

**2019 LATIN AMERICA**  
ANNUAL REPORT

# Our Path Forward



Across Latin America, three priorities unite us: protecting ocean, land and water, tackling climate change, and providing food and water sustainably.

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COVER: In Guatemala's highlands, grower Julia Martin holds freshly picked coffee, one of the most vulnerable crops in face of a changing climate. TNC is helping reverse the devastating impacts on coffee producers through improved production methods. © Melissa Ballarin & Daniel López Pérez



# A Force for Nature

It is the home of jaguars and sloths, pink river dolphins and humpback whales, condors and macaws, and every year hosts millions of migratory birds. With a third of the world's fresh water, more than a quarter of the Earth's forests and arable land, the second largest reef on the planet and 40% of the world's species, Latin America is a biodiversity superpower.

As we accelerate toward a world of 10 billion people, Latin America will play a pivotal role in meeting unprecedented global demand for food, water and energy.

The Nature Conservancy (TNC) has been active in Latin America for 40 years. We have worked in 17 countries—from Mexico's Baja California to Argentina's Patagonia—using scientific expertise, pragmatic approaches and partnerships with local communities, Indigenous peoples, businesses and governments to help steward the continent's spectacular natural heritage and transform the way people use and value nature.

Together with our partners, we are addressing our planet's biggest challenges: protecting ocean, land and water; tackling climate change; and providing food and water sustainably. TNC's work in Latin America is combining the power of nature and the ingenuity of people to create a sustainable future for our planet.

**LATIN AMERICA IS  
THE WORLD'S MOST  
BIODIVERSE REGION.**

**16%**  
**OF EARTH'S LAND SURFACE**

**40%**  
**OF ALL SPECIES**

**25%**  
**OF ALL FORESTS**

**30%**  
**OF ALL FRESH WATER**

# OUR PATH FORWARD

**Executive Vice President for Global Innovation  
Managing Director for the Latin America Region  
The Nature Conservancy**

From the Andes Mountains and Patagonian grasslands, to the Amazon rainforest and Mesoamerican Reef, Latin America is home to irreplaceable biodiversity. The region holds 40% of the Earth's species, one-quarter of all forests, and one-third of all fresh water. Stewarding this natural legacy is our mission: to protect the land and water on which all life depends.

We're pleased to share our progress in 2019, working with public and private partners like you. Together we are demonstrating that protecting and restoring nature is vital to providing food and water for a growing global population, estimated to reach 10 billion by 2050. For example, cattle ranching—the single largest cause of deforestation—can be combined with conservation to increase herd sizes without destroying forests and grasslands. In Argentina, Brazil, Colombia, Mexico and Nicaragua, ranchers are planting trees and forage which improve the health of herds, while creating space for wildlife. Better animal welfare increases beef and milk output, which, in turn, improves local livelihoods. Adding rotational grazing enriches soil health, increasing water and carbon capture which contributes to climate change mitigation and resilience. In short, harnessing the regenerative power of nature through science-based conservation techniques makes food production more efficient and sustainable. Stories like these fill the following pages.

Conservation protects biodiversity and strengthens the “services” nature provides—including food, water, and climate. In this sense, the science of conservation is key to managing Earth's natural resources. The need for strong science has been



critical for addressing the current 2020 pandemic, as well as for guiding the public policies, investments and behavior change needed to “flatten the curve.” This same roadmap can be used to accelerate science-based conservation action to address the planetary threats of the climate crisis and mass extinctions. This is our path forward in 2020. Beginning in iconic places imbued with natural, economic and cultural significance, we aim to transform at-risk hotspots like the Amazon, the Mayan Forest, the Humboldt Current, the Mesoamerican Reef, and others into lighthouses of biodiversity protection and low-carbon, sustainable development that inspire the rest of the region and the world.

Throughout this report you will see evidence of how new bio-economies and market approaches that integrate natural capital into sustainable development work. Our focus for the next decade is to mainstream these solutions at scale, in order to stop the rate of landscape and seascape degradation in the region and scale up new models of sustainable development that deliver benefits for the communities, the environment and economy as a whole.

As supporters of our work, you are the vanguard of this transformative path forward for protecting the lands and waters on which all life depends.

A handwritten signature in black ink, appearing to read 'Santiago Gowland'.

Santiago Gowland



The Latin America Conservation Council (LACC) is a group of global leaders, leveraging their collective influence, expertise and resources to make Latin America a model of conservation with development. Since 2011, the Council and TNC have prototyped nature-based solutions to three of the region's greatest challenges for nature and people: Water Security, Sustainable Food & Smart Infrastructure. Our innovation pipeline created a track record of results and demand for scale. LACC Champions are now helping to launch our 2030 Iconic Places Campaign to show how investing in nature delivers a triple benefit—helping countries to reach their national biodiversity, climate, and sustainable development goals. **PHOTOS, LEFT TO RIGHT:** © Victor Alzate; © Nicolas Marcaida

# DEFINING OUR LEGACY

## Co-Chairs, Latin America Conservation Council

For the past ten years, the Latin America Conservation Council (LACC) has proudly partnered with The Nature Conservancy to make the case for conservation and development, by documenting its numerous co-benefits. Protecting watersheds upstream reduces treatment costs downstream. This economic argument has led water-intensive industries and water utilities to invest in source water protection (via Water Funds) in 25 of the region's largest cities, enhancing water security and climate resilience for over 80 million people. Similarly, protecting forests, grasslands, and reefs fosters high-yield, low-carbon food production that has attracted early adopters in rural and indigenous communities, as well as high-profile traders trying to implement deforestation-free pledges.

The challenge of our time is to move beyond these demonstration projects to mainstream strategic conservation as a political and economic priority—for enhancing food and water security, and for delivering on each company's, and each country's existing biodiversity, climate, and sustainable development commitments.

Throughout the first decade, the LACC and TNC focused on making the case for nature-based solutions through prototypes that demonstrated notable success across the region. As you can see in this report, the role of nature in sustainable socio-economic development is clear. Our focus now is doubling down on jurisdictional approaches (through iconic landscapes) where working with government and local organizations can help achieve scale fast and expand our impacts rapidly.

Together, we can catalyze the collective action and transformational investments required to create lighthouses of conservation and development in Latin America's most iconic places. This is the legacy we want for our children and grandchildren.

Sergio Rial

Juan Pablo del Valle



PROTECT OCEAN,  
LAND AND WATER

# Protecting Our Heritage, Safeguarding Our Future

Protecting nature in Latin America and ensuring plentiful water, food and energy for the region are not conflicting goals. Nature and human development are both central factors in the same equation. Modern conservation is about finding innovative ways so that both can thrive.

From the dazzling blue waters of Mexico's Baja California to the towering, ancient forests of Chile's Valdivian coasts, TNC is transforming how lands and waters are used and conserved for the benefit of people and wildlife.

Building on the 60-year land protection legacy for which TNC is known, we partner with indigenous people and local communities to strengthen their rights and roles as environmental stewards. We engage corporations and governments to ensure infrastructure investments flow to projects that meet environmental, economic and community objectives. We spur forward-thinking policies that amplify the scale and speed of conservation.

Protecting nature is our heritage; it is also the only way to ensure our future.







“

**The sea has been my livelihood.  
It has fed my family. Now I am  
giving something in return.**

FABIÁN GONZÁLEZ COTA  
FISHERMAN FROM THE AGUA VERDE COMMUNITY  
GULF OF CALIFORNIA, MEXICO





**PREVIOUS SPREAD:** Fish replenishment zones in Baja California, Mexico, allow marine life to flourish and repopulate adjacent fishing grounds. © Alfredo Martínez Fernández/TNC Photo Contest 2019; **ABOVE:** Orivaldo Koremazokae, Chief of the Utiariti village of the Paresi indigenous group, looks out over his ancestral Utiariti waterfall in Brazil. TNC helps strengthen indigenous territorial planning efforts to ensure a stronger voice in development decisions. © Erik Lopes; **RIGHT:** Kokprin Xikrin gathers papayas and bananas from the forest at the Trincheira-Bacajá indigenous territory in the Brazilian Amazon. TNC is assisting indigenous peoples in maintaining their land's natural integrity. © Kevin Arnold

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**We are not against development. But it is important for us to sit down and discuss the issues. What should be allowed, what should be avoided... how to have the least possible impact. And how do we achieve this? Through learning and negotiation.**

AGEU SATERE



# Keepers of the Amazon

Nearly the size of the continental United States, the Amazon is the world's largest tropical forest, home to 10% of all species, the source of one quarter of the world's fresh water and a vital regulator of the world's climate. But this magnificent forest embodies the competing pressures of long-term and short-term economic, social and environmental demands.

