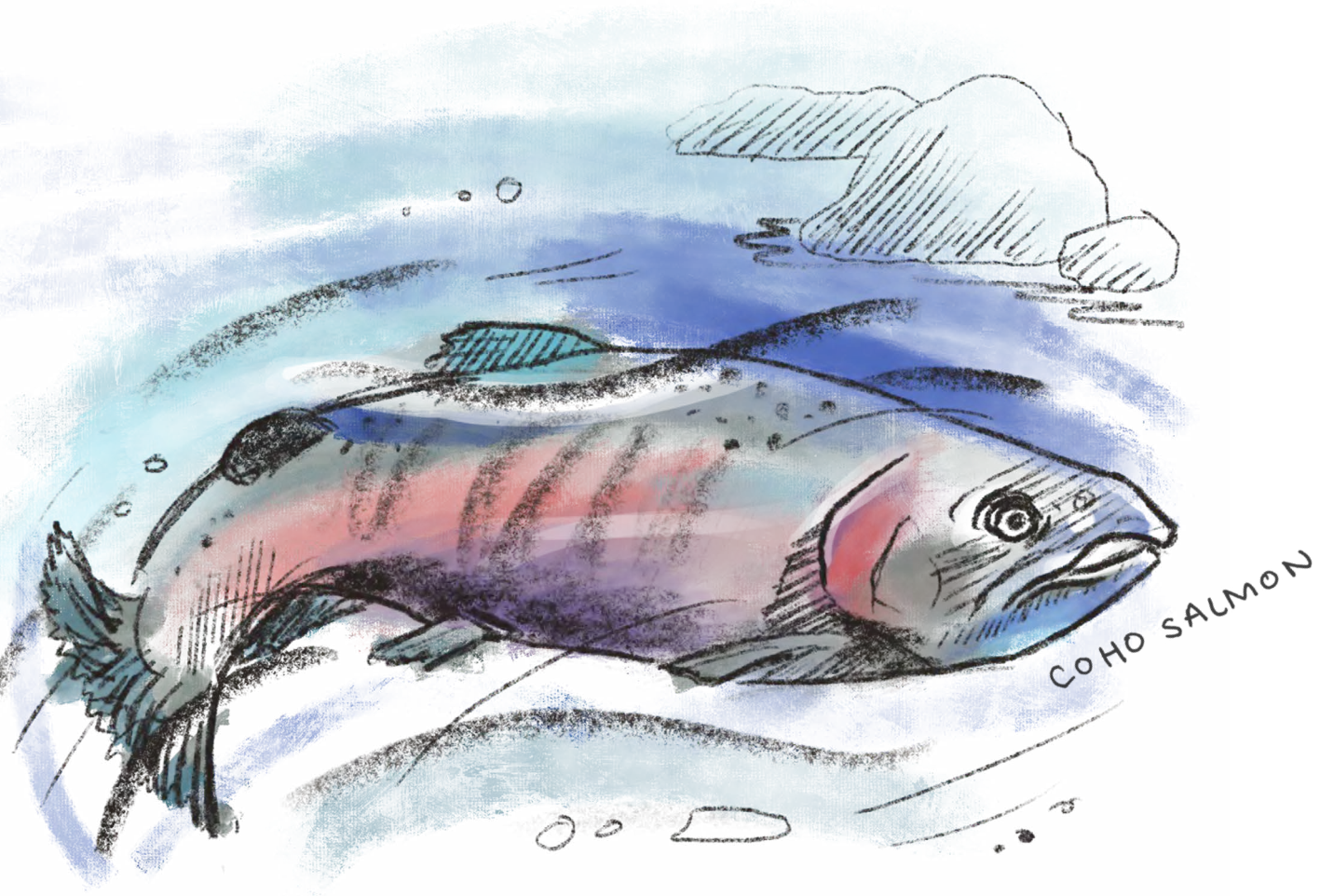
California's rivers were once home to many of the largest salmon migrations on the Pacific Coast. Hundreds of thousands of salmon flooded coastal rivers and the Central Valley. Now, nearly half of all salmon and trout are considered endangered and threatened with extinction.

Salmon are critical to the overall health of the ecosystems that they are a part of — from Alaska to Southern California. Working with many partners, including CalTrout and Trout Unlimited, TNC has restored salmon habitat in critical streams and found ways to ensure that rivers flow with enough water at critical times of year to support salmon spawning and summer rearing habitats.

Take the Navarro River in Anderson Valley. Historically, tens of thousands of salmon and steelhead would return from the ocean each year and fight their way upstream to the Navarro headwaters to spawn. Today, only a few hundred fish return each year.

In the Navarro River, salmon habitat is degraded and water flows are too low, particularly during the summer. Local farms and vineyards need water during the dry summer months to irrigate their crops — exactly the same time that coho salmon and steelhead also need life-giving water. We are working with local landowners, including winemakers like Roederer Vineyards and Husch Vineyards, to monitor water levels in the Navarro watershed and establish sustainable water-use practices that don't leave fish behind. We set up 16 stream gauges in the watershed to get a clear picture of flow patterns and determine how much water is needed instream for nature. We developed a framework to help managers set targets for sustainable water levels so that there's always enough for fish and other wildlife. We also partnered with water users in the community to find nature-friendly ways to meet their water needs, like drawing and storing water from the streams in wet months so that they can leave water instream for fish in dry months.

With an eye for impact beyond the Navarro, our team is developing tools and advancing policy changes that will enable water users across the state to implement creative solutions to dedicating water for nature — just like those we're implementing in Anderson Valley.



COHO SALMON: A MESSY HOME IS A HAPPY HOME!

Did you know that salmon love a messy home? At least their homes look like messy piles of branches and logs to a human. Young salmon need "woody debris" like downed trees and branches, which create protected pools of cool water where they can rest and feed.

At Ten Mile River, one of California's last coastal watersheds that sustains coho salmon, TNC has engineered log jams and planted willows to make salmon feel at home. With support from our generous donors and the California Department of Fish and Wildlife, we completed eight of the 20 planned habitat enhancements on the South Fork Ten Mile River. Next summer, we'll start on five more of the 15 projects planned on the main stem of the river. Because the main stem is twice as big as the South Fork, these structures will be a significant step up in our game.

NATURAL WOODY DEBRIS: A FALLEN REDWOOD TREE OVER A STREAM IN MONTGOMERY WOODS

AN ENGINEERED LOG JAM THAT TNC CREATED FOR SALMON HABITAT ON TEN MILE RIVER.

FILLING THE DATA GAP ON WATER FLOWS

AS A SCIENCE ORGANIZATION, WE RELY ON DATA TO MAKE DECISIONS.

And when it comes to delivering flows for nature, there are two crucial questions: How much water does nature need? And how much water is available instream?

To answer the first question, TNC partnered with the U.S. Geological Survey in 2015 to conduct a study to estimate what natural flows would look like for every stream in California —if they were not impeded by dams and diversions. With this data set, our scientists worked with academic, nonprofit and agency partners to design a methodology to quantify how much water nature needs to survive — in every month of the year in every stream in the state. A big breakthrough!

For the second question, we have partnered with tech companies to use artificial intelligence to estimate current stream flows at any given time. We're already in the early stages of using this cutting-edge technology. By answering these two important questions, we have a better understanding of where TNC and other organizations need to intervene to provide enough water for California's spectacular biodiversity.

AERIAL VIEW OF THE EEL RIVER IN HUMBOLT COUNTY

Water Policy Spotlight

Policy is an essential strategy to fund large-scale conservation work, as well as to institutionalize protecting nature so that it becomes part of business as usual for industries and communities. TNC helped shape critical state policy, including the following.

PROPOSITION 1 (2014)

TNC helped shape and pass Prop 1, which put $7.5 billion toward upgrading our water system. Twenty percent of funding went to restoration and conservation in rivers and wetlands where natural habitat was severely degraded, including such TNC projects as wet meadow restoration in the Sierra and stream flow work on the North Coast.

SUSTAINABLE GROUNDWATER MANAGEMENT ACT (2014)

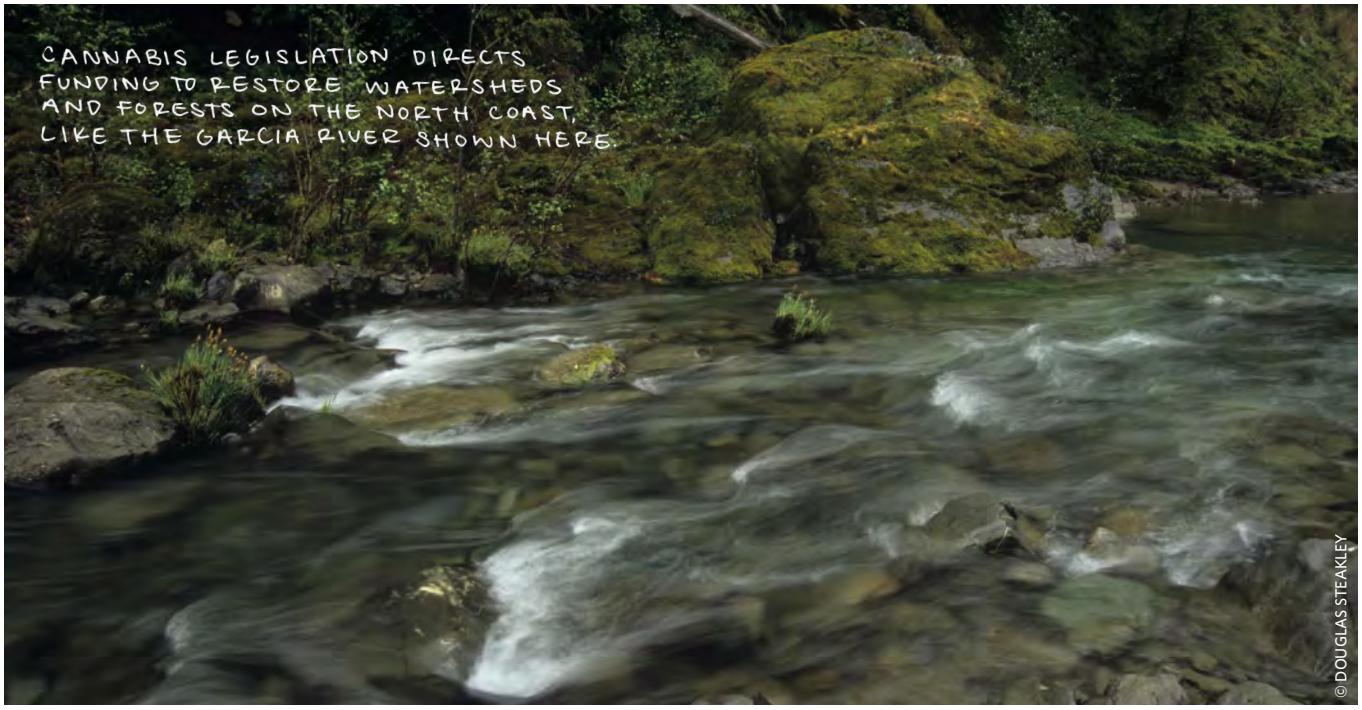
Working with a coalition, TNC gave nature a voice in the most significant change in state water law in a century: the Sustainable Groundwater Management Act. SGMA finally limits the amount of groundwater pumping in key watersheds so that surface water and groundwater are brought into balance. It is one of only four pieces of legislation in the world that require nature's groundwater needs to be considered alongside people's needs.

