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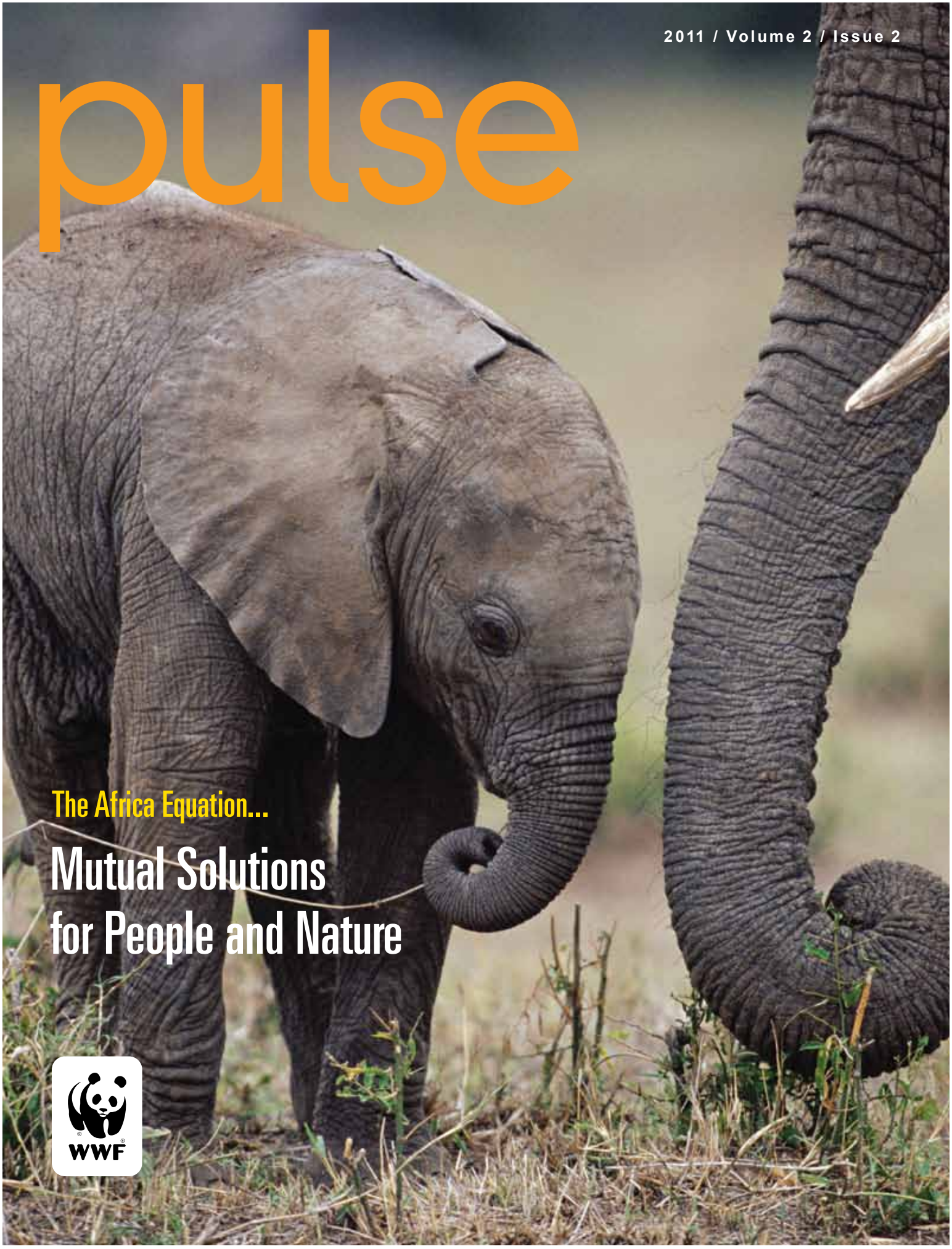
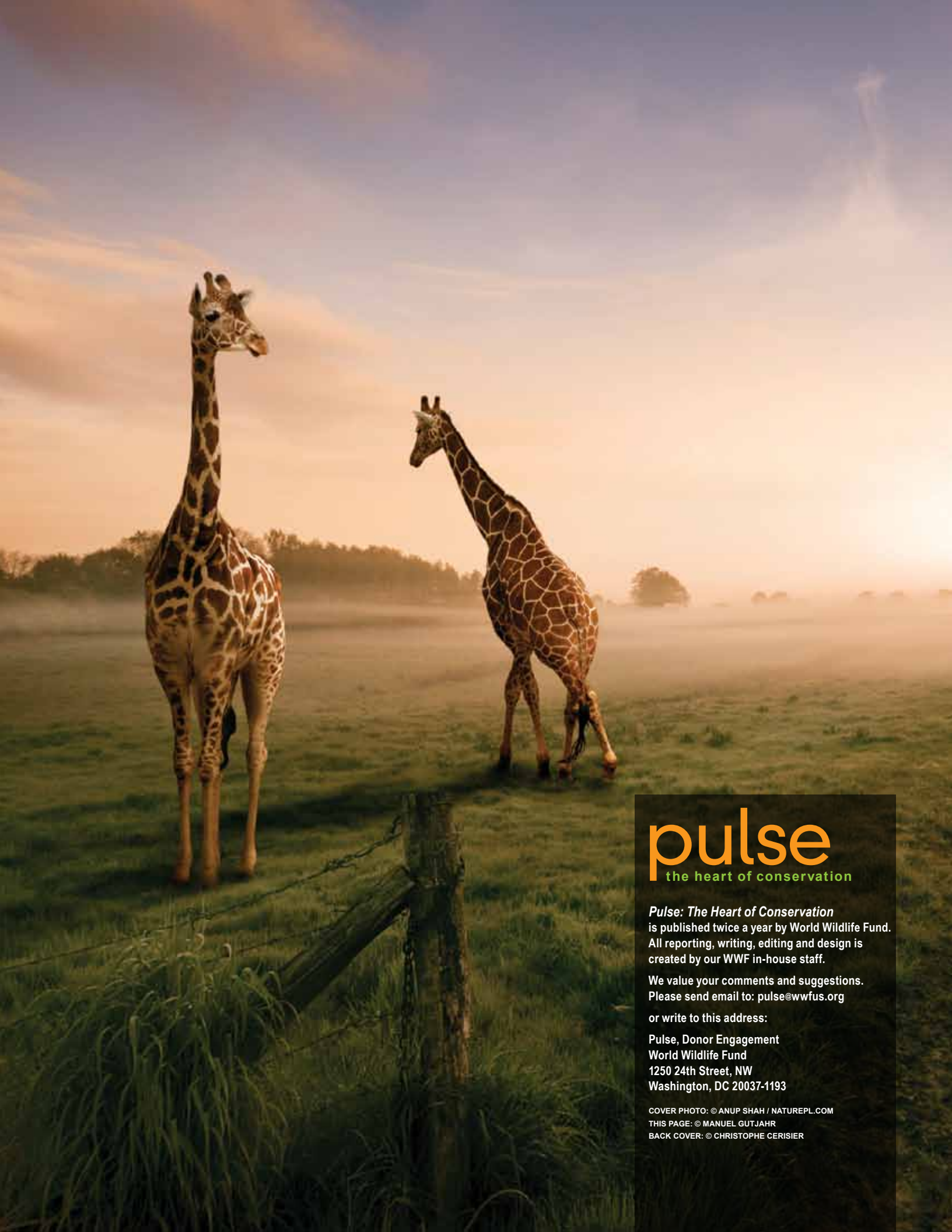
pulse



The Africa Equation...