The lands and waters of the Amazon are inextricably linked to indigenous peoples. Nearly 300 indigenous groups are stewards of one quarter of the Amazon rainforest. They shelter some of the last, most intact swaths and are often on the front lines of deforestation and fires.

TNC has a long history of partnering with indigenous peoples across the Amazon. Our efforts bridge traditional knowledge and science to support indigenous organizations in managing their lands and amplify their voices.

Since 2003, TNC has partnered with eight indigenous groups to manage 12 million acres in the Brazilian Amazon, with a special focus on supporting indigenous women as forest stewards. For example, TNC was invited by women of the Xikrin Indigenous People of Bacajá to help them implement their sustainable development vision. These women recently gained UN recognition for their production of babaçu (coconut) oil—a healthy, traditional food that can be sustainably harvested and boosts the local economy.



In Peru, Colombia and soon Brazil, TNC is coordinating a “Train the Trainers” program on indigenous territorial governance that brings together indigenous leaders across the three countries to share experiences and reinforce indigenous identity, ancestral knowledge and best practices.

In Colombia’s Caquetá region, previously the most deforested state in the country, TNC is supporting indigenous groups to consolidate

their autonomy and improve relationships with neighboring farmers. As Óliver Gasca, Chief Ri Eel Diamante, from Solano, Caquetá explains, “Our main concern was that farmers were logging too much, wiping out the jungle. Seen from above, indigenous reserves looked like verdant islands. That’s why we identified the need to open the dialogue, so that farmers could understand indigenous cultures and we could understand their challenges.” In return, Román Gaitán, a farmer leader stated: “We exchanged





ideas, we exchanged cultures for the greater good of the territory... We may look different and talk differently, but now I can see we are much alike... we need more organizations like TNC, conveners, mediators, to unite farmers, indigenous people, everyone.”

Around the globe, indigenous peoples are vital leaders in the pursuit of a sustainable future. While indigenous peoples make up less than 5% of the world’s population, they are stewards

of 25% of the world’s lands and nearly 80% of the global biodiversity. Strengthening indigenous institutions is not only a human rights issue—it is also crucial for achieving global climate and biodiversity goals.

**LEFT TO RIGHT:** Chief of the Wazare village, Rony Paresi, is part of the Paresi indigenous group in Mato Grosso do Sul, Brazil. TNC supports the Paresi group in forming tourism projects, defined as a main economic priority by the community as part of their territorial governance and management plan. © Erik Lopes/TNC; The Xikrin indigenous community use dye from the genipapo tree to create body art. © Kevin Arnold



CHILE

## Protecting Wildlife



Camera traps helped scientists confirm the presence of the endemic Chilean shrew opossum at TNC’s Valdivian Coastal Reserve. The tiny marsupial—one of four in Chile—is rarely sighted and considered to be facing a high risk of extinction.

Monitoring the conservation status of endangered species is a key aspect of TNC’s work in the Valdivian Coastal Reserve, a global biodiversity hot spot that

protects one of the world’s last temperate rainforests. The reserve shelters an incredible wealth of endangered wildlife including the Magellanic woodpecker, the pudú (also known as the world’s smallest deer), the mountain monkey (a tree dwelling marsupial considered to be a “living fossil”) and the Guiña cat (the smallest wild felid in the western hemisphere). Around the world, habitat loss is pushing species to the brink of extinction at alarming rates. Protected areas are crucial for biodiversity conservation and are cornerstones for TNC’s global efforts.





COLOMBIA, MEXICO, PERU

## Powering Latin America



As Latin American countries ramp up their investments in clean energy, TNC is bringing science to the table to support govern-

ments and decision-makers in guiding development to minimize impacts on people and nature. In Mexico, after demonstrating the benefits of scientific siting for hydropower development in the Coatzacoalcos basin, TNC is collaborating with national electricity and biodiversity authorities towards applying these lessons to wind and solar energy development. These efforts will advance Mexico's renewable energy goals and conserve biodiversity. In Peru, TNC is advising policy reforms to improve energy sector planning with social and environmental standards. In Colombia's Magdalena River basin, where more than 70% of hydropower and 80% of national GDP is produced, but where fish stocks have plummeted, the application of TNC's modeling tools has helped avoid impacts on 621 miles of the river and its tributaries.



**LEFT:** A bird's-eye view of Colun Beach, Colun River and sand dunes in TNC's Valdivian Coastal Reserve in Chile. © Nick Hall; **RIGHT:** A fisherman casts his net in the Llanito swamp, part of the Magdalena River basin. Communities of traditional fishers live by the swamp and sustain their families and supply local markets with fish caught using artisanal fishing methods. © Paul Smith

BELIZE

## Tripling Marine Protected Areas



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. By giving fish room to recover, Belize will sustain its coastal economies and secure healthy marine resources across the world’s second largest reef system. This ambitious plan

will enable Belize to achieve some of its international commitments of conserving at least 10% of its coastal and marine areas by 2020.

LEFT TO RIGHT: A kayaker paddles above gorgonians in Belize. © Ethan Daniels; Belize’s Southern Barrier Reef Complex, where TNC helped create a conservation action plan and continues to work with fishing communities to improve fisheries management. © Julie Robinson; A sea lion hunts in Baja California, Mexico © Alfredo Martinez Fernandez/TNC Photo Contest 2019





## MEXICO

# Conserving the World's Aquarium



Nestled between Mexico's mainland and the Baja California peninsula, the dazzling sea that Jacques

Cousteau once called "the world's aquarium," is home to more than 900 species of fish and a wide array of marine mammals like sea lions, dolphins and whales. The region supplies more than 70% of Mexico's fish catch and is a renowned diving destination. While threatened by unsustainable practices such as

overfishing, this is also a place for hope and emerging opportunities. Over the past six years, TNC and local partners have helped 25 communities create fish replenishment zones where fish can grow and reproduce. The results are clear: a 30% increase in fish abundance. That's good news for Mexican fishers and for the area's extraordinary diversity of marine life. Communities have petitioned to add 247 square miles to the recovery zone network. In addition, the design guidelines are being adopted as a national norm.



## TACKLE CLIMATE CHANGE

# A Natural Path for Climate Action

We may only have 10 years to avert the most catastrophic consequences of climate change. Time is of the essence.

Nature is a vital piece of the climate solution. Protecting and restoring nature could provide over 30% of the measures needed to limit global warming by 2030.

In Latin America, TNC is demonstrating the powerful role that nature can play as part of the solutions needed to cut carbon emissions and help communities prepare for and respond to impacts. Our pioneering science, pragmatic approach and legacy of collaboration are helping to translate Latin America's climate commitments into action. We are galvanizing partnerships to meet ambitious reforestation targets. We are transforming how agricultural lands are used and managed to increase production on already cleared lands while halting deforestation. We are launching creative schemes to restore reefs and floodplains to reduce the impact from storms and rising seas on coastal communities.

This is the decade to save the planet—to restore, regenerate, repair and recover. Maximizing nature's solutions is a triple win for climate, for biodiversity and for human development.

We must work with nature, instead of against it. We must work together.







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**Climate change is here. How we respond is up to us. Maximizing nature's solutions is a triple win for climate, for biodiversity and for human development.**

**FERNANDO VEIGA  
DIRECTOR OF CONSERVATION STRATEGIES  
TNC, LATIN AMERICA**



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**I believe in people. People can make a difference for the environment. People can change policies, can change practices. People can transform the world.**

**PAULO HENRIQUE PEREIRA  
ENVIRONMENTAL SECRETARY OF EXTREMA-MG MUNICIPALITY**







# Solving with Nature

Faced with an uncertain future and limited resources, where should governments invest to ensure the well-being of their citizens? Job development for struggling rural economies? Better infrastructure to shore up water security? Preparing communities to adapt to a changing climate?

