

WCS

A Progress Report





We Stand for Wildlife.SM

Our goal is to protect the planet's vulnerable species while conserving the largest remaining intact habitats. We are currently safeguarding over 3.6 million square miles of land and sea in nearly 60 countries worldwide. We also harness a constellation of expertise across our New York zoos and aquarium, and through them we advance veterinary health, stimulate learning, and inspire action.

This WCS Progress Report provides our generous supporters with updates and insights on core conservation activities. In this report, you will find stories that highlight how we are saving wildlife and wild places worldwide through **science, conservation action, education, and inspiring people to value nature.** This edition includes news about using new technology to protect the Amazon River basin; securing protected areas and busting poachers in Africa; supporting the ivory ban in China; educating public school students in New York City; and much more.

Science and Discovery

Since our founding in 1895, science has driven our mission to save wildlife. The following stories demonstrate how we use science to discover and understand the natural world in order to better protect it.



New Technology Created to Protect the Amazon

Good planning is at the heart of successful conservation, which is why scientists from WCS, The Nature Conservancy, and partners in Brazil and Peru teamed up to create a new mapping tool for the Amazon River basin. This region extends across seven countries covering almost 40 percent of South America, and contains the largest tropical forest in the world. The basin is home to countless iconic species including jaguars, manatees, giant river otters, and 2,400 species of fish, as well as more than 30 million people. All of the Amazon's inhabitants rely on the region's aquatic ecosystems, which are threatened by ill-planned infrastructure, unmanaged fisheries, habitat destruction, and climate change.

Most conservation in the Amazon has focused on the rainforest, but the importance of aquatic ecosystems must also be factored in to protect habitats, biodiversity, and human well-being. To that end, WCS researchers, through the Amazon Waters Initiative, developed a powerful new framework using Geographic Information Systems (GIS) technology as a first step of a major focus on conserving the Amazon's water systems. This technology is highly scalable and allows conservationists and governments to view and monitor the Amazon from its

most natural units—basins—which unite aquatic and terrestrial systems. The tool works by integrating and mapping many environmental, political, and social variables, from the smallest basins to the entire Amazon. In this way, our scientists and partners can better understand how these diverse factors are connected.

The tool has a multitude of applications at all scales, be it helping a manager of fisheries identify vital areas for their fish species; allowing an urban planner to pinpoint areas at risk of flooding, especially in the face of climate change; or influencing a policymaker to improve decision making on infrastructure projects. WCS scientists have already used the technology to map the migrations and life cycles of 30 of the most commercially important fish species in the region.

This new GIS-powered conservation framework is a major contribution towards the historic Joint Statement for the Amazon Waters that WCS and more than a dozen other institutions signed in June 2016. That statement formally established a commitment to come together to promote the integrity of the Amazon River basin and protect its wildlife and people. ♡

Tracking Bats in the Bronx



In the first published study of bats in New York City, scientists from WCS's Bronx Zoo and from Fordham University have documented winter bat activity throughout the Bronx. Bats play an important part in ecosystems, namely by controlling insect populations. But in recent years, they have become increasingly threatened by habitat loss and a catastrophic fungal disease called white-nose syndrome.

Starting in 2012, Bronx Zoo Curator of Mammals Colleen McCann and Fordham graduate students listened to bat echolocation calls at four sites in the Bronx: the Bronx Zoo, Fordham University's Rose Hill Campus, the New York Botanical Garden, and the Belmont neighborhood. She and her students performed this acoustic monitoring by placing recording devices on the rooftops of buildings at each site and by conducting walking surveys using smaller ultrasonic recording units. They then processed the bat call recordings and identified them by species using a software program called SonoBat™.

The study found that five of New York State's nine bat species can currently be heard flying over the Bronx: the big brown bat, the eastern red bat, the hoary bat, the silver-haired bat, and the tri-colored bat—a surprising discovery considering the urban nature of this environment. Since the initial results were published in June 2016, the study has continued at the Bronx Zoo and expanded to WCS's Central Park, Queens, and Prospect Park Zoos. Initial results indicate that three of the five species found in the Bronx are also present in Manhattan, Queens, and Brooklyn. As Colleen McCann said, "These results show that even within one of the largest megacities, there are sufficient green spaces available to provide habitat for bats and other wildlife." 🐾

5-YEAR BAT STUDY FINDINGS



5 OF THE 9 BAT SPECIES NATIVE TO NEW YORK STATE ARE PRESENT IN THE BRONX



62% OF BAT ACTIVITY RECORDED DURING WALKING SURVEYS CAME FROM EASTERN RED BATS



70% OF BAT ACTIVITY RECORDED DURING ROOFTOP SURVEYS CAME FROM "TREE BATS" (EASTERN RED BATS, HOARY BATS, AND SILVER-HAIRED BATS)



THERE IS GREATER BAT ACTIVITY ON NIGHTS WITH HIGHER MAXIMUM DAILY TEMPERATURES

What We Learned

Despite the threats of habitat loss and white-nose syndrome, bats are thriving and maintaining their role as insect controllers thanks to green spaces in NYC.