CANNABIS (2016)

TNC published a study on the impact of marijuana farms on the North Coast. We negotiated for environmental protection to be included in the measure that legalized marijuana, which should generate more than $200 million in annual funding for river and forest restoration. Our state was the first to address environmental impacts with legalization, setting a conservation standard for the West's most profitable crop.

PROPOSITION 68 (2018)

TNC pushed to include nature in this $4 billion bond, from forest watershed management to urban stormwater strategies. Funding goes toward dynamic water management programs like BirdReturns; flow agreements to protect fish and wildlife; and clean drinking water projects for underserved communities in Los Angeles, San Francisco and the Central Valley.



Additionally, TNC has fought for policy and funding actions that protect water supplies for underserved communities in the Central Valley and other areas of California. Through our actions, we are working to ensure that California embarks on science-based water management with greater transparency and stakeholder engagement to protect nature, save our watersheds and ensure balanced water management.

100+ farmers have participated in BirdReturns

61,000 acres of "pop up" habitat were created

9 auctions were run

1 MILLION birds have used our flooded fields

2-3.5 times greater average shorebird density on BirdReturns fields compared with non-participating neighboring fields

THRIVING BIRDS AND WETLANDS

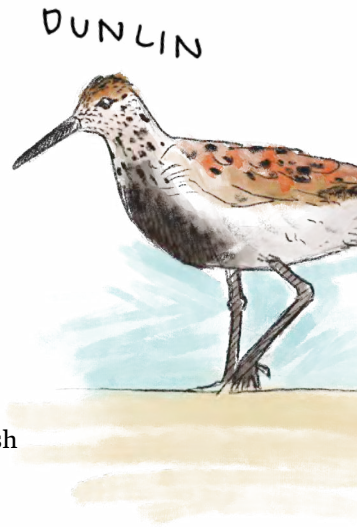
BirdReturns: Soaring to New Heights

California's Central Valley used to be a rich wetland terrain — prime habitat for tens of millions of birds on their yearly migration from the Arctic to South America. Now, 95% of those critical wetlands have been lost to farmland, urban sprawl and water management. Water bird populations along the Pacific Flyway have shrunk from 40 million to fewer than 10 million. Traditional conservation would point to buying land, but the cost of land in the Central Valley, some of the most productive in the world, is expensive and hard to come by. Because most of these birds need habitat only temporarily, we had a revolutionary idea: What if we rent?

Since 2014, the BirdReturns program has more than 61,000 acres of "pop-up" wetlands for more than 1 million birds. Working with partners at the Cornell Lab of Ornithology and Point Blue Conservation Science, our scientists combined data collected by birders through Cornell's eBird app with satellite imagery of water availability to develop a model that predicts when and where migratory birds need wetlands. Then, using a novel reverse auction, we pay farmers to flood their fields and create temporary habitat just as birds need to stop and rest.

During the Our World campaign, we proved that BirdReturns may be the most cost-effective way to deliver habitat to migratory birds and is adaptable for climate change. Each year, there are changes in water availability, migratory patterns and economic conditions — and we have been able to adapt our habitat delivery accordingly. TNC created emergency habitat in 2015 when drought struck; and after a wet El Niño season in 2017, we scaled back our investment as habitat was available naturally. In the face of climate change, dynamic conservation programs like BirdReturns will be essential to meeting nature's water needs.

As we enter this "determining decade," we are advancing a new model for BirdReturns based on a network of regional partners who can run their own habitat marketplace tailored to their specific needs and situations. We're testing the BirdReturns network in 2020 with the California Rice Commission, which is running its own auction with help from TNC and our partners at Audubon California and Point Blue Conservation Science. We are also capitalizing on the need for California to rebalance its groundwater use by demonstrating how this kind of migratory bird habitat can help replenish our underground reservoirs.



SUSTAINABLE WATER SUPPLY

Groundwater is essential to California's water supply. In a wet year, underground aquifers provide 40% of the water people use; in dry years, that number jumps to 60%. Until recently, groundwater was relatively unstudied and almost entirely unregulated in California. Many aquifers have been drained faster than rain can replenish them, causing shortages of drinking water supply, water quality concerns in underserved rural communities, dying crops, habitat loss and species extinctions.

TNC has been working to recharge groundwater supply and revitalize the ecosystems that depend on these underground flows. We gave nature a voice in the most significant change in state water law in a century — the Sustainable Groundwater Management Act (SGMA) —which finally limits groundwater pumping in the most depleted basins across the state. TNC provided scientific analysis that linked groundwater to surface flows and negotiated key conservation measures into the law, ensuring that it reflects the role of groundwater in sustaining not just human life but all life.

GROUNDWATER-DEPENDENT ECOSYSTEMS ARE PLANT AND ANIMAL COMMUNITIES THAT RELY AT LEAST PARTIALLY ON GROUNDWATER FLOWS. CALIFORNIA IS HOME TO A DIVERSE RANGE, INCLUDING PALM OASES IN THE SONORAN DESERT, WETLANDS IN THE CENTRAL VALLEY AND PERENNIAL RIPARIAN FORESTS ALONG THE SACRAMENTO AND SAN JOAQUIN RIVERS.

We have also helped implement the policy. In 2018, we launched the web-based Groundwater Resource Hub, which provides tools for water users and managers that help them develop robust sustainability plans and understand the importance and needs of groundwater-dependent ecosystems. In Ventura County, we worked with local officials to develop one of the first plans, providing the guidance to get enough water to wildlife while still supporting the county's $2 billion agricultural industry.

Next up, the team has set their sights on expanding protection to the groundwater basins that are not already covered by SGMA, including more remote, wild places in need of preservation. With your support, we are ensuring that groundwater-dependent plants and wildlife can thrive while also making sure that communities have a reliable and drought-resilient water supply.

A WHEAT FIELD IN THE SAN JOAQUIN VALLEY NEAR BAKERSFIELD, CA. FARMS LIKE THESE OFTEN RELY ON GROUNDWATER FOR IRRIGATION.

A new vision for water in the San Joaquin Valley

In conversation with third-generation dairy farmer Frank Fernandes (left) and Six-33 Solutions Principal Partner Dan Vink (right)

In California's San Joaquin Valley, water is a precious commodity. The San Joaquin is known for its productive farmland and rich biodiversity — the largest concentration of threatened and endangered species in the continental United States. But a combination of drought and increased demand has depleted the aquifers on which people and nature rely. TNC is working with farmers and water managers to develop a more sustainable water-use plan for this important watershed — one that doesn't leave farmers or wildlife behind. In 2011, Dan Vink was serving as the general manager of the Pixley and Lower Tule irrigation districts. It was a wet year, but the groundwater basin didn't rebound the way it normally did. Vink assembled a diverse group of farmers to work on the issue.

"We knew something needed to change, so we put together a groundwater task force of 15 landowners," said Vink.

The group voluntarily put meters on several groundwater wells throughout the districts to monitor water use.

"The ranch I'm on now was my grandfather's," said dairy farmer Frank Fernandes. "There were artesian wells on the property that used to bring up water naturally with no need for irrigation."

Now, he has to go down 228 feet to hit standing water. Vink and Fernandes wouldn't begin working with TNC for another five years, but they were already doing the

kind of monitoring that environmental groups advocate for. Once our organizations began to collaborate, we were able to double down on their efforts.

"It started with a 'blind date' with Mark Kramer [TNC director of federal external affairs]," Vink said. "I was in DC with our lobbyist, and Mark and I ended up meeting together with her for a drink. A new groundwater law had just gone into effect, and he asked me how it would impact us. I said it would be disastrous if we couldn't manage it correctly."

Groundwater shortages have been threatening farms and natural habitat across the Central Valley for years. To prevent further groundwater depletion, the state passed SGMA in 2014. TNC supported SGMA because it was an essential step toward protecting California's water future, but the law's implementation will require some difficult changes for farms in the Central Valley. In the Pixley area, complying with the law could limit a farmer's pumping by up to 30% over the next two decades, so the district is looking at retiring up to one-third of its agricultural land, about 20,000 acres.

That acreage could be extremely beneficial to the region's imperiled wildlife. A recent assessment shows that threatened and endangered species need only an additional 50,000 acres of habitat in the right places across the San Joaquin Valley to rebound. The problem is, there's no guarantee that the retired farmland would become habitat. Vink and Kramer continued to talk for more than a year, brainstorming alternative land uses.

"We started thinking of other ways to 'farm' the land, not for crop revenue but for groundwater recharge or species habitat or solar."

Based on those conversations, TNC and the Pixley and Lower Tule sub-basins teamed up to develop a watershed conservation plan.

"Rather than have a haphazard mosaic of land going out of production, we want to do it strategically and target land based on habitat maps," Vink explained.

TNC provided the science and maps and worked with partners to set up financial incentives for farmers to restore and maintain their land as wildlife habitat or recharge groundwater on their property.