Mutual Solutions for People and Nature

WWF



pulse

the heart of conservation

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FROM THE PRESIDENT

Saving What We Value

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Our work poses this question: If we establish the value of nature, can we save it?

This May I passed through the gates of the Swiss National Museum in downtown Zurich to take in its latest offering—a multimedia exhibition exploring WWF's first 50 years, and the creation of the world's largest conservation organization.

The show chronicles the defining act of our birth: a series of letters that gave rise to a global campaign to save the black rhino, a species whose very existence hung in the balance. Building on this initial campaign, WWF has continued working over the years to save this magnificent animal by raising awareness and funds, building local capacity and supporting the work of local partners.

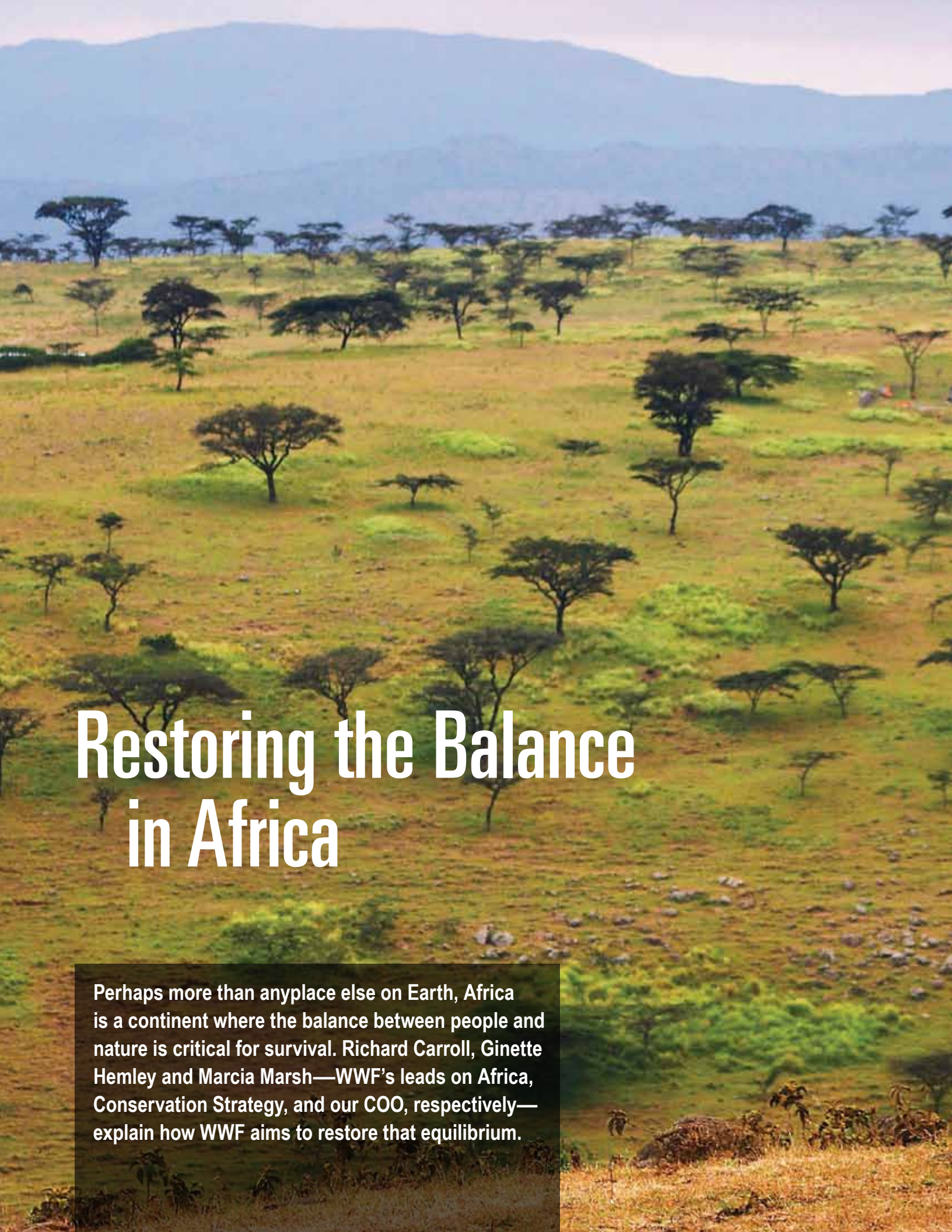
In 1983 an enterprising adventurer and ecologist named Garth Owen-Smith worked with his wife, Margaret Jacobsohn, in the most remote regions of Namibia, then a protectorate of South Africa. Together, they hatched an idea: What if they engaged local communities to monitor black rhino populations, scout and report on their locations, and notify authorities when poachers were nearby? If local people linked social and economic development to the conservation of the wildlife they lived with side by side, perhaps these animals could be saved. Owen-Smith and Jacobsohn helped devise the event book system which enabled communities to keep accurate records of rhino populations. This tracking method remains a pillar of the extraordinarily successful present-day community conservancy system.

More innovation followed. When friends and family visited Owen-Smith in Namibia he felt obliged to provide a payment to the communities for their hospitality, establishing precedent for one of the most successful ecotourism operations in the world. Now, a series of high-end tourist lodges share revenues with 57 local conservancies, which in turn protect not just black rhinos but also the oryx, lions and elephants that have become such an attraction for visitors.

The results of these ventures have been stunning. Open the pages of the latest bi-annual report of the community conservancy system and you see the kind of hockey-stick graphs of which businesses dream: long flat lines, representing declining animal populations and lack of local revenue, turning sharply upward as a result of the conservancies that Owen-Smith and Jacobsohn conceived with local leaders.

From the moment Namibia achieved its independence in 1990, WWF has played an important supporting role in the conservancy movement, taking the early work of Garth Owen-Smith and others to scale. Our work here is but the latest chapter of a narrative that poses this question: If we establish the value of nature, can we save it?

Carter S. Roberts
President & CEO



Restoring the Balance in Africa

Perhaps more than anyplace else on Earth, Africa is a continent where the balance between people and nature is critical for survival. Richard Carroll, Ginette Hemley and Marcia Marsh—WWF's leads on Africa, Conservation Strategy, and our COO, respectively—explain how WWF aims to restore that equilibrium.

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Encompassing 54 sovereign countries and 209 ecoregions, the continent of Africa holds some of the most unique and iconic plant and animal species on Earth. WWF focuses much of its work in Africa on keeping a balance between development and its impacts. It's challenging. Development is necessary to the survival of the human species, just as our efforts to minimize the impacts of development are necessary to the survival of thousands of other species that call this place home.

