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Wild
Coming Together
for Conservation

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About This Issue

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Every year, thousands of animal species become extinct. Animals that once roamed the Earth in abundance are permanently disappearing from our planet at a heart-stopping pace. Scientists estimate that the current rate of extinction is 1,000 times greater than it would normally be because of one factor. What has caused this rapid rise in extinctions? The alarmingly simple answer: humans.

What's Going Wrong?

We are consuming Earth's natural resources faster than they can be replenished. We are destroying animals' habitats, their food, water and air — as well as the animals themselves — at an unsustainable rate. As more birds' nests are cleared to build skyscrapers, rivers are drained for parking lots and elephants are slaughtered to make trinkets, the number and diversity of animals contract.

In addition to our high resource consumption, an even more disturbing trend is threatening our wildlife: trafficking. The illicit trade of animals and their body parts on the black market is growing. Rising demand for products derived from some of the world's most iconic land animals — such as elephants, rhinos and tigers — threatens not only these species, but the peace, health and prosperity of the people who live near them.

Why We Should Care

When an entire species of animal goes extinct, the loss is greater than the sum of animals lost. Although we may consider the animal world to be separate from our own, our lives and theirs are intertwined, connected by a million threads. Plants, animals, people and the environment together constitute a biological community — an ecosystem — in which each part depends on the other for survival. When one part of the community is thrown off-balance or eliminated, the entire system suffers. Further, wildlife trafficking reduces the security of citizens and the profits of legitimate businesses.

Everyone Can Help

Even though humans are wildlife's greatest threat, we are also their only hope. All over the world individuals and small groups, as well as large organizations, corporations and governments, are doing their part to ensure a more secure future for our wildlife — and for us. From curbing demand for animal byproducts, establishing and enforcing laws against illegal trafficking and volunteering with conservation organizations that help protect endangered species, conservation heroes are combating the threats facing Earth's animals in a variety of ways.

No act of conservation is too small to be significant. We may not be able to bring back the species we have already lost, but there are many more that are on the brink of extinction that need our immediate attention and action. Don't be part of the problem. Be the solution: Respect and protect Earth's wildlife.

— *The Editors*

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THE TOLL OF ILLEGAL WILDLIFE TRADE
Jeff Corwin, Emmy Award-winning American wildlife biologist and conservationist

Rhinos, tigers and elephants are being slaughtered in record numbers to fuel the growing illegal wildlife trade. What does this mean for the animals, the environment and us?

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"Over the past few years wildlife trafficking has become more organized, more lucrative, more widespread, and more dangerous than ever before."

— U.S. Secretary of State Hillary Rodham Clinton, November 8, 2012

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Rising demand for products derived from the world's most iconic land animals — including elephants, tigers and rhinos — is threatening to decimate not only these species but the peace, health and prosperity of the people who live near them.

By Jeff Corwin

TRAFFICKING IN TRAGEDY

The Toll of Illegal Wildlife Trade

Sumatran tiger ©Wildander/Shutterstock.com

There's little in life more disturbing than the aftermath of wildlife trafficking: A dead rhino flat on its side with a hole where a horn should be; a bloodied tiger whose vibrant stripes have been stolen; or an elephant that's been stripped of its face and once-mighty trunk.

Yet this is the reprehensible reality of the wildlife black market, an industry so pervasive that Global Financial Integrity, a nonprofit that reports on transnational crime, estimates its annual profits at roughly $7.8 billion to $10 billion, behind only the black markets for weapons and illegal narcotics. Poaching — the illegal trapping, killing or taking of wildlife — is related to other forms of illegal trade. In fact, the crimes often become entangled, with smugglers branching out into animal trafficking in order to mask their *drug* trafficking, making enforcement even more complicated.

The killing of elephants, rhinos and tigers for their tusks, horns and pelts has reached crisis proportions in recent years. In South Africa, 448 rhinos were killed in 2011 — a massive increase from the 13 rhinos killed in 2007. Since the beginning of 2012, more than 250 elephants have been killed in Cameroon alone by heavily armed, cross-border illegal hunters. In India, a recent surge of tiger deaths has been connected with an increase in poaching and trafficking of tiger parts.

In addition to being slaughtered for their meat, animals are also killed for their body parts which are used in Asian folk medicines and for ornamental purposes. For instance, rhino horns are used to make dagger handles and fever remedies, elephant tusks for trinkets, and tiger furs for clothing and accessories.

The trading of live endangered animals and animal products — including rhinos, tigers and elephants — was outlawed by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1977, but the black market thrives just the same. Regardless of the enforcement practices in a given country, the trade is a global epidemic in which an animal killed in the jungles of Africa can end up in restaurants and stores in Asia.

Opposite page, from left to right: Sumatran tiger ©blickwinkel/Alamy; black rhinos ©Images of Africa Photobank/Alamy; African elephant ©Big Life Foundation

©Big Life Foundation

Poachers killed an estimated 25,000 African elephants in 2011. Some say the actual figure could be twice as high.

Elephants in Crisis

For me, the heartbreak of killing animals for illegal wildlife trade is encapsulated in the image of a distraught elephant calf who refuses to abandon her slaughtered mother's side. Though her mother is disfigured, bloated and reeking of death, a baby calf will stay by her mother's side until she starves or is taken by lions. The calf literally can't live without her mother.

Tactile creatures, elephants are very dependent on touch, and they're also highly emotional animals capable of both despondency and joy. Elephants are known to celebrate the births of their young and to bury and mourn the death of their loved ones. When they come across discarded tusks of elephants maimed by poachers, they will often pick them up and carry them around.

(continued on page 10)

AFRICAN ELEPHANT

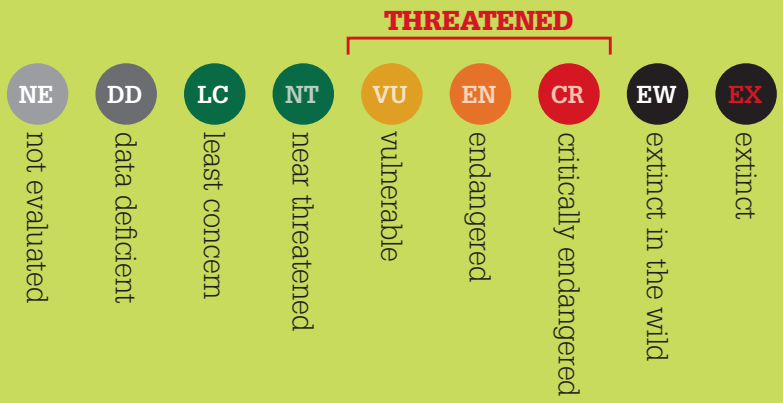
HUNTED FOR **IVORY** FROM TUSKS

vulnerable

VU

Disappearing Species

The International Union for Conservation of Nature uses this scale to classify how threatened certain animal species are.

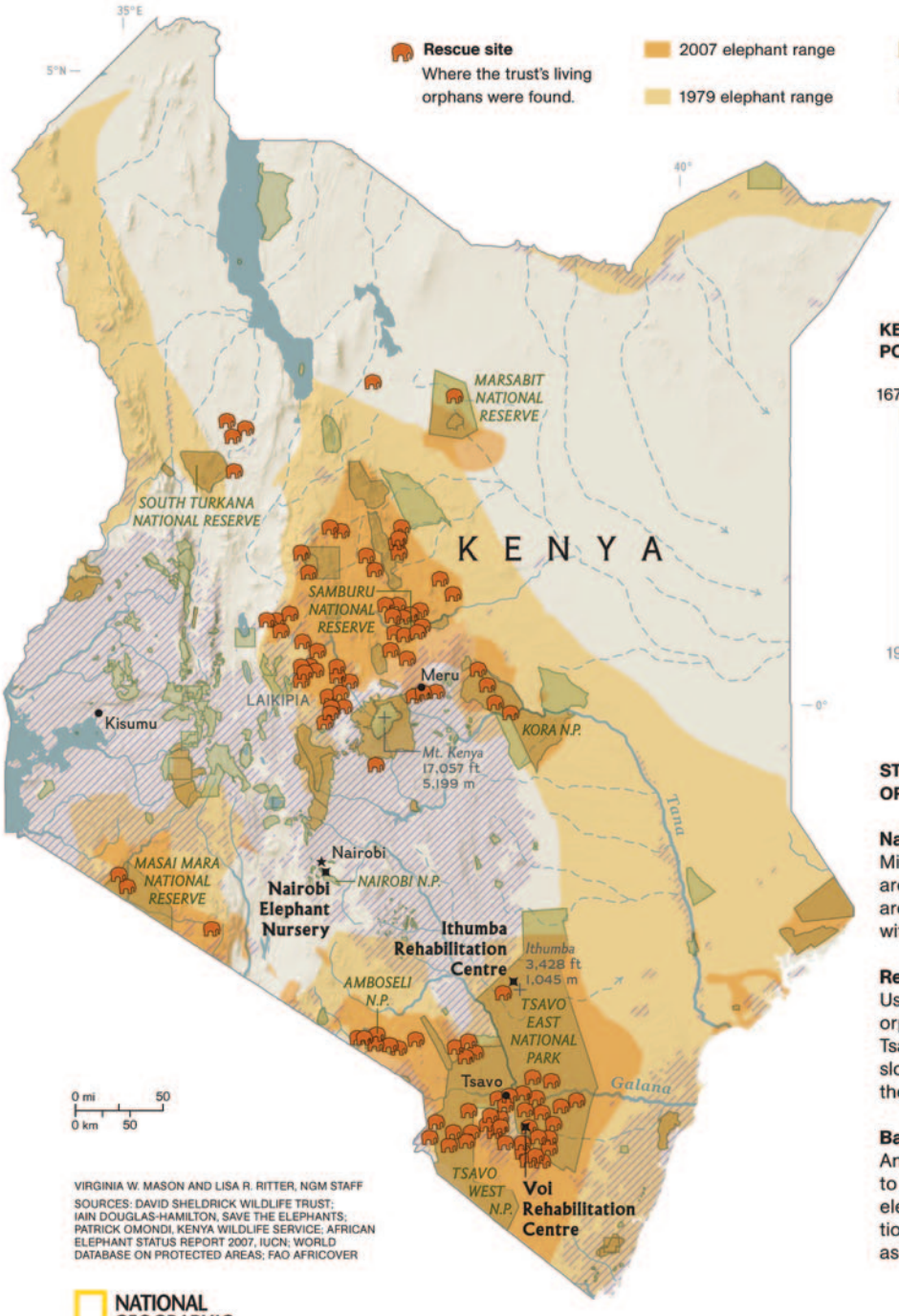


NE **Not Evaluated:** Has not yet been evaluated against the criteria. DD **Data Deficient:** Not enough data to make an assessment of its risk of extinction. LC **Least Concern:** Lowest risk. Does not qualify for a more at-risk category. Widespread and abundant taxa are included in this category. NT **Near Threatened:** Likely to become endangered in the near future. VU **Vulnerable:** High risk of endangerment in the wild. EN **Endangered:** High risk of extinction in the wild. CR **Critically Endangered:** Extremely high risk of extinction in the wild. EW **Extinct in the Wild:** Known only to survive in captivity, or as a naturalized population outside its historic range. EX **Extinct:** No known individuals remaining.

