

# The Biggest Environmental Challenges of 2017

*Perspectives from our global and regional leaders on  
the most pressing issues facing people and the planet*

## FROM THE CEO



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**T**he environmental challenges the world faces have never been greater or more complex. And never before have we lived in such an uncertain political climate.

Recent world events, such as the U.S. presidential election and Brexit, indicate that global action on climate change and other environmental issues could face stronger political headwinds in the years ahead.

But now is no time to back down. Now is the time to step up and forge ahead.

Soon more than 9 billion people will share our planet. Increasing demands for food, water, energy and infrastructure are pushing nature to its limits. And the impacts of climate change are touching down everywhere we look.

Against this backdrop, our scientists recently took a hard look at whether we really can have it all—a future where people get the food, energy and economic growth they need without sacrificing nature.

The answer is “yes”—but only if we do things right.

What emerged from our analysis was a set of key challenges facing people and nature that we must address to achieve that vision. First, we need to address climate change once and for all. Second, we need to increase food production while freezing agricultural expansion and keeping global fisheries healthy. And third, we need to focus on cities—helping them grow sustainably while maintaining healthy lands and waters.

During the year ahead we plan to sharpen our focus on these areas. At The Nature Conservancy, we believe nature-based solutions can play an important role in addressing these big challenges. The road ahead won’t be easy, but by investing in nature, we think we can find common-ground solutions that are good for biodiversity, good for the economy and good for people.

## CHALLENGES FOR 2017



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# Ensuring a low-carbon future

Making the transition to a low-carbon future and reducing the impacts of energy sprawl

Fossil fuels account for roughly 75 percent of the global emissions causing climate change. To limit global warming to less than 2 degrees Celsius, we must drive changes in energy policy that accelerate our transition to a clean energy future—while avoiding the impacts of energy sprawl. Maintaining the momentum of ambitious commitments to reduce greenhouse gas emissions, such as the

Paris Agreement, will be key to accelerating the transition to clean energy solutions worldwide. And as high-emitting nations, such as the United States, China, Brazil, Indonesia and Mexico, continue innovating toward a low-carbon future, it will be important to do so in a way that creates both sustainable power generation and biodiversity conservation.

## CHALLENGES FOR 2017



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# Maximizing nature's role as a climate solution

Maximizing the role nature can play in absorbing and avoiding greenhouse gas emissions and addressing the impacts of climate change on people and nature

Nature is the sleeping giant in solving climate change. Increased investment in nature-based solutions such as avoiding forest loss, reforestation, investing in soil health and coastal ecosystem restoration gives us the best opportunity to prevent catastrophic warming. Though clean energy technology and policy to regulate emissions are essential, they alone cannot work fast enough. Nature-based solutions

are readily available, can be deployed now and could contribute more than a third of the reduction in carbon emissions needed by 2030. These solutions also provide critical value to people and nature beyond carbon mitigation—including more secure drinking water, improved food production, stronger community protection from storms and floods, and refuge for some of the world's most endangered species.

## CHALLENGES FOR 2017



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# Improving management of the world's fisheries

Helping create sustainable fisheries around the world

Fisheries represent a \$130 billion industry that spans—and feeds—the entire world. But 57 percent of fish stocks are fully exploited and another 30 percent are overexploited, depleted or recovering. The price tag for the world is \$50 billion lost each year to overfishing and poor management. Unfortunately, most countries do not have the information or tools it will take to fix these problems. The good news is that fishermen are willing to lead the way

to a more sustainable future, and there is strong consumer demand for sustainable seafood. Solutions lie in engaging directly with fishermen to pilot and replicate worldwide new practices and technologies for better understanding fish stocks and sustainable management methods, while at the same time working with world-leading fishery scientists, multinational companies, and arbiters of certification labels to scale up solutions in the global seafood marketplace.