All these economic, political and environmental challenges are pressing issues, and they are deeply interconnected. The deterioration of natural resources, such as fresh water and fertile soil and climate change effect health, wealth, inequality and migration, threatening social and political stability.

The connection between these challenges also points a way forward. Stopping deforestation and planting trees at scale is one of the most effective, scientifically-proven measures that governments can take right now to address multiple challenges.

A powerful case in point comes from work TNC has been supporting in Brazil's Mantiqueira mountains. The rolling green hills of the Serra da Mantiqueira rise above Brazil's eastern seaboard, stretching over parts of the country's most populated and economically important states: Sao Paulo, Rio de Janeiro and Minas Gerais. Mantiqueira is nestled within the Atlantic Forest, one

**PREVIOUS SPREAD:** Aerial view of newly planted trees on hills that were previously razed in the Mantiqueira range of Brazil's Atlantic Forest. Sustainable forestry is spurring land use change across millions of acres, kick-starting a new "restoration economy." © Scott Warren; **LEFT:** Vinicius Uchoa (right), is helping reforestation efforts in the much-depleted Mantiqueira mountain range. © Robert Clark

of the most biologically diverse and most vulnerable regions on the planet. Translated from the original indigenous Tupi language, Mantiqueira means “weeping mountains,” in reference to the abundant rivers and springs they harbor that to our indigenous ancestors, resembled and brought forth the image of tears. Today, these rivers are part of systems that provide water and energy to millions of people in Brazil’s largest metropolitan centers.

Despite its ecological riches, the history of the Mantiqueira region is a classic tale of widespread environmental destruction in the name of economic progress. Nearly 80% of land cover has been lost from hundreds of years of deforestation, driven predominantly by unsustainable agriculture, cattle ranching and urban development.

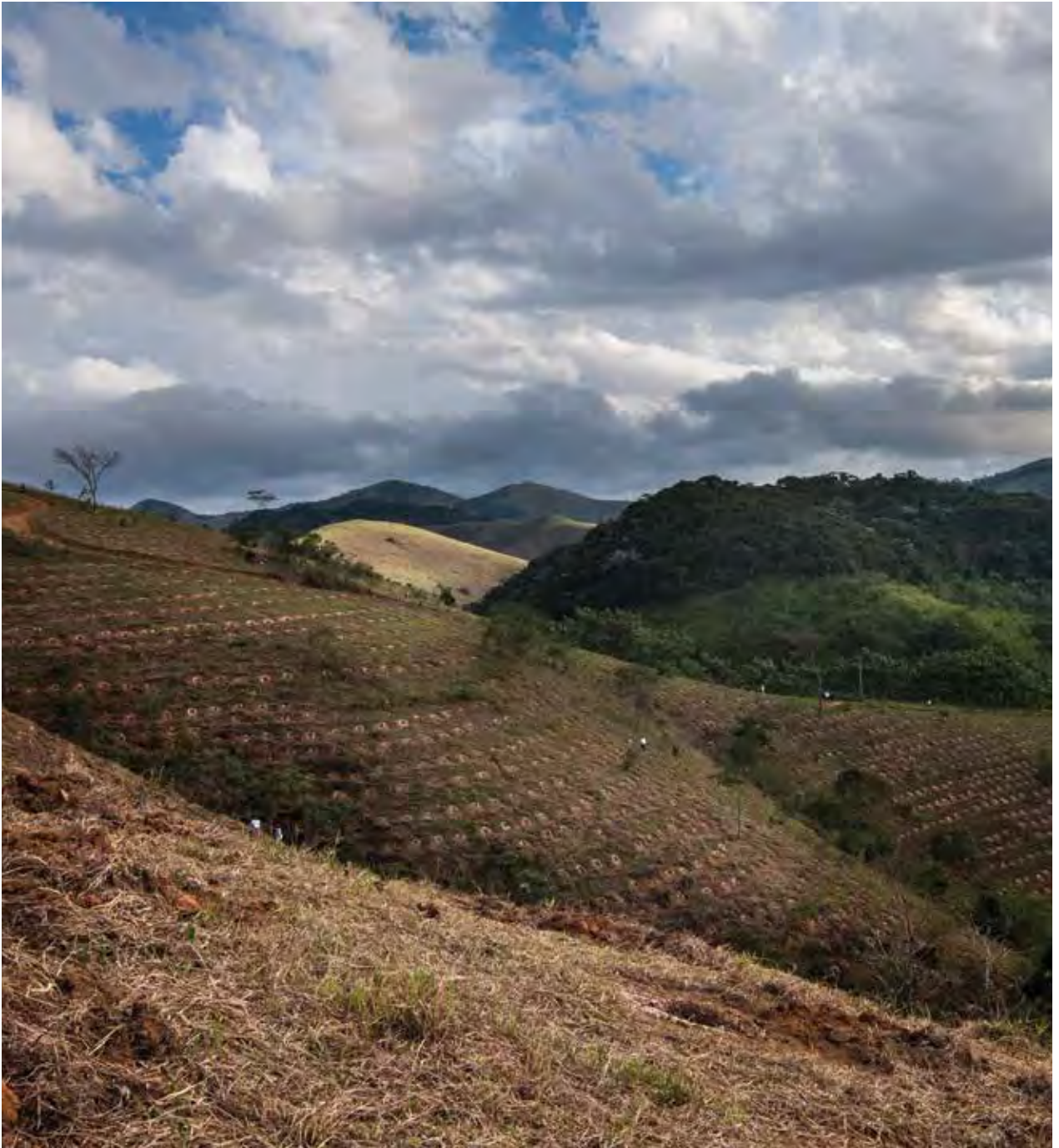
Yet, Mantiqueira’s future could lead the way for the emerging global restoration movement. Here, TNC is working with partners to incentivize sustainable production alternatives such as agroforestry, and kick-starting a new “restoration economy” that can transform land use by linking sustainable producers to viable markets, thereby easing the pressure to cut down forest.

Our work in Mantiqueira brings together stakeholders from 284 Brazilian municipalities to build a forest restoration network to address water security, sustainable development and climate change. The resulting 3 million acres of forest will help Brazil meet 10% of its national forest restoration commitment under the Paris Climate Agreement, potentially sequestering 260 million tons of carbon dioxide out of the atmosphere over 30 years—the equivalent of the emissions of more than 55 million cars. Our partnerships will also help secure water for city dwellers, transform rural economies and help protect endangered species.





**LEFT:** Arlindo Cortez, manager of Extrema's Water Producer Program, walks along a hill that has been prepared for reforestation in Brazil's Mantiqueira range.  
© Robert Clark; **BELOW:** Replanting the Mantiqueira forest—through forest restoration that produces timber and fruit as well as ecological benefits—is proving to the world the lucrative nature of investing in reforestation. © Devan King/TNC



MEXICO

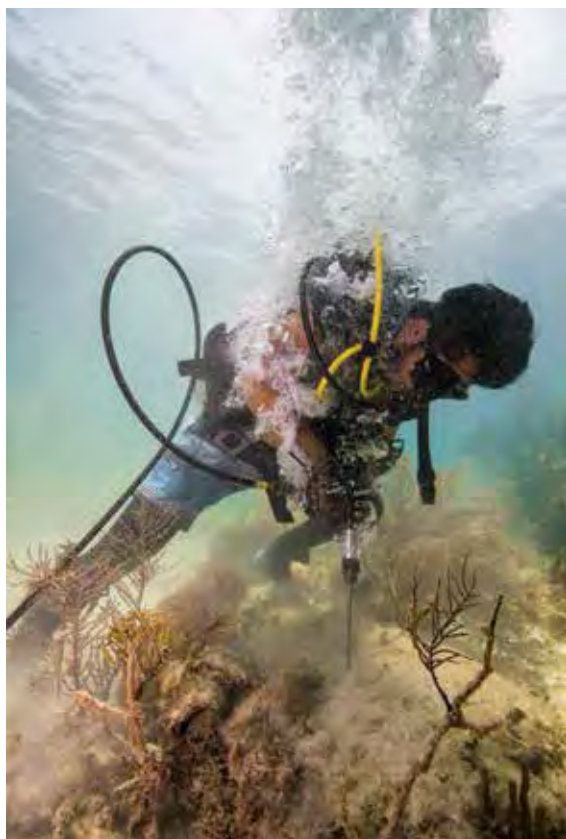
## The World's First Reef Insurance



One big highlight this year, and a superb example of TNC's innovation, was the creation of an insurance framework for reefs. The Mesoamerican Reef is the world's second largest coral reef and the star attraction of the Yucatan Peninsula's

\$10 billion-dollar tourism industry. And like all reefs, it acts as a natural seawall that reduces wave energy up to 97%, protecting coastlines and tourism. Yet 80% of

the region's live coral cover has declined. Here, TNC teamed up with state and national governments, the tourism industry, and global insurer SwissRe to design and implement the world's first-ever parametric insurance policy for a coral reef. This means, a Category 4 hurricane hitting the reef will trigger an immediate payout to repair the reef by mobilizing a network of first responders—local people TNC trained as reef guardians. Feasibility studies are underway to explore replication in the U.S. and Central America.