The partnership also led to the Tule Basin Land & Water Conservation Trust of which Frank Fernandes is president.

"The land trust was formed to be a vehicle for presenting better opportunities to the landowners," Fernandes said of the group that functions much in the same way as an environmental land trust. "I want to hand my farm off to my son and daughters someday. But I hear a lot of parents telling their kids, 'Go to college and learn something else; there's no future here.' I disagree."

SALLY LIU IN YOSEMITE NATIONAL PARK

DONOR SPOTLIGHT

Sally Liu

"I've always been involved in the environmental world," said Sally Liu, a scientist with TNC's California Water Program. Liu came to conservation after 18 years at Tetra Tech, an environmental consulting and engineering firm. "The mission of protecting biodiversity, open space and habitat is something that strikes you at your core: your heart."

Liu is a longtime donor and co-chair of TNC's California Leadership Council, as well as a key member of the California groundwater strategy.

"TNC was the force in gaining protection for nature in California's first law regulating groundwater. It was super exciting to be part of the groundwater team from the beginning, shaping the strategy to ensure that the law's implementation will actually protect our river and wetland ecosystems that rely on groundwater."

Liu leveraged her experience with groundwater modeling from her days as a consultant and represented TNC on the Technical Advisory Group for one of the first groundwater sustainability plans developed under the new law.

"This work encapsulates why TNC is a best-in-class environmental organization. Our strategy relies on science, like the first-ever mapping of groundwater-dependent ecosystems; partnerships with public agencies and conservation and environmental justice groups; and innovative solutions that we're testing on the ground, like the new groundwater market."

FIND OUT HOW THE WATER MARKET WORKS ON PAGE 71!

As a donor, Liu has funded projects ranging from forest conservation in Indonesia to water funds in Latin America.

"I love the global reach of TNC," she said. "As a volunteer, I'm excited to be able to work on specific projects; but as a donor, I love the breadth of what we do."

Fortunately, Liu is ready to keep fighting for a better future.

"This year has felt so cataclysmic, as we endure the smoke and fires in California, read about the fires in the Arctic and Amazon and watch the series of hurricanes hit the Gulf Coast. We need hope. We need optimism. Over the past decade, I've worked with so many TNC California staff, and their smarts and heartfelt commitment give me the strength to keep up the fight for nature in California and beyond."

The Nature Conservancy OUR WORLD

Global water wins

A team of partners led by TNC succeeded in removing the Columbia Lake Dam, which has degraded water quality and blocked fish passage in the Paulins Kill, the third-largest New Jersey tributary to the Delaware River. The dam's effects were so negative that it was ranked in the top 5% of nearly 14,000 dams in the Northeast prioritized for removal. The completed $7 million dam removal and subsequent river restoration will allow American shad to swim freely to their spawning grounds for the first time in 109 years.

The Upper Tana-Nairobi Water Fund helps secure water for Nairobi, which gets 95% of its water from the Tana River. TNC and its water fund partners are working with more than 20,000 farming households — one in four of which is headed by a woman — to reduce water use and erosion. As part of this effort, more than 8,000 farmers received Rainforest Alliance certification for their coffee crops and therefore earned higher prices per pound. To qualify for this internationally recognized designation, farmers must meet rigorous environmental standards.

In Chennai, India, TNC is aiding in the restoration of urban wetlands to help buffer the impact of droughts and floods while also improving wildlife habitat. At the Sembakkam Lake pilot project, TNC is removing silt and invasive plants and building wetlands that will reduce the amount of organic pollution entering the lake by up to 70%.

The water extracted annually from Mexico City aquifers is more than double their recharge, while 2 million residents have only occasional access to tap water to meet their basic needs. Mexico City's water fund, Agua Capital, will improve water management and catalyze conservation in targeted watersheds and forests. The water fund's seven members, including TNC, are providing seed capital and an 800-hectare restoration pilot.

CITIES

LAURA CRANE AT THE SUNPOWER SOLAR STAR FACILITY NEAR ROSAMOND, CALIFORNIA

TNC focuses on the deep connections between California's communities and nature.

Nature makes us happier and healthier. It cleans our water and our air, it protects our communities from natural disasters and it inspires awe.

With your support, the California Cities Program demonstrated that the addition of nature into urban environments can elevate quality of life and protect habitats and wildlife. Now we're finding innovative ways to incorporate nature into cities and communities, new and old. We do this by advancing two overarching strategies:

We design integrative approaches to *new* development that protect ecologically important lands and waters.

We transform *existing* urban areas and infrastructure by restoring and reintroducing nature.

Our science shows that when cities and communities protect and enhance nature, the built environment can become more livable, sustainable and equitable. The Our World campaign enabled us to create mapping tools that officials in California now use to protect habitat and keep people out of harm's way. At the same time, we use natural solutions to make the places people live and work more resilient to climate-exacerbated disasters and to provide more equitable access to nature. Our work is also facilitating California's ambitious transition to a zero-carbon economy while ensuring that clean infrastructure doesn't put nature at risk.

I hope you enjoy reading about some of the successes you've made possible — work that has inspired conservation far beyond California's borders. Over the next 10 years, the cities team will build on this effort, recognizing that our cities and communities are not apart from nature but rather part of it.

Laura Crane

LAURA CRANE
CITIES PROGRAM DIRECTOR

PROTECTING CALIFORNIA'S PRESENT AND FUTURE COASTLINE

If current carbon emissions rates continue, California is expected to see 5 feet of sea level rise as soon as 2075. That would put 59% of California's coastal habitat area at risk and submerge 41,000 acres of natural coastline that is already protected. But there is a path forward that brings a key player into the fight against sea level rise: nature. Dunes and wetlands naturally act as buffers against storm surges and sea level rise, so we're working with communities to help them plan for a resilient future while we protect and restore the coastline of tomorrow.

In 2018, we collaborated with the California Coastal Conservancy to create a statewide strategy map for protecting California's coast. Now we're putting that plan in action at Ormond Beach and Point Mugu in Oxnard and Long Beach.

LONG BEACH

The effects of sea level rise will have serious impacts on people as well as on nature. If we do nothing, flooding and erosion may displace entire communities by the end of the century. The fate of both communities and coastlines will be determined by the way people decide to plan for sea level rise.

In Southern California, Long Beach is already facing flooding, and according to long-term projections some areas will be permanently under water. In early 2020, TNC began working with the Aquarium of the Pacific in Long Beach to start a community dialogue on pathways to a more resilient future. This includes discussing the difficult topic of when it may become necessary to move out of harm's way before a disaster forces a change. Our goal is to protect California's coastline by partnering with communities to manifest the future they want, rather than react to flooding and erosion.

To achieve that goal, we need to learn how best to have critical conversations and understand what helps communities engage. To that end, we've partnered with Virtual Planet Technologies to develop the Long Beach Sea Level Rise Explorer, a virtual reality experience that allows users to visualize sea level rise impacts and potential solutions for Long Beach. Multiple state agencies are learning from this ongoing engagement and will be putting our insights to work, helping California's communities become more resilient.

SEA LEVEL PROJECTION MAP IN LONG BEACH COURTESY OF VIRTUAL PLANET TECHNOLOGIES

ORMOND BEACH

In 2019, we acquired a 20-acre parcel from the Metropolitan Water District of Southern California to fill a critical gap in a 10-mile stretch of protected natural coastline. This acquisition is protecting the wetlands of the future and giving space for Ormond Beach's coastal habitats to migrate inland as sea levels rise. With our partners, we're working on an ambitious plan to restore and enhance access to Ormond Beach while ensuring its resilience in the face of climate change. Today, Ormond Beach's 650 acres are a refuge for 30 rare or endangered species and a sanctuary for more than 200 species of birds. Tomorrow, it is projected to be one of Ventura County's best defenses against the effects of sea level rise.

Ormond Beach's location is also important because it ties into a broader plan for coastal and community protection with our neighbors to the south at Point Mugu Naval Base. Mugu Lagoon at Naval Base Ventura County is the largest and most intact coastal wetlands in Southern California. We're working with the U.S. Navy to evaluate the impact that sea level rise might have on Point Mugu and the base and how nature can provide solutions. What succeeds here could have a much larger impact for the Navy as the single largest owner of coastline in the United States. With 5 feet of sea level rise, the Navy will need to develop creative solutions to protect our shores.

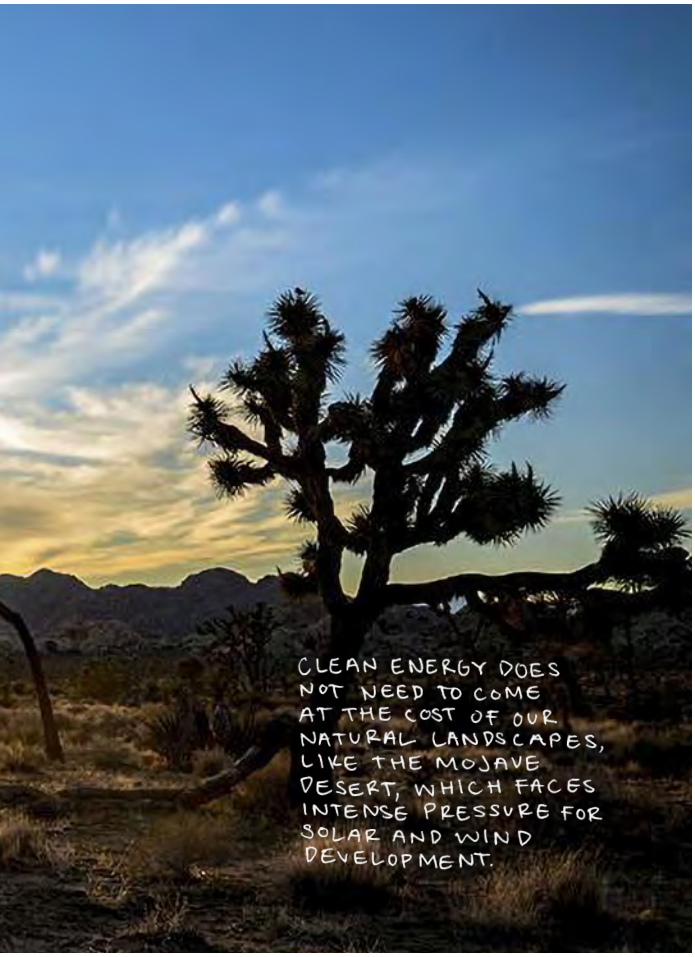
A New Path for California Energy: The Power of Place

CALIFORNIA IS PREPARING TO DEVELOP MORE RENEWABLE ENERGY THAN EVER BEFORE, BUT THE LOCATION OF THAT INFRASTRUCTURE IS JUST AS IMPORTANT AS THE CARBON IT SAVES.

