
2016 Annual Report



**Wildlife
Conservation
Society**

We Stand for WildlifeSM

Mission

WCS saves wildlife and wild places worldwide through science, conservation action, education, and inspiring people to value nature.

Vision

WCS envisions a world where wildlife thrives in healthy lands and seas, valued by societies that embrace and benefit from the diversity and integrity of life on earth.

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FRONT COVER

The U.S. Congress, with bipartisan support, designated the American bison (*Bison bison*) as the National Mammal of the United States in the spring of 2016—a century after the Bronx Zoo played a critical role in saving the bison from extinction. The Bronx Zoo continues to maintain a bison herd in its park to this day.

INSIDE FRONT COVER

A rookery of gentoo penguins (*Pygoscelis papua*) clambers over the jagged coast of Steeple Jason Island, a breeding colony for several species of seabird. In 2002, Steeple Jason and Grand Jason Islands—part of the Falkland Islands in the South Atlantic—were donated to WCS by Trustee Michael Steinhardt. WCS now manages the islands as private nature reserves while monitoring these globally important bird populations

BACK COVER

One of two rare Malayan tiger cubs (*Panthera tigris jacksoni*) born at the Bronx Zoo in 2016 before making their debut at Tiger Mountain. This is the third litter of Malayan tigers born at the zoo. With some 250 Malayan tigers remaining in the wild, these cubs help Bronx Zoo visitors better understand the threats tigers face and what WCS is doing to protect these Critically Endangered big cats.





Contents

13 Conservation Impact

39 2016 WCS Highlights

65 Financial Report

73 Contributors

- 03 President/CEO & Chair Letter
- 04 WCS Priority Regions/Landscapes/Seascapes
- 06 Board of Trustees
- 08 WCS Leadership
- 97 Partners
- 126 2016 Staff Publications
- 158 WCS Staff
- 174 WCS by the Numbers
- 176 Animal Census

Q&A

- 36 Simon Nampindo
- 62 Natalie Cash
- 70 Jim Morley
- 94 Thuy Hoang
- 124 Colleen McCann
- 156 Carlos Durigan

ABOVE

Inselbergs are island-like mountains found across Mozambique's Niassa National Reserve. Three times the size of the Serengeti, Niassa serves as one of the last stands for Africa's savannah elephants. WCS works with Mozambique government agencies to protect the country's diverse wildlife, hit hard by poaching.

Passion, Perseverance, and Partners

The conservation of wildlife takes passion, perseverance, and partners over many years and, sometimes, many decades to make an impact. We can never forget—lest we lose hope—that to preserve the world's biodiversity we need to stay in the game for the long haul and realize that the seeds leading to the conservation of wildlife are planted every year, every day.

Take, for example, a breakthrough that was announced in 2016 by our country program in the Republic of Congo. As Mark Gately, our country director in Congo, told the press: "With increased coverage, staff power, and the use of real-time communications technology, wildlife rangers are bringing the fight to poachers." In the summer months preceding this statement, wildlife rangers from the Nouabalé-Ndoki National Park, a protected area managed by WCS, had arrested more than 30 poachers; seized over 100 kilograms of ivory; and confiscated six semi-automatic weapons around the limits of the park. An integrated approach using on-the-ground patrols coupled with intelligence-driven operations was proving to effectively take down the patrons of elephant poaching and was dismantling the criminal syndicates. We are hopeful that this integrated approach will be the seed that will ultimately lead to the comeback of elephants in Nouabalé-Ndoki National Park.

"The Wildlife Conservation Society is one of the most impressive, foremost organizations working to save the world's wildlife."

—SIR DAVID ATTENBOROUGH

In our annual report this year, we have included a conservation impact report ([page 13](#)) that highlights four species comeback stories showing how true, long-term commitment to conservation can yield great successes. In the report, we highlight hopeful stories about gorillas, humpback whales, tigers, and the greater adjutant stork. Our history with whale conservation dates back more than a century to the work of Charles Townsend, the first director of the New York Zoological Society's New York Aquarium. Our conservation effort in support of gorillas dates back nearly six decades to 1959, when NYZS conservationist George Schaller completed the first survey of mountain gorillas in the Virunga Volcano landscape of what is now the Democratic Republic of Congo. Our work around tigers spans four decades, beginning with the work in India by Schaller protégé Ullas Karanth. Finally, we highlight a remarkable recovery of the greater adjutant stork in the Tonle Sap landscape of Cambodia, where WCS scientist Colin Poole was among the first conservationists to arrive after the fall of the Khmer Rouge. In this report, we share stories on how conservationists, who have experienced decades of heartaches and hope, are now seeing true successes, saving species while working with partners and local communities.

The other major impact of our work can be harder to measure—the touching of hearts and the opening of millions of minds of guests who visit our five zoological parks in New York City. We have hosted more than 400 million visitors to our zoos and aquarium since 1895, with more than 4 million visitors in 2016 alone, including a half a million students. We are always impressed with the testimonies of people decades after their visits on how our parks have helped to educate their children and have inspired them to become scientists, veterinarians, conservationists, and conservation advocates.