Published by WCS's Bronx Zoo and Fordham University

New York Aquarium Scientists Contribute to OCEARCH Shark Expedition

As part of the New York Aquarium's ongoing shark research, in summer 2016, scientists participated in an OCEARCH expedition to study the interaction and movement of white sharks off the coast of Long Island, New York. OCEARCH, an organization that specializes in tracking sharks, brought its unique at-sea research laboratory, the *MV OCEARCH*, to New York waters for the first time for this expedition. With OCEARCH, New York Aquarium scientists helped tag nine juvenile white sharks with near real-time satellite tags. The tracking data suggest that coastal waters off Long Island may be an important nursery habitat for these depleted predators. These satellite tags will transmit to our scientists and their colleagues information about the sharks' movements up and down the East Coast for the next several years. This will provide baseline information on migratory patterns previously unknown for Northwest Atlantic juvenile white sharks. The data will contribute to our greater understanding of the New York marine ecosystem, and strengthen our ability to protect the habitats and wildlife that depend on these waters.

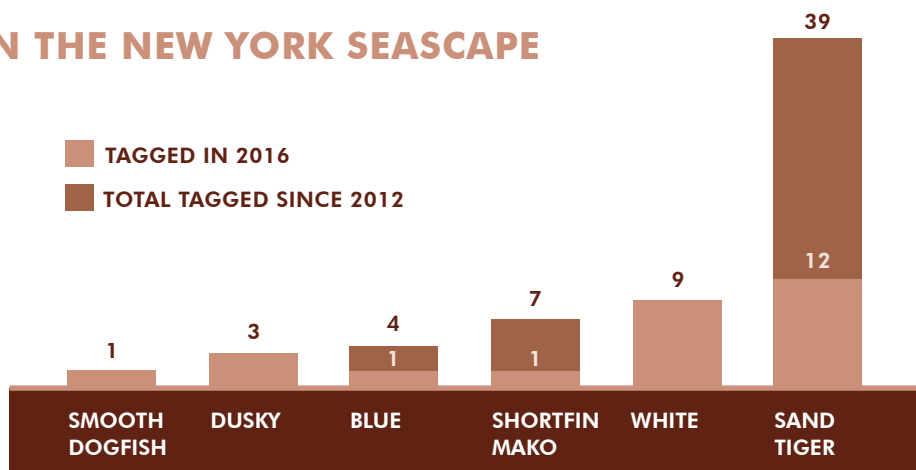
During the expedition, New York Aquarium and OCEARCH scientists also tagged three dusky sharks and a smooth dogfish, and collected health samples to share with collaborating institutions. Combined with assessments made on previously tagged sharks, these evaluations will be used to develop health parameters for future field studies and to guide conservation and management of these species. 🐾



TRACKED ACTIVITY AS OF APRIL 2017 OF "MANHATTAN," A MALE, SATELLITE-TAGGED WHITE SHARK. TO TRACK "MANHATTAN" AND OTHER SHARKS WITH US IN REAL TIME, VISIT OCEARCH'S GLOBAL SHARK TRACKER AT OCEARCH.ORG. Source: OCEARCH data

SHARKS TAGGED IN THE NEW YORK SEASCAPE

NEW YORK AQUARIUM SCIENTISTS HAVE BEEN TRACKING THE MOVEMENTS OF BLUE, MAKO, AND SAND TIGER SHARKS IN NEW YORK WATERS SINCE 2012, AND RECENTLY DOCUMENTED A SAND TIGER SHARK NURSERY IN LONG ISLAND'S GREAT SOUTH BAY.



Researchers Discover Genetically Distinct Dolphins in Bay of Bengal

Marine scientists from WCS and partners recently discovered that two dolphin species in the waters of Bangladesh are genetically distinct from those in other regions. This finding is the result of a recent study of the genetics of Indo-Pacific humpback dolphins and Indo-Pacific bottlenose dolphins. Researchers found that populations of both species differ substantially from those in other parts of the Indian Ocean and western Pacific Ocean, indicating a strong connection

Researchers found a strong connection between the dolphins' characteristics and the unique oceanic habitat.

between their characteristics and the unique oceanic habitat found in the Bay of Bengal.

Located in the northern Indian Ocean, the Bay of Bengal is a biologically productive coastal region, rich with mangroves and a complex interchange of currents from converging rivers. With WCS's leadership, Bangladesh's first marine protected area was declared in 2014, protecting the "Swatch-of-No-Ground" underwater canyon. The canyon recycles vital nutrients for the Bay's thriving fisheries and provides important habitat for sea turtles, sharks and rays, and marine mammals such as the Indo-Pacific humpback and bottlenose dolphins. This study supports growing evidence that the unique features found in the Bay isolate the marine habitat from surrounding areas and drive evolutionary processes.