California is leading the clean energy revolution. In 2018, former governor Jerry Brown signed SB100, mandating that our state reach 100% clean energy by mid-century. Now, California is preparing to develop more renewable energy than ever before, but the location of that infrastructure is just as important as the carbon it saves.

Clean energy does not need to come at the cost of our state's natural landscapes, so TNC designed a road map for renewable development that protects sensitive habitat. In fact, we designed 61 road maps.

In the summer of 2019, our energy team released The Power of Place, a land conservation and clean energy study that evaluates 61 different energy futures for California that all result in 100% clean energy by 2050.



Whereas our previous energy studies mapped California to find locations for clean energy away from important habitat, The Power of Place maps the entire American West. By analyzing these futures, we determined that it's possible for our state to meet its clean energy goals while protecting important natural and agricultural lands.

We developed the energy futures that come to life in this study with two goals in mind:

1. Make sure that wildlife in California and across the West have access to the lands they need.

2. Reduce legal conflicts that slow renewable energy development by directing future energy investments to areas with less impact on habitat.

After we released the study, TNC immediately did what we do best: turned science into action. California's deputy secretary for climate and energy asked our team to present the findings at a briefing for multiple state agencies. These groups are currently collaborating on the implementation plan for SB100, and TNC ensured that our study was part of it.

Additionally, since California announced the plan to reach 100% clean energy, other states have passed similar laws. Now our energy team is expanding The Power of Place, which will help states collaborate on cleaner and greener energy across the West.

With SB100, our leaders promised the people of California a clean energy future. At TNC, we're making sure that future doesn't mean breaking the promises we've made to the wildlife that share this land.

A BRIDGE OVER TROUBLED TRAFFIC

Mountain lions are the widest-ranging land mammals in California. These majestic cats need the freedom to roam for food and mates, so freeways pose a serious threat to their survival.

Development from Temecula on one side and North County San Diego on the other has funneled wildlife to a pinch point in Southern California, now severed by the Interstate 15, which cuts between the Santa Ana and Palomar mountains. Mountain lions and other wildlife are being killed trying to cross the freeway, and those that don't attempt the dangerous scramble are stuck on one side.

In 2018, TNC acquired a 73-acre property adjacent to I-15 and directly across from the Santa Margarita Ecological Reserve. Our goal is to design wildlife crossings that go both over and under the freeway, linking two protected areas and establishing a path that these animals desperately need.

Meet the species that will be able to cross this eight-lane road thanks to your support.

MOUNTAIN LION

A single mountain lion's territory can range up to 150 square miles. But despite the enormous size, lions learn their territory in extreme detail, demarcating the area with scrapes — piles of leaves that they gather up and mark with their scent. Researchers have determined that in order for the lions of the Santa Ana Mountains to stay healthy, a new lion must enter the area every two to three years and mate with the locals. Genetic data indicate that it's been 10 years since a new male found his way into the Santa Ana Mountains.

RINGTAIL

The ringtail (or miner's cat) is not actually a cat but a highly reclusive member of the raccoon family. To avoid predators, ringtails change the location of their den every two to three days, finding shelter in rock crevices and beneath shrubs. For an animal constantly changing its home base, safe passage across the highway would open up a new world of possibilities. © MARTY CORDANO

COMSTOCK'S FRITILLARY BUTTERFLY

Comstock's fritillary butterflies live on native California violets and can be found from the Los Angeles Basin to the San Francisco Bay Area, as well as in the Channel Islands. Though these butterflies can fly, the strong winds caused by speeding cars make it difficult for them to cross I-15.
© DAVID LIITTSCHWAGER

Where Conservation Meets Public Health in the Heart of L.A.

Stormwater is a serious issue in Los Angeles. With so much of the city paved — including its channelized river — rainwater doesn't have a chance to seep into the ground and recharge the city's aquifers. Instead, it travels through storm drains and over pavement, picking up toxins and pollutants on its way to the ocean. TNC is working with the Prevention Institute, a public health organization with a 20-year track record, to change that.

In Glassell Park, northeast of Downtown L.A., we're modeling a better way to manage stormwater. The work is taking place on an 18-acre property, where a storm drain will become a meandering arroyo and vacant land will become much-needed habitat and publicly accessible open space. In a highly urbanized environment, people need nature, and nature needs people to protect and restore it. Elva Yañez (left), director of health equity at the Prevention Institute, and Jill Sourial (right), TNC's urban conservation director, discuss the Bowtie Project.

© MIKE DENNIS

HOW DID THE BOWTIE PROJECT BEGIN?

Elva Yañez: Long before the design phase that we're in now. Community engagement was the first step toward co-creating this vision. Our primary objective was to better understand residents' values — values that should inform green infrastructure projects here and elsewhere in the region before investments are made. There's a lot of mistrust of big projects in marginalized, low-income communities. Agencies and organizations parachute in and out, and the project ends up nothing like the community thought it would; or, worse, it creates green gentrification and displacement.

Jill Sourial: From a conservation standpoint, we wanted to improve water quality and native habitat to help the Los Angeles River, where the arroyo drains. But the community engagement piece is just as important. Before the project began, the question we asked the community wasn't "What do you think of these project designs?" It was "What do you want your community to look like?" That process needs to start early and establish an ongoing dialogue.

WHAT ARE YOUR GOALS FOR BOWTIE?

EY: Our goal for Bowtie is to improve community health and quality of life in Glassell Park. We approach all of our green infrastructure efforts from a health equity and racial justice perspective. That means making investments in parks and green spaces in historically disinvested communities of color. Glassell Park has an overconcentration of polluting industries, and it's surrounded by freeways and rail operations. For us, success means involving residents — whose lives have also been negatively impacted by the lack of environmental amenities—in identifying and advancing solutions.

JS: This is a demonstration project, not only for habitat creation but also for how to effectively partner with communities. Both the community engagement and the work on the ground need to succeed for the project to succeed. We want to create a new normal around community engagement so future L.A.-based projects can use the same co-creation model and sustain authentic community involvement.

WHAT WILL THOSE FUTURE PROJECTS LOOK LIKE?

EY: Bowtie is one important piece of a much larger vision for 100 acres of land owned by a number of different agencies. The first phase, Paseo del Rio, is a greenway that will run through those properties along the river and end at Bowtie. Our goal is to influence this work and broader L.A. River revitalization efforts, not just in the design but the community engagement approach, with a strong emphasis on health equity and racial justice outcomes.

DONOR SPOTLIGHT

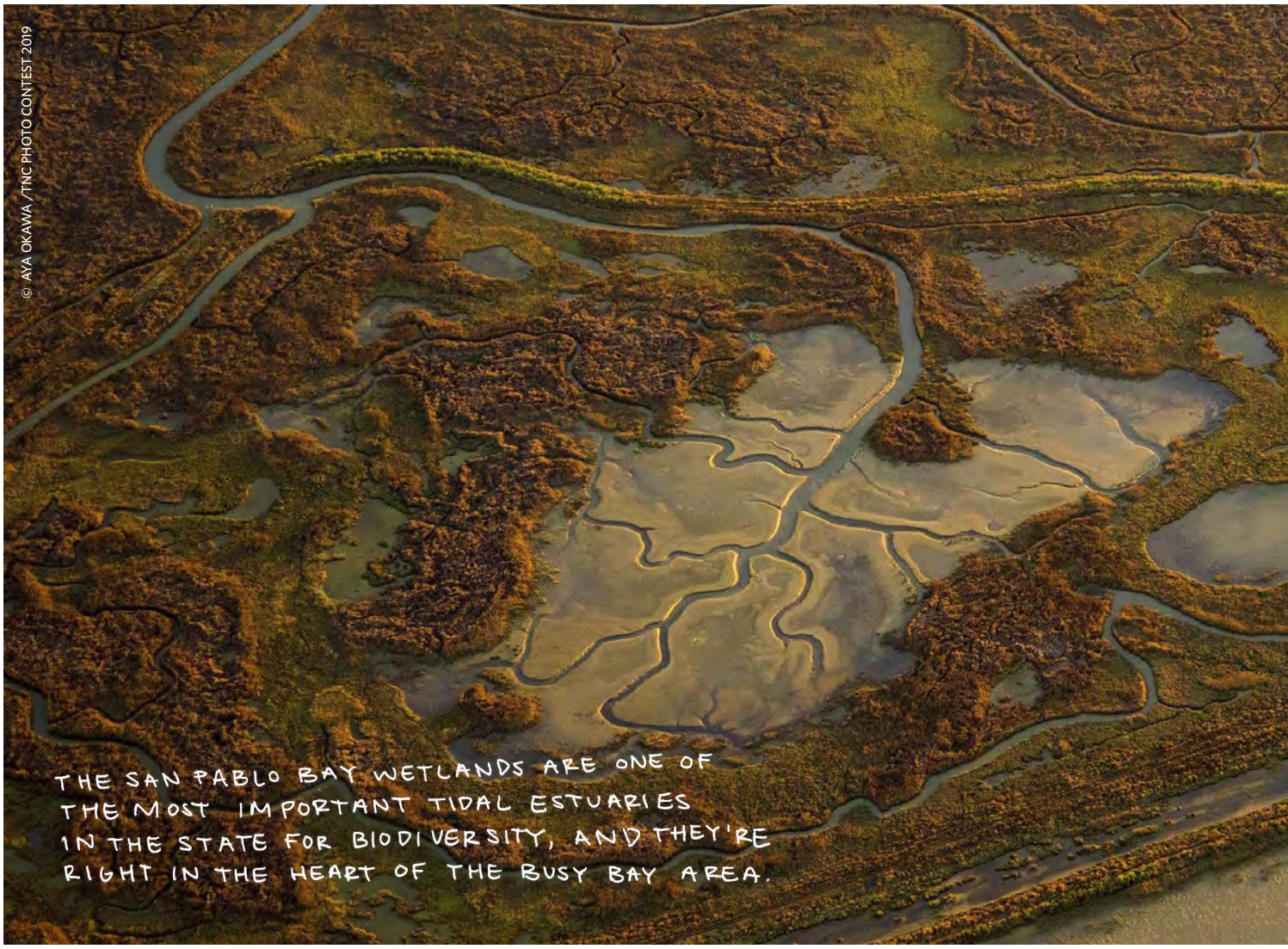
S.D. Bechtel Jr. Foundation

"We want to make conservation part of everybody's business," said Gary Knoblock, senior program officer for the S.D. Bechtel Jr. Foundation. "That's something that we share with TNC. We're both looking for inventive approaches to catalyze large-scale, statewide conservation."