MARCIA MARSH: There is no continent that captures the spirit of our mission more than Africa. We are seeking a future where people live in harmony with nature. For generations, the Masai in Tanzania and Kenya, the Ba'Aka in the Congo Basin, the Himba in Namibia and many other indigenous populations have been the stewards of nature. WWF has worked in Africa for decades with these communities that most often lead the way in protecting the remarkable variety of species, both flora and fauna.

RICHARD CARROLL: Outside of Africa, I don't think people realize how truly wide that variety can be. Africa is most often known for its large mammals, its elephants and gorillas and rhinos and all the antelope species across East Africa. But there are also the smaller species—both flora and fauna—such as the incredible plant diversity found in the *fynbos* biome in the Cape Floral Kingdom located at the southern tip of the continent. The *fynbos*, which means "fine bush" in Afrikaans, covers only 6 percent of the area of southern Africa, yet it is home to half the plant species on the continent.

GINETTE HEMLEY: Back in the late 1990s, WWF undertook a big effort to map the world's biodiversity, creating the so-called Global 200 ecoregions, our blueprint for conserving the diversity of life on Earth. The approach we took was to look at biodiversity from a representational point of view, looking at each major habitat type and ranking it. Not surprisingly, one of the most unique and globally outstanding deserts in the world and one of our highest ranked, the Namib, is in southern Africa.

RICHARD: Of course, when you think about richness and biodiversity and endemism—that is, species that are native only to one particular place—you think of Madagascar. The island has 32 species of lemurs that exist nowhere else but there. What's even more interesting is how Madagascar changed over time. Today, it has all these little lemurs like teddy bears sitting in the trees, but at one point it had elephant birds—huge, flightless birds bigger than ostriches—and giant lemurs. They all existed out there on that island that's been separated from the mainland for 160 million years, until people showed up about 2,000 years ago. The people exploited the island for agriculture, bringing along cattle, which changed and deforested about 80 percent of the land.

The continent of Africa, though, is different in that it's been fairly stable for hundreds of millions of years. Here, wildlife evolved with people. There weren't such mass extinctions on the continent of Africa as there were on Madagascar.

GINETTE HEMLEY
Senior Vice President, Conservation Strategy and Science, WWF

RICHARD CARROLL
Vice President, Africa and Madagascar Program, WWF

MARCIA MARSH
Chief Operating Officer, WWF

GINETTE: And let's not forget the marine systems. The Coastal East Africa region, which extends as three ecoregions from the southern part of Somalia all the way down to South Africa, is a vast system of coastal forests, woodlands and shoreline that creates these micro-systems that occur nowhere else on the planet. Here we find some of the more charismatic species, like the critically endangered dugong, a sea mammal related to the elephant. You've got endangered sea turtles that nest on the beaches and occupy the coastal waters. There's a huge array of reef fishes, and you've also got commercially important species like tuna further off the coasts.

RICHARD: We also have the humpback whales off the coast of Africa and near Madagascar.

And the Congo River has one-of-a-kind freshwater fish species—such as the electric catfish—that exist only there. Lake Niassa, a national park in the Rift Valley bordering Malawi, Mozambique and Tanzania, has thousands of species of cichlids—small, brightly colored fish that unfortunately often appear in the aquarium fish trade.

MARCIA: The threats to the critical balance of nature in Africa began in colonial days and have escalated to include challenges from global resource extraction and civil wars. And there are some residual threats, such as the illegal bushmeat trade, which is now greatly exacerbated as a result of new development.

GINETTE: Another threat comes from significant overfishing. For sea turtles, the problems are

WWF in Africa

Improving Livelihoods by Conserving Nature

WWF Priority Places

Terrestrial Areas
Marine Areas

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PHOTO COURTESY OF INTERNATIONAL RIVERS

ABOVE **The world's largest hydropower scheme, Grand Inga Dam is part of an effort to develop a power grid across Africa that will spur the continent's industrial economic development. WWF keeps an eye on projects like these to ensure that today's development won't cause environmental problems that could impact future generations.**

TOP **Water plays an important role for Africa's wildlife and the continent's growing human population.**

fishing bycatch, the destruction of their nesting beaches, and the collection of their eggs for consumption by humans.

RICHARD: And now, we've also got damming of rivers as a growing issue, as Africa is seeking power generation. Hydropower is becoming a huge factor on many of the rivers—the huge Inga Dam on the Congo River is just one example.

MARCIA: All of these pressures are accelerating and are now complicated by climate change. Look at the stories coming from the Horn of Africa right now about the horrific droughts and famine. These challenges require new solutions and we are joining forces with our colleagues at CARE to try something entirely different. In Mozambique, our staff came to the realization that neither we nor CARE could succeed on our own. In an area called Primeiras e Segundas, we started an alliance to work directly with fishing communities on their own community-based natural resource management—tackling fisheries, agriculture, and forest management in the region.

In the capital, Maputo, CARE and WWF are working together with the government of Mozambique to help declare Primeiras e Segundas the largest marine protected area in both Africa and the Western Indian Ocean. That declaration will allow the local people to co-manage their environment in partnership with the ministries. Villages and community associations are already setting up marine sanctuaries—as well as learning new agricultural and storage techniques, creating village savings and loans, starting new businesses and monitoring their forests and coastal areas. Through this effort, we have partnered with over 10,000 families and 100 community associations.

RICHARD: There's really a nexus of threats we are tackling in Africa: population growth, poaching and poverty. The bushmeat trade is the largest

"For generations, the Masai in Tanzania and Kenya, the Ba'Aka in the Congo Basin, the Himba in Namibia and many other indigenous populations have been the stewards of nature." MARCIA MARSH

threat to biodiversity in the Congo Basin. People across Africa have depended forever on wildlife products, including meat. And they continue to sustain themselves off of wildlife. In one way that's a good thing because they have a vested interest in maintaining wildlife populations.

But the illegal hunting of bushmeat for sale in markets is much more intensified and can empty a forest of its wildlife. It starts off with hunting for the larger species—everything from elephants to great apes. Then the duikers—small forest antelope that the hunters catch with snares and guns. Monkeys, easily shot when up in the trees, are next. When those species are eliminated, people start turning to the larger birds such as hornbills, then rodents and things like that.

And the growing extractive industries—which are moving toward mining, oil, and gas, as well as increased logging—are becoming a huge, huge threat factor across Africa, not just the Congo. A logging or mining company comes and builds roads in the grid system and brings in a large migrant worker population, all of whom need to eat. Just one individual can put up hundreds of snares and devastate the wildlife populations in that forest.

MARCIA: The challenge is that Africa needs to develop and it needs investment, and what they have is natural resources.

RICHARD: Exactly! So the question becomes how to influence both development that is sustainable and natural resource use that is sustainable.

We use a number of approaches to do this. For example, we work with companies to have them take responsibility for providing food for their employees, so that workers don't have to poach.

We work with the forestry industries to get them to use certified logging practices following the Forest Stewardship Council criteria—a standard for logging that includes both how they manage the ecosystem and how they work with communities.

With the mining industry, we use a similar approach of encouraging the best standards. But when companies don't play the game, we have to ratchet things up a bit and try to influence their home offices or their financial support, the banks and all the different funders that support them.

GINETTE: That's the tricky part. WWF is often only seen as people working in the field, working with wildlife. Conservation may start as a biological science—choosing the right places to work. But once we decide to foster conservation in an area, it quickly becomes a social and political science!