## CHALLENGES FOR 2017



# Expanding sustainable agricultural practices

Helping producers increase food production while halting forest loss, balancing water for people and nature, and limiting pollutants to our rivers and seas

Humans have already cleared or converted nearly 40 percent of Earth's ice-free surface for agriculture. Additionally, agriculture is the second largest source of greenhouse gas emissions globally—after fossil fuels. Encouraging more productive agricultural activities will be essential to meeting the growing demand for food and securing water, all while ensuring nature continues to thrive. By convening diverse partners—small-share ranchers and farmers,

large agri-businesses, the government, indigenous communities and funders—we can build new business models that align conservation, food production and social agendas. Experiences in places like Brazil, Indonesia and Mexico and the United States, can provide a model for connecting more producers with low-carbon practices that increase food supplies and promote economic growth while reducing agriculture's impact on our lands and waters.

## CHALLENGES FOR 2017



# Creating a green urban future

Supporting sustainable growth of the world's cities

By 2050 two-thirds of the world's population will live in cities. Humans have already made tremendous investments in the buildings and transportation, water and energy systems that sustain cities, but the sheer demand for the additional urban infrastructure necessary to support growing cities is straining both natural resources and public finances. The combination

of urbanization and climate change could make cities deeply unlivable places, but it doesn't have to be that way. Expanding investments in nature-based solutions to address urban challenges like storm water run-off and air pollution is a cost-effective way to improve the health, safety, productivity and well-being of people living in cities and to conserve biodiversity.

## CITIES

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*By incorporating nature into city planning, leaders can make these sprawling urban areas healthy, thriving places where people want to live.*

**W**e are currently in the midst of one of the biggest megatrends in human history—that is the migration of people from the country to the city. Millions of people are moving into urban areas in search of a better life. Cities are growing at an unprecedented rate and are under tremendous pressure from aging and insufficient infrastructure—affecting air and water quality, flood control and public safety. Global heat records continue to break and human lives are at stake, particularly in urban neighborhoods without street trees.

Cities will lead on sustainability. By incorporating nature into city planning, leaders can make these sprawling urban areas healthy, thriving places where people want to live. Nature can help cities manage their water, from the source to the sewer. Upstream natural

areas save cities millions of dollars in drinking water treatment, and properly designed green space within cities can manage the runoff from our streets and buildings—one of the fastest growing sources of water pollution. The Nature Conservancy is developing innovative funding and policy initiatives to help cities from Mexico to China go green.

And new Conservancy data shows that street trees can reduce air pollution and heat in urban areas, saving lives. This year, we'll be working with community leaders in a handful of cities in the United States to demonstrate how well-planned tree planting can improve public health. Regardless of what happens at the national and global levels, mayors around the world are developing strategies to combat climate change and planning for a greener future.



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## CLIMATE

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*One of the biggest areas poised for innovation is the clean energy sector.*

Perhaps the most significant environmental challenge facing us today is the reality of a changing climate. Increasing levels of melting sea ice, more frequent coastal high-intensity storms and extreme drought are immediate threats that will affect the health and security of our future. Already, we are seeing sea-level rise in locations across the planet. In places like Miami, we are seeing what we call “sunshine floods,” or flooding even without significant rainfall. And in the Pacific Ocean, island nations like the Marshall Islands are battling tides that threaten to swallow their ways of life. To reduce risks of widespread impacts like these, the people of the world must take comprehensive and science-informed actions to address the drivers of global greenhouse gas emissions linked to climate change, while simultaneously galvanizing innovative

solutions that will help us adapt to a changing world.

The challenges are vast, but in many cases we already have the instruments for tremendous progress. Some of our best solutions will come from putting nature to work. Alongside coastal communities, we can utilize oyster reefs and salt marshes to build-up storm resilience; and around cities, nature can help improve the quality and availability of clean water and air. At the same time, one of the biggest areas poised for innovation is the clean energy sector. Over the past two years, renewable energy sources have surpassed fossil fuels in growth. As we further catalyze this transition, we must also reduce the impacts of all energy infrastructure to ensure dynamic economies, thriving communities, and healthy lands, waters and wildlife.