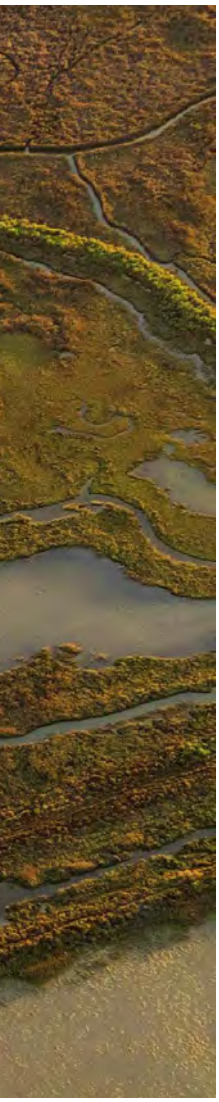
This strategy threads through the many projects that the two organizations have partnered on — from engaging farmers to create bird habitat in the Central Valley to designing tools that allow urban planners to protect nature surrounding growing cities.

The foundation is named after Stephen D. Bechtel, Jr., who ran a successful global engineering construction company. He began the philanthropic foundation in 1957 and his love of the outdoors inspired an environmental focus right from the beginning. TNC was even one of the first grantees! Since then, the Bechtel Foundation has been an essential supporter and thought-partner in many of TNC's most innovative projects in California, like the BirdReturns Program and the Bay Area greenprint.

READ HOW THE GREENPRINT HAS EXPANDED BEYOND THE BAY AREA ON PAGE 66!



A NEWT FOUND IN THE MARIN HEADLANDS, AN ESSENTIAL OPEN SPACE IN THE BAY AREA THAT TNC HELPED PROTECT IN 1972.



"One of the things that TNC has done really well is think about the end user and solve the problems they've identified. That's the way to make conservation part of people's work," said Knoblock.

During the Our World campaign, TNC and the Bechtel Foundation embarked on an effort to spur public agencies and the private sector to integrate conservation into infrastructure and land-use planning and development.

One critical piece of the puzzle was gathering data on where and how nature needs to be protected, as well as quantifying the benefits that protection offers the local community. And we needed to design an easy way for that information to be accessible and actionable for decision makers.

That's how we arrived at the Bay Area greenprint. Launched in 2017, the greenprint was the first time this data had been collected in one user-friendly tool. It is a web platform that acts like an interactive map, showing geospatial data on important natural resources—from the location of wetlands to wildlife migration routes to areas for flood risk reduction. It is organized around nature's values and benefits and translates that information into metrics that are meaningful to communities.

The greenprint provides the analytical framework that helps users who don't know conservation understand why it's important to protect or enhance natural resources. For example, in addition to reporting that the Walnut Creek watershed replenishes 36,353 acre-feet of groundwater per year, the greenprint shows that amount is equivalent to the annual water use for 186,409 households. This information allows cities to factor conservation into their planning decisions.

"For natural communities to thrive, we have to have thriving human communities. You can't separate the two," Knoblock noted. And the stakes are high for people and nature. California is facing a housing shortage, urban sprawl and increasing climate-driven disasters such as megafires, flooding and extreme heat. These issues are urgent, complicated and interconnected.

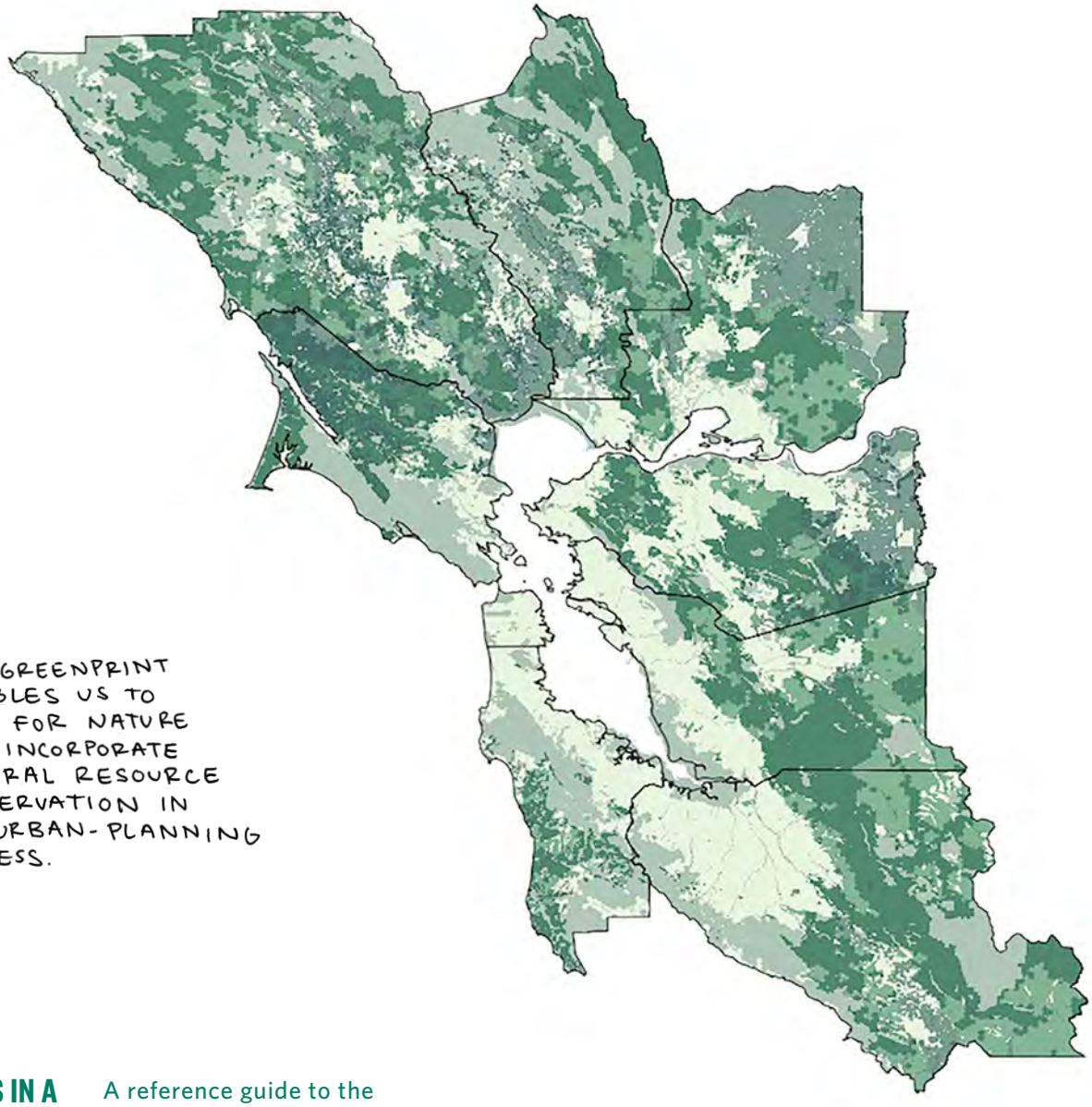
The development decisions made today will reverberate for decades. With best-in-class conservation science, policy advocacy and tools like the greenprint, TNC and its dedicated supporters are helping California make smart choices that will protect lives and livelihoods — as well as our remarkable biodiversity — for generations to come.

Why blueprint when you can *greenprint?*

When planners map out new developments, they consider roads, infrastructure and business corridors. But those blueprints often lack information about natural resources and wildlife habitat. As a result, communities are not as healthy or vibrant as they could be. TNC is developing greenprints to help cities evolve with nature in mind. Working with our partners, we began by creating a tool that mapped the nine counties of the San Francisco Bay Area and communicated the benefits of integrating nature into plans and projects. Now, those very counties are using our greenprint to plan the region's growth.

The Bay Area plan made such an impression that the Southern California Association of Governments — the regional planning agency that represents every SoCal county except San Diego —requested a greenprint for Southern California. We are now leading the development of the largest greenprint ever attempted. Once the plan is completed, 80% of Californians will be living in greenprinted areas.

We are not stopping there. Greenprints proved to have global appeal, and in the summer of 2018 we were invited by our TNC China colleagues to meet with leaders in Shanghai and Beijing. Our China colleagues are investigating the green-printing of enormous regions like Shenzhen and Chengdu, with the potential to quadruple the acreage of China's green urban plan. Now, greenprints are being considered for fast-growing cities and regions in India as well.



THE GREENPRINT ENABLES US TO PLAN FOR NATURE AND INCORPORATE NATURAL RESOURCE CONSERVATION IN THE URBAN-PLANNING PROCESS.

WHAT'S IN A GREENPRINT?

A reference guide to the Bay Area greenprint

- FOOD PRODUCTION
- OUTDOOR RECREATION
- WATER YIELD
- COMPENSATORY MITIGATION
- FLOOD HAZARD REDUCTION
- CARBON STORAGE
- HABITAT CONNECTIVITY
- PRIORITIZED HABITATS

TNC ECOLOGISTS AND PARTNERS STUDYING THE EFFECTS OF CATTLE GRAZING ON CALIFORNIA'S DELICATE VERNAL POOL HABITATS IN THE CENTRAL VALLEY.