MARCIA: One interesting thing that we've done in the last year is to engage Chinese lenders—who are becoming an increasingly important part of financial transactions worldwide. We've been successful in bringing a team of Chinese bank leaders to Africa to meet with their counterparts at major banks and ministries. They also had the opportunity to visit local communities to really get a sense of what their investment might do.

We had success in creating awareness and positive actions for potential mines in Central Africa and the Congo River Basin. We've also had success in Mozambique with engagement and partnership with national financial institutions.

GINETTE: WWF has also played a major role thwarting illegal wildlife trade through a treaty called CITES (the Convention on International Trade in Endangered Species), which is the world's largest wildlife conservation agreement, with more than 170 member countries. One of WWF's founders, Russell Train, led negotiations of this agreement on behalf of the U.S. government while he was working in the Nixon administration. Since then, WWF and TRAFFIC, our wildlife

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ABOVE Representatives of the following African tribes (from top to bottom): the Masai of Kenya; the Himba of Namibia; and the Ba'Aka of Central African Republic.

RIGHT As with 90 percent of Madagascar's mammals, Verreaux's sifaka is found nowhere else on Earth. Split from the African continent over 160 million years ago, this island country developed its own distinct ecosystems and extraordinary wildlife.

PAGE 7 © MARTIN HARVEY / WWF-CANON

trade monitoring program, have played central roles in ensuring that CITES is implemented and its efforts to crack down on the black market trade are successful.

In Africa, it's been a particularly significant tool because of the high value of species like elephants for their ivory and rhinos for their horns, which were being rampantly traded to Asian and Middle Eastern markets in the '70s and '80s. I would say that without this treaty we might have lost most of the elephants and all of the rhinos in Africa.

The challenge for us in stopping illegal trade has been the high value of the products and the poor law enforcement in parts of Africa and in consumer markets.

RICHARD: It seems as soon as you plug one hole, another hole opens up.

GINETTE: That's right. For example, after a senior government official in Vietnam was reportedly cured of cancer using a rhino horn treatment,

ABOVE Fifty years ago WWF launched its first campaign to save Africa's rhinos. Today, populations of both species of African rhino—black (above) and white—have substantially increased but again are under threat from poachers.

BELOW Ecotourism has created a conservation-based economic engine for rural Africans. The communal conservancy model—in which communities realize the economic benefits of protecting wildlife—has been extremely successful in Namibia. WWF is now helping to replicate this model in other parts of the continent and beyond.

© SVEN-OLOF LINDBLAD / LINDBLAD EXPEDITIONS / WWF-US

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ABOVE WWF is working to transform the forest products industry in Central Africa. Through its Central Africa Forest & Trade Network, WWF helps logging companies adopt environmentally responsible practices and encourages trade between companies committed to responsible forestry.

suddenly Vietnam became a major importer of rhino horn. In the famous Kruger National Park in South Africa, we've lost almost 200 rhinos in the last two or three years. CITES is moving now to impose sanctions on South Africa and Vietnam. It has also been helpful in stopping illegal trade in other countries in southern Africa. In Zimbabwe and Botswana, for example.

MARCIA: Over the last 15 years, we've also developed a very progressive way for communities to improve wildlife conservation, by getting the right legislation in place and a system on the ground that makes communities the stewards of their own wildlife, like we did in Namibia.

RICHARD: Namibia had just come out of apartheid in 1990 and local communities were totally disenfranchised. Any use of the wildlife was considered poaching. But Namibia emerged with a new attitude towards managing resources and empowering communities. It was one of the first countries to include conservation in its constitution and pass the legal framework so that local communities could then manage and use their own wildlife resources, through what's called a conservancy program.

Over time, the wildlife has rebounded in the conservancies, due in part to numerous joint ventures in ecotourism; Namibia has more than any country in the world. For example, the internationally acclaimed Damaraland camp is a joint venture between the local Torra Conservancy and tour operator Wilderness Safaris.

As an added benefit, these conservancies have organized themselves so they are able to look at other issues, such as education and health care. There are 250,000 people organized now who all vote, so it's also a democratic movement.

GINETTE: And for the last 20 years, Namibia has had, relatively speaking, very low levels of poaching compared to other African countries because the communities themselves watch over the animals and keep the poachers out.

MARCIA: It's exciting the way this concept has spread to other places. We had community and national leaders from Mongolia, the U.S. Northern Great Plains and Nepal visit Namibia to exchange ideas about how they manage assets.

And a lot of the techniques that the teams in Namibia worked on are being adopted aggressively in Mozambique. The government of Mozambique, like the government in Namibia, is working on community rights, land rights, governance and empowering local stewardship of natural resources. The great tools developed in Namibia for community monitoring and reducing the incidence of poaching are being adopted in marine sanctuaries now, too. It's a wonderful link between very local individual conservancies and the broader conservation effort in the country.

RICHARD: Another example of community engagement and empowerment is our work with the Ba'Aka, an indigenous population in the Congo. Their life has changed significantly because of the impact of logging on the forest. Now you see simple things, like chigoe fleas (also known as jiggers), which lay eggs in childrens' tender feet, becoming major health problems because the people now live a different lifestyle as laborers for the logging company. When the Ba'Aka lived as forest nomads, jiggers did not reach epidemic levels because they were treated with a forest plant. But now the people feel they should be using modern medicines. We revived the use of traditional medicine to cure the jiggers. Not only does it treat the problem, it reinforces the fact that traditional knowledge and the traditional lifestyle still have validity in today's world.

© RICHARD CARROLL / WWF-CANON

ABOVE WWF works to protect the species of the Congo Basin, including the western lowland gorilla.

RIGHT With support from WWF, leaders from 30 countries in the Amazon, Borneo-Mekong and Congo Basin gathered in June for the Brazzaville rain forest summit. The countries are working together to find shared solutions to save their unique forests and to support the fight against the devastating consequences of climate change.

LEFT The Congo Basin holds up to one-quarter of the world's tropical forests and is teeming with life. These forests regulate local climate and the flow of water, protect and enrich soils, control diseases and safeguard water quality.

© DAN FORMAN / WWF

GINETTE: In order to bring international attention to issues such as indigenous livelihoods and national and regional economic growth and how they overlap with conservation, just over a decade ago we started bringing together Africa's heads of state.

This approach has become a model for other areas in the world that are trying to increase the political buy-in for conservation. For example, late last year we helped bring heads of state together in St. Petersburg, Russia, to agree on a major initiative to save tigers across the 13 tiger range countries.

RICHARD: We piloted this approach in the Congo Basin. Back in 1999, we had been working in protected areas and with species for 40 years but every step forward met with two steps backward. We decided that if we were going to make any progress on poaching, we had to really ratchet up the political will. So we got the six heads of the countries of the Congo Basin together in Yaoundé, the capital of Cameroon. As a result, they promised to eliminate the illegal bushmeat trade and illegal logging and create a minimum of 10 percent of each of their countries as new protected areas. A second Heads of State Summit occurred in 2005 in Brazzaville—the capital of the Republic of the Congo—where 10 Central African countries signed a treaty formalizing these commitments to conservation. The results are clear—and *huge*. Forty percent of the Congo Basin's forests are conserved in 12 massive landscapes, spanning from the Virungas to the Gulf of Guinea, and containing 30 protected areas connected by corridors of sustainably managed forests. More than 50 partners have joined WWF and USAID and the African countries to contribute to this regional conservation plan.