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## LANDS

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*The importance of our land economy—for meeting sustainable development goals and tackling climate change—cannot be understated.*

**H**umans have been producing food, goods and energy from the land for 250 generations. While there is nothing new about our exploitation of natural resources, the scale of it today means that the world is entering a period of intense resource stress. Much of this plays out in the land-use choices we make, with climate change already accelerating those pressures. This focuses my mind for 2017—particularly as the international community has a short window to work out the details of how the Paris Climate Agreement will be implemented. This will have huge implications for land use: how we produce enough food, forest products and energy from our lands, how and where we conserve ecosystems and how much greenhouse gas mitigation we can achieve from land use.

Our work focuses on finding the right balance between the production we

pull from our landscapes—sustaining millions of livelihoods—with the right level of protection of critical habitats and biodiversity. I believe that TNC can play an important role here as land use has been at the core of our work for more than 65 years. One good example is our soil health work across the United States. Investments in good soil management have multiple pay-offs: improved production, more income for farmers, better water management and increased carbon storage. And in Latin America, we have been working with governments and large companies to manage the agricultural footprint of soy and cattle to avoid further conversion of critical forest habitats like the Amazon. These are replicable strategies that we must continue to scale. The importance of our land economy—for meeting sustainable development goals and tackling climate change—cannot be understated.



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## OCEANS

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*Every second breath we take comes from the ocean.*

**W**e are at a pivotal moment for the health and future of our environment, and the health of our oceans underpin the health of our entire blue planet. Every second breath we take comes from the ocean. For the ocean to be able to provide food for the more than 3 billion people who depend on it as their main source of protein, we must be more effective at managing our fisheries. But this requires not only sound science, planning and management practices to regulate what we catch and where, but also most importantly it requires strong, international collaboration for better ocean governance. In 2017, we have the opportunity to shape this like never before.

The high seas, or areas beyond national jurisdiction covers about

40% of the planet and around two-thirds of the ocean. But those waters are remote, and are unregulated. This year, a group of organizations will be working along with the High Seas Alliance towards a new United Nations legally binding treaty for the conservation and sustainable use of marine biodiversity beyond national jurisdiction. The treasures of the high seas are up for grabs and currently undefended. With fishing, mining and pollution encroaching ever further and deeper into the ocean, the existing legal and governance framework is out of date and out of its depth. The current process to negotiate a new high seas treaty could lead to a robust agreement fit for guarding ocean life against 21st century perils. And that's good for everyone.



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## WATER

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*Marrying the use of our natural resources as an ingredient to economic and social development—while maintaining it for future generations—is a fundamental problem that we need to solve.*

**A**s discussed at the World Economic Forum 2017 in Davos, world leaders will be increasingly focused on global security, trade and shifting geopolitics. Ensuring long-term economic prosperity will require that environmental solutions are a central part of these continued discussions. Look no further than water security, a currently unstable pillar of the global economy. About half a trillion dollars a year is spent on gray infrastructure that delivers water services primarily to cities but also to activities like agriculture. In order to deliver water security to people, and to do it sustainably over the coming decades, we will need to make sure that our rivers and wetlands are healthy and our groundwater is replenished. Nature-based solutions, such as reforested watersheds, better managed agricultural lands and smarter river basin development, hold a key to that future.

Financial innovation will be critical to making this happen. If we can find ways to finance early-stage planning that allows rivers to be developed as integrated systems as opposed to building one project at a time, we can have vastly better outcomes. Likewise, working with industry we can define criteria by which development projects are “sustainable” and help direct capital that way. We can also create vehicles for impact investors in order to finance, up front, the future demand for water as well as implement water markets as they have in places like Australia. And more cities are mobilizing cross-sector water users to contribute to healthier urban watersheds upstream. Bottom line: marrying the use of our natural resources as an ingredient to economic and social development—while maintaining it for future generations—is a fundamental problem that we need to solve.



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## AFRICA

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*We are facing a number of environmental challenges in Africa, but population growth is obviously one of the biggest.*

**W**e are facing a number of environmental challenges in Africa, but population growth is obviously one of the biggest. There are currently more than 1 billion people on the continent, and that number is expected to skyrocket to 3 billion in the next 100 years. While this is a challenge that will continue to grow each year, we are already starting to see the effects: in agricultural growth, in changing land-use patterns, in unplanned development and in

rising poverty rates that impact the poaching crisis.