INNOVATION

MARKETLAB

Since we started the Our World campaign seven years ago, the impacts of climate change have intensified. MarketLab taps the potential of markets to align economic and environmental interests so that we can protect nature on a global scale. We've made the business case for conservation by illustrating the savings to solar developers when they site projects on desert lands with low biodiversity. We've designed market interventions, paying farmers to create bird habitat in the Sacramento Valley and launching the first groundwater market that restores aquifers while preserving both agriculture and the South Coast's last remaining wetlands. And we've brought private capital to the table with low-interest loans and a new Acquisition Catalyst Fund that enable us to move faster and leverage our grant funding to protect more land.

SARAH HEARD
DIRECTOR OF CONSERVATION ECONOMICS AND FINANCE

TECHNOLOGY

Technology has continued to evolve rapidly since the Our World campaign began in 2013. Devices get smaller and more capable; instead of impenetrable piles of data, artificial intelligence is turning information into rapid insights. These advances also benefit our conservation work. Since 2013, we've harnessed technology such as eDNA, acoustic monitoring, drones and satellites to collect conservation data in novel ways that save time and money. We worked hard to mimic some of the best innovation practices from the technology sector to ensure that our work is lean and impactful. We created a new whale-tracking device to mitigate the risk of entanglements. Our wildlife cameras send real-time data to the cloud for monitoring critical habitat, and satellites monitor TNC properties and habitats at a larger scale than ever before. It's been an incredible journey, and I'm grateful to have the best job in the world, putting technology to its highest and best use to solve big environmental problems.

MATT MERRIFIELD
CHIEF TECHNOLOGY OFFICER

SCIENCE

It starts with science. Conservation problem-solving requires science. Our applied science team drives the research we need to prioritize the most important places to work and determines how to intervene to make those systems more resilient. Our scientists then disseminate their findings in peer-reviewed journals to advance the science and practice of conservation. That body of work is providing the evidence that people and nature can indeed thrive together, and it equips our practitioners and partners with the tools they need to make conservation solutions a reality and to craft policies that put society on a more sustainable path.

SCOTT MORRISON, PH.D.
DIRECTOR OF CONSERVATION PROGRAMS
THE VICTOR E. SHELFORD DIRECTOR OF CONSERVATION SCIENCE

MARKETLAB

The Business Case for Clean and Green

In 2018, California lawmakers set an ambitious climate goal: 100% clean electricity by 2045. While this is a great sign for climate mitigation, it could also result in major impacts on natural habitat, especially given that California may need between 1.6 million and 3.1 million acres of wind and solar by 2050.

TNC has developed a method for integrating nature into energy planning, showing that it's possible to meet California's future renewable energy needs while minimizing impacts on the environment. In a 2019 study, we showed that this approach is not only feasible it's good for business. Our analysis found that siting utility-scale solar projects in areas of high biodiversity increases total project costs by up to 15% relative to low-biodiversity areas due to higher habitat mitigation requirements.

When applied to California's interim target of 50% clean energy, siting solar projects on low-biodiversity lands could collectively save developers $350 million.

A Faster Way to Fund Conservation

Science has shown that the world has 10 years to head off the worst effects of climate change, but the environment receives less than 3% of global philanthropy. If TNC is going to move the needle, we need to maximize the impact of our funding by using tools developed for private capital. TNC's California Chapter established an Acquisition Catalyst Fund to multiply the impact of grant capital used to acquire conservation assets. Starting out at $10 million, this new tool helps our teams access the low-cost capital they need to greenlight critical projects while showing stakeholders that investing in nature is good business.

The Acquisition Catalyst Fund allows us to raise capital once and recycle it to other conservation deals via a variety of repayment structures. Repayments replenish the fund so that it can continue to catalyze new deals. Within TNC's California Chapter, our conservation deals range from traditional land acquisition to buying water rights to bolster instream flows.

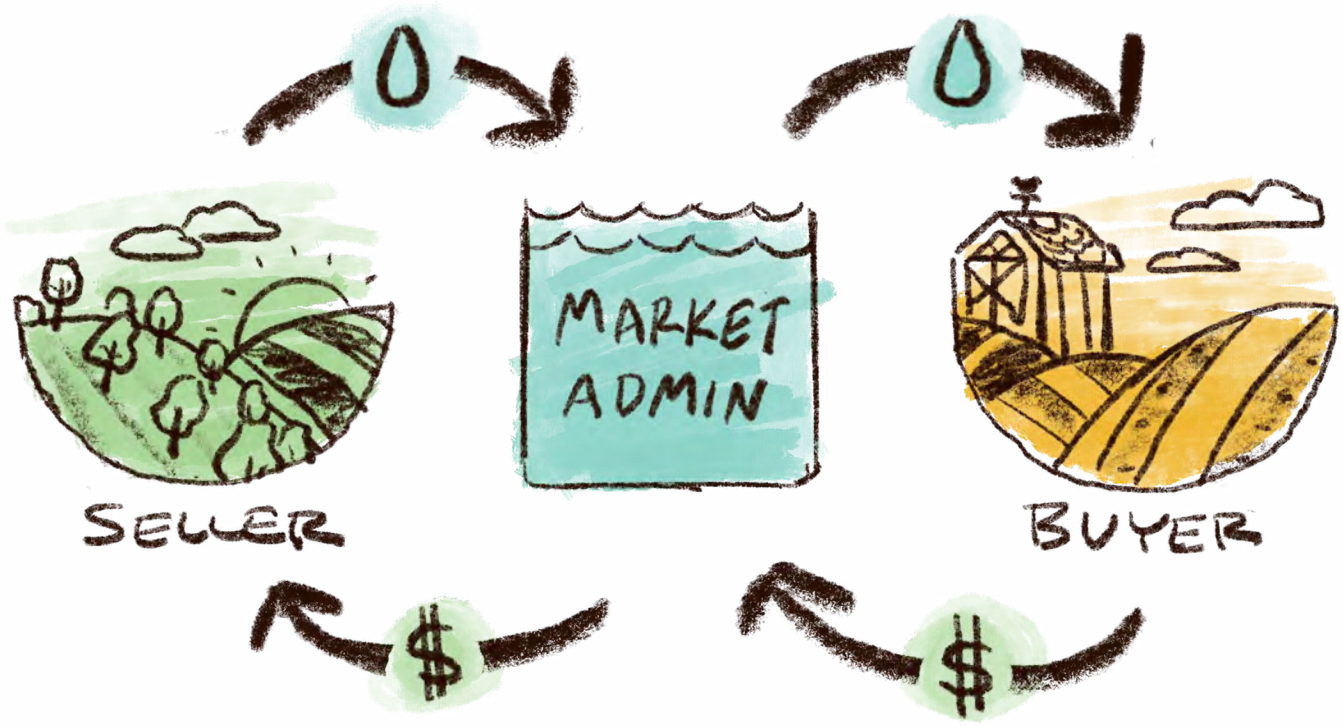
The fund is seeded with grants to eliminate the pressure of generating investor returns, making its impact truly catalytic. The Acquisition Catalyst Fund allows us to move at a commercial pace and finance conservation deals that would not otherwise receive funding. In this era of climate change, it is imperative that we act quickly when important conservation opportunities arise.

A Market for Groundwater

Groundwater markets represent a flexible tool for helping aquifers rebound while benefiting farmers and other groundwater users. TNC has launched the first groundwater market under California's Sustainable Groundwater Management Act.

In Fox Canyon, Ventura County, groundwater users can trade water to stay afloat while complying with steep cuts to water use. The water market benefits both people and nature by preserving one of the country's most productive agricultural regions, located on the outskirts of the Los Angeles metro area, where development pressure is strong. We want farmers to thrive. These agricultural lands provide an important buffer for habitat and present opportunities for groundwater recharge that are not possible on developed lands.

Through this work, TNC is demonstrating how a groundwater market can help achieve basin sustainability, help local communities prosper and establish a model that can be replicated by more than 250 groundwater management agencies across California.



TECHNOLOGY

A Digital Twin for the Dangermond Preserve

When Jack and Laura Dangermond gave the largest single gift in TNC history to establish the Jack and Laura Dangermond Preserve in 2017, they had a new type of conservation in mind. The Dangermonds founded Esri, a global imaging company that has digitally mapped the world. Now, we're using digital mapping at the Dangermond Preserve for conservation.

In 2020, their vision for the preserve to have a "digital twin" is coming to life. Similar to the idea of adding sensors to jet turbines to look for hairline cracks, Dangermond Preserve is becoming a "smart preserve" that uses an array of in situ and remote sensors that produce environmental data to guide both preserve management and a research agenda that explicitly marries technology with field ecology. Thanks to the digital twin, researchers need not be physically present on the preserve to learn from the work taking place there. In this way, Dangermond Preserve is a living laboratory for native ecology and conservation technology.

Meet Paikea, the Whale Rider

The No. 1 killer of whales in the world today isn't hunting; it's entanglement in fishing gear. Tracking an entangled whale while rescue teams take time to mobilize is a tricky problem. The tracking hardware currently used by the National Oceanic and Atmospheric Administration (NOAA) is more akin to a ball and chain than a GPS unit. We knew there was a better way.

Thanks to the Our World campaign, TNC joined forces with design firm IDEO to rethink entangled whale tracking. Together, we radically improved the design, which now has a fraction of the weight and drag of the original gear at less than half the cost. Paikea, named for the mythical whale rider of the Māori, is set for sea trials with NOAA recovery teams this year.

Keeping an Eye on Kelp

Kelp forests form the backbone of productive and diverse ecosystems, providing habitat and food for thousands of species. But on California's North Coast, warming waters, the introduction of disease and the loss of a key predator have led to a 96% reduction in bull kelp forests in less than a decade. Unfortunately, our methods of tracking changes in kelp health have not kept pace with modern technology; to protect and conserve these critical ecosystems, we must improve the way we map and monitor them.

TNC is now mapping kelp abundance in near-real-time, using satellite imagery and machine learning. And we are building a powerful visualization platform that allows managers to understand where the biggest impacts are in California. The first phase of this work will establish a methodology in our state, then subsequent phases will replicate the method and publish data in other critical geographies around the world.