We also reach thousands more people through our field programs abroad, working with school teachers and children in the areas where we are helping to protect. Tim Davenport and our team in Tanzania are reaching some 40,000 students in schools around the Kitulo National Park, and our staff in Chile is hosting all the children from schools in Tierra del Fuego to the Karukinka Reserve. These children will be the future stewards of these wild places and wildlife.

As the latest in a long line of leaders at WCS, we are continually humbled by the work of our colleagues today and with those who came before us. We were recently reminded about the impact WCS conservationists have had not just on wildlife and wild places but also on the individuals who have entered into this profession

of conservation. In a moving video message at our annual gala last year, [Sir David Attenborough highlighted](#) how he was inspired as a child by the work of William Beebe and George Schaller. His documentaries with the BBC have taken hundreds of millions of people on virtual trips to the wild places we work to protect every day.

Sir David added that WCS "is one of the most impressive, foremost organizations working to save the world's wildlife." Those words are an encouragement to us each day and are a wonderful tribute to the efforts by all our colleagues who have worked at WCS (and NYZS) over the past 121 years.

We thank you for your support for our mission and invite you to help us save wildlife and wild places.

Antonia M. Grumbach
Chair of the Board

Cristián Samper
President & CEO

WCS Priority Regions/Landscapes/Seascapes





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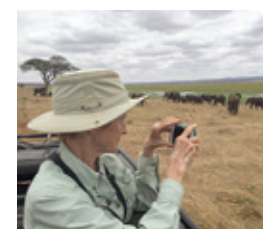
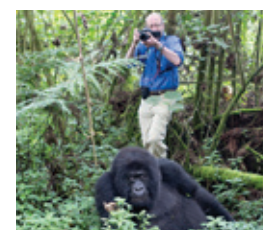
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RIGHT

In 2016, WCS and its Trustees were proud to host UN Secretary General Ban Ki-Moon at our annual gala. Trustees joined members of the WCS Council on trips to WCS field sites, where they learned about conservation efforts on the ground to protect wildlife and wild places.



WCS LEADERSHIP



LEFT
WCS Executive Leadership Team
Back row: Joe Walston, Jim Breheny, Chris McKenzie
Middle: Felicia Hamerman, John Calvelli, John Robinson, Robb Menzi
Front: Laura Stolzenthaler, Cristián Samper, Carolyn Gray, Mary Dixon



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Paraguay Country Director

WCS LEADERSHIP



LEFT
WCS's Joel Berger and Dee Boersma (2nd and 3rd from right respectively) were among the finalists selected in 2016 for the prestigious Indianapolis Prize in conservation.

Mariana Montoya
Peru Country Director
Zoe Smith
USA-Adirondacks Sub-region
Jeff Burrell
USA-Northern Rockies Sub-region

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Executive Director, Marine Conservation
Howard Rosenbaum
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Elizabeth Matthews
Indo-Pacific Region
Kate Holmes
Atlantic Ocean Region

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Director, WCS Conservation Resources Library & Archives



ABOVE
WCS Asia staff gathered in Labuan Bajo, Indonesia in May 2016 for the Asia Program Regional Meeting. In all, 14 countries were represented, from Afghanistan in the West to Fiji in the East. Staff dug in for discussions on combating the wildlife trade and launching marine projects across the continent.

LEADERSHIP TRANSITION

Paula Hayes has been named Executive Vice President and Chief of Global Resources. Ms. Hayes has extensive international and environmental experience. She comes to WCS after serving as Director of Development and most recently as Senior Vice President of Global Strategy for the Environmental Defense Fund.

Dr. Paul Calle was promoted to Vice President for WCS Health Programs as we brought together our Zoological and Wildlife Health Programs under one umbrella. This change brought together more than 50 people dedicated to wildlife health across WCS, including our zoos, the aquarium, and our country programs. Paul brings a wealth of experience from his 27 years at WCS, including six as WCS's Chief Veterinarian. He has done extensive field work in many countries, with a wide variety of species, and is highly respected in the profession.

IN MEMORIAM

Donald C. Lisowy, our former WCS Director of Education for Zoos and Aquarium, died in February 2016 of cancer. Don had dedicated his career to the field of informal science education. He was an advocate for quality science learning for all, always working to encourage young people to pursue careers in science. He was a thoughtful leader and effective mentor to the Education staff. One of Don's proudest accomplishments was the creation of The Urban Assembly School for Wildlife Conservation, the first public school of its kind in New York City with the theme of conservation. Throughout his time with WCS, Don created a culture of innovation and thoughtful conservation education programming at the Bronx Zoo, Central Park Zoo, New York Aquarium, Queens Zoo, and Prospect Park Zoo.



“Over its proud 120 year history, WCS has significantly helped to advance wildlife conservation around the globe in partnership with governments and local communities. New York would not be New York without the Bronx Zoo, and the cause of wildlife conservation would not be what it is without your efforts.”

—BAN KI-MOON, U.N. SECRETARY GENERAL



Conservation Impact

WCS staff at our zoos and aquarium and in our global field programs have worked for over a century to protect species that are biologically, ecologically, and culturally important. To do this, we developed some of the first conservation programs across the globe in collaboration with local partners in science and government.