MARCIA: We have made incredible strides in Africa in our half century there, yet pressures are accelerating on African communities and the incredible biodiversity they enjoy. But the good news is there is still a chance to protect and restore habitats and species that will allow those communities to survive and thrive for years to come. ■

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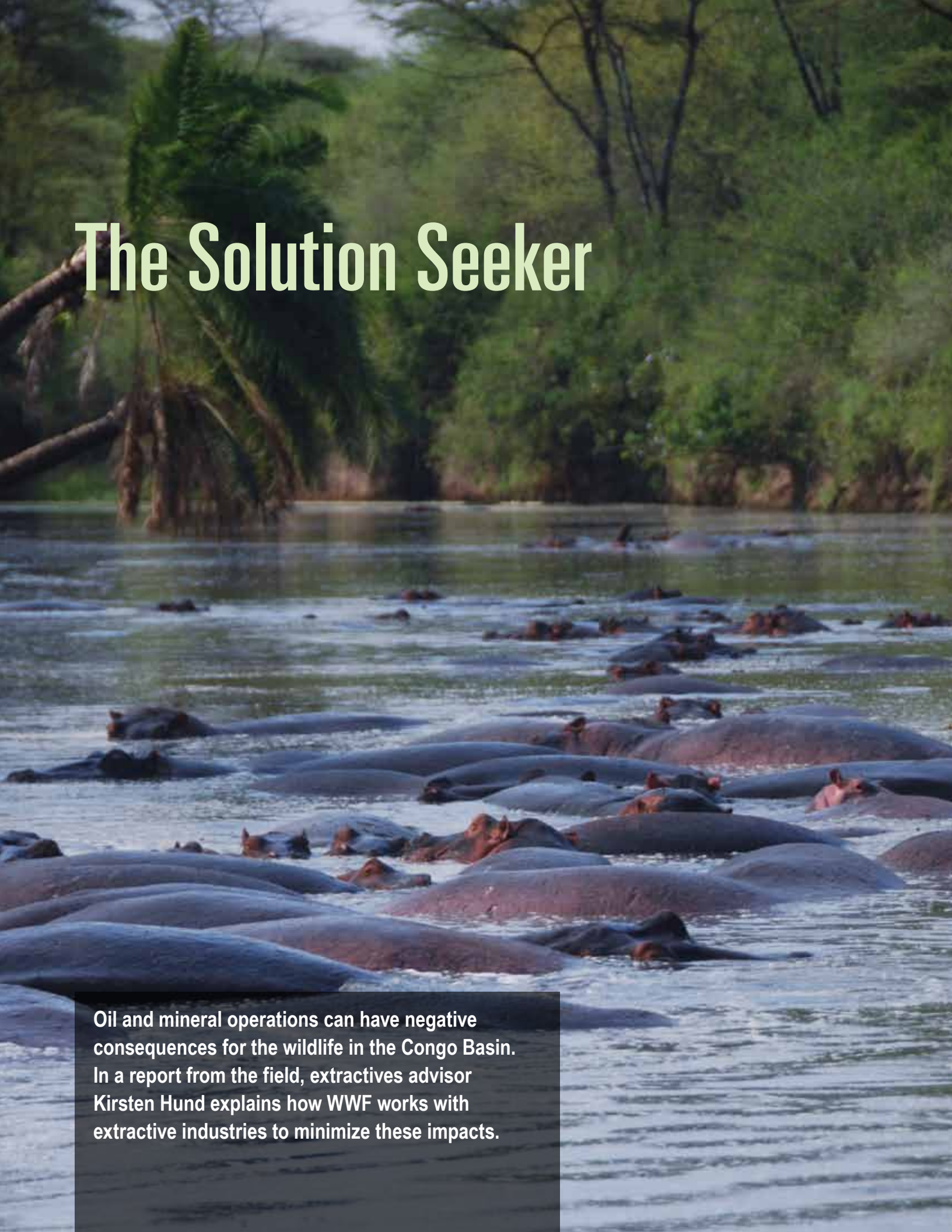
The Solution Seeker



Oil and mineral operations can have negative consequences for the wildlife in the Congo Basin. In a report from the field, extractives advisor Kirsten Hund explains how WWF works with extractive industries to minimize these impacts.

© DAN FORMAN / WWF

FROM THE FIELD by Kirsten Hund

Here in the Congo Basin—a region known as the Green Heart of Africa—the second-largest rain forest in the world provides shelter to thousands of unique plant and animal species, including forest elephants, lowland gorillas, bonobos, hippos, okapi, an astounding 900 species of butterfly, and of course the native pygmy tribes who have made their lives here for hundreds of years.

But far beneath the forest floor, oil and other natural resources offer a wealth of riches to a region in which more than 50 million people live in poverty. The lure of these resources offers both promise and peril: Extracting natural resources can bring economic prosperity to some, but threatens the survival of many species that live here, as well as the long-term health of the forest basin and the people living in it.

© JAAP VAN DER WAARDE / WWF

As WWF's regional advisor for extractive industries in Central Africa, my challenge is to help local governments, mining companies and civil society understand how to benefit from the presence of these natural resources without destroying the bountiful forests and vast biodiversity of species that surround them. Working in Africa to ensure that Africans benefit from these resources while living in balance with them is a challenge I first began thinking about as a child. Later, as a student of international relations, I moved from Burkina Faso to Kenya and learned firsthand about the link between natural resources (such as diamonds and oil) and conflict, and I have come to understand how intricately related conservation and development truly are.

We're lucky, here in the Congo Basin, that mineral extraction is a relatively new business in most countries so any destructive impacts have thus far been minimal. However, this also means that governments have very limited experience dealing with the mining sector, and that laws and regulation are inadequate or nonexistent. Close collaboration with government to improve existing laws is therefore of utmost importance in order to create a national framework with minimum standards to which all companies should comply.

As mining companies have only recently begun to explore the potential of this region, they are often willing to listen when we offer suggestions about how they can adapt their construction plans in

© BRUCE DAVIDSON / MINDEN PICTURES

LEFT: © FLORIAN MÖLLERS / NATUREPL.COM; RIGHT: © JAAP VAN DER WAARDE / WWF

ABOVE The entrance gate for a mine exploration concession in Northern Cameroon. Control of access roads is essential for the prevention of motorized hunting inside concessions.

TOP Okapi, also known as the giraffe of the jungle, is one of many species potentially affected by development and resource extraction.

LEFT The Congo Basin is home to an astounding 900 species of butterfly.

© JAAP VAN DER WAARDE / WWF

ABOVE **The WWF team visiting the TRIDOM mining area accompanied by ecoguards and local community members.**

ways that will allow them to pull the riches from the ground without causing ecological devastation. More often than not, prior to meeting WWF, they haven't given these topics much thought at all. My first job, then, is to educate them.