Rebecca Flores Miller of the California Department of Fish and Wildlife says, "We are blown away by Kelp Watch; we can already see how it can be a really useful tool for managers."

Monitoring TNC Properties with Satellites

Thorough annual monitoring is critical to managing TNC's conservation properties, but with hundreds of preserves and protected landscapes spread across California, getting to each site is time-consuming and expensive. Now, in the age of COVID-19, in-person monitoring can also be dangerous. In 2019, TNC California partnered with a conservation technology company — Upstream Tech — to build Lens, a web-based application that lets us view, analyze and report on our entire portfolio of properties using airborne imagery and advanced computational analytics.

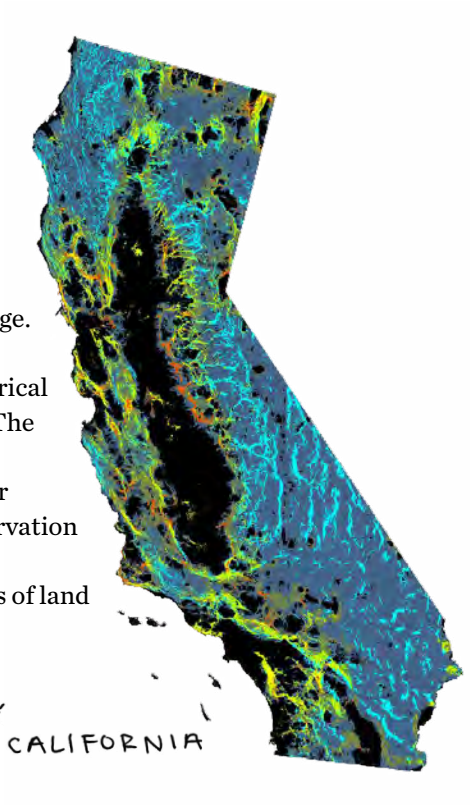
We've been using this application in California for more than a year, and we piloted Lens with 13 other TNC state chapters beginning in April 2020. But in the wake of COVID-19, our California team will now offer Lens support and guidance to all 50 state chapters. A core value at TNC is "one conservancy," meaning our chapters are stronger and more effective when we work together, especially when times are hard. We are thrilled to be able to share this technology with our colleagues, and we'll be advising them as they expand their stewardship toolbox to include remote monitoring during this crisis and beyond.

TNC'S CHINA RANCH PROPERTY (OUTLINED IN WHITE) IN THE AMARGOSA DESERT CAPTURED BY THE AIRBUS PLEIADES SATELLITE ON 7/10/2019.

SCIENCE

Modeling Habitat Connectivity in California

Habitat fragmentation is a pervasive conservation challenge. In 2015, our science team developed an innovative model that borrowed principles of resistance and flow from electrical engineering to map habitat connectivity across the state. The model identifies "chokepoints" where species' movement is hindered so that we know where to focus our efforts. Our policy team went on to integrate the model into the conservation priorities of the State of California, increasing funding for projects that improve connectivity and keeping large areas of land intact for wide-ranging species.



TNC MAP OF ECOLOGICAL CONNECTIVITY AND WILDLIFE LINKAGES THROUGHOUT CALIFORNIA

Investigating the Ecosystems that Depend on Groundwater

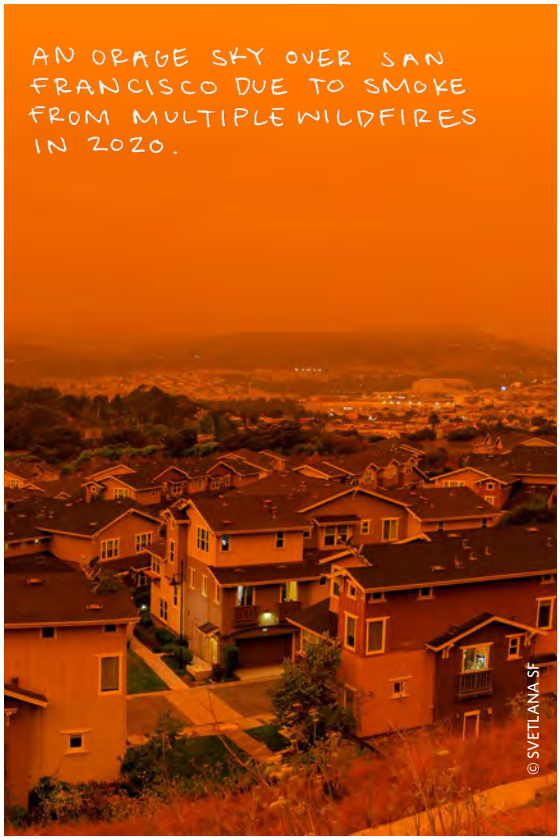
Groundwater is a critical resource for people and nature, but the ecosystems that rely on groundwater provide important benefits of their own. Groundwater-dependent ecosystems can include springs, rivers, wetlands and vegetated areas that sequester carbon and provide habitat for important pollinators. TNC is accounting for these contributions using a framework that assesses the benefits these ecosystems provide compared with the tradeoffs associated with groundwater use and management.

Starting in early 2018, TNC worked with the Natural Capital Project to identify, measure and map the benefits of groundwater-dependent ecosystems. Scientists explored three ecosystem services: pollination, water quality regulation and climate regulation. The study revealed that these benefits are widespread across the state, and these ecosystems store the equivalent of more than 790 million tons of carbon dioxide statewide, which is nearly twice as much as California emits annually. The results will be published to help influence groundwater allocation decisions across the state.

Assessing the Human Health Impacts of Forest Fires

An important part of TNC's forest resilience strategy is the safe reintroduction of fire on the landscape, or prescribed burning. There is, however, concern about air quality and the impacts on human health that result from these managed fires. TNC worked with Stanford School of Medicine to quantify the health impacts of prescribed, lower-severity fires used to restore forests compared with large, higher-severity wildfires that destroy them.

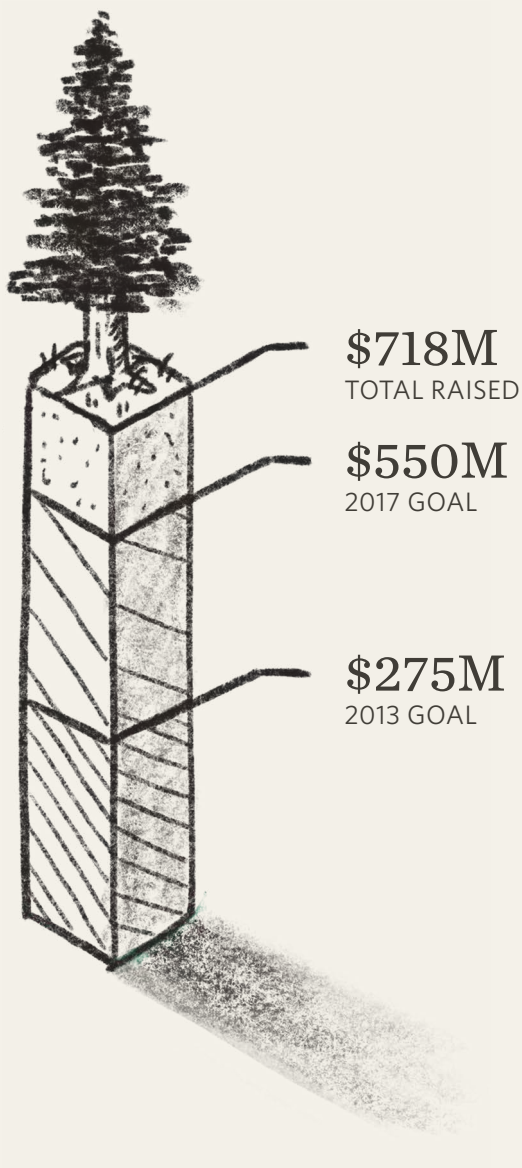
In 2018, researchers studied the impacts on the immune responses of children exposed to smoke from prescribed fires compared with the effects of exposure to larger, more intense wildfires. The study showed significantly more harmful effects of intense wildfires, providing important evidence of the human health benefits of active forest restoration. The results were published in the journal Allergy, and the study represents one of the first times TNC scientists have collaborated so directly with the human health community. The results of this study are catalyzing significant research into this issue, with Stanford Medical School now leading a charge to more fully study the human health implications of the kind of fires California is experiencing and what can be done.



Deploying an Ant-Sniffing Dog for Conservation

HANDLER KAI ZIMMERMAN AND "ANT DOG" TOBIAS LOOK FOR ARGENTINE ANTS ON SANTA CRUZ ISLAND.

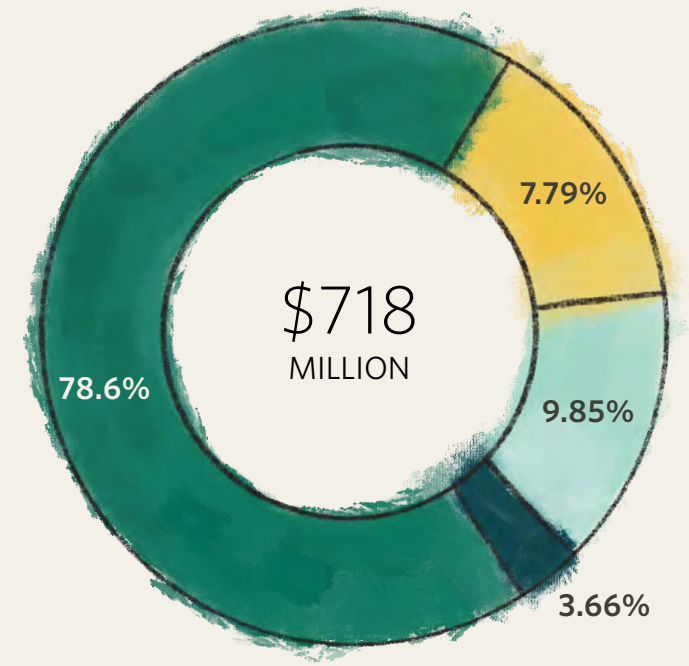
In 2013, TNC scientists devised a cutting-edge method for eradicating invasive Argentine ants on Santa Cruz Island. We developed a low-level poison bait for worker ants to take back to their colonies that was safe for the surrounding environment. The plan worked, and in 2017 the invasive ants appeared to be gone, but how could we know for sure given how difficult they are to detect? Our scientists tested a new approach: training a dog to detect this specific species of ant. The dog went to work, and in 2017 the dog-and-handler team detected no Argentine ant colonies in an area where there had been a very large infestation. We've since shared this method with conservationists throughout the Channel Islands and around the world to help local communities whose resources and livelihoods are threatened by invasive pests.