Source: International Union for Conservation of Nature

Saving Orphans

The David Sheldrick Wildlife Trust raises orphan elephants from across Kenya in stages that mirror maternal care in the wild. Most were orphaned by poachers or by farmers protecting crops. Many were separated from their families after falling into wells dug for livestock. Even as Kenya's decimated elephant numbers rise, a growing human population means that problems of sharing land will persist.



VIRGINIA W. MASON AND LISA R. RITTER, NGM STAFF

SOURCES: DAVID SHELDRICK WILDLIFE TRUST; IAIN DOUGLAS-HAMILTON, SAVE THE ELEPHANTS; PATRICK OMONDI, KENYA WILDLIFE SERVICE; AFRICAN ELEPHANT STATUS REPORT 2007, IUCN; WORLD DATABASE ON PROTECTED AREAS; FAO AFRICOVER

NATIONAL GEOGRAPHIC

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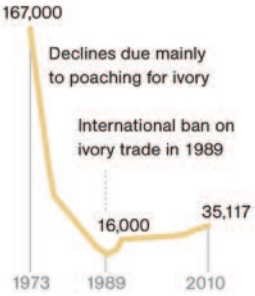
KENYA ELEPHANT POPULATION



STAGES OF ORPHAN CARE

Nairobi nursery
Milk-dependent orphans are fed by keepers who are in physical contact with them 24 hours a day.

Rehabilitation centers
Usually by age two, orphans are moved to Tsavo, where keepers slowly expose them to the bush.

Back to the wild
An orphan chooses when to join one of the park's elephant families, a transition that may take as long as eight to ten years.

ELEPHANT POACHING

Killing African elephants for their ivory is devastating a species that's already losing ground to a growing human population. Estimates of poaching come from examining elephant carcasses at monitored sites (map). In 2011 poaching hit the highest levels in a decade, with the greatest impact in the central Africa region (charts below).

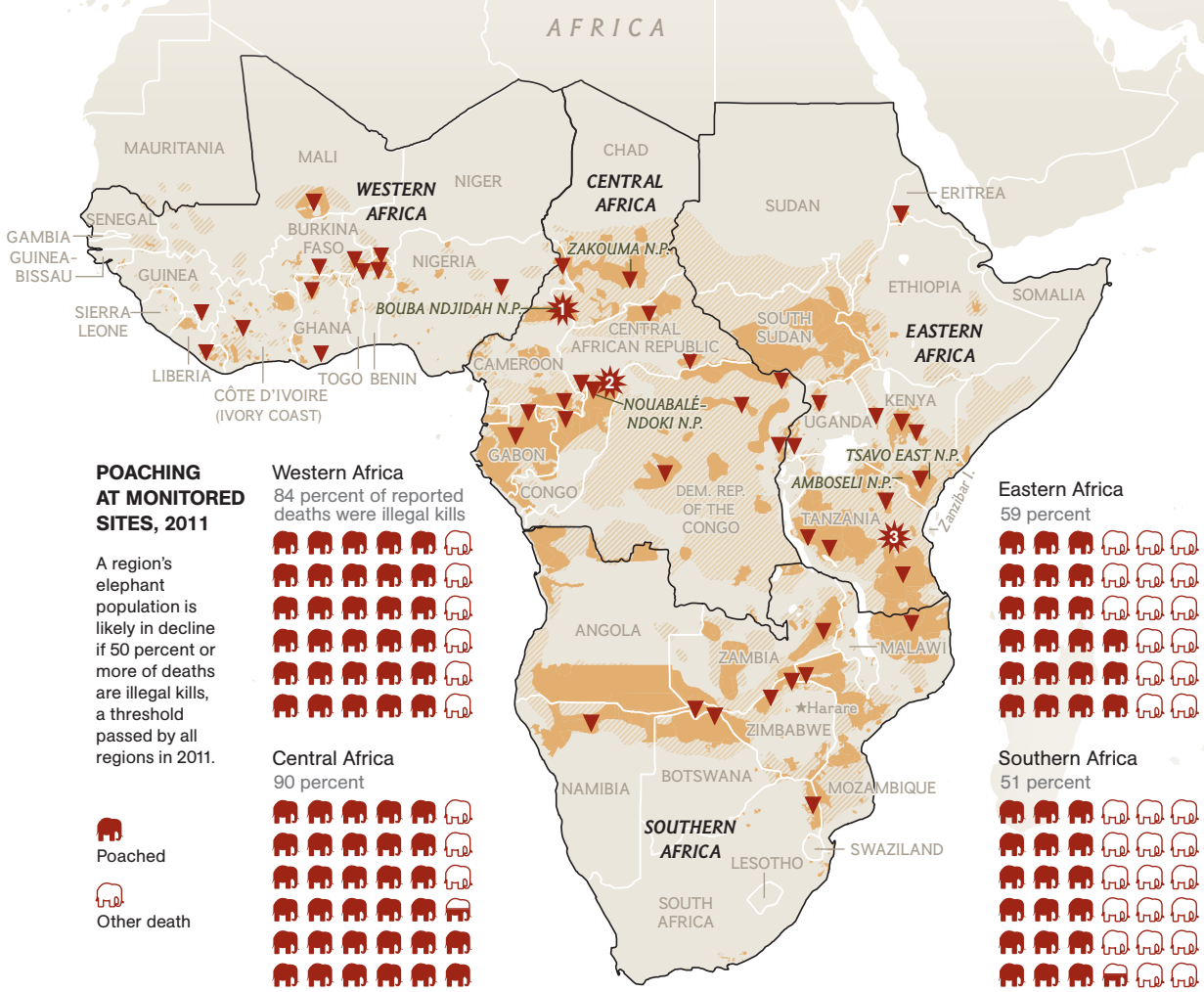
Monitored African elephant sites

▼ Park, reserve, or wildlife sanctuary where illegal killing of elephants is monitored

African elephant range and estimated population

Range in 1979 — 1.3 million elephants

Range in 2007 — 472,000-690,000



POACHING AT MONITORED SITES, 2011

A region's elephant population is likely in decline if 50 percent or more of deaths are illegal kills, a threshold passed by all regions in 2011.

Poached

Other death

Western Africa
84 percent of reported deaths were illegal kills

Central Africa
90 percent

Eastern Africa
59 percent

Southern Africa
51 percent

LARGE-SCALE POACHING

1 Cameroon, early 2012
Organized raiders on horseback from Chad and Sudan killed more than 300 elephants in Bouba Ndjidah National Park.

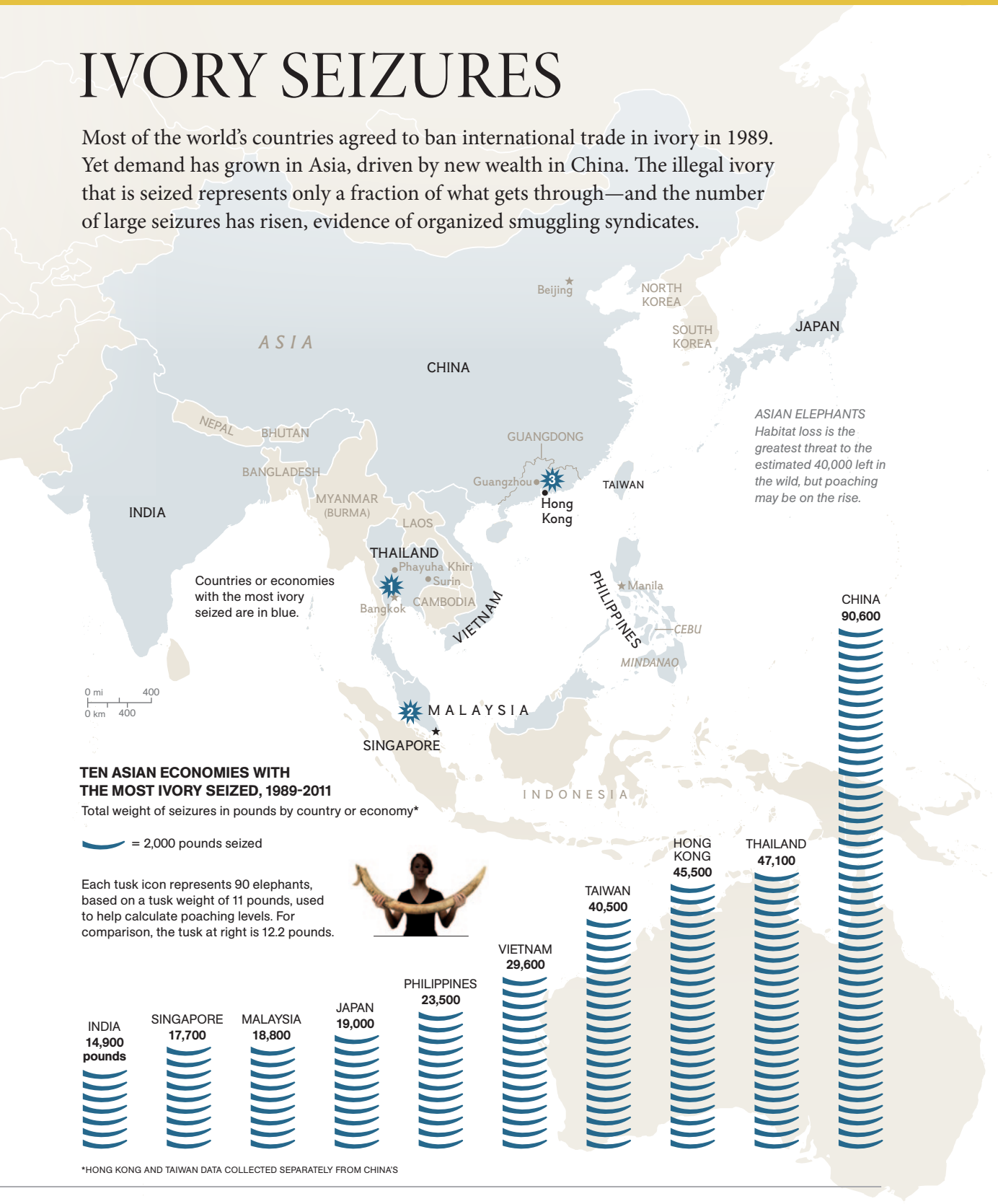
2 Congo, 2006-2011
Nearly 5,000 elephants died in lands outside Nouabalé-Ndoki National Park; new logging roads make the area more accessible.

3 Tanzania, 2012
Poachers are using poison so gunshots won't attract park wardens. Tanzania is a main shipping point for illegal ivory to Asia.