For example, mining executives may not realize that when they open up new areas to exploration, they bring with them the potential for spreading disease, for poaching, and for destroying critical habitat through road and power plant construction. Practical suggestions—such as making sure that tree canopies still connect over any roads they build so that monkeys and birds can continue to traverse them—rarely meet with resistance. Another strategy we try to discuss with "new" companies is the use of the "offshore oil model" for oil or mining sites within the forest: keeping sites relatively inaccessible with well-secured roads, and building temporary settlements—which are less damaging to habitat—rather than permanent ones.

One thing oil and mining companies need to think about is how to feed their employees. Local workers who come from forest villages are accustomed to hunting for bushmeat. We ask the companies to set up cafeterias and enforce strict no-poaching policies for protected species. Also, we encourage them to make sure that roads have restricted access only, to avoid increased poaching, and that restrictions be enforced through the installation of control posts and regular antipoaching patrols paid for by the company.

Tougher are questions about where to locate roads, workers' housing or hydropower plants. Mining company operators rarely arrive with an awareness of the location of hotspots for critical habitat for endangered species. I meet them armed with maps of these sites, and help them to understand that moving a road or planned housing a few miles might well allow us to go around elephant or great ape habitat instead of directly through it. This isn't always easy. There may be clearly optimal locations for power plants, depending on water flow, which make it tougher for the company to be flexible.

Another problem we run into stems from artisanal mining in protected areas. Individuals digging for gold, diamonds or coltan pay little heed to natural park boundaries and leave gaping holes across the landscape. They also sometimes use mercury to separate the gold from the rocks, a process that can have dangerous consequences for human and animal health when mercury enters the local water supply. We work with miners to encourage them to use safer technologies and to form coops to protect themselves from abusive warlords.

In this way, we work with all who make the Congo Basin their home, showing them how to share this amazing place for the benefit of all species—and to the detriment of as few as possible. ■

Kirsten Hund *works for WWF-Central Africa, based in Libreville, Gabon.*

Greater Manas, along the India-Bhutan border, is one of the places where tigers can thrive

Global Action

We are strategically focusing on conserving critical places and species while also working to reduce humanity's ecological footprint. Here are some highlights of WWF's recent successes made possible by your support.

SPECIES

HELPING TIGERS REBOUND ALONG THE INDIA-BHUTAN BORDER

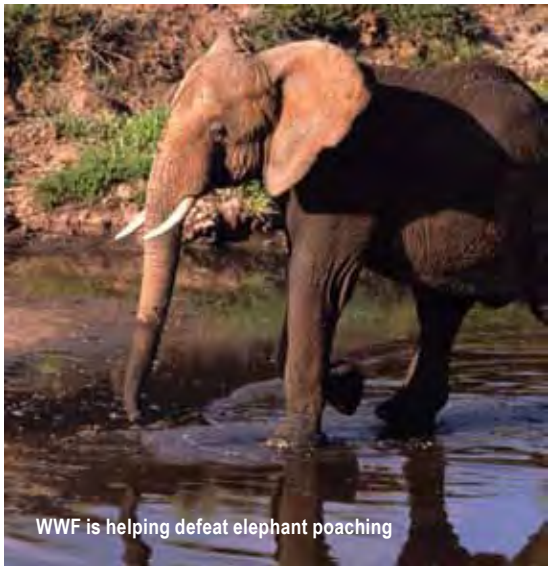
Tigers, Asian elephants, clouded leopards, greater one-horned rhinos and 1,500 other species of mammals, birds and vascular plants exist in the Greater Manas tiger landscape, an important site for the long-term survival of all these species. It includes the Manas World Heritage Site in India's northern Assam state and Royal Manas National Park in Bhutan.

Indian Manas once contained more than 120 tigers. By 2000, however, armed conflict had severely damaged the park's infrastructure and that number had dropped to a mere nine cats on the Indian side and as few as 14 cats on the Bhutan side. The signing of a peace accord between the government and armed separatists in 2003 provided a hopeful springboard from which WWF and partners began initiatives that—according to recent census activities—have brought the number up to between 25 and 35 tigers. Since the signing of the accord, WWF has supported the construction of park offices and guard posts, the training of support staff, wildlife monitoring, engagement of the local community, and enhanced law enforcement to control poaching.

WWF has identified Greater Manas as the core area of one of 12 priority landscapes across Asia where the fewer than 3,200 tigers left in the wild can rebound and meet our goal of doubling their numbers by 2022.

ELIMINATING ELEPHANT POACHING IN MOZAMBIQUE AND TANZANIA

The Ruvuma region that reaches across southern Tanzania and northern Mozambique boasts one of the largest remaining miombo forests in Africa and an estimated 60,000 elephants, the second-largest population on the continent. Sadly, those resources are suffering a siege of poaching and illegal logging. In response to this threat, WWF, in cooperation with the Mozambican government, provides training, financial support and field equipment to an antipoaching ranger team. Since 2009, the team has made numerous arrests and seized stores of ivory and illegally logged wood, as well as vehicles, firearms and logging equipment. In 2011, a new mobile antipoaching unit busted a Tanzanian-led poaching syndicate resulting in the



WWF is helping defeat elephant poaching

arrest of several suspects and the seizure of more than 175 pounds of ivory.

Moving forward, WWF is developing a landscape-wide strategy focusing on anti-poaching law enforcement, judicial process, and conservation incentives in order to bring poachers to justice and ensure the safety of Ruvuma's elephants.

PROTECTING MADAGASCAR'S UNIQUE WILDLIFE

Marine turtles, flying fox, fanaloka, mongoose, chameleons, several species of lemur, and thousands of other spectacular wild species live in Madagascar. A WWF report describing the discovery of 615 new species between 1999 and 2010 provides additional proof of the island's impressive biodiversity. The newly discovered species include 41 mammals, 61 reptiles, 69 amphibians, and 385 plants. More than 70 percent of Malagasy species are found nowhere else in the world.

The discovery of these new species brings a heightened urgency to WWF's work to control global wildlife trafficking. Recent investigations by TRAFFIC have uncovered a strong network of dealers operating out of Bangkok to supply national and international clients with Malagasy reptiles. This year, TRAFFIC investigators found 591 specimens of Malagasy reptiles and amphibians for sale, as well as more than 100 tortoises—including three of the world's rarest species.

Illegal wildlife trafficking is a key threat to many species in Madagascar. WWF will continue to work through TRAFFIC to assist local law enforcement and inform government policy as we act to stop this devastating trade.

Madagascar's Parson's chameleon has been a popular species in the illegal pet trade

© MARTIN HARVEY / WWF-CANON

DEFENDING THE ENDANGERED SPECIES ACT

On July 27, supporters of endangered species scored a hard-fought victory when the U.S. House of Representatives voted to remove restrictions that would have prohibited the Department of the Interior from effectively implementing the Endangered Species Act. The offending language would have blocked funding dedicated to listing new endangered species and designating new areas as critical habitat.

WWF's U.S. government relations team worked tirelessly alongside partners in the Endangered Species Coalition to lobby against the offending language and in support of the amendment proposed by Rep. Norm Dicks (D-Wash.). The team directly lobbied House offices, contributed to coalition sign-on letters, and helped WWF Conservation Action Network members generate more than 4,500 emails in the 24 hours leading up to the House vote. In the end, the Dicks amendment passed 224-202, a significant environmental win that demonstrates continued bipartisan support for the Endangered Species Act, even in a highly polarized Congress.