While we are making great strides in reducing the demand for ivory—thanks in part to actions being taken by leaders in the United States and China—the surviving elephants will face a new challenge: shrinking habitat due to rising human populations. So a big focus for us now will be to conserve and manage land in a way that benefits both the elephants—and all wildlife that need large, connected landscapes—and the local people that live there.



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## ASIA PACIFIC

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*Asia Pacific's impact on oceans, forest, climate and cities affects the rest of the world.*

**W**ith 60 percent of the world's population and seven of its fastest-growing economies, Asia Pacific (AP) is faced with sustainably managing the region's natural resources to meet the demands from our rising population. AP's impact on oceans, forests, climate and cities affects the rest of the world.

The region's ocean is one-third of the globe, and AP's island countries control much more than their land footprint. These waters are poorly governed, with the open oceans even less well-managed. Making the

world's largest ocean sustainable and well-managed, with high stakes for people and nature, is a challenge this generation can meet with increased communications, technology deployment and science-based management.

AP's lush tropical hardwood forests, meanwhile, are in demand for furniture, paper and products we all need. It's tough, but possible, to bring economic value to local people in Indonesia, China and Myanmar while maintaining those forests for their biodiversity and their ability to keep carbon in the ground.



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## EUROPE

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*Europe is at the crossroads of global capital flows and our goal is to bring nature squarely into the picture to drive more sustainable investments.*

**A**lthough Europe has long been a global environmental leader, Europe's natural capital continues to be degraded by activities such as agriculture, fisheries, industry, transportation and urbanization—resulting in loss of soil functions and biodiversity. The one overarching environmental, social and economic challenge that will exacerbate all these impacts is climate change. 2016 is set to be the warmest year on record. In Europe, this observed climate change has already led to impacts on the environment, economy and human health. Counted together, European countries make up the third largest emitter of greenhouse gases in the world. We cannot meet the global target to limit climate change to below 2 degrees centigrade unless significant

ambition and action on climate takes place within Europe.

At the heart of meeting the climate goal is a shift in how energy is produced, with the EU committed to renewables forming 27 percent of energy consumption by 2030. Using science as a guide, we can identify smart pathways across multiple sectors (hydropower, solar, wind) to renewable energy build out that have the lowest possible impact on lands and waters. We need to leverage both public and private sector actors to achieve a low carbon future, including the financial community. Europe is at the crossroads of global capital flows, and our goal is to bring nature squarely into the picture and seize the opportunity to build a bridge between the science and investment community to drive more sustainable investments.



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## LATIN AMERICA

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*Our challenge is to find innovative ways to manage our growing needs for food, water, energy and development for long-term prosperity.*

**W**ith 40 percent of the world's species, more than a quarter of the Earth's forests and the second largest reef on the planet, Latin America is a true biodiversity "superpower." But the region is changing fast. Massive natural systems like the Amazon rainforest, the Patagonian grasslands and the Pantanal wetlands hold magnificent natural wealth and sustain more than half a billion people. An expanding population, with climbing demand for energy and food, combined with a warming climate, threaten to destroy the very world we depend on for our survival. Our challenge is to find innovative ways to manage our growing needs for food, water, energy and development for long-term prosperity. This is precisely why The Nature Conservancy is applying its

scientific expertise, pragmatic approach and collaborative partnerships to advance a set of innovative nature-based solutions: Water Funds that use nature to provide clean water for our cities; Green Growth Compacts that intensify both food production and habitat protection; Blue Growth Compacts that catalyze sustainable use and conservation of marine resources; and the Mitigation Hierarchy, which frames licensing and planning to avoid, minimize or compensate for the negative impacts on biodiversity from infrastructure projects.

A globally recognized "convener," the Conservancy brings together public and private allies (governments, producers, communities, companies and financial institutions) to take these innovative models to scale, from Latin America to the world.



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## NORTH AMERICA

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*The good news is that science tells us that there is a way for people and nature to thrive together.*

**N**orth America's lands and waters are some of the most productive in the world. Our fertile soils help feed populations across the globe. Our waterways carry goods across the continent and provide essential services to communities, economies and wildlife. But as populations grow, unprecedented stress is being placed on the lands and waters that support us all.