WCS field staff recognized that conservation is not a short-term, project-based endeavor. They built on the efforts of their predecessors. By the 1980s, WCS conservationists increasingly took the knowledge and deep understanding they gained working in the field to design effective programs. Many had connections to the places where they worked going back decades forged through contact with local colleagues.

By the end of the last century, conservation was no longer only about encouraging people to value nature. It was also about managing programs on the ground, with clearly defined goals and measurable outcomes. In a word, it was about impact. Today, conservation means safeguarding the critical resources wild nature provides and learning how humankind can coexist with irreplaceable flora and fauna that have survived against great odds.

To represent our **longstanding commitment to place**—both on land and sea—and the impact we have achieved through our work, we have selected four species whose survival has long been championed by WCS: Africa’s gentle giant, the gorilla; our great ocean crooner, the humpback whale; Asia’s tawny carnivore, the tiger; and the world’s rarest stork, the greater adjutant of Cambodia’s magnificent Tonle Sap lake.

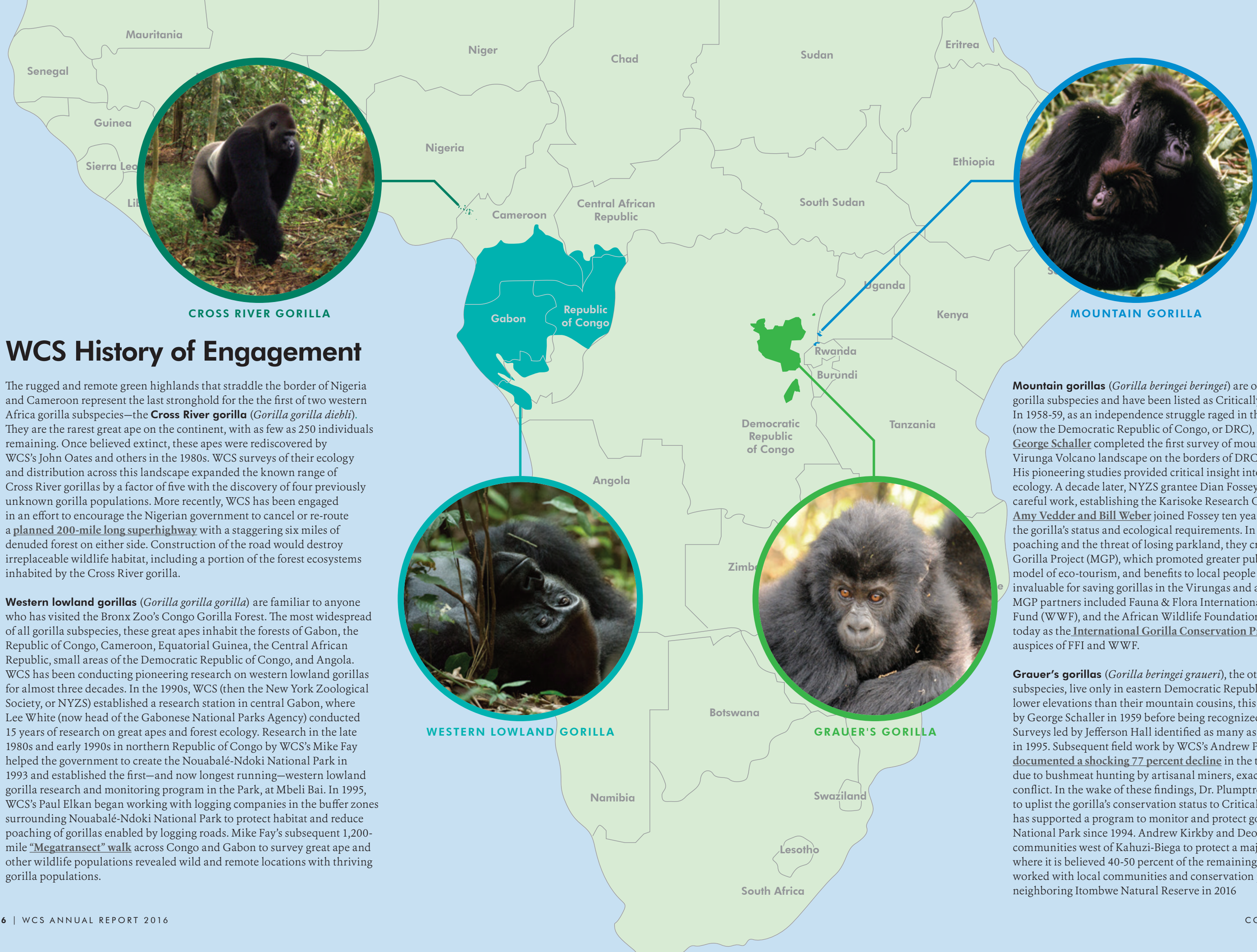
LEFT
Reaching up to 50 feet in length, humpback whales inhabit all of the world’s oceans and are distributed around the globe in a number of distinct populations.