PROTECTING AFRICA'S LARGEST ELEPHANT POPULATION

Africa's largest elephant population could soon have an expanded range in which to search for food and water thanks to the establishment of the Kavango Zambezi Transfrontier Conservation Area (KAZA). In August, presidents of Angola, Botswana, Namibia, Zambia and Zimbabwe came together in an unprecedented alliance to sign a treaty which, among other things, created a 109 million-acre transboundary conservation area—the largest in the world—which shelters an estimated 325,000 elephants, 44 percent of Africa's total population.

The roots of KAZA date back to 2003, when the participating governments and the Southern Africa Development Community agreed to create a world-class conservation area and tourism destination in the Okavango and Zambezi river basins. Today, the focus remains on sustainable development including wildlife tourism and community-based natural resource management, something WWF has been working on in Namibia for the past 18 years. This will strengthen the local economy and livelihoods for the 2.5 million people who live within KAZA; promote a culture of peace and shared resources among the participating countries; and sustain biologically important forests and wetlands which support important populations of wildlife such as elephants, rhinos, wild dogs, buffaloes, lions, cheetahs and leopards.

CLIMATE

PLANNING FOR CLIMATE CHANGE IN THE AMAZON

Climate change is one of the chief threats to the richly diverse ecosystems of the Eastern Cordillera Real in the Upper Amazon basin. Studying this region is critical to conserving Amazonian forests. To analyze the vulnerability of these ecosystems to climate change, WWF scientists are modeling climate change impacts under three scenarios. This research will provide a "map of vulnerability" which will help identify priority sites for conservation.

In the province of San Ignacio, Cajamarca, in Peru, WWF and CARE are studying the effects of climate change on coffee cultivation—a vital economic activity that is particularly susceptible to climate change. Supported by USAID, the project recently identified adaptation measures that coffee farmers could use to help reduce the impact of climate change on coffee cultivation. More than 100 local coffee growers identified agroforestry practices, the replacement of coffee plants, integrated pest management and the use of natural fertilizers as important adaptation measures farmers could use to limit vulnerability to climate change.

Russian biologist Natalia Illarionova takes a blood sample from a polar bear

REACHING ACROSS BORDERS TO SAVE POLAR BEARS

Because climate change does not recognize political boundaries, one key to the climate adaptation puzzle must be information exchange across borders. A recent initiative exemplified WWF's work in building bridges of communication and collaboration across the Arctic when WWF brought a Russian biologist, Natalia Illarionova from the All-Russian Scientific Research Institute of Nature Conservation, to Alaska to join the U.S. Fish and Wildlife Service team in their field studies.

Illarionova worked alongside USFWS biologists as they

WWF's efforts in the Galápagos help species such as the blue-footed booby

conducted research on polar bears through a "mark-recapture" study in the Chukchi Sea, which is home to a shared U.S.-Russian population of polar bears. Illarionova will apply her newly gained skills and knowledge back home as Russia moves forward in planning similar studies. Coordination of research across the Bering Strait will be key to efforts to protect the population and adapt management to a changing Arctic environment.

WWF plays a key role in facilitating exchanges between Russian and American polar bear scientists and decision makers. Trips like Illarionova's cultivate collaboration and mutual understanding, which are essential in our quest to better understand and protect these magnificent creatures.

LEADING RESEARCH TO PROTECT HABITAT IN THE NORTHERN GREAT PLAINS

In 2010, WWF Climate Adaptation Program Officer Anne Schrag and scientists from the University of Wyoming published a novel analysis of the impacts of climate change on West Nile virus in the Northern Great Plains. The models predicted that the virus—particularly dangerous to sage grouse, a species of concern—will spread westward and northward over the next two decades, impacting populations of the prairie bird. These findings will be integrated into an assessment by The Nature Conservancy, University of Montana and the USDA Natural Resources Conservation Service aimed at determining locations for sage grouse habitat easements. This assessment is part of the Sage Grouse Initiative, a $30 million effort funded by the USDA. It is the largest U.S. federal effort—in geographic scope—to conserve a species of conservation concern.

PEOPLE

FACILITATING DIALOGUE BETWEEN NEPAL AND NAMIBIA

One of WWF's great strengths is our global presence. In particular, it allows us to take our experiences in one region and apply them to other areas, helping to elevate our conservation work from the local to the global level. In February 2011, we brought constituent assembly members and senior Nepalese government officials to tour Namibia, where they were able to share the successful community conservation initiatives that each of them have undertaken with the support of WWF.

With Nepal now beginning to draft a new constitution, the exchange came at a particularly opportune time. The Nepal delegation came away from the meetings with new ideas for their own community-based natural resource management and plans to prepare a report for their full parliament. In turn, the Namibian hosts learned about Nepal's highly effective community forest programs, as well as its experience with alternative fuels and micro-credit to spur entrepreneurship. To continue this important dialogue, WWF staff would like to bring Namibian officials and leaders to Nepal next year.

IMPLEMENTING A NEW TOURISM MODEL FOR THE GALÁPAGOS

To encourage conservation as well as local sustainable development, the Galápagos Government Council formally adopted ecotourism as the new tourism model for the Galápagos Islands in January 2011. WWF played a key role in the design of the new ecotourism-based model, and is currently providing technical assistance in its implementation.

Specifically, WWF is providing technical assistance to all levels of Ecuadorian government to create an enabling environment for ecotourism development, including work on improving tourism regulations and policy, as well as coordinating among local stakeholders. To date, we have worked with the three local municipalities to draft strategic plans and tourism ordinances. We have designed the tourism monitoring system, which is already operating and generating data for decision making. We are also conducting fieldwork to identify appropriate ecotourism activities that will benefit the environment and local people. Finally, we designed and started implementing a communications campaign to improve understanding of ecotourism among local stakeholders and visitors.

BUILDING LION CONSERVATION CAPACITY IN KENYA

Shivani Bhalla's passion for big cats began at age 8, on a family safari in her native Kenya. It has led all the way to a doctoral program at Oxford University, where she researches the population dynamics of lions within protected areas. Along the way, Bhalla founded Ewaso Lions, a grassroots project that utilizes research and community-based outreach to promote lion conservation. This year, WWF supported Bhalla's efforts by providing her with a Russell E. Train Education for Nature Professional Development Grant to attend a prominent international conference in Beijing. There she was honored with the "Africa's Young Women Conservation Biologist of the Year" award. The support from WWF allowed her to meet with other international experts engaged in predator research and learn new techniques such as DNA identification of predators, camera-trapping techniques, and the effectiveness of scout efforts in the field. Today, Bhalla continues her fieldwork, strengthened by the knowledge gained from this experience. Bhalla and more than 1,450 other African, Asian, and Latin American conservationists have received support from WWF.