NGM STAFF. AFRICAN ELEPHANT DATA: CITES MIKE PROGRAMME; IAIN DOUGLAS-HAMILTON, SAVE THE ELEPHANTS; DIANE SKINNER, AFRICAN ELEPHANT SPECIALIST GROUP, IUCN.

IVORY SEIZURES

Most of the world's countries agreed to ban international trade in ivory in 1989. Yet demand has grown in Asia, driven by new wealth in China. The illegal ivory that is seized represents only a fraction of what gets through—and the number of large seizures has risen, evidence of organized smuggling syndicates.



*HONG KONG AND TAIWAN DATA COLLECTED SEPARATELY FROM CHINA'S

SMUGGLING TACTICS

1 Bangkok, Thailand, 2011
An x-ray scan found 247 large tusks, valued by authorities at $3 million, in a shipping container of frozen mackerel from Kenya.

2 Malaysia, 2011
Shipping containers of recycled plastic from Tanzania also held nearly 700 tusks destined for China via Malaysia.

3 Guangdong Province, China, 2009
A rented Chinese fishing boat returned from the Philippines with 770 whole and partial tusks packed in five wooden crates.

IVORY SEIZURE DATA: TOM MILLIKEN, ETIS TRAFFIC. TUSK: SMITHSONIAN NATIONAL MUSEUM OF NATURAL HISTORY, COLLECTED 1909

(continued from page 6)

Elephant killing and seizures of trafficked ivory have spiked in recent years to the highest levels in a decade. CITES statistician Kenneth Burman recently told *National Geographic* that it is "highly likely" that poachers killed at least 25,000 African elephants last year. The actual figure could be twice as high. With demand for ivory on the rise, hordes of heavily armed militiamen are killing entire herds at a time, as well as any people who get in their way.

Rhinos at Risk

Killing by poachers is decimating populations of many other animals, including the rhinoceros. Blessed — and cursed — with a horn that's worth five times more than gold in some areas of East Asia, this animal bears the holy grail of the black market on its face as conspicuously as a hood ornament.

Three rhino species — the Sumatran, the Javan and the black rhino — are now critically endangered, and the Indian rhino is listed as threatened. The Sumatran rhino clings to survival as its numbers decline faster than those of any other extant species. Over the past 20 years, poachers have killed more than half the world's population of Sumatran rhinos, making it the most endangered rhino on Earth.

According to the World Wildlife Fund (WWF), the demand for rhino horn translates into at least 1,300 rhino deaths annually.

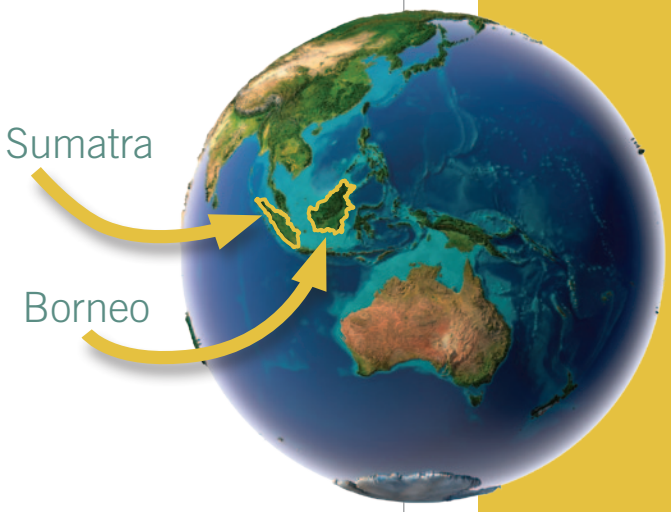
A rhino horn's black-market value stems largely from a centuries-old belief drawn from Chinese folk medicine that it can reduce fever and other ailments. The lucrative market endures despite proof that rhino horn has no medicinal value. In 1983, in an effort to educate the public, WWF sponsored a study to investigate the purported

CR **SUMATRAN TIGER**

critically endangered

HUNTED FOR

WHISKERS
BONES
PELTS



CR **SUMATRAN RHINO**

critically endangered

HUNTED FOR

HORNS

Between 1970 and 1992, 96 percent of Africa's black rhinos were killed during a wave of poaching for rhino horn.

©Images of Africa Photobank/Alamy

©Eric Gevaert/Shutterstock.com

These two Sumatran tiger cubs are among the fewer than 3,200 remaining tigers.

"health benefits" of rhino horn. As expected, the study proved conclusively that it has no effect.

The president of the American College of Traditional Chinese Medicine, Lixin Huang, confirmed this finding in a recent statement aimed at dampening the demand for rhino horn. He added that the use of rhino horn as a cure for cancer "is not documented in traditional Chinese medicine, nor is it approached by the clinical research in traditional Chinese medicine."

Although most traditional medicines aren't harmful to animals or the environment, folk remedies that call for tiger whiskers, fat, skin and bone are threatening to wipe out another vulnerable animal: the tiger.

Tigers Teetering on the Brink

Tigers are the biggest of the "big cats" (others are lions, leopards and jaguars). Measuring up to 13 feet in length and weighing up to 660 pounds, tigers can jump almost twice their body length and swim up to 4 miles at a stretch, sometimes lugging their prey with them. A species that once roamed across all of Southern Asia and up to Russia, tigers now exist in the wild only in India, parts of Southeast Asia and Siberia.

In the early 1900s, the world's tiger population was estimated to be greater than 100,000. Today, 97 percent of that population has been eradicated with fewer than 3,200 tigers remaining. Of the eight original tiger species, three have become extinct: the Bali tiger, the Caspian tiger and the Javan tiger. Killing tigers to feed the black market trade in tiger hide, bones and other body parts is among the primary reasons for the tiger's rapid decline.

Not Just an Animal Issue

When poachers slaughter an animal to harvest a specific part of its body — such as a rhino's horn, a tiger's bones or an elephant's tusks — the damage extends far beyond the individual animal. Wildlife trafficking can decimate a species' population, threaten regional security, introduce health risks into human communities, and cause entire ecosystems to falter.

Wildlife protection may seem like a tall order in regions plagued by war, hunger and disease, but

A man poses with confiscated ivory and arms in Gabon. The illicit wildlife trade can become entangled with other crimes, such as arms and drug trafficking.

©WWF-Gabon/James Morgan via AP Images

©Stockbyte/Thinkstock

"We do not inherit the earth from our ancestors; we borrow it from our children."

unchecked wildlife trafficking actually fuels violence, with poaching proceeds often being used to fund and arm criminal networks, thereby further destabilizing volatile regions.

Wildlife trafficking also threatens economic security. Many of the regions where poaching is prevalent rely heavily on tourism, particularly environmental tourism. Fewer animals to view and increased violence detract from a region's viability as a tourist destination. Illegal trade diverts money away from legitimate businesses and instead puts cash in the hands of criminals, stunting economic growth.

Wildlife trafficking also poses public health risks. An increasing number of human diseases — for example, SARS, avian influenza and the ebola virus — are caused by infectious agents that have been transmitted from animals to humans. By circumventing public health controls, the illegal trade of live animals or their body parts puts people's health at risk.

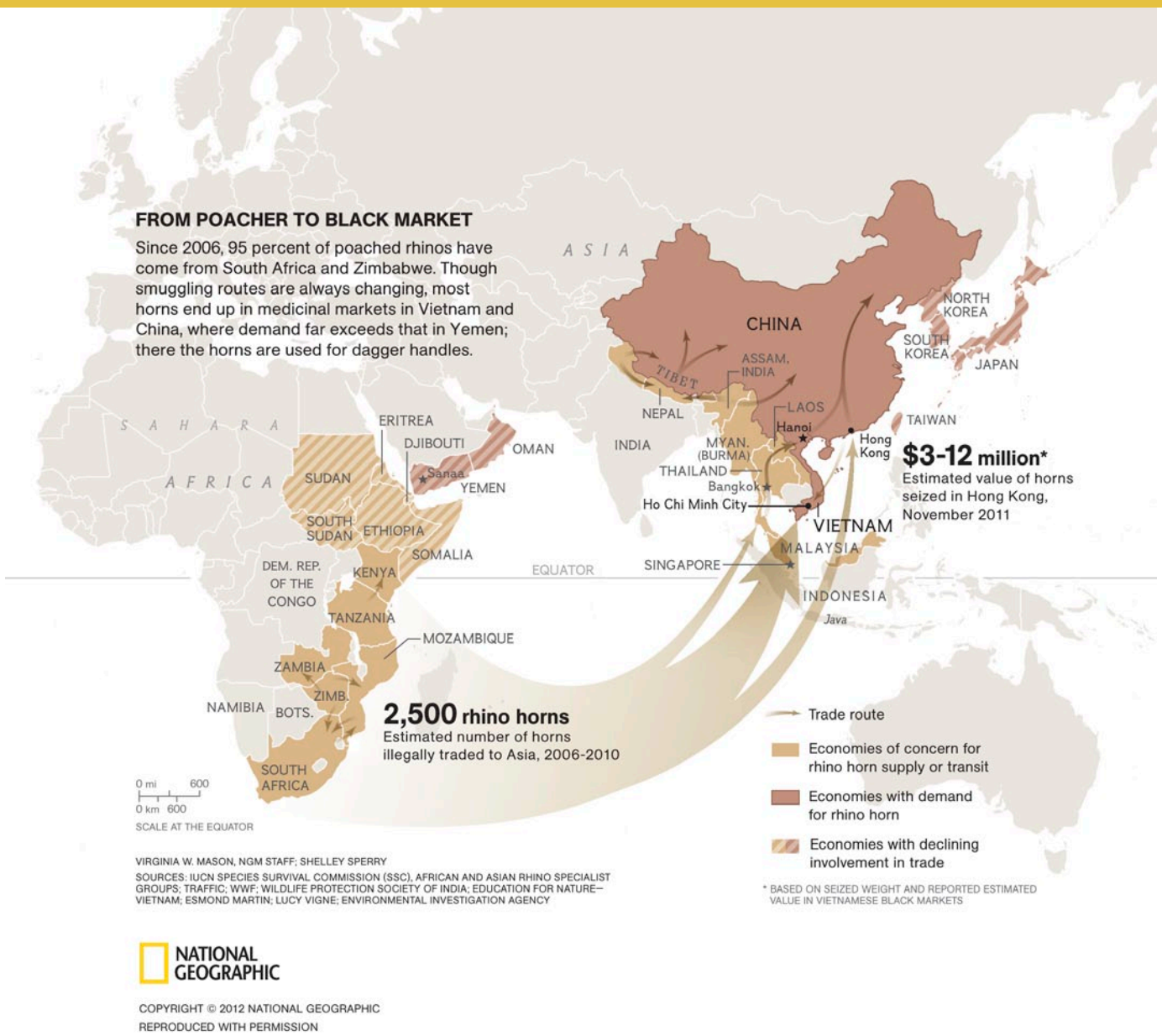
Respond to Responsibility

Despite the recent rise in wildlife trafficking, there is still reason to hope.