The results of this study raise important questions about the conservation status of these dolphins in the Bay, and whether they might be designated as separate species from the Indo-Pacific humpback and bottlenose dolphins outside of the Bay. Further investigation will help WCS scientists learn how these dolphin species have evolved over time, and point to the ways in which WCS and partners can better protect the unique biodiversity of this region. 🍷



INDO-PACIFIC HUMPBAC DOLPHIN

(*Sousa chinensis*)

NT NEAR THREATENED

INDO-PACIFIC BOTTLENOSE DOLPHIN

(*Tursiops aduncus*)

THREATENED

Not officially classified due to insufficient data

BAY OF BENGAL





Elephant Survey Results are a Call to Action

From 2014 to 2016, WCS led savannah elephant surveys in nine countries as part of a collaborative effort called the Great Elephant Census®, a Paul G. Allen project, coordinated by Elephants Without Borders. This unprecedented population assessment, undertaken by teams of scientists and conservationists cooperating with government wildlife agencies, was built upon systematic aerial surveys of key savannah elephant ranges across 19 African countries.

The results were shocking: An estimated 352,270 savannah elephants live in Africa, but in many countries surveyed, roughly 8 percent of these elephants are illegally killed for their ivory each year. There was little difference detected in the number of carcasses found in protected areas versus in non-protected ones. This demonstrates that despite the rules and regulations that protected areas carry, many of them are not managed well enough to shield their elephants

Roughly 8 percent of savannah elephants are illegally killed for their ivory each year.

from poaching. The surveys also revealed that several populations, particularly in the Sudano-Sahel region of Africa, are at dangerously low levels and at risk for local extinction.

WCS elephant experts Paul Elkan and Simon Hedges say that rather than cause despair, these results should be a “call to arms for the global conservation community to redouble efforts to protect elephants at key sites across Africa.”

WCS is fighting for:

1) Better funding, management, and partnerships with governments and local communities in order to secure protected areas and stop poaching. We know that this works based on our efforts in Tarangire National Park, Tanzania and in Nouabalé-Ndoki National Park, Congo, as well as our expanding efforts in Mbam Djerem National Park, Cameroon. In sites like these, where management levels are robust and the necessary resources, management systems, and training are available, elephant numbers have stabilized or increased.

2) Improved anti-trafficking efforts throughout the illegal ivory trade chain. A number of initiatives employing local intelligence efforts are starting to yield results, including our work to dismantle the ivory trafficking network in the Republic of Congo (see full story on page 10).

3) Reduction in the demand for ivory, particularly in China. Thankfully we are seeing signs of hope in this fight, especially in China's recent announcement that the country will shut down its domestic commercial ivory trade in 2017 (see interview on page 11). ♡

For more details on the elephant surveys, visit greatelephantcensus.com.

Researching Human Impact on Our Planet

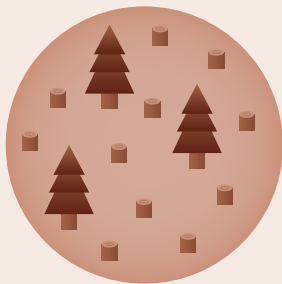
Over the last year, James Watson of WCS and the University of Queensland has spearheaded several important scientific studies surrounding human impact on our planet.



IN CURRENT BIOLOGY, Watson demonstrated that due to human development, a full tenth of the world's wilderness was lost over the past two decades—an area twice the size of Alaska.



IN NATURE, Watson and colleagues found that human activity is affecting three-quarters of the world's threatened species via habitat conversion for agriculture, over-harvesting of their populations, and climate change.



IN BIOLOGICAL CONSERVATION, Watson and colleagues warned that more than 100 World Heritage sites, which contain some of the world's most valuable natural assets, are being severely damaged and could soon be beyond repair, losing vast percentages of their forested areas as the human footprint increases.



IN CONSERVATION LETTERS, Watson showed that habitat destruction far outstrips habitat protection across the globe, and over half the planet can now be classified as completely converted to human-dominated land use, with more than 1.7 million square miles converted in the past two decades alone.



Key Findings

Documenting these massive changes to the environment helps scientists predict further shifts that could impact both wildlife and people, and plan accordingly for the future. A key finding of these recent studies is that protecting large landscapes is the best way to yield shared benefits for ecosystems, wildlife, and people. This is why, despite the troubling insights these studies provide, we are confident in our ability to combat these harmful human impacts going forward.

WCS is the only conservation NGO whose approach is to save the last of the wild—the largest, most intact wild places that remain. We do this by 1) establishing and managing vast protected areas, 2) working with local people to bolster community conservation efforts, and 3) influencing global policies to secure protections for the most vulnerable habitats and species. As said by James Watson, “We are running out of time to protect the planet, but there is still time left, and WCS is using the right approach to make the most of the time we have.” ♡



Using Science to Bridge Political Gaps

Despite continued tensions between the governments of Russia and the United States, action is needed to protect the vulnerable species within the countries' shared ecosystems. Straddling the Russian Far East, Alaska, and northwest Canada is a region called Arctic Beringia, home to wildlife such as polar bears, walruses, and whales. Other species, such as caribou and musk oxen, are separated by the Bering Strait, but live parallel lives only a few hundred miles apart. WCS scientists in our Arctic Beringia program are fostering more holistic diplomatic frameworks across Russia, the United States, and Canada as they lead unique conservation projects to understand and protect the wildlife threatened by rapid changes occurring throughout the region. "Conservation can only be effectively accomplished in Arctic Beringia through coordinated activities across land and seascapes, as well as cultures," emphasized Dr. Martin Robards, Director of WCS's Arctic Beringia Program.