SPOTLIGHT SPECIES

Gorilla

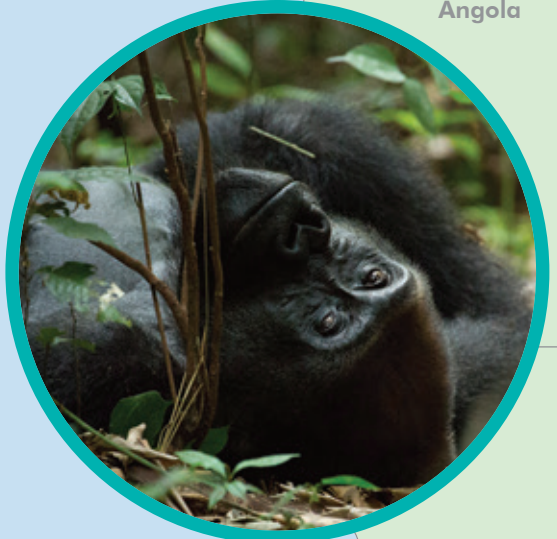
Gorillas are so closely related to humans that it is no wonder they have fascinated us in so many ways for so long. From George Schaller's seminal studies of mountain gorillas in the Albertine Rift in 1959, to Amy Vedder and Bill Weber's research that drove the creation of a groundbreaking gorilla tourism initiative, to Emma Stokes's 2006 discovery of more than 125,000 western lowland gorillas in the northern Republic of Congo, WCS has been a leader in gorilla conservation for half a century. WCS is the only NGO to be working to conserve both gorilla species (eastern and western) and all four gorilla subspecies, focusing efforts on the most threatened populations. Since opening in 1999, the Bronx Zoo's 6.5-acre Congo Gorilla Forest has informed tens of thousands of guests about the threats facing gorillas in the wild and raised more than \$15 million for conservation programs in Africa.



CROSS RIVER GORILLA



MOUNTAIN GORILLA



WESTERN LOWLAND GORILLA



GRAUER'S GORILLA

WCS History of Engagement

The rugged and remote green highlands that straddle the border of Nigeria and Cameroon represent the last stronghold for the first of two western Africa gorilla subspecies—the **Cross River gorilla** (*Gorilla gorilla diebli*). They are the rarest great ape on the continent, with as few as 250 individuals remaining. Once believed extinct, these apes were rediscovered by WCS's John Oates and others in the 1980s. WCS surveys of their ecology and distribution across this landscape expanded the known range of Cross River gorillas by a factor of five with the discovery of four previously unknown gorilla populations. More recently, WCS has been engaged in an effort to encourage the Nigerian government to cancel or re-route a **planned 200-mile long superhighway** with a staggering six miles of denuded forest on either side. Construction of the road would destroy irreplaceable wildlife habitat, including a portion of the forest ecosystems inhabited by the Cross River gorilla.

Western lowland gorillas (*Gorilla gorilla gorilla*) are familiar to anyone who has visited the Bronx Zoo's Congo Gorilla Forest. The most widespread of all gorilla subspecies, these great apes inhabit the forests of Gabon, the Republic of Congo, Cameroon, Equatorial Guinea, the Central African Republic, small areas of the Democratic Republic of Congo, and Angola. WCS has been conducting pioneering research on western lowland gorillas for almost three decades. In the 1990s, WCS (then the New York Zoological Society, or NYZS) established a research station in central Gabon, where Lee White (now head of the Gabonese National Parks Agency) conducted 15 years of research on great apes and forest ecology. Research in the late 1980s and early 1990s in northern Republic of Congo by WCS's Mike Fay helped the government to create the Nouabalé-Ndoki National Park in 1993 and established the first—and now longest running—western lowland gorilla research and monitoring program in the Park, at Mbeli Bai. In 1995, WCS's Paul Elkan began working with logging companies in the buffer zones surrounding Nouabalé-Ndoki National Park to protect habitat and reduce poaching of gorillas enabled by logging roads. Mike Fay's subsequent 1,200-mile "**Megatransect**" walk across Congo and Gabon to survey great ape and other wildlife populations revealed wild and remote locations with thriving gorilla populations.

Mountain gorillas (*Gorilla beringei beringei*) are one of two eastern Africa gorilla subspecies and have been listed as Critically Endangered since 1966. In 1958-59, as an independence struggle raged in the former Belgian Congo (now the Democratic Republic of Congo, or DRC), WCS conservationist **George Schaller** completed the first survey of mountain gorillas in the Virunga Volcano landscape on the borders of DRC, Uganda, and Rwanda. His pioneering studies provided critical insight into their behavior and ecology. A decade later, NYZS grantee Dian Fossey picked up Schaller's careful work, establishing the Karisoke Research Center in Rwanda. **Amy Vedder and Bill Weber** joined Fossey ten years later to determine the gorilla's status and ecological requirements. In response to increased poaching and the threat of losing parkland, they created the Mountain Gorilla Project (MGP), which promoted greater public awareness, a new model of eco-tourism, and benefits to local people that have proved invaluable for saving gorillas in the Virungas and across their range. MGP partners included Fauna & Flora International (FFI), the World Wildlife Fund (WWF), and the African Wildlife Foundation. This effort continues today as the **International Gorilla Conservation Programme**, under the auspices of FFI and WWF.