Southern white rhinos — once nearly extinct — are now thought to be the most abundant rhino species in the world, thanks to the tireless dedication of conservationists working together to secure their population in sanctuaries and reserves across Africa. In October 2012, Chinese authorities cracked down on a massive transnational wildlife trafficking ring, seizing more than 1,000 pieces of ivory valued at more than $3.4 million and arresting several smugglers. In the United States, authorities have pushed to create global partnerships to put an end to the illegal wildlife trade, such as the Coalition Against Wildlife Trafficking, established by the U.S. Department of State in 2005.

Saving tigers, rhinos and elephants — and many other endangered species — requires collaboration across national boundaries and borders. Individuals and organizations around the world are answering the urgent call to action to conserve wildlife.

The amount of ivory seized in 2011 totaled more than 23 tons.



By raising awareness, devising solutions and reducing demand, small groups of people are making big impacts to stem the tide of wildlife trafficking.

"We do not inherit the earth from our ancestors; we borrow it from our children," a Native American proverb instructs. Given our planet's current condition, we must do everything in our power to pay back future generations — with interest. We owe it to them to hand down a wealth of natural resources, including the full array of the animals we enjoy today. ■

Jeff Corwin is an Emmy Award–winning American wildlife biologist and conservationist best known for his work as the host and producer of numerous nature shows, including The Jeff Corwin Experience *and* Corwin's Quest. *He is also the author of* 100 Heartbeats: The Race to Save Earth's Most Endangered Species *and* Living on the Edge: Amazing Relationships in the Natural World. *Currently Jeff is producer and host of* Ocean Mysteries with Jeff Corwin *on the ABC network. You can follow his conservation work at www.facebook.com/JeffCorwinConnect.*

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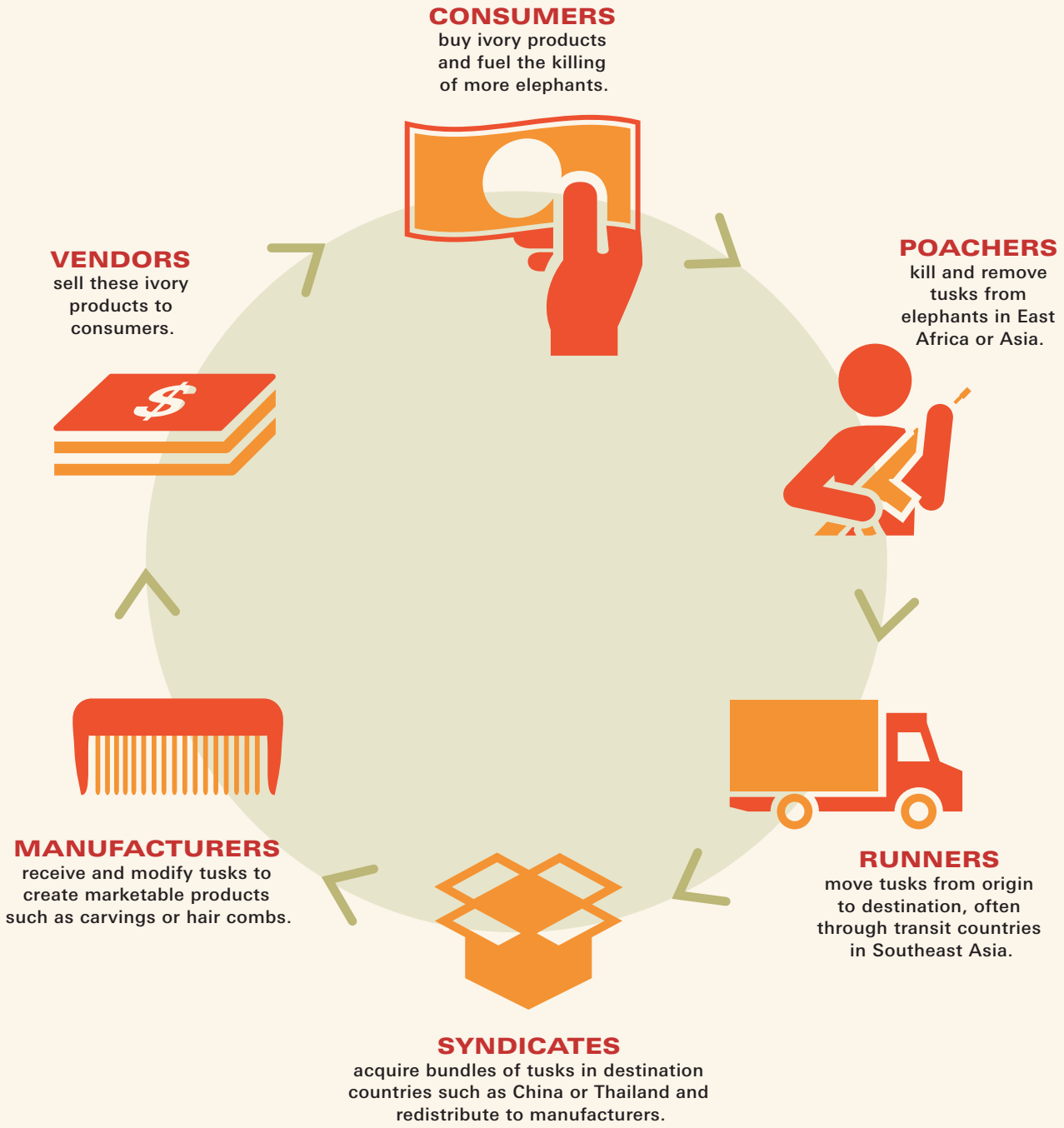
BREAK THE VICIOUS CYCLE:

Don't Let Animals Die for Products You Buy

wildlife trafficking starts and ends with the consumer

To understand how rising demand for animal products leads to rising death tolls, follow the path of illegal ivory from killing field to consumer in the violent supply chain below.



Icons from The Noun Project: comb (Randal Barriga); money (Øystein W. Arbo)

©AP Images/Sakchai Lalit, File

KNOW BEFORE YOU BUY

Although elephants are one of the world's most-poached species, they are not the only victims. In an industry worth an estimated $7.8 billion to $10 billion per year, transnational organized crime groups traffic everything from butterflies to bears. Here's a look at other poached species, body parts they're poached for, and in what consumer products those parts are used.

	are killed for	which sell as
elephants	tusks	trinkets piano keys combs
rhinos	horns	folk remedies
tigers	fur bone & whiskers	decoration folk remedies
sharks	fins	soup
gorillas	paws	ash trays
turtles	shells	jewelry

A customer shops for bracelets made with poached ivory.

Learning to Love Lemurs in Madagascar

By Ashley Rainey Donahey

Madagascar, the world's fourth-largest island, is home to many of the world's unique and rare animals. Most famous among them is the lemur, a primate native only to Madagascar that boasts more than 100 distinct species and subspecies.

Unfortunately, lemurs are also among the island's most-threatened animals. According to the International Union for Conservation of Nature, more than 90 percent of lemur species are endangered or on the verge of extinction.

"The lemurs will disappear within a generation if nothing is done," said Brett Bruen, a public affairs officer for the U.S. Embassy in Madagascar.

To avert the extinction of lemurs, the U.S. Embassy in Antananarivo has launched a campaign to boost domestic ecotourism in Madagascar and preserve the lemur and its habitat for many generations to come.

Nurturing Nature

"One of the first things you recognize the moment you get off the plane in Madagascar is the astounding level of environmental destruction under way," said Bruen. "It is really quite dramatic and tragic."

Among the serious threats to lemurs and other animals on the island is loss of habitat due to a common agricultural practice called "slash and burn." In this practice, farmers cut down and burn forests to clear land for planting crops. The effect on the plants and animals that live within those forests is devastating.

"We're talking about a place that's home to 10,000 plant species, 316 reptile species and 109 bird species in addition to the lemurs," Jeff Corwin explains in his book *100 Heartbeats*. "When you consider that 95 percent of the species that live [in Madagascar] aren't found anywhere else in the world, this amounts to ecological disaster."

To save the lemurs, Bruen and his team at the U.S. Embassy knew they would need to take a novel approach. Rather than trying to change the way

Ranomafana National Park ©Hugh Lansdown/Shutterstock.com

©Hemera/Thinkstock

Malagasy (residents of Madagascar) treat their environment, the embassy set out to change how Malagasy perceive their environment.

"Historically, nature in Malagasy culture is something to be controlled, destroyed and feared," Bruen explains. Even though Malagasy were aware that foreigners come from far and wide to enjoy their national parks, they would never consider visiting the parks themselves. "There really weren't enough efforts to promote those resources and those tourism opportunities to the Malagasy. So they didn't understand their value."

In 2011, the embassy launched a campaign promoting Madagascar's national parks as a vacation destination for Malagasy. Based on the theme "Vivez Une Expérience Naturelle," or "Live a Natural Experience," the campaign aims to inspire more Malagasy tourists to visit Ranomafana National Park in southern Madagascar.

A UNESCO World Heritage site, Ranomafana Park is home to 12 species of lemurs, including the rare golden bamboo lemur.

It Takes a Village

Some of Madagascar's top artists and entertainers participated in the campaign, including world-renowned, traditional-Malagasy musician Tarika Bé, tropical-music star Jerry Marcos, hit rock group AmbondronA and even Miss Madagascar.

Opposite Page, from left to right: ruffed lemur (©tolmachevr/Shutterstock.com), ring-tailed lemurs, red ruffed lemur, and red-bellied lemurs (©Eric Gevaert/Shutterstock.com). Above: A bamboo lemur chews on bamboo. More than 100 species of lemur live in Madagascar.

Desire Randrianarisata

State-of-the-art Namanabe Hall in Madagascar

The embassy invited artists to come out to Ranomafana Park and spend some time at the newly constructed Namanabe Hall, a state-of-the-art facility the embassy helped fund that combines science and the arts with high-tech labs and artist-in-residence suites. Inspired by their environment, the artists created music videos and performed live concerts encouraging Malagasy to visit the park. The embassy also recruited a large number of private sector organizations to support the campaign. Ogilvy PR created free advertising, Air Madagascar is looking into providing flights into the region, the American Chamber of Commerce helped fund promotional activities, and Airtel paid for production of a music video.

"Not only is Madagascar's biodiversity something to take pride in, it's cool."

"Our first major victory in this campaign is that Malagasy people are beginning to talk," AmbondronA's Beranto explains. "Before, tourist destinations were mostly beaches. Today, the term 'ecotourism' is gradually entering into the language. The more one gets interested in biodiversity, the more we begin to realize how rich our country is in its environment."

"I think there's been a lot of opportunity to show the private sector how this really is a market to be tapped into," Bruen said. "When we first approached the travel agencies, they laughed at us. They said, 'There is no domestic market! Give it up! Forget it!' And yet, now they say their phones are ringing off the hook to book travel to the park."

Smashing Success

Patricia Wright, one of the world's foremost lemur experts, has witnessed the effects of the embassy's campaign firsthand.