Energy development is projected to impact 50 million acres across the United States. Agriculture production

will need to increase to feed a more crowded and hungrier world. Climate change is bringing greater risk of floods and damaging storms to our communities. And with more than 80 percent of Americans living in cities, we need to make sure we are developing sustainable infrastructure that brings benefits to both people and nature.

The good news is that science tells us that there is a way for people and nature to thrive together. And we at The Nature Conservancy are helping forge that path.



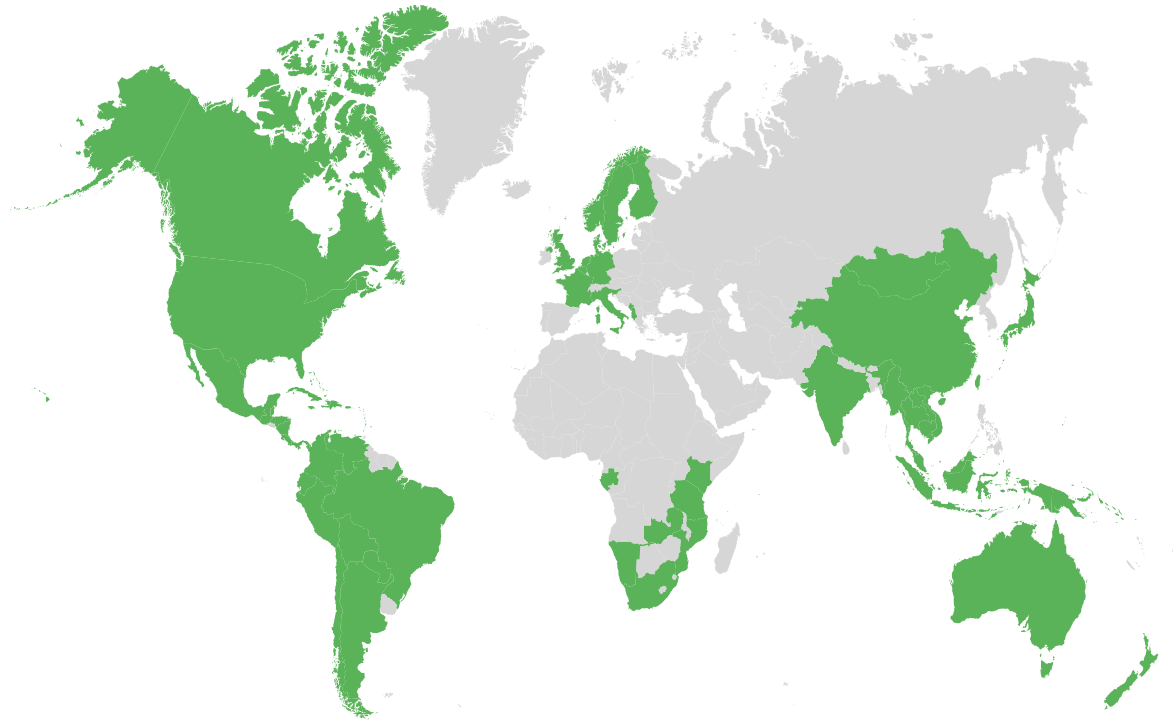
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**MARK BURGET**

EXECUTIVE VP AND MANAGING  
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## ABOUT THE NATURE CONSERVANCY

Since 1951, we've been dedicated to conserving the lands and waters on which all life depends.



>70  
countries

4000  
employees

600  
scientists

1M  
members



# nature.org/environment2017

The Nature Conservancy is a global conservation organization dedicated to conserving the lands and waters on which all life depends. Guided by science, we create innovative, on-the-ground solutions to our world's toughest challenges so that nature and people can thrive together. We are tackling climate change, conserving lands, waters and oceans at unprecedented scale, and helping make cities more sustainable. Working in more than 65 countries, we use a collaborative approach that engages local communities, governments, the private sector and other partners.

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