Grauer's gorillas (*Gorilla beringei graueri*), the other eastern gorilla subspecies, live only in eastern Democratic Republic of Congo. Inhabiting lower elevations than their mountain cousins, this great ape was first studied by George Schaller in 1959 before being recognized as its own subspecies. Surveys led by Jefferson Hall identified as many as 17,000 Grauer's gorillas in 1995. Subsequent field work by WCS's Andrew Plumptre two decades later **documented a shocking 77 percent decline** in the total Grauer's population due to bushmeat hunting by artisanal miners, exacerbated by years of civil conflict. In the wake of these findings, Dr. Plumptre worked with IUCN to uplist the gorilla's conservation status to Critically Endangered. WCS has supported a program to monitor and protect gorillas in Kahuzi-Biega National Park since 1994. Andrew Kirkby and Deo Kujirakwinja have assisted communities west of Kahuzi-Biega to protect a major stronghold of Grauer's where it is believed 40-50 percent of the remaining gorillas reside. WCS worked with local communities and conservation partners to establish the neighboring Itombwe Natural Reserve in 2016.

Impact

Over the past few decades, ecotourism efforts focused on mountain gorilla populations in Rwanda, Uganda and the Democratic Republic of Congo (DRC) have helped this great ape's numbers rebound. More recently, WCS has helped reduce threats to gorillas in Uganda's Bwindi Impenetrable National Park, one of only two strongholds for the entire subspecies.

The Virunga population of mountain gorillas has increased from 260 in 1978, when Amy Vedder and Bill Weber set up the Mountain Gorilla Project, to nearly 500, and is complemented by an additional 400 in the Bwindi Impenetrable National Park. Importantly, host governments are committed to their future—a remarkable conservation achievement.

Despite the heavy toll on Grauer's gorillas due to hunting, recent findings show that in the highland sector of DRC's **Kahuzi-Biega National Park, gorilla numbers have increased by about 20 percent due to regular monitoring and protection**, through strategically-targeted conservation efforts, and the expansion of a well-trained and equipped surveillance team. These results show that **where investment is sufficient it is possible to conserve these apes despite the civil disturbance**. WCS is looking to support government agencies and local community partners to explore alternative local solutions and in surrounding community forests.

Mike Fay's "Megatransect" helped in the creation of 13 new parks in Gabon in 2002, providing protection for important gorilla populations. The 2008 **announcement of some 125,000 western lowland gorillas** in the northern Republic of Congo by Emma Stokes and her team of WCS conservationists, including the discovery of important populations in remote unprotected forests, **led to the creation of the Ntokou-Pikounda National Park.**

In 2008, WCS pioneered the use in Cameroon of **Gorilla Guardians, a community-based network to monitor Cross River gorilla populations and protect them from poachers**. A similar initiative in Nigeria, the Mbe Mountains Community Wildlife Sanctuary, provides eco-guard monitoring while promoting conservation awareness. Finally, WCS's John Oates, Andrew Dunn and Aaron Nicolas facilitated the first-ever regional conservation action plan for the Cross River gorillas. Since the plan was revised in 2014, **WCS has helped to establish several protected areas** in Nigeria and Cameroon for this rarest subspecies of gorilla.

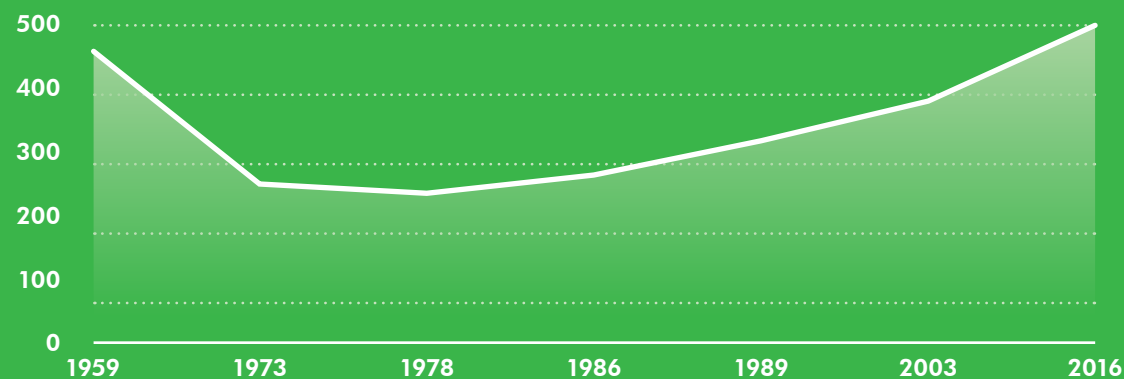
RIGHT

Research by WCS's Andy Plumptre revealed in 2016 a 77 percent decline in Grauer's gorilla numbers in the past 20 years due to bushmeat hunting. But where well-trained and well-equipped surveillance staff are in place, Grauer's numbers are expanding.