In the 1980s, Wright spearheaded a conservation and development project that led to the founding in 1991 of Ranomafana Park, where she has spent the last three decades of her career studying lemurs in the wild. She is thrilled to see what a success the project has been.

Wright reports that the number of tourists coming to the park from within Madagascar has increased by more than 50 percent since 2011. Not only are more Malagasy coming to the park, but more are expressing an interest in protecting it. The park saw a marked increase in the number of Malagasy tourists asking about conservation, how to get involved and where to volunteer.

"Many of these people are young people who will have a big influence in the future," Wright said. "Many of them are just learning that not only is [Madagascar's biodiversity] something to take pride in, it's cool. It's really what makes Madagascar such a fantastic land."

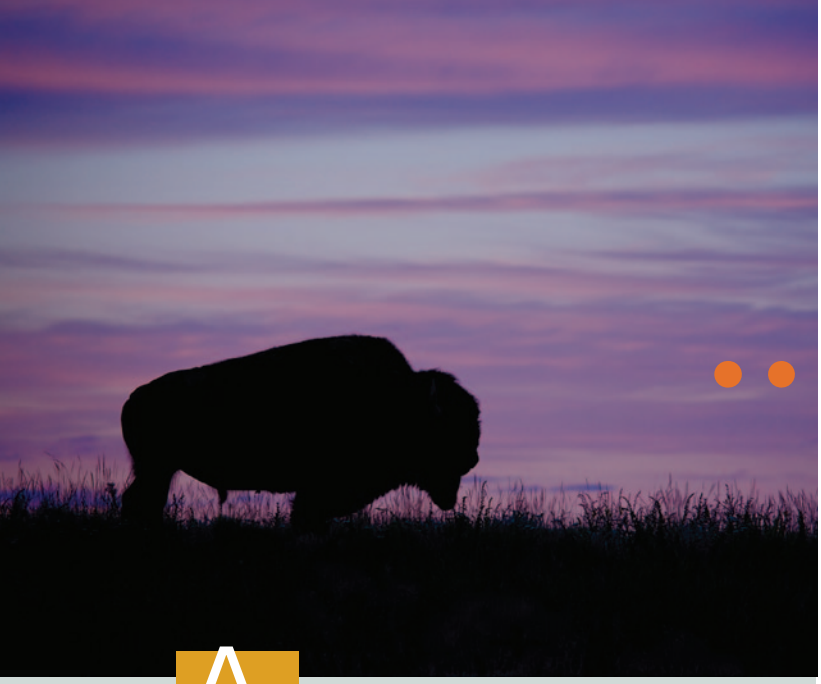
Before the U.S. Embassy's campaign, there had never been such an involved and broad-reaching conservation program in Madagascar, according to Wright.

"It was exactly what I thought should happen — but I didn't think anybody would do it — and the [U.S.] embassy did it, and did it in a smashing, effective way," Wright said. "Brett and the U.S. Embassy team did an amazing job that really turned around the perception of the Malagasy toward their own country and the biodiversity in their country." ■

Ashley Rainey Donahey is a managing editor of eJournal USA *for the U.S. Department of State's Bureau of International Information Programs.*

Visit the U.S. Embassy in Antananarivo's website!

http://www.antananarivo.usembassy.gov



American bison ©Tom Reichner/Shutterstock.com

WILDLIFE CONSERVATION SOCIETY

By Mary-Katherine Ream

saving iconic species and spaces

At the end of the 19th century, the American bison — an enduring symbol of the U.S. West — faced extinction. Once numbering in the tens of millions, American bison were nearly decimated by commercial hunting during this period of westward U.S. expansion.

Today, the United States boasts a bison population of more than 500,000. This triumphant rebound comes in large part thanks to the Wildlife Conservation Society (WCS).

Established as the New York Zoological Society in 1895, WCS worked with another conservation group, the American Bison Society, to bring some of the country's few remaining bison to the Bronx Zoo in New York. After breeding the bison at the zoo, WCS worked with the U.S. government to release the animals back into the wild, where they were able to repopulate the American Great Plains.

The near loss of this endangered emblem of the U.S. West more than a century ago still informs WCS' mission today: to save the world's iconic wildlife and wild places.

"The United States has been there before," said John Calvelli, WCS' executive vice president of public affairs. "We've had to deal with the degradation of our landscape and the loss of our iconic species."

WCS has been leading efforts to preserve animals and environments that are both biologically important and culturally significant for more than 100 years by harnessing the unique power of its parks and fieldwork.

Animal Ambassadors

Though it began as a zoological society, WCS has flourished as the world's most comprehensive conservation network, with four zoos, one aquarium and 500 conservation projects in more than 60 countries.

Its zoos and aquariums serve as research centers, breeding facilities and education hubs, where WCS offers everything from summer camps for aspiring zoologists to online games for hopeful conservationists. They also serve up inspiration.

"We look at our animals as ambassadors of the wild," Calvelli said. "They tell a story so that people who will never have the chance to go to Africa or Asia will still be able to understand why these animals are so important."

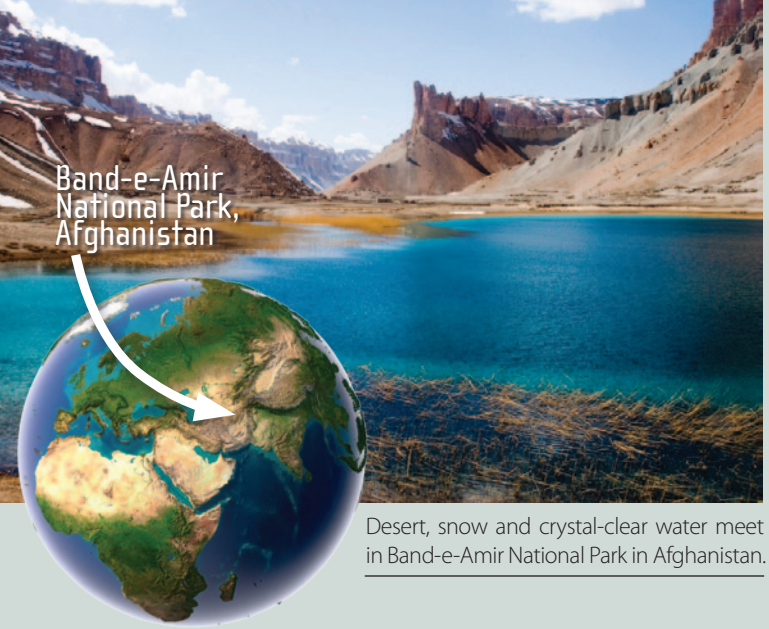
While the zoos and aquariums help WCS teach the public about conservation, its field projects bring them into action.

In the field, WCS focuses on four conservation strategies: engaging local communities to ensure they can achieve a sustainable livelihood; working with extraction industries to reduce their environmental impact; researching and monitoring zoonotic diseases (diseases that spread from animals to humans) to ensure health of animals and humans; and mitigating the effects of climate change on natural habitats and cycles.

When looking for potential conservation projects, WCS sticks to its roots.

"We try to identify species that are iconic, that are important to local communities, that play a key role in their landscape, and that we have a chance of saving," Calvelli said.

After determining the organization can play a role, WCS looks for funding sources and local partnerships.



Afghanistan Matters/Flickr

Desert, snow and crystal-clear water meet in Band-e-Amir National Park in Afghanistan.

"We understand that we will not be successful unless we are engaging local communities and making them partners in our conservation work," Calvelli said.

Preserving Afghanistan

One country where WCS has successfully engaged local communities in conservation is Afghanistan.

Since 2006, WCS and the U.S. Agency for International Development have worked with local community members to create the country's first national park, Band-e-Amir.

Recognized for its striking blue waters, central Afghanistan's Band-e-Amir is one of the world's few lake systems created by natural travertine dams. But recent conflicts and regional instability have threatened the park's pristine beauty and wildlife.

To establish better ties between the national government and local communities, WCS collaborated with 14 villages within the proposed park to create the Band-e-Amir Protected Area Committee (BAPAC) in 2007.

Together, WCS and BAPAC crafted the park's management plan and national park status proposal, which they submitted to the Ministry of Agriculture, Irrigation and Livestock for consideration.

On Earth Day 2009, Afghanistan declared Band-e-Amir's cobalt-blue lakes and natural travertine dams the country's first national park.

WCS continues to help Afghans protect, preserve and profit from their natural heritage. Currently, the organization is training rangers to protect the park's wildlife, teaching provincial officials to manage the park and helping national officials develop laws for responsible natural resource management.

Gabon

Another area where WCS has successfully engaged local people in conservation is in Gabon's Congo Basin.

The Congo Basin rain forest is the world's second-largest rain forest and provides shelter to forest elephants, lowland gorillas and more than 400 other mammal species. Known for its sparse human population, Gabon's patch of rain forest is one of the few places in the world where you can see an elephant swim in the ocean surf.

In 1999, WCS scientist Michael Fay trekked more than 3,200 kilometers over 456 days to catalog the environmental treasures of the Congo Basin. Tracing a path from the Republic of the Congo's tropical forests to Gabon's Atlantic coast, Fay caught the attention of both the media and Gabon's then-president, Omar Bongo.

"All this got the country itself to take ownership of their natural heritage," Calvelli said.

Understanding the significance of the country's unique and abundant natural resources, Gabon created a system of 13 national parks in 2002. The system makes up about 10 percent of the country's total area.

Today, WCS maintains partnerships with seven of the 13 parks.

Play your Part

From protecting Amazon's largest flooded-forest reserve to establishing Fiji's largest no-take zone to earning land rights for indigenous people, WCS has played a role in some of the world's greatest conservation successes.

"This is a field of significant opportunities, and we want to get more people involved," Calvelli said. "We want people to understand that they can play a role within their local communities as well." ■

Mary-Katherine Ream is a staff writer for the U.S. Department of State's Bureau of International Information Programs.

Learn more at WCS' website!

www.wcs.org

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By Mary-Katherine Ream

WORLD WILDLIFE FUND

building community, boosting conservation

"I would say it's 70 percent terror and 30 percent thrill. The terror comes from realizing you're a small, insignificant, defenseless creature, but there's also this thrill, this unadulterated joy."

These are the words of Matt Lewis, a senior program officer for World Wildlife Fund (WWF), describing the unique and exhilarating experience of encountering an African elephant — the world's largest land animal — in the wild.

Few people ever get to meet an African elephant in the wild and — with the increasing threat of their extinction — there's a possibility that no one will encounter one of these magnificent mammals in its natural habitat in just a few decades.

African elephants face a slew of survival challenges, but wildlife trafficking is the most urgent. Every day, elephants are killed for their ivory tusks, which are then illegally traded and used to make items such as piano keys, trinkets and hair combs.

Poachers have killed elephants for their ivory for centuries, but the situation is rapidly deteriorating. Last year, authorities seized the most illegal ivory since they began keeping records of such seizures in 1989.

"The interest in wildlife trafficking is a self-interest. It's making money quickly by exploiting — in this case — elephants," Lewis said.