One of these transboundary projects involves mapping the migration paths of Arctic breeding birds. To survive, these birds must migrate thousands of miles along a route called the East Asian-Australasian Flyway. However, 65 percent of this flyway's viable habitat has been lost over the last 50 years (primarily in Southeast Asia) due to human development, making it difficult for the birds to find enough food as they migrate during the winter season. This is why WCS scientists, led by Drs. Rebecca Bentzen and Jonathan Slaght, have worked with the Russian Academy of Sciences' Far Eastern Branch as well as local NGOs on a number of collaborative studies. These investigations and monitoring efforts (as seen in the top right photo) determine threats to the Arctic birds' migrations and

breeding grounds. This research provides a greater understanding of the locations of critical habitats that allow these birds to thrive, and highlights the need for better legal protections for these areas. As Bentzen

WCS scientists are fostering more holistic diplomatic frameworks across Russia, the United States, and Canada as they lead unique conservation projects in Arctic Beringia.

stated, "We need to work collaboratively with our international colleagues to provide the best possible protection for the habitat of migrating shorebirds. This project is a perfect example of what we can learn when we work together to address common problems."

Another example involves musk oxen in the Wrangel Island Federal Reserve, a UNESCO World Heritage site. This remote island belonging to Russia lies some 300 miles north of the Arctic Circle. Native musk oxen once went extinct on Wrangel Island and throughout the rest of Beringia due to hunting, but collaborative reintroductions throughout the 20th century allowed musk oxen to return to this isolated area. Today, WCS's Joel Berger leads critical studies of this species to determine how climate change is affecting them (in comparison to other populations in Alaska), as well as the species that prey on them, like polar bears. According to Berger, "Despite being a land of harsh and meager existence, it is here that the US and Russian governments have allowed for a fertile collaboration. The fact that the two governments allow for biological studies and an open exchange of ideas on a remote frozen isle, without a lot of pomp and pageantry, provides hope." ♡

Conservation Action

Right now, thousands of WCS scientists are on the ground in nearly 60 countries fighting to safeguard vulnerable species and their habitats. These stories illustrate some of the many ways their work is positively impacting wildlife and people around the world.

New Crime Unit Brings the Fight to Poachers

WCS's newly established Wildlife Crime Unit in northern Republic of Congo, where almost one-quarter of the world's remaining forest elephants reside, has already led to major criminal busts. In summer 2016, wildlife rangers in the WCS-managed Nouabalé-Ndoki National Park in Congo arrested more than 30 poachers, seized over 220 pounds of ivory, and confiscated 6 semi-automatic weapons around the limits of the park. Since then, one of the criminals arrested, a notorious ivory trafficker named Samuel Pembele, has been tried and sentenced to five years in prison, the maximum penalty under Congolese law.

Similar to the crime unit that WCS has successfully run in Indonesia, this new unit in Congo couples on-the-ground patrols with intelligence-driven operations. Ndoki's rangers, who have undergone several rounds of paramilitary training, are outfitted with new real-time satellite tracking devices to enhance their operations, and are now in constant communication with the Wildlife Crime Unit's team of investigators and legal experts. This team helps the rangers target known poaching grounds and trafficking access points, allowing rangers to act preventatively as well as reactively, effectively bringing the fight to the poachers.

Following any arrests, the Unit helps to carefully document all evidence, publicize the events in local media, and monitor court proceedings. The recent bust and sentencing of Pembele is a major win for Africa's elephants, as he was a big player in a trafficking network that had been operating in the Ndoki area for several years, commissioning elephant hunts and moving and selling large quantities of ivory. As WCS Congo Country Director Mark Gately said, "A strong message has been sent to all poaching networks across the Ndoki landscape that wildlife criminals cannot go on breaking the law with impunity. A positive shift for the future of elephants in Ndoki is secured." 🐘



WCS WILDLIFE CRIME UNIT BUST IN NDOKI

Arrested 30 poachers including 1 kingpin

Seized 220 pounds of ivory

Confiscated 6 semi-automatic weapons

Kingpin sentenced to 5 years in prison



INTERVIEW

A Conversation with Aili Kang

China made waves in the fight for Africa's elephants by announcing last December that it would close its domestic commercial ivory trade in 2017. Aili Kang, Executive Director of WCS's Asia Program, shares her thoughts on the ban and what it could mean for elephant conservation.

What led China to make this announcement?

AILI KANG: The momentum behind shutting down the ivory markets has been sustained by two driving forces: pressure from international parties, and rising public attention around the ivory trade within China. Growing diplomatic pressure from the United States, the United Kingdom, and the European Union (as well as international conservation communities' encouragement over the past several years) has pushed action on this issue at the most senior political level in China. WCS helped fuel this movement by raising awareness within the United States and beyond through our 96 Elephants campaign. We also recognize the power of social media in China, and have led initiatives combining both online messaging and off-line pledges, such as the successful "Voice of China" campaign for Chinese travelers in international airports. These types of campaigns helped generate widespread support for an ivory ban among Chinese citizens, which is critical in encouraging the country's government to make policy shifts. Additionally, WCS has provided technical expertise for conservation efforts to China and other countries with large ivory markets, aiding them in developing anti-ivory action plans.