THE ROAD TO RECOVERY

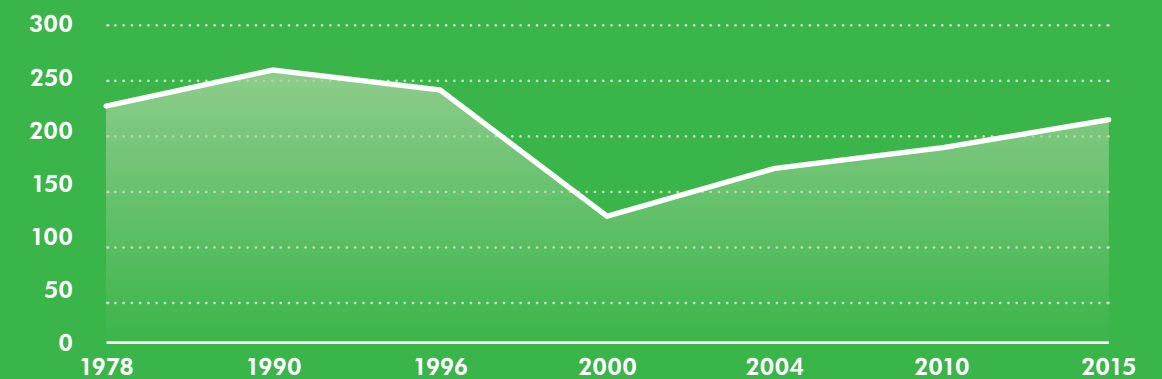
Mountain Gorilla numbers in the Virunga Landscape (DR Congo, Uganda, and Rwanda)



Since 1978, the Virunga population of mountain gorillas has INCREASED FROM 260 TO NEARLY 500

Grauer's gorilla numbers at one site have GROWN BY ABOUT 20% due to regular monitoring and protection

Grauer's Gorilla numbers in the Tshvanga Highlands of Kahuzi-Biega National Park (DR Congo)





SPOTLIGHT SPECIES

Humpback whale

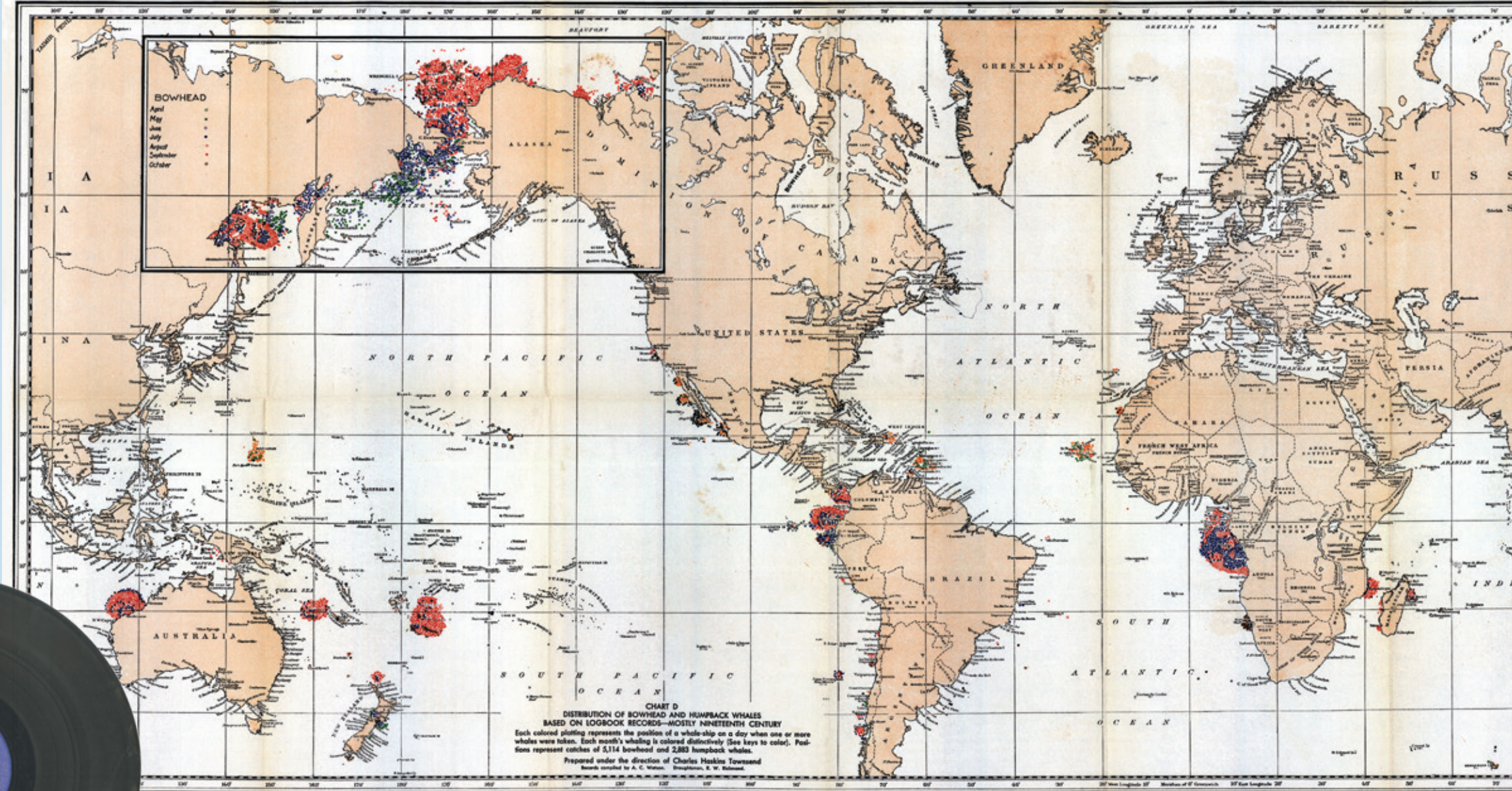
Humpback whales inhabit all of the world's oceans and are distributed around the globe in a number of distinct populations. Reaching up to 50 feet in length, humpbacks are characterized by their unusually long pectoral fins and epic migrations from their polar feeding grounds to the calving grounds in tropical and subtropical waters. These baleen whales are also favorites of the world's whale-watching community and known for their breaching and other acrobatic behaviors.