And there's a lot of money to be made. Global Financial Integrity, a nonprofit that reports on transnational crime, estimates illegal wildlife trade's global annual value to be between $7.8 billion and $10 billion. WWF is working to stop this illegal trade by attacking every stage of the vicious cycle.

"Trafficking elephant tusks is a chain," Lewis said. "We need to interdict the poachers, go after the middleman and stop the chain all the way to the end user."

African elephants drink at a water hole.

WWF also advocates for a sustained international effort with strict laws, harsh penalties and highly publicized crackdowns.

Encouraging Co-Existence

In addition to breaking the chain of wildlife trafficking, WWF works to slow habitat loss and mitigate human-elephant conflict.

"Elephants and humans don't make good neighbors," Lewis said. African elephants have been known to raid farmers' crops or kill ranchers' cattle near watering points. In response, the affected farmers and ranchers will sometimes kill nearby elephants.

To minimize this conflict, WWF provides people with incentives to co-exist with their elephant neighbors through programs such as the Living in a Finite Environment (LIFE) project in Namibia.

Started in 1993 as a partnership between WWF and the U.S. Agency for International Development (USAID), LIFE shifts communal rights of land and animals from the national government to the local people. But not all this newly acquired land is being used for farming.

One way many communities are profiting from their land is by entertaining foreign travelers with their unique natural environment, an industry known as ecotourism. This shift helps local communities understand the economic benefit of their natural resources and encourages them to become stewards of their local wildlife.

"The guides attract more tourists with more elephants, [more tourists] provide more money to the community, and in turn, the community sees the benefit of having more elephants around," Lewis said. USAID's efforts in Namibia have been "the most successful community-based initiative in the world," according to Lewis.

Building a Future for Elephants

Building capacity within the community is a pillar of WWF's conservation efforts. In addition to its community-based conservation programs, WWF trains a future generation of conservationists.

"I believe the most important thing we can do for conservation worldwide is to invest in the training of men and women to manage their own natural resources," said the late Russell E. Train, WWF's founding trustee.

WWF builds this local capacity in part through its Education for Nature program. Launched in 1994, the conservation fellowship program has invested more than $12.5 million to support conservation leaders who in turn train their local communities.

But you don't have to share your living space with elephants to get involved in the global conservation effort. WWF encourages individuals to kill the trade that kills the elephant: reduce demand for trafficked ivory goods by not buying them in the first place.

Imploring youth to take action, Lewis asks "Do you want to be the generation that sees the extinction of this animal in your lifetime?" ■

Mary-Katherine Ream is a staff writer for the U.S. Department of State's Bureau of International Information Programs.

African savanna elephant ©Martin Harvey/WWF-Canon

Learn more at WWF's website!

www.wwf.org

SPOTLIGHT

WildAid

By Heather Regen

convincing consumers first

In a recent video released by international nonprofit organization WildAid, Chinese actor and martial artist Vincent Zhao flips across a spotlit arena, combating attackers with high kicks and swift jabs. Zhao finishes his routine by turning to look at an elephant and a tiger and asking, "Now, are you ready?" A voice-over explains that while we cannot teach self-defense to endangered animals, we can defend them ourselves — by never buying illegal wildlife products.

While other conservation organizations focus on habitat restoration and wildlife protection, WildAid targets the illegal wildlife trade. By directing its message at consumers through unique public awareness campaigns, WildAid aims to drive down the demand for products made from endangered species — and drive poachers out of business. Its message is simple, but strong: "When the buying stops, the killing can, too."

©Sayyid Azim/AP Images

Former basketball star and WildAid ambassador Yao Ming, center, looks at a cheetah with Kenya Wildlife Society Director Julius Kipn'getich, right.

Conservation Through Communication

WildAid estimates it reaches nearly 1 billion people every week in more than 80 countries through donated media such as Zhao's video.

"It began with a simple notion. To end the poaching, we must address the demand and reach the people buying the products," WildAid Executive Director Peter Knights explains. "Animals are being trapped and killed so that a few can profit from selling products made from their body parts, often to consumers who have no idea of the impact of their actions."

WildAid hopes that by making consumers more aware of the broad-ranging consequences of purchasing animal byproducts — as well as the enormous power consumers hold to stop these ills — it will also inspire greater political will to stop wildlife trafficking. It follows the credo of former U.S. President Abraham Lincoln that "with public sentiment, nothing can fail. Without it, nothing can succeed."

To raise public awareness and amplify its message, WildAid has recruited more than 100 celebrity ambassadors to star in its campaigns. WildAid's roster includes such celebrated names as American actors Harrison Ford and Kate Hudson, Chinese basketball superstar Yao Ming, Indian model and actress Sushmita Sen and Indian cricket phenomenon Sachin Tendulkar.

"Would anyone buy ivory if they had witnessed this?"

©Stringer/AP Images

WWF-Canon/Folke Wulf

WildAid's roster of talent is not limited to famous athletes and movie stars. Top-name media producers and advertisers also donate their expertise and professional know-how, enabling WildAid to produce cutting-edge media campaigns at a fraction of the cost spent by commercial enterprises.

Playing Defense for the Elephants

Even though WildAid ambassador Yao Ming is 2.29 meters tall, most African elephants still tower over him at 4 meters tall. When the basketball star traveled to Kenya this year, however, he met a family of elephants that barely reached his knees.

Kingango, the newest baby elephant in the group, was only two weeks old. He was brought to the Daphne Sheldrick Elephant Orphanage because his mother had been killed by poachers.

Yao visited the elephant orphanage as part of his trip with WildAid to document the elephant poaching crisis. In Nairobi National Park, he witnessed the tragedy of poaching firsthand, helping the keepers at Daphne Sheldrick's Orphanage feed and play with the baby elephants that no longer had mothers to raise them.

Outside the park, Yao saw the carcasses of elephants that had been killed for their ivory. Horrified by the sight, the basketball player has made it his mission to spread awareness about the origin of illegal wildlife products. Speaking to his WildAid team, he asked: "Would anyone buy ivory if they had witnessed this?"

Although WildAid works tirelessly to curb poaching, it recognizes that, ultimately, it is up to individual consumers to make a difference. "The most effective thing you can do to counter this kind of situation is raise people's awareness," Yao explains. "That's what I want to do." ■

Heather Regen is a staff writer for the U.S. Department of State's Bureau of International Information Programs.

Learn more at WildAid's website!

www.wildaid.org

Left: Yao Ming looks at an elephant slaughtered by poachers in northern Kenya. Top: Pile of confiscated elephant tusks in Kruger National Park, South Africa.

The creation of Yellowstone National Park in 1872 sparked a great American conservation movement and tradition. The American buffalo, or bison, almost decimated in the 19th century, found a home at Yellowstone. Since then, the U.S. national park system has expanded to include everything from coral reefs and alpine peaks to salt flats and rain forests. Today, the U.S. National Park Service looks after 398 national parks — and their wildlife — so that every visitor can enjoy the United States' rich natural heritage.

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1. In the heart of Alaska, **Denali National Park and Preserve** protects more than 2.4 million hectares of pristine wilderness. Ranging from boreal forests to alpine tundra to soaring mountain peaks, the park's landscape is an extravaganza, but its wildlife is the main attraction. Established to protect mammals, Denali supports one amphibian, 14 fish, 169 bird and 39 mammal species. Many visitors plan trips just to see Denali's "big five" animals: moose, caribou, Dall sheep, wolf and grizzly bear.

2. Nestled in Florida's southern tip, **Everglades National Park** consists of more than 607,000 hectares of whimsical landscapes, flora and fauna. A UNESCO World Heritage Site and International Biosphere Reserve, Everglades represents the largest subtropical wilderness in the United States. Its gossamer swamps and enchanted forests shelter 17 amphibian, 50 reptile, 300 fish, 350 bird and 40 mammal species — including 15 federally threatened and endangered species such as sea turtles, West Indian manatees and American crocodiles.

3. Located along Maine's coast, **Acadia National Park** comprises terrains ranging from oceans and mountains to lakes and forests. The first national park east of the Mississippi River, Acadia also boasts Cadillac Mountain, the tallest mountain on the U.S. Atlantic coast. This varied landscape hosts an array of wildlife including 11 amphibian, 338 bird, 28 fish and 40 mammal species. Once on the brink of extinction, the peregrine falcon now flourishes here after its reintroduction by park staff in 1984.

7 spectacular parks

©Doug Lemke/Shutterstock.com

Moose ©Steve Bower/Shutterstock.com

WILD SPACES WILD SPECIES

U.S. NATIONAL PARKS

1. DENALI

3. ACADIA

2. EVERGLADES

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> National parks are the best idea we ever had. Absolutely American, absolutely democratic, they reflect us at our best rather than our worst.
>
> Pulitzer Prize-winning author Wallace Stegner

4. Situated in southwestern South Dakota, **Badlands National Park** contains 98,743 hectares of eroded buttes and mixed-grass prairie. The park also has one of the world's richest fossil beds, including the remains of such ancient animals as the saber-toothed tiger. Today, Badlands is home to a different cast of characters: six amphibian, nine reptile, 206 bird, 69 butterfly and 39 mammal species live here. The American bison — the park's most beloved species — inspired President Theodore Roosevelt's conservation efforts.

5. Tucked in Utah's southwestern corner, **Zion National Park** features sandstone canyons, Technicolor cliffs and the Virgin River. A convergence point for the Colorado Plateau, Great Basin and Mojave Desert, the park provides a plethora of living environments. Its 60,000 hectares of area house seven amphibian, 29 reptile, nine fish, 207 bird and 67 mammal species, including the endangered California condor, the threatened Mexican spotted owl and the elusive ring-tailed cat.

6. Seated along Washington's Pacific coast, **Olympic National Park** bills itself as "three parks in one." That is because visitors can experience snow-capped mountains, temperate rain forests and ocean tide pools in one day. The park's 373,000 hectares of diverse terrain allow for an impressive array of wildlife including 37 fish, 300 bird, 64 land mammal and 29 marine mammal species. Whales, dolphins and sea lions feed offshore while black bears and Roosevelt elk dine on land.

7. Sprawling across the Tennessee and North Carolina border, **Great Smoky Mountains National Park** contains some of the world's oldest mountains. Unique for their northeast to southwest orientation, these mountains offer a range of altitudes supporting an array of plants and animals. More than 17,000 species have been documented — though scientists suspect some 80,000 more could live here. The tree-cloaked mountains harbor 43 amphibian, 39 reptile, 50 fish, 200 bird and 66 mammal species, including the well-known black bear.