Our World campaign in California

In 2013, the Our World campaign began with the goal of raising $275 million for conservation in California. In 2017, we doubled that goal to $550 million. Now, in 2020, we've closed out the campaign with a grand total of $718 million for conservation in California and around the world.

GOAL BY SOURCE



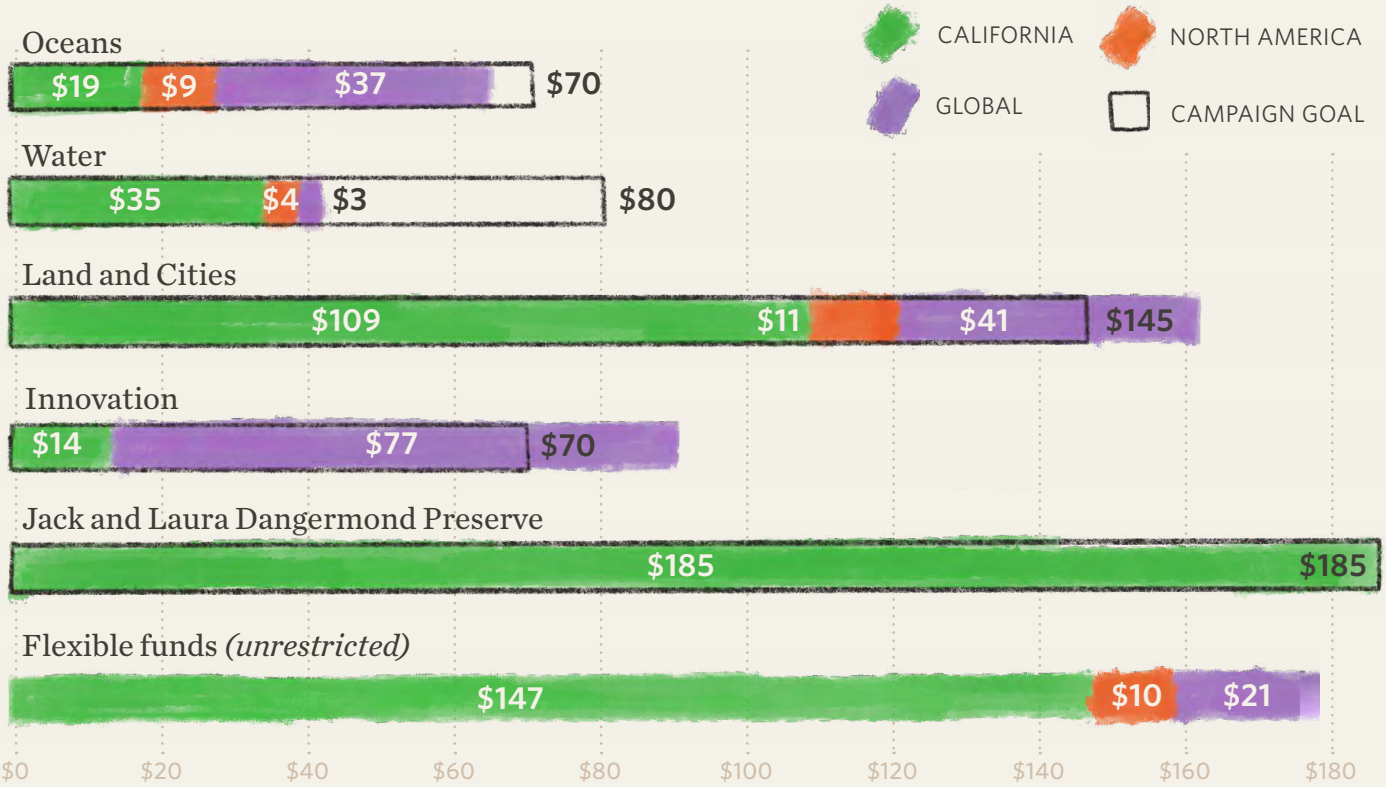
California major donors
ORIGINAL GOAL $425M
FINAL RAISED $564.6M

California members
ORIGINAL GOAL $55M
FINAL RAISED $55.9M

California bequests
ORIGINAL GOAL $50M
FINAL RAISED $70.7M

Out-of-state donors to California projects
ORIGINAL GOAL $20M
FINAL RAISED $26.3M

GOAL BY USE *in millions*



Together, we are making history.

A note from the Our World campaign co-chairs

Seven years ago, TNC launched an ambitious fundraising campaign to achieve a new vision for the planet — one in which people and nature thrive together. We set out to create a future where conservation and human progress are one and the same, a future where farmers grow habitat as well as crops, where managing a fishery means restoring the ocean and where people put sustainable solutions into practice every day.

As trustees of the California Chapter and co-chairs of the Our World campaign, we are proud to see the incredible generosity of our closest supporters. Thanks to your giving, this campaign surpassed all expectations, but nature needs us now more than ever.

We live in unprecedented times. When things seem hopeless, TNC's tireless work toward a better world inspires us. It has been thrilling to help prove just how much is possible when we bring together diverse partners and lead with science.

As we look back on this success, we are also looking ahead. This year has shown the world how essential it is to take care of nature so that nature can take care of us. Together, we have helped TNC lay the foundation to tackle the challenges of the decade ahead.

Join us. Our work continues.

ANGELA NOMELLINI
CAMPAIGN CO-CHAIR,
CALIFORNIA TRUSTEE

MARIE CHANDOHA
CAMPAIGN CO-CHAIR,
CALIFORNIA TRUSTEE

ALAN LACY
CAMPAIGN CO-CHAIR,
CALIFORNIA TRUSTEE

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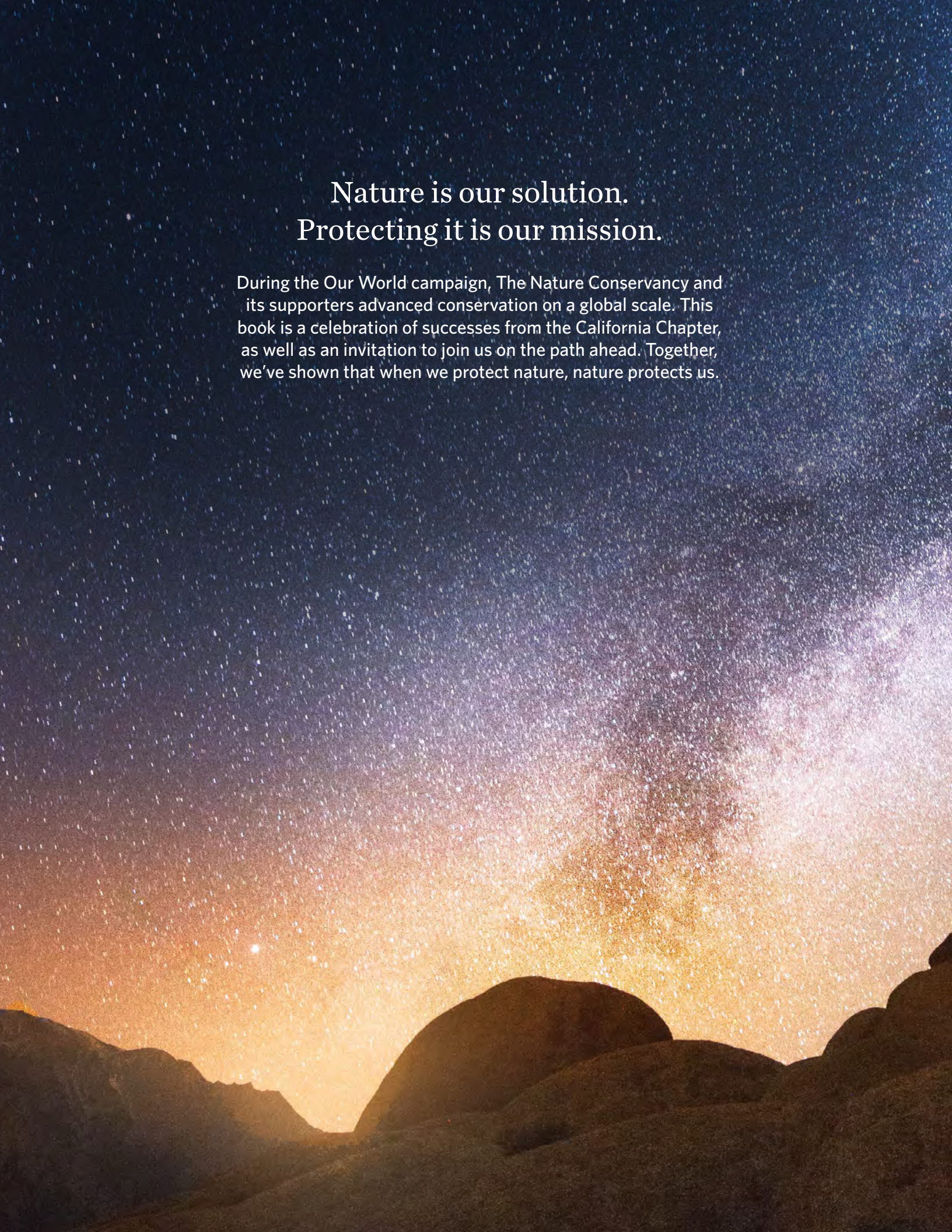
All illustrations by Dillon Blue at Big Monocle.
Cover image ©Matt Meisenheimer Photography

The Nature Conservancy
California



Nature is our solution. Protecting it is our mission.

During the Our World campaign, The Nature Conservancy and its supporters advanced conservation on a global scale. This book is a celebration of successes from the California Chapter, as well as an invitation to join us on the path ahead. Together, we've shown that when we protect nature, nature protects us.