EFN grantee Shivani Bhalla identifies lions in Buffalo Springs National Reserve

MITIGATING HUMAN-WILDLIFE CONFLICT IN BHUTAN

Agriculture is the primary source of income for people in the Lhamozingkha dunkhag (sub-district) near the Phibsoo Wildlife Sanctuary in southern Bhutan. But crops and people here are threatened by wildlife such as wild boars and elephants. WWF and park staff installed 2.8 miles of solar electric fencing along the border of Singey village a year ago. Since these solar fences were installed, there have been no cases of elephant encroachment. Villagers have been trained as technicians to monitor the fence and the community has set up a small management committee with a chairman to look after the overall operation of the solar fencing.

This success and positive feedback in Singey prompted WWF to replicate the technology and expertise in additional locations. Now, 9 miles of solar fencing protect four villages and 300 households in the Lhamozingkha dunkhag.

MARKETS

ENCOURAGING SUSTAINABLE TOURISM IN THAILAND AND BEYOND

Hotels along the Andaman coast in Thailand that have committed to reducing their impact and improving environmental management can now qualify for below-market rate financing thanks to a credit facility launched by the second biggest bank in Thailand and underwritten by the French Development Agency (AFD). WWF worked for two years to structure the $40 million-subsidized credit facility, which will finance investments in wastewater treatment, solid waste management, water consumption management and other key drivers identified by WWF as affecting marine resources.

The project was born out of WWF's and AFD's belief that mainstreaming conservation into loan instruments is an effective method of encouraging sustainable business growth. In addition to reducing the negative impact of tourism on the coast, the pilot project will be a model for the use of capital to promote best practices in tourism and other sectors. In fact, WWF is currently evaluating ways to expand the model to other WWF priority programs, including subsidized loans to promote ecotourism in Namibia.

CREATING A MODEL OF SUSTAINABLE FISHING PRACTICES IN THE CORAL TRIANGLE

The sale of live reef fish from the Coral Triangle to Asian restaurants is a vast and lucrative industry, but rarely for local fishermen. The current trade in this resource is destroying marine environments, depleting fish stocks and leaving coastal communities vulnerable.

With support from the USAID-funded Coral Triangle Support Partnership and the Coral Triangle Network Initiative, WWF has been working with fishers, industry buyers and government in the Philippines to change destructive fishing practices, improve fisheries management and implement and build a market for sustainable fishing practices that will benefit local people and the environment.

To this end, WWF has been working with the province of Palawan in the Philippines, the Palawan Council for Sustainable Development, and the municipal government of Taytay since 2007. Through these efforts, Taytay recently became Palawan's first municipality to draft a Live Reef Fish Management Plan which has become an enhanced fishery ordinance. Under the ordinance, the local population learns about the benefits of sustainable mariculture, which prevents overfishing of wild stocks. WWF efforts here will serve as a working model for the Philippines and neighboring nations.

Sergeant Major damselfish, parrotfish and wrasses along a reef in Palawan, Philippines

WWF is helping ensure sustainable forestry on Borneo

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SAVING BORNEO'S FORESTS THROUGH CERTIFICATION

The Forest Stewardship Council (FSC) recently announced the certification of 741,000 acres of important forest habitat in Sabah, Malaysian Borneo, adding to the 136,000 acres of existing certified forest in the state. The Sabah Forestry Department called the initiative a crucial victory for this area, which is home to the highest density of orangutan and Borneo pygmy elephants on the island. The department also recognized WWF as a global leader in the march toward sustainable forestry in the Heart of Borneo. The Sabah Forestry Department, which officially joined WWF's Global Forest & Trade Network-Malaysia in 2007, has now committed to ensuring certification of all its forestry concessions in the state by 2014.

TRANSFORMING AGRICULTURE ALONG THE MESOAMERICAN REEF

In 2004, with support from The Summit Foundation, WWF embarked on a journey to transform long-standing agricultural practices that were responsible for chemical and sediment runoff. The aim was to conserve the health and biodiversity of the Mesoamerican Reef. One of the cornerstones of this transformation has been the introduction of new technologies that enable farmers to reduce pesticide, fungicide, and fertilizer use through more intelligent monitoring and management practices. As part of this initiative, what began as a few experimental weather-monitoring stations has grown into a network of 34 stations throughout Belize, Guatemala and Honduras. The stations collect a variety of weather data, which is incorporated into a web-based platform known as "The Green Panda."

This tool contains models which can be used to more accurately forecast weather conditions and pest outbreaks, offering precision and clarity to the crop management decisions made by WWF's agricultural partners such as Dole and Chiquita.

Through the engagement of more than 18 agricultural partners, these strides have resulted in 148,000 acres of agricultural lands in the Mesoamerican Reef region being cultivated with fewer pesticides and chemical fertilizers, more effective water use, and less soil erosion. ■

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FOCUS ON PHILANTHROPY

A Family Tradition

Giving back has always been a family affair for Heather, Robert and Sabrine Keane.

Robert and Heather Keane recognize the good fortune—acquired through hard work and good luck—that they have had in life. What makes them different from many in similar circumstances is their deep conviction that giving back is the right thing to do and something that they should enjoy as a family. They have involved their daughter Sabrine in their philanthropy since she was very young. She was 11 years old when they began supporting WWF programs in Namibia and Coastal East Africa.

Sabrine has already traveled to Africa five times with her parents—the Keanes are not content to simply write a check. In fact, during one visit, they literally got their hands dirty helping local villagers make "chili bombs"—a humane method of keeping elephants from raiding vital crops.

"We want to be involved as a family, to visit a place, understand the problems and see the solutions in action," says Heather.

"Going there and seeing things for myself—that makes such a difference," adds Sabrine, now 15.

Both Robert and Heather believe that Sabrine's early and meaningful involvement will impart a realistic understanding of global challenges and instill a belief that she and her generation can develop pragmatic solutions. And it seems her lifetime commitment to this idea is already in place: "I know that I will continue this tradition of giving back with my children," she says.

But the Keanes do not give solely out of a sense of duty. For them, it is deeply rewarding to help others. They are particularly passionate about sustainable development as a vital strategy for alleviating poverty, empowering people and protecting the environment.

"WWF's leadership in sustainable development attracted us immediately," says Robert. "And as we have gotten to know WWF better, we have been impressed by the quality and commitment of WWF personnel working in the field, and their deep commitment to solutions that have the support of local communities who are faced with the reality of living on less than $1 per day."

They appreciate WWF's multi-pronged approach, which includes local people and all levels of government. With its communal conservancies and government-mandated conservation efforts, Namibia stood out as a particularly good example of this approach. In Africa, Heather and Robert see the chance to make real change.

"Of course, Africa is beautiful and there is so much biodiversity to protect," says Heather. "But some of the poorest places in the world are in Africa and the choices made there will affect the rest of the world."

This statement gets to the core of the Keanes' giving: the belief that we are all interconnected and that we must work together to help each other. And their great joy in sharing what they have with others is multiplied by the fact that they do so as a family.

Says Robert, "The times that Heather, Sabrine and I have spent working with WWF have brought us closer, and forged bonds that are often difficult to create across generations." ■

PAGE 24: PHOTO COURTESY OF THE KEANE FAMILY; INSIDE BACK COVER: © MICHEL GUNTHER / WWF-CANON

WWF's mission

is to stop the degradation of the planet's natural environment, and to build a future in which humans live in harmony with nature, by conserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable, and promoting the reduction of pollution and wasteful consumption.

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