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©Rudy Balasko/Shutterstock.com

Peregrine falcon ©Petr Jilek/Shutterstock.com

4. BADLANDS

6. OLYMPIC

©2009fotofriends/Shutterstock.com

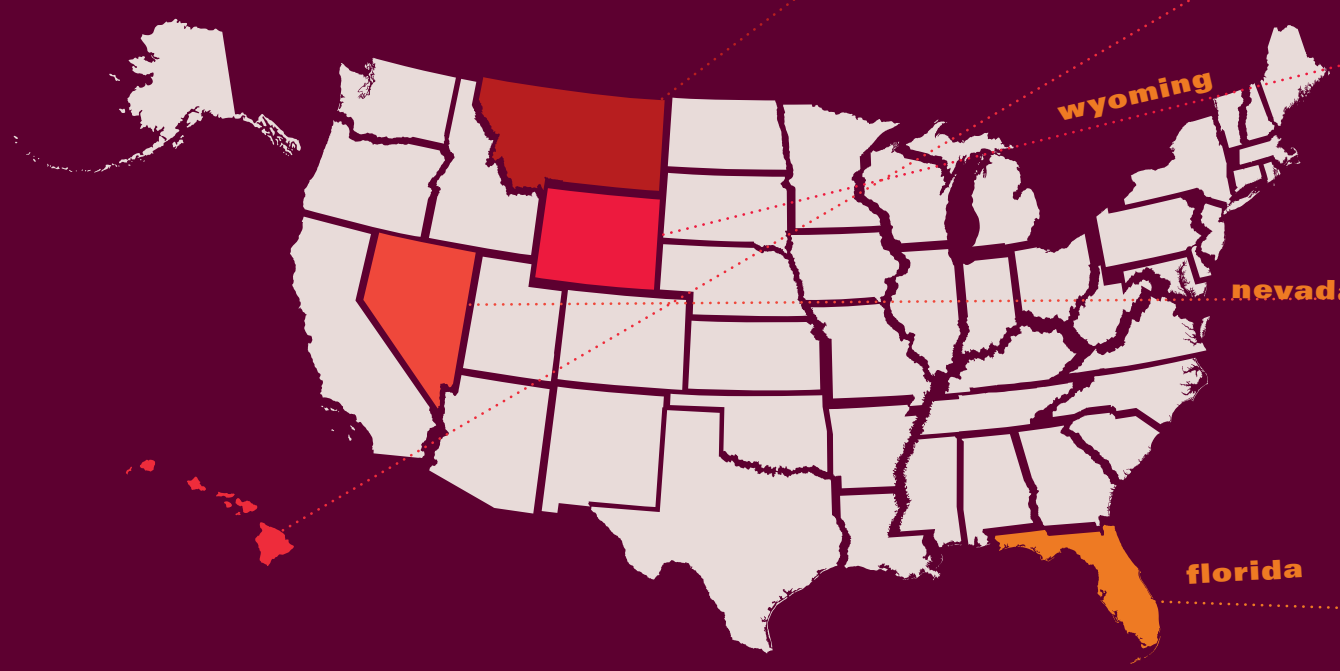
7. GREAT SMOKY

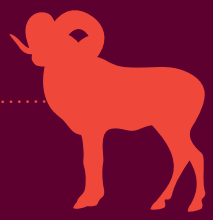
©Dave Allen Photography/Shutterstock.com

U.S. STATE ANIMALS

symbolic species

Texas claims the longhorn, Wisconsin owns the badger and Massachusetts boasts the Boston terrier. All are state symbols: animals that celebrate each state's unique culture and natural heritage. Discover more state animals and their significance:



animal	significance	conservation story
grizzly bear	**Democratically Elected.** The grizzly bear was elected Montana's state animal with 34,436 student votes in 1983 as part of a program to teach Montana's children about how democracy works. (The elk came in second with 18,354 votes.) The grizzly was chosen to represent the "awesome spectacle" of size, strength and beauty found in Montana.	Since 1999, the Montana Fish, Wildlife and Parks Foundation has raised more than $1 million for its Cabinet-Yaak Grizzly Bear Augmentation Project. The project focuses on researching and breeding grizzlies in the wild to increase their population in the region.
monk seal	**Uniquely Hawaiian.** Monk seals are native to and found only in Hawaii.	With a small population and low "pup" survival rate, the Hawaiian monk seal is one of the world's most endangered marine mammals. The National Oceanic and Atmospheric Administration, along with several partner agencies and organizations, is boosting the pup survival rate through a captive care and release program.
american bison	**Iconic.** Bison are living symbols of the American West.	Thanks to organizations such as the Wildlife Conservation Society and American Bison Society, bison have bounced back from near extinction to a population of more than 500,000. Wyoming's Yellowstone National Park, the only place bison have lived continuously since prehistoric times, hosts a herd of more than 3,000 bison.
 desert bighorn sheep	**Representative.** Suited for mountainous deserts and dry climates, the desert bighorn sheep embodies Nevada's rugged spirit.	President Franklin D. Roosevelt established two wildlife refuges in 1939 and a third in 1941 to preserve bighorn sheep. The inclusion of the Sierra Nevada, a subspecies of bighorn sheep, on the U.S. government's endangered species list has also helped boost conservation efforts.
panther	**Umbrella Species.** Protecting panthers protects other plants and animals that live near them.	Established in 1974, Big Cypress National Preserve was the first national preserve in the United States. Big Cypress along with Fakahatchee Strand State Preserve and the Florida Panther National Wildlife Refuge protect more than 271,139 hectares of land for Florida's endangered panthers.

All Illustrations ©Shutterstock.com: U.S. map (Donald Sawvel); American bison (Nebojsa S); monk seal (Vule); panther (oorka); grizzly bear (Sushko Anastasia); desert bighorn sheep (abrakadabra)

RARE

By Ashley Rainey Donahey

social marketing for social good

Rare

Lang Jianmin, left, teaches a local volunteer how to patrol for illegal tiger traps.

Lang Jianmin was worried that wild game poaching in northeast China was threatening one of the region's most precious treasures: the Siberian tiger. As demand for dishes featuring wild boar and deer rose in local restaurants, farmers had begun setting illegal snares to catch the tiger's prey to augment their income.

The problem, Jianmin realized, was not only that farmers were killing prey the Siberian tiger needed to survive, but that the farmers did not understand how rare and special their native tiger is. (The world's largest cat, the Siberian tiger is found only in specific areas of Russia, China and North Korea, and only a few hundred remain in the wild.)

An employee of the Hunchun Siberian Tiger Nature Reserve in China, Jianmin understood that to protect the tiger, he needed to do more than simply demand that farmers stop hunting the tiger's prey. To alter their actions, he would need first to change their hearts and minds.

Rare to the Rescue

When Jianmin decided to take action, Rare was there to help.

Founded in 1973, Rare is a conservation organization with a unique approach. Rare's work is founded on the idea that conservation is ultimately about people: their attitudes toward nature, their beliefs in its value, and their ability and willingness to protect it without sacrificing their quality of life.

"What we're interested in is changing individual and community behavior around environmental issues," Paul Butler, Rare's senior vice president of global programs, said. "I believe it is individual people that we have to change — one person at a time, one community at a time, one country at a time — to have any long-term, sustained impact."

To achieve this impact, Rare advocates the use of private sector marketing tactics for social good — "social marketing" — to encourage social change. Through locally implemented programs, Rare works to promote conservation by changing people's attitudes and behaviors toward their own natural resources.

Rather than implement these programs itself, Rare trains qualified staff members from local partnership organizations for two years — both in the field and in the classroom — who then plan, execute and evaluate their own campaigns. With Rare's help, the local organizers identify barriers to conservation-friendly behavior, design marketing strategies that will help curb harmful behaviors and offer locals viable alternatives and incentives to act more sustainably.

In Jianmin's Siberian tiger effort, that meant launching a marketing campaign to discourage members of the community from ordering wild meat at restaurants, as well as working with local restaurants to stop serving it. In partnership with the Wildlife Conservation Society, Jianmin also worked with local farmers to establish patrol teams that removed illegal traps and sought to eliminate accidental tiger trappings. In exchange, Jianmin's program offered free bee boxes to cattle farmers who agreed to serve on patrol teams.

Powered by Pride

To bring about meaningful and lasting change, Rare has designed what it calls a "pride campaign." By encouraging people to take pride in and ownership of their local resources — whether it is a particular species, body of water or plot of land — pride campaigns aim to introduce more sustainable practices in a community. The idea is to appeal to both people's rational and emotional sides. "It makes rational sense to protect your resources so that you can

have them for the future, and it makes emotional sense to take pride in those resources as they are symbolic of your community or your country or your region," Butler said.

So far Rare has trained more than 200 local conservation leaders in more than 50 countries, and their campaigns have reached an estimated 10 million people living in some of the most biologically diverse areas in the world, including Brazil's Atlantic Forest, Madagascar's Andavadoaka coast and Indonesia's national parks. Their accomplishments include creating new protected areas, reducing forest fires and overfishing, increasing sustainable farming practices, launching community recycling programs and environmental groups, and helping multiple species on the brink of extinction.

Rare Results

Jianmin's campaign to protect Siberian tigers in northeast China produced encouraging results. In about one year, the percentage of villagers willing to participate on a patrol team rose to 81 percent from 49 percent, the percentage of villagers who ate wild game dropped from 56 percent to 18 percent, and the average number of poaching incidents dropped from 23 per month to only six.

With Jianmin's energy and Rare's expertise, selling and eating the Siberian tiger's prey effectively became socially unacceptable. Siberian tigers not only had more to eat and thus a greater chance of survival, but they became a symbol of pride for a community that now rallies to protect them.

"I hoped the people could be proud of the tiger," said Jianmin, "and now I am proud of them." ■

Ashley Rainey Donahey is a managing editor of eJournal USA *for the U.S. Department of State's Bureau of International Information Programs.*

Learn more at Rare's website!

www.rareconservation.org

Children dress as tigers for a 2009 Siberian Tiger Festival in Hunchun, China. The festival — the first of its kind — was organized by Rare Conservation Fellow Lang Jianmin.

Rare

©Chris Loades/Fauna & Flora International

The FFI team discovered a thriving snow leopard population in Tajikistan.

SPOTLIGHT

FAUNA & FLORA INTERNATIONAL

helping others to help wildlife

By Heather Regen

Searching under large rocks and tangled plants in the Wakhan mountain range on the Tajikistan-Afghanistan border, David Mallon and his team were puzzled. Three months earlier, Mallon, a scientist who works with Fauna & Flora International (FFI), had led a group of local and international scientists into the Zorkul Nature Reserve in Tajikistan to catalog its biodiversity. To capture images of the Wakhan's wildlife, the team had set up 11 monitoring cameras. But when they returned to collect the footage, only 10 cameras could be found.

When Mallon uploaded the cameras' images, the mystery was solved: A playful group of snow leopard cubs had dragged the missing camera from its perch and carried it off into the mountains.

Although they lost a camera in the project, the FFI team had gained vital information about Tajikistan's wildlife. Before FFI visited the Zorkul reserve, no one

knew exactly how many snow leopards lived there, but FFI's cameras revealed a large, healthy and growing population of snow leopards — a rare scenario for the endangered creature. They had discovered a critical new region for snow leopard conservation.