What effects can we expect this ban to have on the ivory market and on wild elephant populations?

AK: The policy behind the ban requires cooperation to ensure it is a priority across sectors, including customs, public security, forestry, and commerce. We need intensive enforcement at international ports, transportation hubs, domestic markets, and even online. In the past, in order to prosecute a case, law enforcement officers had to collect evidence about the source of the ivory or exchange of money. Now, they will be able to act as soon as ivory is displayed or marketed for sale. The Chinese government recognizes the ban won't be effective without continued public support. They are emphasizing that the ministries must promote public education in order to stop the illegal ivory trade and gain support for elephant conservation. We are calling on global communities to support China as it moves ahead on its commitment, strengthened by stricter on-the-ground enforcement in African countries and a commitment to crack down on this illicit trade everywhere. If and when elephant populations begin to recover, we will be right to applaud.

What are WCS's next steps to ensure the ban is successful and to continue the fight against the ivory trade?

AK: One next step is to continue providing technical expertise for more law enforcement collaboration in China and neighboring countries. Our hope is that this ivory ban sparks a larger transformation in social and cultural spheres. We must demonstrate that there is no use of elephant ivory that can be sustainable and accommodate commerce, not even for traditional culture. WCS recognizes that ensuring this behavioral shift is a long-term effort and will take time for the public to fully embrace. In addition to continued public campaigns, we will also target potential Chinese suppliers and consumers in Africa who have direct access to wildlife markets, where demand can immediately stimulate supply. This will build upon our foundation of reducing demand among Chinese consumers and supporting China's policy change. ♡



WCS and Communities Protecting DRC's Kabobo

In December 2016, government officials formally approved the borders of Kabobo Natural Reserve in the Democratic Republic of Congo (DRC), giving conservationists the green light to begin implementing better protections for the region's wildlife.

Kabobo is home to more than 30 globally threatened species including chimpanzees, elephants, and lions, as well as more than 100 species that are native only to this region. Just about a decade ago, civil war and insecurity in the country made on-the-ground conservation in Kabobo nearly impossible. As soon as the unrest slowed in 2007, WCS scientists surveyed

the region and discovered several new species, including four new mammals and three new plants, proving that Kabobo is one of the most biodiverse sites in all of Africa. Following these initial surveys, our scientists began

Kabobo is one of the most biodiverse sites in all of Africa.

working with local villages, learning how they rely upon the surrounding forests to maintain their livelihoods and traditional culture. The scientists then presented options for conserving the region to elders from each village, and worked with them to map out where a protected area should be established.

Now that WCS has successfully advocated for the reserve's establishment, a formal conservation action plan for Kabobo and the surrounding landscape has been developed with our technical support. While funding to implement this plan must still be secured, the region's many villages are working together with local governments to co-manage the new reserve and help ensure its resources are used sustainably. Once the conservation plan is implemented, the nearly 2,000 plant and animal species that call Kabobo home will be safer than they have been in decades. 🌿

KABOBO NATURAL RESERVE

Established in December 2016

570 square miles

558 terrestrial vertebrate species

1,410 plant species

110 endemic species

34 globally threatened species

Breeding Big-headed Turtles in Brooklyn

WCS's Prospect Park Zoo has been working to propagate the Endangered Chinese big-headed turtle. Five turtles successfully hatched this past fall. This clutch is the fourth ever to be born at the zoo, and brings the Zoo's total population of big-headed turtles to 17. Prospect Park Zoo is the only AZA-accredited zoo in the United States to successfully breed this species, and does so as part of WCS's global effort to save endangered freshwater turtles from extinction. ♡



Bronx Zoo Helping World's Most Endangered Alligator Recover

Thanks to reintroduction efforts by WCS and partners in China, the Critically Endangered Chinese alligator is on its way to recovery. While the American alligator is considered one of the greatest conservation success stories, fewer than 150 Chinese alligators remain in the wild. These exist in small, scattered populations due to habitat fragmentation. To boost this number, WCS has assisted in the release of 12 alligators into Shanghai's Dongtan Wetland Park since 2007. Three of these came from US zoos including WCS's Bronx

Considering how rare these alligators are, this is truly a success for the species.

Zoo. The other nine were bred in Chinese breeding centers with help from the US zoos, which sent additional alligators to China to provide valuable genetic diversity in the captive population.

Following these efforts, in September 2016, WCS scientists discovered three Chinese alligator nests in the same park where the releases occurred. Unfortunately, two of the nests were lost to flooding from a typhoon, and the third nest's fate was unclear. But thankfully, a park employee later found three healthy baby alligators swimming in the area. This number may seem small, but considering how rare these alligators are, this is truly a success for the species.