In previous centuries, humpback whales were sought after not as ecotourism attractions but as sources of blubber and other body parts by commercial whaling fleets. Humpback whales were extensively hunted before they began to receive much-needed protections starting in the 1960s.

WCS History of Engagement

The history of WCS's work with whales can be described as an integral part of the journey from discovery to recovery for these ocean giants. A 1931 analysis of 19th and early 20th century commercial whaling catch logs by Charles Townsend—first director of the New York Aquarium for the New York Zoological Society, or NYZS (now WCS)—provided important insights into the distribution of humpback and other whale species in the world's oceans. These studies became the foundation for later whale conservation work and Townsend's logs remain an important resource.

In 1966—the same year humpback whales received international protection from commercial whaling—NYZS conservationists Roger and Katie Payne began a five-year study of humpback whales, becoming two of the first scientists to study whale behavior using non-lethal methods. The Paynes were the first to discover the compositional structure of humpback whale “songs” and study the songs' role in humpback whale behavior and mating systems. Their research culminated in a commercial record, *“Songs of the Humpback Whale.”* It became the best-selling natural history record ever released and helped change the public's view of whales from sources of oil and fertilizer to symbols of environmental health. The success of the recordings helped to popularize the movement to “Save the Whales,” culminating in the commercial whaling ban of 1982.



Songs of the Humpback Whale

ABOVE
Songs of the Humpback Whale consisted of whale calls recorded by then-WCS biologist Roger Payne and his colleague Scott McVay of Princeton. By popularizing this great and still-hunted species, the album helped to galvanize the Save the Whales movement that led in 1982 to the International Whaling Commission's commercial whaling ban.