## ARGENTINA

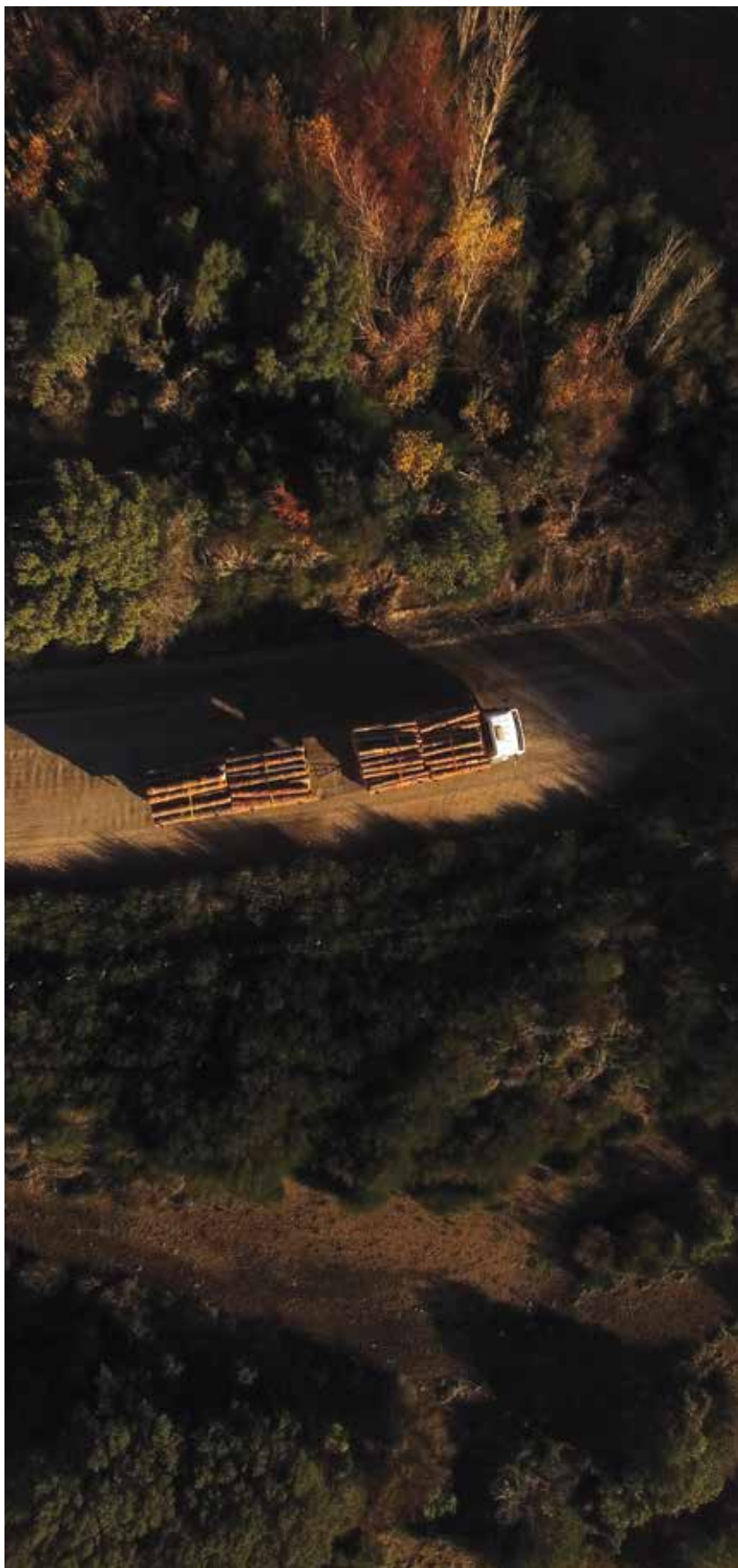
# Forestry as a Climate Solution



Argentina's largest reforestation initiative, ForestAR 2030, has paved the route to success by bringing together, for the first time, the country's

government and forestry industry to collectively craft a common vision and 10 year-workplan to build a new forest economy while delivering on Argentina's climate commitments. Based on TNC's science, the inter-agency platform will mitigate climate change by reforesting 4.9 million acres of land by 2030—of which 740,000 acres will be forested using native species—and will help conserve native forests by replacing the demand for their products with commercial alternatives. The platform also launched the trial version of an online tool known as SIR (Integrated Monitoring System for Forest Restoration) that will be used to register and monitor native forest restoration nationwide, reporting on acres restored, carbon mitigated, jobs created and funding invested.

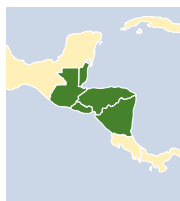
**LEFT TO RIGHT:** A brigade member learns to use a drill underwater during the second day of coral reef rapid-response training for natural disasters in the Mesoamerican Reef at Puerto Morelos National Marine Park, Mexico. © Jennifer Adler; Enjoying a Sunday afternoon in Puerto Morales, protected from the devastating impacts of hurricanes by the Mesoamerican Reef. © Lisette Poole; **RIGHT:** Better forest management like TNC is kick-starting in Argentina is our planet's most promising natural climate solution. © Argentinian Secretary of Environment and Sustainable Development





BELIZE, EL SALVADOR, GUATEMALA, HONDURAS, NICARAGUA

## Resilient Central America (ResCA)



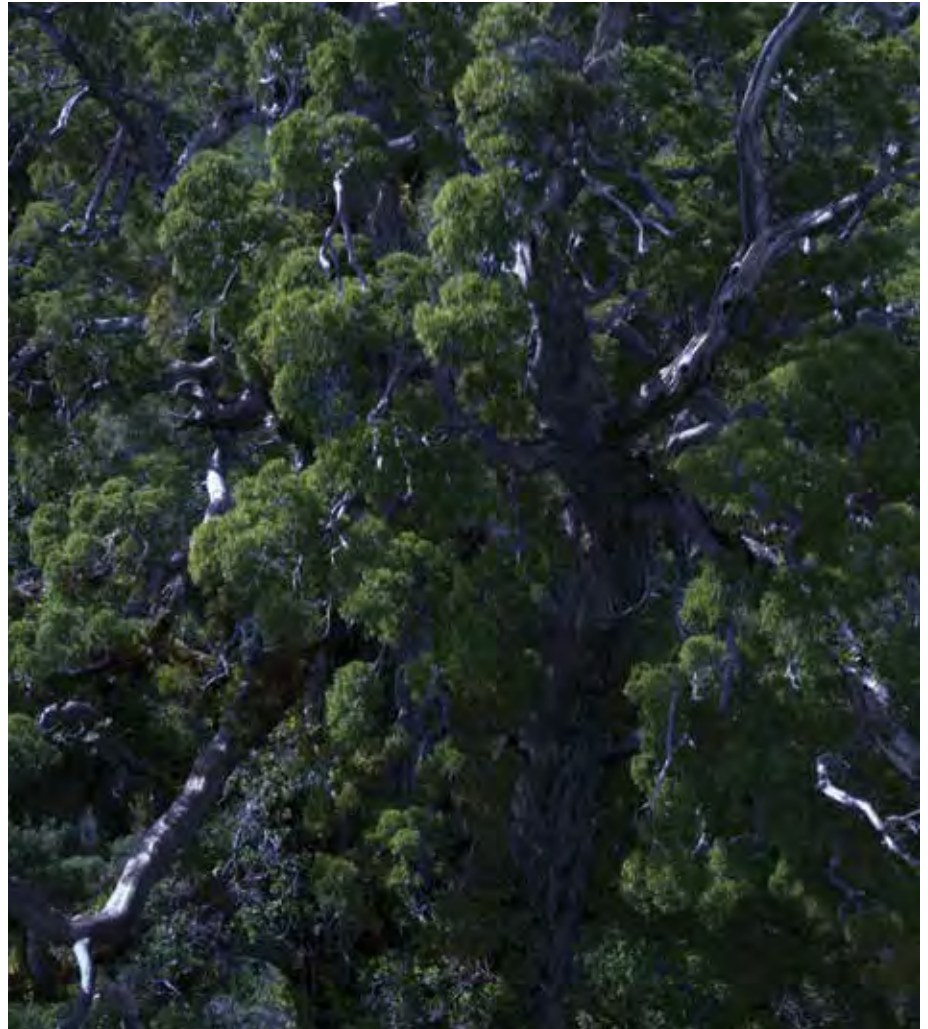
From the peaks of the Maya Mountains to the depths of the Mesoamerican Reef, Central America holds an astounding 7% of the planet's species in barely 1% of the world's surface. Spearheaded by TNC and financed by the U.S. State