Said Jim Breheny, WCS Executive Vice President for Zoos and Aquarium: "The Bronx Zoo is proud to be a part of the effort to save this Critically Endangered species from the brink of extinction." Visitors can currently find two Chinese alligators at the Zoo's Reptile House. ♡



CHINESE ALLIGATOR

(*Alligator sinensis*)

CR CRITICALLY ENDANGERED

Fewer than 150 remain in the wild

6 released by WCS and partners in 2007

6 released in 2015

3 babies found in 2016

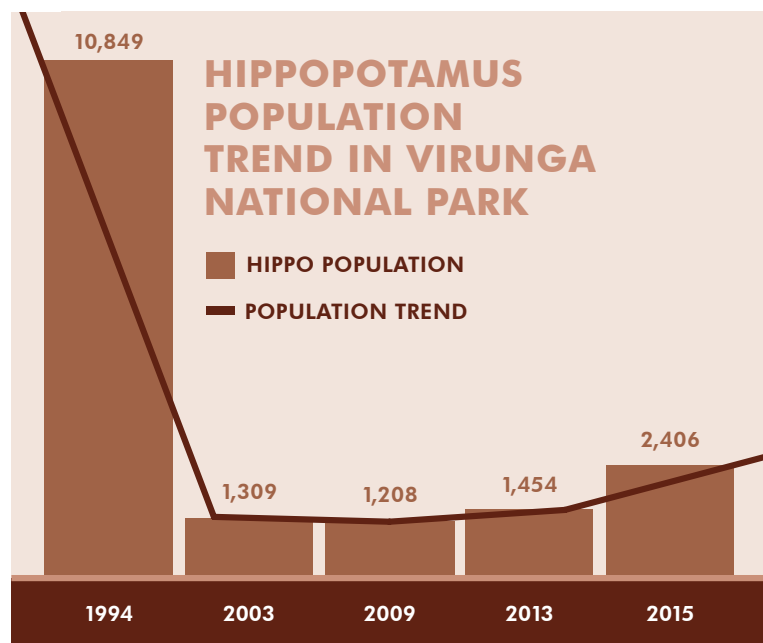
Hippos Recovering in Africa's Oldest Protected Area

After decades of decline, hippos in the Democratic Republic of Congo's Virunga National Park are finally bouncing back. WCS scientists worked with partners at the Institut Congolais pour la Conservation de la Nature (ICCN) to conduct a survey throughout the 3,000-square-mile park, and found that more than 2,400 hippos currently reside in Virunga. This is a staggering 65 percent surge from the number of hippos found during WCS's last survey here just two years ago, which counted only 1,450 hippos. Why? Better conservation and management around Virunga's lakes and transboundary collaborations with Uganda are allowing hippos to recover and repopulate this area.

Originally established in 1925, Virunga is the oldest protected area in Africa. Hippos thrived in this region in the 1960s and

WCS's efforts helped stop poaching around the park's lakes and river systems so that hippos could begin to make a comeback.

1970s with nearly 30,000 individuals, but subsequent surveys from 1981 on found their numbers shrinking year after year due to poaching and habitat loss from human development. The most severe decline occurred between 1994, when there were about 11,000 hippos present, and 2003, when scientists found only 1,300 remaining. In the face of such grim findings, WCS helped to improve the sustainable management of Virunga's fisheries as well as the collaboration between fishermen, local villagers, military, and park authorities. These efforts helped stop poaching around the park's lakes and river systems so that hippos could begin to make a comeback. WCS and ICCN will continue to conduct regular surveys of the Virunga landscape to ensure hippo numbers stay on the rise. 🐾



Source: WCS data



Native American Tribes Gift Bison to Bronx Zoo

In late 2016, WCS's Bronx Zoo received a herd of purebred American bison from the Assiniboine and Sioux tribes of Fort Peck, Montana. Tribal leaders accompanied the bison to the zoo and conducted a sacred pipe ceremony, blessing the bison and this historic partnership, which is the first of its kind. These bison will greatly accelerate the Bronx Zoo's initiative to establish a breeding herd of pure bison, whose offspring will move to other AZA-accredited zoos to establish additional breeding herds. They will build numbers for eventual reintroduction in suitable habitats across North America.

The seven female and one male bison are from the Yellowstone National Park bloodline, which is among the few purebred herds remaining. The vast majority of present-day bison have small amounts of domestic cattle genes, a reflection of past

hybridizing efforts when western ranchers tried to create a hardier breed of cattle. The Bronx Zoo is using science-based solutions including embryo transfers to preserve this icon of the American plains.

The Bronx Zoo is using science-based solutions including embryo transfers to preserve this icon of the American plains.

"Bison remain a sacred cornerstone to Native American life and culture," said Keith Aune, Director of WCS's Bison Program. "We are humbled by this gift and committed to our partners, and to continuing a tradition that started more than 100 years ago at the Bronx Zoo—that of restoring Bronx-bred bison to targeted western landscapes." ♡

THESE PUREBRED BISON WILL HELP BUILD NUMBERS FOR EVENTUAL REINTRODUCTION ACROSS NORTH AMERICA.



1,000 More Kihansi Spray Toads Released in Tanzania

ONCE EXTINCT IN THE WILD, KIHANSI SPRAY TOADS ARE RECOVERING THANKS TO WCS AND PARTNERS.