Building Conservation Capacity

Founded in 1903, FFI is the world's oldest international conservation organization. One of FFI's first actions was to create Serengeti National Park in Tanzania, which biologists and conservationists prize as one of the safest homes for the "Big Five" species hunted by poachers: lions, leopards, elephants, rhinoceroses and African buffalos.

Today, FFI continues in its role as a conservation pioneer, expanding its reach far beyond Africa to help preserve key species in developing areas of the world where the need for conservation is urgent but capacity to conserve is underdeveloped.

One such area is in Central Asia, where FFI is taking action to protect an abundance of threatened plants and animals, including snow leopards.

During the past 16 years, poaching and loss of habitat have reduced the world's snow leopard population by 20 percent, according to FFI. It is estimated that only 6,000 snow leopards remain in the wild.

Inspired by this majestic cat that can leap more than nine meters and take down prey three times its own weight, FFI is working with partners in Tajikistan and Kyrgyzstan to stabilize the snow leopard population.

With a vast range of landscapes and ecosystems, Tajikistan and Kyrgyzstan constitute part of what environmentalists have termed the "Mountains of Central Asia Biodiversity Hotspot" — an area in which a significant range of plants and wildlife is threatened. Home to about a thousand endangered snow leopards, the hot spot is critical to protecting their population and maintaining Central Asia's biodiversity.

Counting on Local Efforts

Rather than send its own wildlife biologists to the site to impose conservation from the outside, FFI has been training Kyrgyz and Tajik scientists, park rangers and postgraduate students in snow leopard conservation methods for nearly 15 years. To date, FFI has helped train almost 200 conservation professionals in the region, giving them the tools they need to improve conservation in a region where few other organizations work.

Alex Diment, the capacity and development manager for FFI's Eurasia program, explains that bolstering the abilities of local conservation organizations is vital to protecting snow leopards in the region. "Capacity building is an essential part of our approach in Tajikistan — enabling the existing platform of strong scientific training to be expanded to include new and participatory conservation techniques."

In 2011, Diment traveled to Central Asia to train 15 young scientists from Kyrgyzstan and Tajikistan in biodiversity surveying and monitoring. The group came from a wide range of backgrounds, from national parks and universities to regional government offices and local nongovernmental organizations. One thing they all had in common, however, was a need for statistics education.

"One area they really struggled in was understanding how to deal with the numbers of animals and plants that they counted," Diment explained. "Statistics was never taught in biology courses. Many of the students had never heard of concepts that are vital for biologists who monitor wildlife populations, and this tested my skills in helping them learn to understand."

To build this critical skill, the FFI team used informal games to teach the scientists how to employ statistics to analyze data they gather in their field research. By the end of the course, however, Diment's scientists had gained more than number-crunching skills. By training together in FFI's program, the students also bonded as a network of like-minded conservationists.

"When they come to the training courses," Diment said, "they also have the opportunity to make new friends and professional contacts. [That network] will help them address the serious challenges that lie ahead for biodiversity conservation in the country." ■

Heather Regen is a staff writer for the U.S. Department of State's Bureau of International Information Programs.

Learn more at FFI's website!

http://www.fauna-flora.org/

ASSOCIATION OF ZOOS & AQUARIUMS

By Mary-Katherine Ream

connecting through conservation

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Visitors to the Smithsonian's National Zoo in Washington watch 5-year-old elephant Kandula eat birthday cake. Kandula was born in captivity as part of a successful breeding program.

Most people will never see sharks, elephants or pandas in the wild. And that makes conserving these animals all the more difficult.

Steve Feldman, a spokesman for the Association of Zoos and Aquariums (AZA) — a nonprofit organization dedicated to conservation, education, science and recreation — is all too familiar with this predicament.

Feldman cited a well-known adage: "For in the end, we will conserve only what we love. We will love only what we understand. We understand only what we are taught."

Originally expressed by Senegalese environmentalist Baba Dioum, these words resonate with AZA and conservationists around the world.

"In today's increasingly urbanized and technology-driven world, it is challenging for young people to establish a meaningful connection to the natural world," Feldman said. Without that connection, it is difficult for young people to understand conservation's importance.

To bridge this empathy gap, AZA-accredited zoos and aquariums are helping young people connect with their environment through fieldwork and educational programs.

Breeding Empathy

From protecting species in the wild and raising awareness with lawmakers to breeding species in captivity and educating student visitors, AZA's member organizations maintain a variety of programs dedicated to conservation and education.

The zoos and aquariums are "connecting young people to animals in a unique and intimate way that inspires them to care about and conserve the natural world," Feldman said.

As an AZA-accredited organization, the Smithsonian's National Zoo in Washington participates in AZA's Species Survival Plan, a program that enables member zoos to exchange animals for research and breeding. Through this program the Smithsonian's National Zoo has successfully bred six litters of cheetahs, an endangered species, since 2004.

The Smithsonian's National Zoo has been so successful at breeding that its efforts now serve as models for other zoo conservation programs worldwide.

The breeding program is part of the Center for Species Survival, one of six centers operated by the Smithsonian's National Zoo. Other centers focus on issues from animal care to habitat protection, and are all part of the Smithsonian Conservation Biology Institute, a facility dedicated to species conservation and educational training.

The Cincinnati Zoo and Botanical Garden is another U.S. zoo known for its successful breeding efforts. According to the zoo, more than 50 percent of the black rhinoceroses, white Bengal tigers and lowland gorillas currently in captivity were born there.

Education for Conservation

Breeding endangered species may be only one facet of conservation, but for zoos, it is an important one. Having more animals means attracting more visitors — and attracting more visitors means making more connections.

According to AZA, more than 12 million students from pre-kindergarten through secondary school visit AZA-accredited zoos and aquariums each year. These field trips give students the chance to learn about, appreciate and interact with hundreds of species.

Educating the public about the importance of wildlife is at the heart of conservation efforts by zoos and aquariums. In its 2006–2016 Science Plan, the Smithsonian's National Zoo cited educational programs — training the next generation of conservationists and educating the general public — among its top five goals.

Similarly, the Cincinnati Zoo and Botanical Garden operates the Center for Conservation and Research of Endangered Wildlife (CREW), a state-of-the-art research facility where scientists are striving to save endangered plants and animals through science, technology and public outreach.

Recently CREW celebrated the birth of a baby Sumatran rhino, Andatu, on a preserve in Indonesia. Andatu is the first Sumatran rhino to be born outside of the Cincinnati Zoo since its captive breeding program began in 1985. After working with its Indonesian partners at the Sumatran Rhino Sanctuary for more than a decade, CREW staffers were thrilled that their rhino Andalas — born in the Cincinnati Zoo's program and shipped to the Indonesian sanctuary in 2007 — was able to father a son in the wild and make such a considerable contribution to the survival of the species.

International Rhino Foundation

Baby Sumatran rhino Andatu with his mother.

Through programs like these, AZA helps the Smithsonian's National Zoo, the Cincinnati Zoo and other AZA-accredited organizations answer the call of Dioum's words. By providing the public with education that is vital for understanding the value of wildlife, AZA and its affiliates play a crucial role in conservation. ■

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Exceptional Efforts: Award-Winning Breeding Programs

Each year, the AZA presents the Edward H. Bean Award to a zoo or aquarium that has achieved exceptional results in breeding captive animals. Established in 1956, the award initially honored important firsts in captive breeding; today it highlights programs that significantly contribute to species conservation. The AZA selects winners based on a breeding program's role in preserving a significant species and the organization's long-term commitment to the breeding program, among other factors. Here is a selection of recent Bean Award recipients.

2011 Top Honors

Zoo Atlanta — Western Lowland Gorilla

Fifty years after welcoming its first lowland gorilla, Zoo Atlanta is now home to 23 lowland gorillas — the largest collection in the United States.

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Chewie, an 8-year-old female gorilla, chews on flowers at the Cincinnati Zoo.

2010 Top Honors

Smithsonian's National Zoological Park — Kori Bustard

The Smithsonian's National Zoo's Bird House made history in June 2011 with the birth of its 50th kori bustard. The zoo became the fourth in the world to hatch the large land birds when it began the breeding program in 1997.

2009 Top Honors

SeaWorld San Diego — Common Bottlenose Dolphin

More than 75 bottlenose dolphins have been born at SeaWorld San Diego since it opened in 1964. The aquarium has also successfully determined the sex of four dolphin calves prior to their conception through artificial insemination.

2008 Top Honors

Chicago Zoological Society's Brookfield Zoo — Goeldi's Monkey

Beginning with 10 wild-born primates in 1977, the Brookfield Zoo now boasts the largest collection of Goeldi's monkeys in North America and has won the Bean Award five times for its captive breeding program.

2007 Top Honors

Indianapolis Zoo — Jamaican Iguana

The Indianapolis Zoo implemented the first successful captive breeding and hatching of the Jamaican iguana outside of Jamaica. By 2006, the program had doubled the species' captive population in the United States.

Learn more at AZA's website!

http://www.aza.org

top 10 WAYS to get INVOLVED

There are more than 7 billion people on Earth. Imagine if every one of us committed to do one thing — no matter how small — to protect wildlife every day. Even minor actions can have a major impact when we all work together. Here are ways *you* can make a difference:

Eric Gevaert/Shutterstock.com

1 adopt.

From wild animals to wild places, there's an option for everyone. Get together with classmates to adopt an animal from a wildlife conservation organization such as World Wildlife Fund. Symbolic adoptions help fund organizations.

2 volunteer.

If you don't have money to give, donate your time. Many organizations and zoos have volunteer programs. You can help clean beaches, rescue wild animals or teach visitors.

3 visit.

Zoos, aquariums, national parks and wildlife refuges are all home to wild animals. Learn more about our planet's species from experts. See Earth's most amazing creatures up close.

4 donate.

When you visit your local zoos and nature reserves, pay the recommended entry fee. Your donations help maintain these vital conservation areas.

5 speak up.

Share your passion for wildlife conservation with your family. Tell your friends how they can help. Ask everyone you know to pledge to do what they can to stop wildlife trafficking.

A western lowland gorilla holds her baby. You can help protect their natural habitat by recycling your cellphone.

6 7 8 9 10

buy responsibly.

By not purchasing products made from endangered animals or their parts, you can stop wildlife trafficking from being a profitable enterprise.

pitch in.

Trash isn't just ugly, it's harmful. Birds and other animals can trap their heads in plastic rings. Fish can get stuck in nets. Plus, trash pollutes everyone's natural resources. Do your part by putting trash in its place.

recycle.

Find new ways to use things you already own. If you can't reuse, recycle. The Minnesota Zoo encourages patrons to recycle mobile phones to reduce demand for the mineral coltan, which is mined from lowland gorillas' habitats.

restore.

Habitat destruction is the main threat to 85 percent of all threatened and endangered species, according to the International Union for Conservation of Nature. You can help reduce this threat by planting native trees, restoring wetlands or cleaning up beaches in your area.

join.

Whether you're into protecting natural habitats or preventing wildlife trafficking, find the organization that speaks to your passion and get involved. Become a member. Stay informed. Actively support the organization of your choice.

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