Department and the multi-donor platform AgroLAC 2025, Resilient Central America (ResCA) is an initiative that promotes nature-based solutions to strengthen climate resilience, local economies and food security. In coordination with local partners over the last three

years, we have trained 8,102 people, strengthened 47 institutions and proposed 151 policies. One of the innovations spurred by ResCA was the implementation of Tally, a pioneering traceability technology designed by ThisFish to foster environmentally and socially responsible seafood production in Belize. This digital tracking technology has already improved efficiencies at the National Fisher's Cooperative processing plant, allowing the country's second largest cooperative to monitor catch, improve accountability and transparency from fisher to consumer and positioning it to access premium sustainably harvested seafood markets.



LEFT TO RIGHT: At Belize's National Fisher's Cooperative, workers collect real-time data linking catch to individual fishers and managed access regions across the country. © Randy Olson; The largest remaining population of jaguar in Central America prowls the forests of TNC's Rio Bravo Conservation and Management Area. © Jim Beveridge; Aerial view of ancient temperate rainforest at TNC's Valdivian Coastal Reserve, Chile. © Denise Lira Ratinoff



## BELIZE, CHILE

# Carbon Credits Sustain Nature Reserves



The Conservancy's Valdivian Coastal Reserve in Chile protects one of the world's last remaining temperate rainforests, which is one of the most carbon-dense forests on Earth. By stopping deforestation in the reserve, TNC developed Chile's

first certified carbon credit project and has avoided an estimated 580,000 tons of CO<sub>2</sub> emissions—equivalent to taking over 120,000 cars off the road for a year. To date, the reserve has retired more than \$1 million in carbon credits, helping to mitigate climate change

while sustaining the conservation of native species. In Belize, the Rio Bravo Conservation Management Area—TNC's first carbon project—has achieved financial sustainability by retiring carbon offsets. The project has kept 1.6 million tons of carbon dioxide equivalent (CO<sub>2</sub>e) from the atmosphere since 2002, and since 2012 has retired \$4.12 million worth of offsets. This has enabled the capitalization of a \$2.4 million endowment for the long-term financial sustainability and management of the reserve. Rio Bravo is the second largest protected area in Belize and shelters the largest population of jaguars in the Maya Forest.

## PROVIDE FOOD AND WATER SUSTAINABLY

# Nourishing Our World, Saving Our Planet

Blessed with nearly a quarter of the world's arable lands, one third of the world's fresh water and some of the most productive fisheries on the planet, Latin America is poised to become the world's breadbasket. But today's methods of producing food already overtax the environment. Current practices consume 70% of the region's fresh water and cause 70% of habitat conversion, contributing to deforestation at three times the global rate. Nearly half of Latin America's assessed fish stocks rank from fully exploited to depleted.

TNC and partners are demonstrating that there is another path forward. Helping small and medium-sized producers shift to sustainable agriculture, ranching and fishing has increased yields and household incomes. The understanding and respect of nature's value is spreading in the places where we work, as healthier soils retain more carbon, nutrients and water, becoming more productive. Threatened fish stocks are recovering. Collaboration with governments and businesses is providing practical, open-source tools to increase accountability and reduce environmental impacts. Together, we are paving the way forward to position Latin America as a sustainable model for the planet.

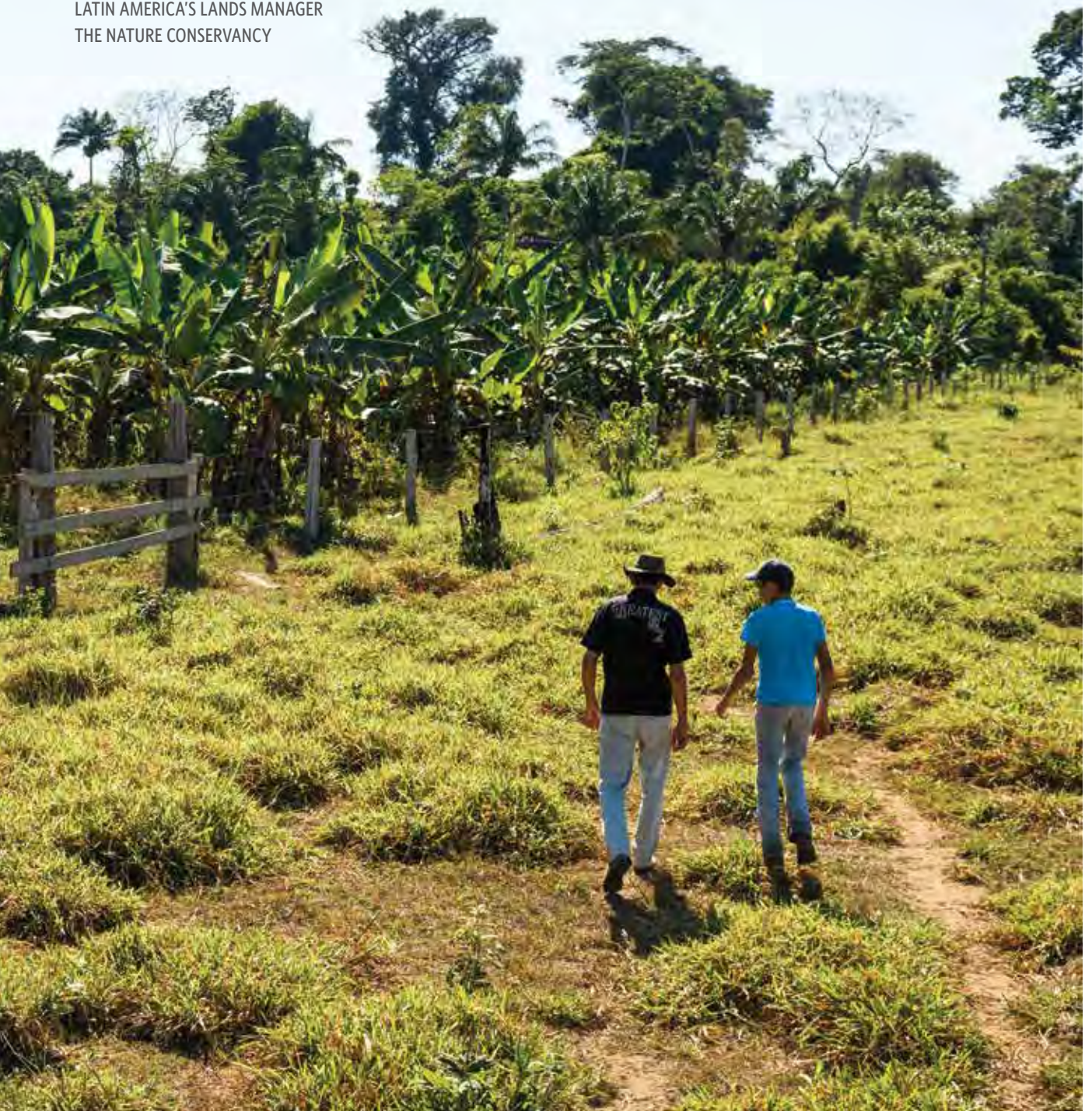




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**Our goal is to build a food system where agriculture works hand in hand with conservation to maintain the health of our soils and feed people around the world.**

MAURICIO CASTRO,  
LATIN AMERICA'S LANDS MANAGER  
THE NATURE CONSERVANCY





# Lessons from the Maya Forest Garden

Addressing one of humanity's greatest challenges—finding sustainable ways to feed a rapidly increasing global population—is Latin America's great opportunity. But it is also one of our biggest trials. We must balance increased production with a contained agricultural footprint. We must avoid harming environmentally sensitive areas and ramp up the productive capacity of the land already under cultivation.