A population of Kihansi spray toads, a species once declared extinct in the wild, is now growing in the toads' native habitat in Tanzania, thanks to the breeding and reintroduction efforts of WCS's Bronx Zoo, the Toledo Zoo, and Tanzanian colleagues.

First discovered in 1996, this toad's entire range is a five-acre "micro-habitat" within the Kihansi Gorge, created by the mist from the gorge's waterfalls. In 1999, Tanzanian authorities asked WCS to collect as many toads as possible to serve as an assurance colony against possible extinction, as the construction of a hydroelectric dam had reduced the flow of the Kihansi falls by 90 percent. This drastically shrank the mist zone and greatly endangered the toads.

Herpetologists at the Bronx Zoo and Toledo Zoo were able to replicate

the gorge's conditions in special bio-secure propagation facilities. Since 2010, approximately 8,000 zoo-bred toads from the Bronx and Toledo have been sent to Tanzania as part of a reintroduction program. And this year, the Bronx Zoo's Don Boyer, Avi Shutter, Pat Thomas, and Linda Wied traveled back to the gorge to release 1,000 more. The released toads are being closely monitored and appear to be breeding in the wild and doing well. The Bronx Zoo and Toledo Zoo will continue to maintain assurance populations of the spray toads and plan to do additional releases until the wild population is self-sustaining and out of danger. As Don Boyer noted, "This is the very first reintroduction program for an amphibian species declared extinct in the wild. We are very proud to be partners in spray toad recovery efforts." 🐸

KIHANSI SPRAY TOAD REINTRODUCTION TIMELINE

SINCE 2000: 4 TOAD PROPAGATION FACILITIES DEVELOPED BY WCS AND PARTNERS

SINCE 2010: 8,000 ZOO-BRED TOADS REINTRODUCED IN TANZANIA

1996: SPECIES DISCOVERED

2009: DECLARED EXTINCT IN THE WILD BY IUCN

2017: 1,000 MORE ZOO-BRED TOADS RELEASED

Education and Inspiring Change

As we strive to keep wildlife safe, we must inspire others to do the same. We are engaging people of all ages and backgrounds around the world in a unifying movement to learn about and help protect the Earth's precious natural resources.



Nigerian Superhighway Rerouted

Earlier this year, a proposed 160-mile superhighway through Nigeria's Cross River State posed an imminent threat to the region's last remaining rainforest habitat—one of the world's greatest centers of biodiversity. Caught in the highway's path of destruction were rare species like Cross River gorillas, forest elephants, chimpanzees, and pangolins, as well as more than 180 local communities. In response, WCS led an international public campaign to ask the Nigerian government to stop the construction of this highway, or to modify the route to cause the least possible damage.

WCS collected over 135,000 signatures from concerned citizens across the world, and delivered the petition to the President of Nigeria via the Nigerian Embassy in Washington, D.C. We also supported technical reviews of an Environmental Impact Assessment for the project, which was created in response to petitions like ours. In February, we received hopeful news that the government agreed to drop plans for a 12-mile buffer zone around the highway—a good step in the right direction.

Then, in March, the Cross River State government verbally agreed to reroute the superhighway away from the Ekuri community forest and other important forests on the edge of Cross River National Park. The new route was chosen with input from all stakeholders—including communities and conservationists—to minimize damage to community forests and other existing protected areas. This rerouting will protect critical Cross River

WCS led an international public campaign to ask the Nigerian government to stop the construction of this highway.

gorilla habitat and will save the majority of the remaining forests left in this region.

Preserving intact forests like those in Nigeria's Cross River State not only safeguards biodiversity, but also helps slow the effects of climate change and protect ecologically important watersheds. ♡



Animal Planet Series Highlights Bronx Zoo's Conservation Mission

WCS's Bronx Zoo is the focus of an Animal Planet docuseries called *THE ZOO*. This series explores what happens behind the scenes every day at the Bronx Zoo and tells the stories of dozens of animals and the people who care for them. The series spotlights our community of people with diverse skills and varied expertise who work day-in and day-out to ensure the best possible quality of life for the Zoo's animals. It also highlights how our animals and exhibits raise awareness for the

Viewers are led on a journey to discover exactly how the Bronx Zoo is helping redefine the role of modern zoos and aquariums.

conservation challenges of species in the wild. Viewers are led on a journey to discover exactly how the Bronx Zoo is helping redefine the role of modern zoos and aquariums and how AZA-accredited zoos and aquariums have become agents of conservation around the globe.

THE ZOO premiered on February 18, 2017 and quickly garnered favorable feedback from both the public and the zoo and aquarium community. The first episode, titled "Higher Purpose," garnered the highest viewer numbers of any Animal Planet premiere in the last two years. The show had an average of 1.2 million views per episode. Thanks to Animal Planet's advertising reach and publicity, the Bronx Zoo and fellow AZA members can seize new opportunities to share the message that zoos and aquariums are keystones of science education and wildlife conservation. In case you missed it (or want to watch it again), you can watch the show on demand or stream the episodes online at animalplanetgo.com. ♡



Before The Flood Raises Funds for Wildlife

Last October, National Geographic and 21st Century Fox helped raise awareness and funds to combat climate change with the release of *Before the Flood*, a documentary from Academy Award winners Leonardo DiCaprio and Fisher Stevens. WCS was one of two beneficiaries, alongside Pristine Seas, of a national cause marketing and social media promotion tied to the film.