Mexico's Yucatan Peninsula is a microcosm of this challenge. While the Yucatan is known for its ecological and cultural splendor—the lure of lush tropical forests where jaguars roam and ancient ruins of the Maya civilization tower above the tree canopy—the region loses more than 200,000 acres of forest each year, mostly to inefficient agriculture conversion which perpetuates a cycle of deforestation, soil depletion and poverty. A good look into the region's ancestral practices reveals it does not have to be this way. It is indeed possible to scale up food production while safeguarding the forest, fighting climate change and delivering opportunities for farming communities to thrive in the process.

The Mayans know that the forest is as essential to their food production as the seeds or the soil. Over four millennia, they have farmed the rocky, shallow soil by shifting diversified crops over the landscape to help forests and soils regenerate. This ancient farming





**PREVIOUS SPREAD:** With advice from TNC, Pedro Rodrigues and Matheus Correia have adopted agroforestry systems that combine food crops and native trees, to boost production while replenishing soil, sequestering carbon and nurturing wildlife. © Kevin Arnold; **CLOCKWISE FROM TOP LEFT:** A jaguar explores its home in the Yucatan peninsula, which shelters 50% of Mexico's jaguar population. © Fernando Constantino Martínez Belmar/TNC Photo Contest 2019; Maya temple ruins, Rared de los Reyes, are surrounded by dense, tropical lowland forest in Mexico's Calakmul Biosphere Reserve. © Mark Godfrey/TNC; Monarch butterfly in Quintana Roo, Mexico. © Erika Nortemann/TNC



system, known as “milpa”, is described as a “forest garden”—an unplowed, tree-dominated parcel cultivated year-round to produce plants for food, shelter and medicine. To this day, the milpa provides food security and livelihoods for rural, mostly Mayan, populations. It also provides a foundation for boosting resilience in the face of deforestation and climate threats.

The Nature Conservancy’s work in the Yucatan engages Mayan communities, producers, research institutions, private companies and government agencies. We have taken what has worked for millennia and incorporated cutting-edge technology and science to create practices that address current challenges.

In our work with farmers and ranchers across the Yucatan, TNC has seen first-hand the benefits of sustainable practices that are based on ancestral local techniques and supported by modern mapping and land-use planning. We have seen cows per hectare increase five-fold, milk production more than double and crop yields go up by more than a third. Small agricultural operations grow and family incomes rise. And all without clearing new forests.

TNC is currently scaling these sustainable practices through Networks for Landscape Innovation, which empower local farmers to demonstrate and replicate farming and landscape management methods proven to boost both productivity and forest protection. The networks facilitate the exchange of knowledge and good practices in sustainable production systems, connecting producers with science, research, rural extension services and markets. To date, we have involved almost 1,000 producers in 42 communities throughout the Yucatan in sustainable cattle ranching, regenerative agriculture, beekeeping, and forestry.



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**For me, the forest is life. It is our oxygen, our water, our livelihood. Where there is no forest, there is no life.**

**CLEMENTE KINIL CHAN**  
MAYAN FARMER

**LEFT:** David Canul, framed by squash and bean vines, picks corn on his family’s farm in San Agustin, Mexico where he uses traditional Maya farming techniques that combine a perfect partnership of plants. © Erich Schlegel; **RIGHT:** María Feliciano Moen runs a program that preserves native seeds that have adapted to Yucatan’s harsh conditions. © Ivan Lowenberg













# FishPath to Sustainable Oceans

When fish populations start crashing in areas with few restrictions, it's up to fishers to decide if they want to race to take what's left or change their practices. In 2015, the fleet of wooden fishing boats that sets out each morning from the Peruvian town of Ancon had been catching less of just about everything—octopuses, sea snails and crabs. For these dive fishers, a smaller catch means they earn less—and they needed to find a fix. They started to enact voluntary management measures to recover their fisheries, and then found a solid science partner in The Nature Conservancy, who introduced them to FishPath.

FishPath is an innovative scientific decision-making process designed by TNC and partners to help local communities and government agencies renew and protect their fisheries.

Hundreds of millions of people worldwide rely on fisheries for their livelihoods. But overfishing and mismanagement are a problem in more than a third of the Earth's fisheries. Most of those fisheries are unregulated without the support of sound science. Collecting information on the status of fish stocks—factors like fish size and reproduction rates—takes time, effort and expertise. For many communities, even basic data collection has been out of reach.

FishPath is a program that enables TNC staff and communities to evaluate the distinctive features of their fishery, as well as any available data, and then suggest options for management. "For many small-scale fisheries, FishPath opens a window for them to get concrete plans in place," says Carmen Revenga, TNC's sustainable fisheries strategy lead. "It gives them a path forward."

An important part of FishPath is building trust with local fishers and supporting communities as they manage their own fisheries. In Ancón, local fishers worked with TNC staff to craft a community-based fishery management plan that included setting size limits and temporarily closing some local fishing spots to allow populations to rebound. Those decisions, paired with leadership and market incentives, helped improve the populations and local catch of snails and crabs in just one year.

These results led to FishPath being adopted by Peru's Ocean Institute (IMARPE) to implement sustainable management of 30 priority species nationwide; and IMARPE is already introducing FishPath to artisanal fishers in Lorna, Cabinza, Pejerrey, Liza, and Bonito—five of the most important, small-scale Peruvian fisheries by catch volume.

Ancón provides a strong example of how science and technology, coupled with community engagement, transparency and trust-building have led to healthier results for the fisheries and the communities that rely on them.

Between TNC and partners, FishPath is in use in about a dozen countries around the world, including Chile and Mexico.

**PREVIOUS SPREAD:** Off the coast of Ancón, fisher Jose Martin Garrido maintains airlines for his diver in the depths fishing for bottom-dwelling species like octopus, snails, crabs and scallops, all by hand. **LEFT:** Fishers set out to work, Ancón, Peru. **RIGHT:** Jose Martin Garrido sorts a catch of black rock snails and crab. **ALL:** © Jason Houston







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**For many small-scale fisheries, FishPath opens a window for them to get concrete plans in place. It gives them a path forward.**

CARMEN REVENGA  
TNC'S SUSTAINABLE FISHERIES STRATEGY LEAD

ARGENTINA, BRAZIL

## A Future for Food and Forests



Though global demand for food will double by 2050, our science shows that forests don't need to be cleared to keep us full. With our online tool called Agroideal, we are helping the world's largest companies identify where

to expand soy or beef production on already-cleared land, ensuring that native forests or grasslands remain intact while meeting global needs. Agroideal

connects government agencies, lenders and the food industry to chart a course for sustainable food production in sensitive biodiversity hotspots like the Amazon forest and Cerrado grasslands of Brazil. In 2019 we expanded Agroideal to help manage soy's growing footprint in the Argentinian Chaco. The second largest dry forests in the continent, the Chaco is home to giant anteaters, armadillos and tapirs, but holds one of the highest rates of conversion of natural areas in Latin America.







**LEFT:** Surrounded by soy fields, native forest in Mato Gross survives thanks to tools like Agroideal that are helping take food production in Brazil to a higher level of profitability and sustainability. © Rui Rezende; **ABOVE:** Mariko Wallen harvests seaweed on her farm in Placencia, Belize. She grows two species: *Eucheuma* (for consumption) and *Gracilaria* (used for skin treatments and cosmetics). The farm is part of a program sponsored by TNC to bring seaweed aquaculture to the area in cooperation with the Placencia Fishermen Cooperative. © Randy Olson

## BELIZE

# Sowing in the Seas



In Belize, TNC is helping fishers grow seaweed to supplement their livelihoods and decrease pressure on overexploited fish

stocks. Why seaweed? Not only does seaweed absorb carbon dioxide, it also filters water, has a high nutrient content and provides nursery habitat to wildlife, such as lobster, crabs and parrotfish—some of the most economically and

ecologically important species in the Caribbean. Belizean seaweed fetches \$10 to \$15 per pound, and it is used in soups and stews as well as lotions and toothpaste. Sustainable aquaculture also awards rare opportunities: the chance to empower women in a sector that normally has significant barriers of entry for them, and the ability to generate financial returns while tackling a key challenge of our era—feeding a growing population while restoring the environment.

LEFT TO RIGHT: Ernesto Rojas' farm in Meta, Colombia combines native trees, forage banks and pastures in a beneficial combination that restores wildlife habitat and increases production. © Juan Arredondo; On Farm Rosania in Meta, Colombia, living fences of native plants contain cattle and can also connect forest to protected areas, creating corridors for wildlife. © Juan Arredondo; Cocoa is a sustainable forest crop native to the Amazon and the primary ingredient of chocolate. © Kevin Arnold



BRAZIL, CENTRAL AMERICA, COLOMBIA, MEXICO

## Reaping the Benefits of Regenerative Agriculture



Thousands of small-scale producers across Latin America's most biodiverse landscapes are working with TNC to adopt regenerative agricultural practices that increase yields and enhance conservation and climate resilience. For instance, in Colombia, TNC and partners just concluded a 10-year project that helped 4,100 family farms adopt "silvopastoral" techniques that combine trees with pasture, in a beneficial combination for farmers and the environment. Shade-grown cows are more productive and healthier for the environment.

The shade lowers the animals' heat stress, so they produce less methane, while the diversified vegetation improves their diet and productivity. About 94,000 acres have been converted to sustainable productive systems, increasing incomes by up to \$212 per acre/ per year and boosting milk production by an average of 36%. By rewarding farmers through payments for environmental services, the project has also contributed to the conservation of an additional 44,500 acres of ecosystems that are key for biodiversity. Farmers planted more than 3.1 million trees of 80 different species and sequestered more than 1.6 million tons of carbon.





## BRAZIL

# Improving Livelihoods While Reforesting the Amazon



Our work with 250 farmers in São Félix do Xingu, a deforestation hot spot in the Brazilian Amazon, has proven that agroforestry systems—which combine native species such as cocoa, manioc, açaí palm tree and hardwood—can significantly boost farmers’ incomes while restoring degraded pasture lands. Compared to ranching, cocoa requires less land with no need for constant expansion and profits can be up to five times higher. There are also many ecological benefits, as cocoa plantations can emulate natural forests, helping to restore native wildlife, improving water resources and absorbing carbon. To achieve our goal of reaching 1,000 families by 2025, we have developed a business plan and convened cocoa processing companies, chocolate producers, lenders, unions and cooperatives. This initiative is helping break the vicious cycle of slash-and-burn expansion that perpetuates poverty and deforestation by providing a profitable alternative that keep forests standing.

# Working Together for Water Protection

Latin America holds a third of the world's fresh water, but most of these resources are concentrated in areas like the Amazon and the Andes where few people live—80% of Latin Americans live in cities. Our research shows that 16 of Latin America's 20 largest cities are now facing water shortages and that the three largest, São Paulo, Lima and Mexico City, are in danger of running out of water entirely. Delivering clean and reliable water may be the single largest challenge that our growing cities face.

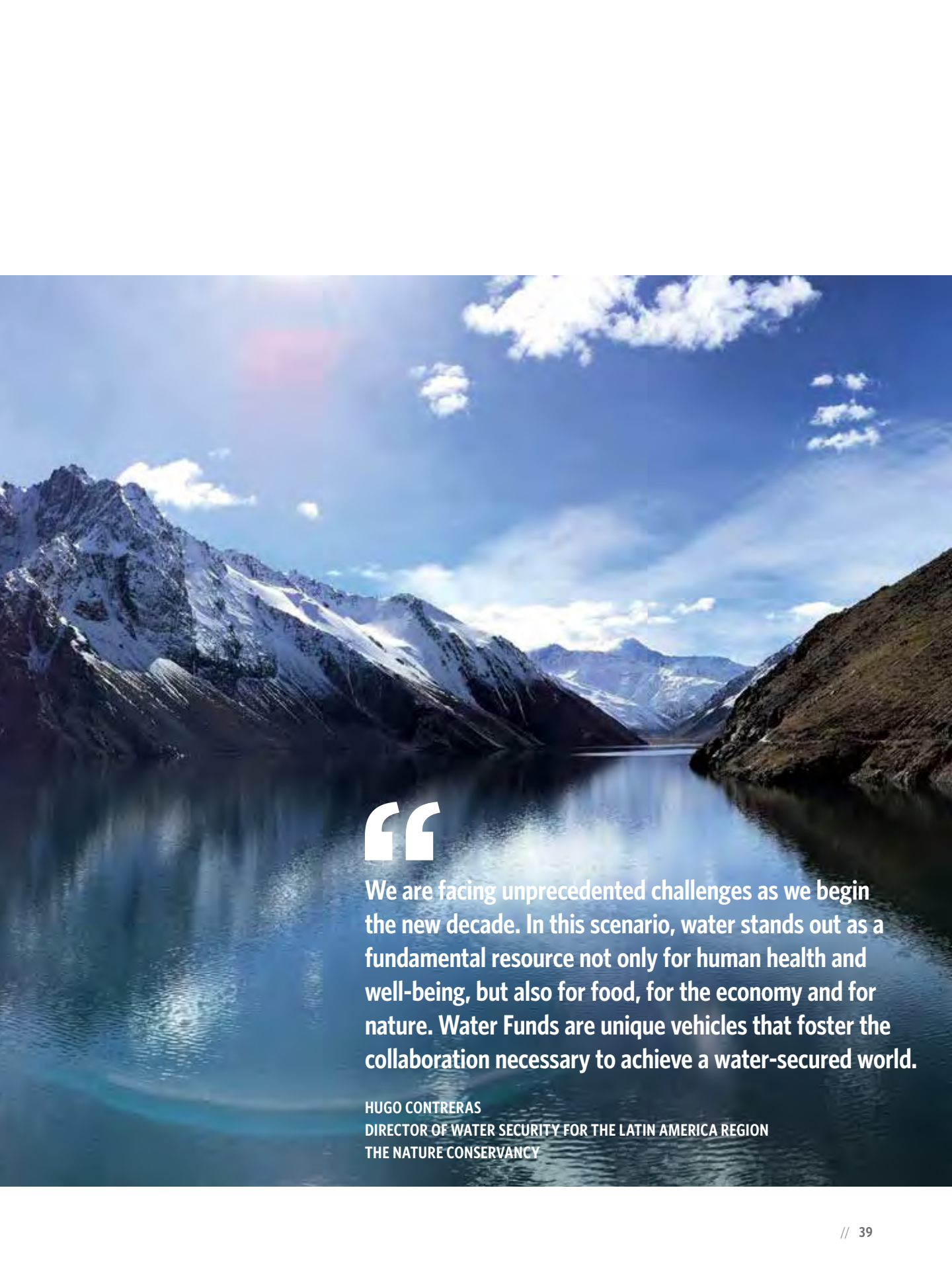
By combining on-the-ground experience with innovative science, finance and policy, and our unwavering commitment to collaboration, TNC is helping communities overcome water insecurity and invest in freshwater systems so that both people and nature may thrive.

Over the past 20 years, Water Funds have revolutionized water management in Latin America. Water Funds convene public, private and community stakeholders to preserve water sources by reforesting watersheds that capture and filter water, while introducing sustainable agriculture and ranching practices to prevent contamination of the waterways. The model has proved to be a win-win for people and nature. Upstream conservation practices protect wildlife habitat, improve water quality and supply, increase agricultural yields and save downstream users money by avoiding the need for costly water treatment.