Before the Flood follows DiCaprio on a journey across the planet as he explores the issue of climate change through the lens of local people, world leaders, and wildlife advocates. The film, which originally premiered at the UN, has been highly successful and has emerged as one of the most watched documentaries in history, reaching more than 60 million people worldwide and surpassing 1 billion minutes viewed across all media outlets. As it was initially made available for free online, word about the eye-opening film spread quickly over social channels. For every use of #BeforeTheFlood on Facebook, Twitter, and Instagram, National Geographic and 21st Century Fox together donated \$1 to WCS, up to \$50,000, for the first 50,000 actions. The campaign considerably exceeded its outreach goal and won the award for Best Environmental Campaign/Initiative at the 2017 Synopsis Social Good Awards. WCS is grateful for the support received as we continue to address the causes and effects of climate change on ecosystems, wildlife, and people. ♡

Run for the Wild at the Bronx Zoo

In April, the Bronx Zoo hosted WCS's ninth annual *Run for the Wild*, a 5K race and family fun run through the Zoo to benefit wildlife and wild places. Since its inception in 2009, more than 47,000 people have participated in this charity event, raising nearly \$6.3 million for wildlife and wild places. This year, about 5,000 runners and walkers joined on behalf of whichever animal species most inspires them. Following the run, the majority of the participants stayed at the Zoo and were able to learn more about conservation through our award-winning exhibits. We hope you will join us in 2018 for our 10th annual *Run for the Wild*!

WCS's *Run for the Wild* is made possible by these generous sponsors:

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Bringing Conservation to the Classroom

WCS educators have partnered with seven public schools in New York City to develop special conservation-based curriculums for students in grades K through 12. These curriculums are not typical—throughout the entire school year, our educators bring kids into our zoos and aquarium to explore exhibits and interact with animals, enhance science learning in the classroom with novel experiments, and even provide enriching after-school programming with hands-on science activities.

Each curriculum we develop is unique to every school, and is created by meeting with teachers for several months leading up to the school year. Our educators take into account each school's individual needs and goals

Our educators enhance science learning in the classroom with novel experiments, and provide enriching after-school programming with hands-on science activities.



2016 SCHOOL PARTNERSHIP SURVEY RESULTS

- 99% of teachers reported that their program met student learning goals.
- 92% of teachers believed that their program provided a fun, out-of-classroom opportunity for students.
- 97% of teachers reported that their overall experience was good or great.

for their students, so the subjects and programs we provide vary widely. Past curriculums have ranged in focus from geology, to ecology, to sustainable urban development, to—of course—wildlife conservation. Students have learned what it takes to build a zoo exhibit by creating their own model versions. They have explored how the Bronx Zoo has changed along with New York City throughout time. And they have used WCS's VisionMaker software to create potential future models of New York City's ecology. So far, these in-depth projects have benefited 2,357 children and 39 teachers, many of whom are from underserved communities. In 2017, we will expand the program to include nine in-school partnerships and nine after-school collaborations. 💚

96 Elephants Campaign Smashes Origami World Record

Last fall, WCS's 96 Elephants campaign called on wildlife advocates to help break a world record in order to raise awareness for the current elephant poaching crisis. The response was overwhelming: People young and old from 40 different countries folded more than 200,000 origami elephants and sent them to WCS's Bronx Zoo. The stunning array of paper figurines was counted by GUINNESS WORLD RECORDS™ and on November 17, we officially broke the record for the world's largest display of origami elephants. The pieces were displayed at the Zoo throughout December, spreading the powerful message that we are standing proudly together to save these majestic animals. 🐘



PHILANTHROPIC IMPACT

Why do you support WCS?

ERIC AND SANDY KRASNOFF:

We have always held WCS in high regard for its global conservation efforts and the New York zoos we have so enjoyed over many years. Yet it was one close encounter that motivated us to increase our support. On a tour of the Central Park Zoo's penguin exhibit, we met both a regal penguin and an inspired keeper. We learned that the keeper started as a very young intern with the Zoo and never left—ultimately caring for several species from birth through old age—and we marveled at her knowledge of and passion for what

we learned was a complex operation. We also met a female king penguin chick that had just been born.

With our first grandson on the way, we could not think of a better way to celebrate than by supporting WCS and naming one of its newest additions. We named the king penguin Hillary and know that she, along with WCS and its amazing staff, will bring joy and knowledge to our grandson and millions of other visitors. We are proud that our gift will support the essential efforts of the people who work each day for the benefit of wildlife. 🐧



Naming Opportunities

Naming an animal is a unique way to honor a loved one and sustain WCS and our varied initiatives, such as animal care, well-being, and health. All of our animals provide inspiration to millions of visitors and wildlife advocates. Our supporters have named gorillas, sea lions, and tigers, among others. For more information, contact developmentinfo@wcs.org.

Thank you for helping
us save wildlife and wild
places around the globe.

Learn more at wcs.org

Follow us and share why
you #StandforWildlife



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