Through the efforts of the Latin America Water Fund Partnership (LAWFP)—an agreement between the Inter-American Development Bank (IDB), the Global Environmental Facility (GEF), FEMSA Foundation, the International Climate Initiative (IKI) and TNC—and with a growing list of local partners, we have created 25 Water Funds in nine Latin American countries. Our latest addition was the Santiago-Maipo Water Fund—Chile's first—which will help safeguard water sources for Santiago's 7 million inhabitants and the country's agricultural sector.







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**We are facing unprecedented challenges as we begin the new decade. In this scenario, water stands out as a fundamental resource not only for human health and well-being, but also for food, for the economy and for nature. Water Funds are unique vehicles that foster the collaboration necessary to achieve a water-secured world.**

**HUGO CONTRERAS  
DIRECTOR OF WATER SECURITY FOR THE LATIN AMERICA REGION  
THE NATURE CONSERVANCY**

As of December 2019, Water Funds have leveraged more than \$205 million from 570 public and private partners, achieving the conservation of nearly 707,000 acres critical for water security and biodiversity.

Water Funds have continued gaining global recognition as a model of impact and innovation. In 2019, the Latin America Water Funds Partnership received the State-of-the-Art Partnership Awards (P4G Award) for its contributions to mobilizing communities, contributing to climate action, and helping countries reach their sustainable development goals. Ecuador's Tungurahua Water Fund received the 2019 Equator Prize as an outstanding community and indigenous initiative building climate change resilience.

Given the success of the Water Fund model, the LAWFP has continued refining its methodology and tool sharing to consolidate existing funds and accelerate the deployment of new ones throughout the region. In Colombia, a new coalition of more than 40 partners is already showing powerful results, such as a new regulation that allows water utility companies to invest in nature-based solutions through water and sanitation tariffs. As another example, nearly 400 multisector participants from 26 countries convened at The Water Funds Summit, held in Mexico City last July, with more than 1,100 followers online. As an outcome of the summit, a new Water Funds Network was launched to share best practices among 26 Water Funds in the region, with five exchange workshops held in Ecuador, Mexico, Colombia and Brazil.

Our corporate partners, such as Coca-Cola, Coca-Cola FEMSA, Arca Continental, BEPENZA, PepsiCo and AB InBev, have also invested in Water Funds as part of their sustainability and water replenishment goals and have engaged their employees in social responsibility efforts. In 2019, 855 volunteers planted 8,700 trees to restore 22 acres in priority watersheds during nine volunteering events held in Ecuador, Colombia, Costa Rica, Panama and Guatemala.

The relevance of Water Funds for water security has never been greater. More than 40% of watersheds that supply the world's cities are degraded. One in four cities around the world is already experiencing water stress. With an approach that is efficient, proven and scalable, TNC and its partners are making nature a critical part of the solution for a water-secure future.







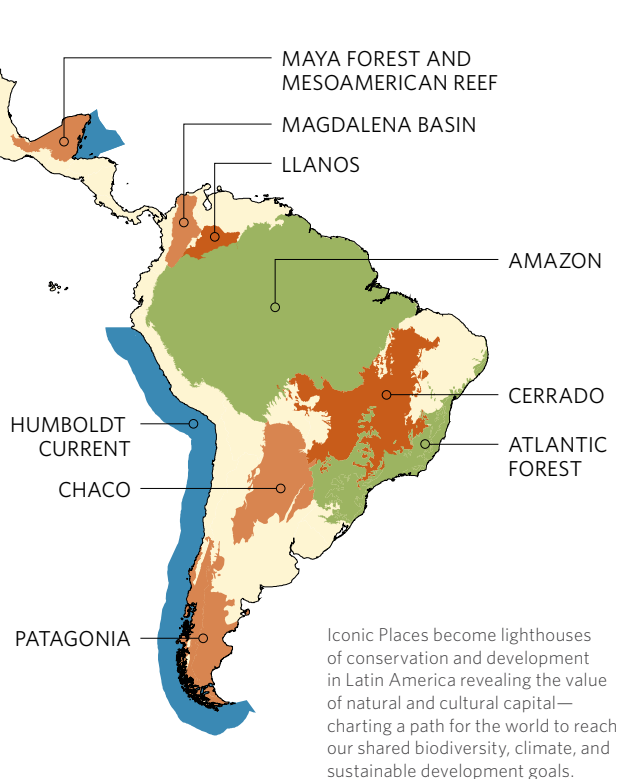
**PREVIOUS SPREAD:** Surrounded by the Andes mountains, the Yeso Reservoir is part of the Maipo watershed, which provides water to seven million people in the city of Santiago and sustains 50% of the country's GDP. © Paulo Petri/TNC; **CLOCKWISE FROM LEFT:** Reforestation efforts in the Guandu River Basin will help improve water sources for more than nine million people in Rio de Janeiro. © Clara Angeleas; Hugo Contreras, TNC's Water Security Director for Latin America receives P4G State-of-the-Art Partnership Award 2019 from Colombia's First Lady Maria Juliana Ruiz. ©P4G; Colombia's paramos (high altitude wetlands) produce 85% of the country's drinking water. © Bruno Tellez/TNC Photo Contest 2019

## FUTURE FORWARD

Our world is at a pivotal point. The coming decade holds a unique opportunity to change our planet's trajectory. Considering global biodiversity loss, poverty and climate crises, we must embark on a new path that emphasizes sustainability and collaboration. Nature is the key to our collective future. We must build on our past successes, while leading conservation efforts across new sectors, frontiers and communities in Latin America and around the world.

At The Nature Conservancy we seek to realize a future in which we take care of nature and nature takes care of us; where, together, the full diversity of life thrives. We will get there by using science, resourcefulness and radical collaboration—TNC's hallmarks—with renewed creativity, commitment and a systemic approach to scaling nature-based solutions. Our proven initiatives are rooted in decades of experience, working in partnership with local communities, governments, companies and supporters to show that conservation with development is possible throughout Latin America.

Our plan is to work faster and smarter to maximize impact in priority places. Our scientists have identified iconic land and seascapes throughout the region that are repositories of the natural and cultural capital needed to reset production-consumption patterns for a sustainable future. These are strategic, last chance ecosystems where nature-based solutions can deliver a triple benefit for biodiversity, climate change and sustainable growth. This builds on TNC's leadership in place-based conservation, our scientific expertise and our extensive network of partnerships to optimize results in more efficient and effective ways through cross-sector collaboration. By working together to scale proven solutions, we can create lighthouses of conservation with development that inspire the world's most biodiverse countries in Latin America, and the world, demonstrating that another path forward is possible.



As we chart this new path forward, we will spotlight how investing in nature-based solutions filters and cleans our air and water, secures the food we need to feed a growing population, protects the forests and coastlines we need to mitigate the climate crisis and builds resilience. As we recover and reboot the global economy, investing in nature puts us on the path to reach each country's national climate commitments, including Intended Nationally Determined Contributions (INDCs), Convention on Biological Diversity (CBD) targets and Sustainable Development Goals (SDGs).

We have come a long way and we are on the verge of a tipping point. 2020–2030 is the decade for exponential delivery of nature-based solutions. We are ready to work bigger, at a scale commensurate with our global challenges. We will continue to broaden the tent of collaboration to include scientists, non-profits, communities, governments, businesses, banks, social media influencers and entrepreneurs. We must abandon our silos to realize our shared vision of a world in which nature and people thrive. We look forward to sharing more, and to counting on your support for our Iconic Places Campaign.



The magnificent Amazon rainforest is home to 10% of the world's biodiversity and plays a major role in regulating the world's climate.  
© Daniel Maraña/TNC Photo Contest 2019



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**Our actions will determine the future of our planet. There is no more important responsibility for the present generation than to protect our planet from climate change, our forests from clear-cutting and our biodiversity from constant threats. As a human race, we are failing in this endeavor. TNC offers a science-based, highly effective and non-confrontational approach to tackling the major environmental challenges in a manner that underpins economic development. We all have a part to play in carving our path forward. Join us!**

JAIME ARDILA  
CHAIRMAN OF TNC BOARD OF TRUSTEES IN COLOMBIA  
FOUNDER OF THE HAWKSBILL GROUP

Three species of macaws: scarlet, red and green, and blue and yellow gathered to eat mineral rich clay in the Peruvian Amazon. © Jan Korba/TNC Photo Contest 2019












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*Conserving the lands and waters  
on which all life depends.*

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