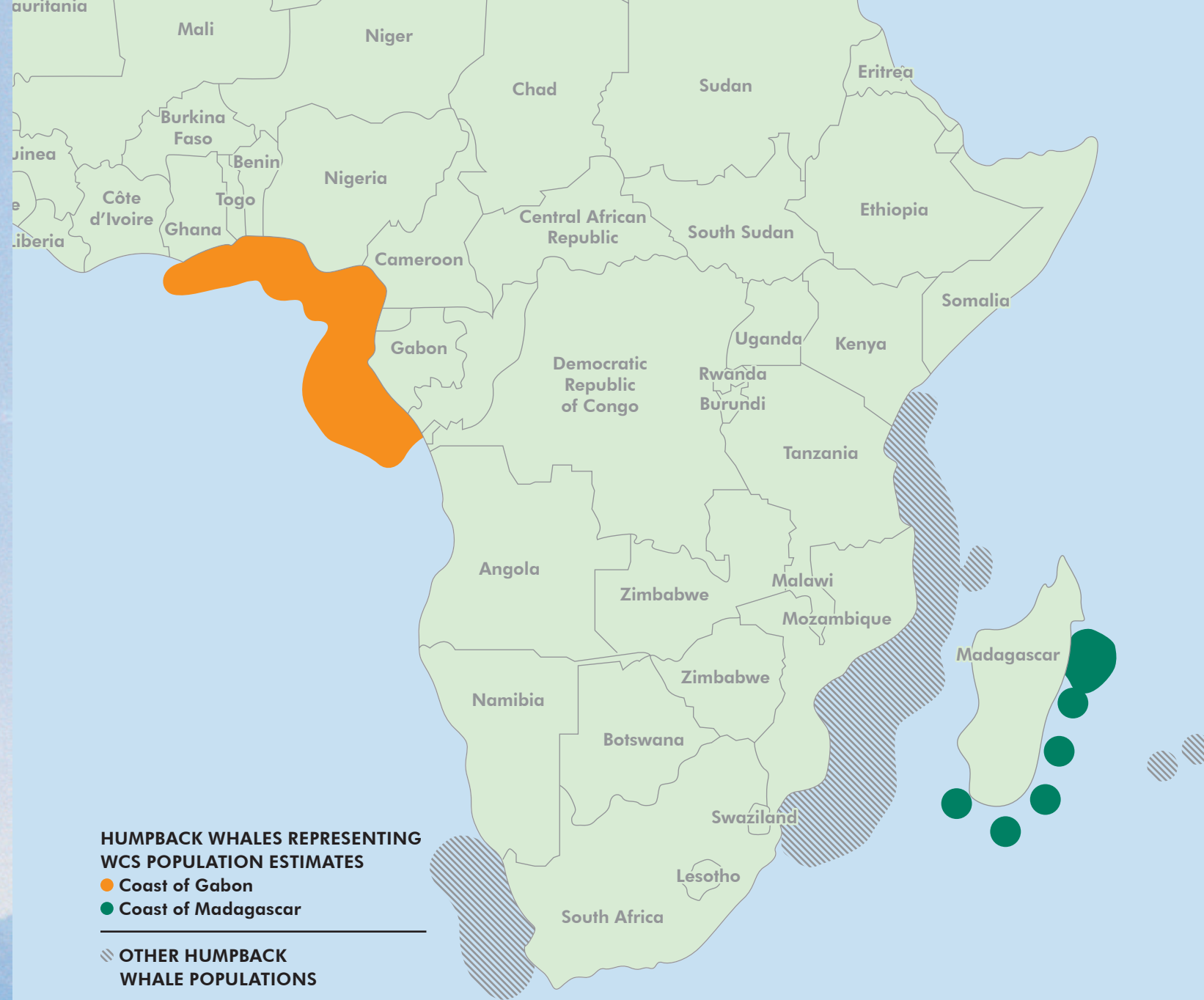
ABOVE RIGHT
Charles Townsend, the first director of the New York Zoological Society's New York Aquarium, used 19th and early 20th century commercial whaling logs to create charts like this to illustrate the distribution and seasonal catches of humpback and other hunted whale species. Sites of humpback and bowhead whale catches are indicated on Townsend's map by the colored dots (bowhead whale catches are limited to the boxed-off Arctic area).



Impact

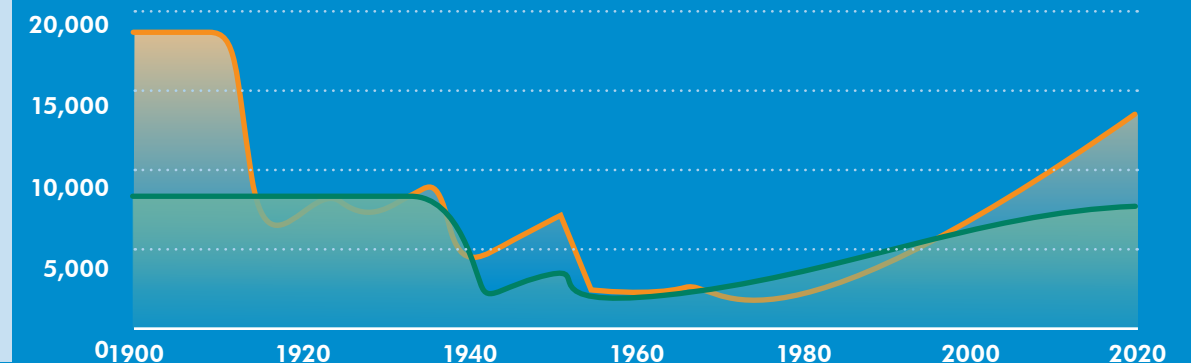
Beginning in the 1990s, WCS conservation biologist Dr. Howard Rosenbaum initiated new studies in some areas not-well studied for humpback whales of the Southern Hemisphere, along with extensive genetic analysis of whale populations in partnership with the American Museum of Natural History, Agence Nationale des Parcs Nationaux of Gabon, and a range of partners from South Africa and throughout the region. To evaluate present-day stocks, Rosenbaum used Townsend's logs and maps as a tool for identifying promising study sites and key wintering grounds. Using field surveys, photographic identification, acoustic recordings, genetic analysis, and satellite tagging, **Rosenbaum and WCS teams uncovered previously unknown connections and differences between populations** traveling throughout the waters the South Atlantic and Indian Oceans, along with linkages to animals feeding in the Southern Ocean. Further, **nearly 20 years of research by WCS now suggests a more hopeful future for these whales.**

Analyses from WCS and partners presented and reviewed at the [International Whaling Commission](#) indicate that humpback populations occurring in the waters of coastal Gabon and Madagascar (and the breeding populations to which they belong) **might have recovered to as much as 70 percent and 90 percent of their pre-whaling numbers**, respectively. Internationally, most humpback populations have increased as a result of worldwide protection, and **all but four of the world's populations have been removed from the U.S. Endangered Species List.** Nevertheless, some humpback populations have yet to recover. Recent genetic analyses of humpback whales living in the Arabian Sea show that this small, non-migratory population is genetically isolated and still imperiled, prompting WCS and its partners to urge international agencies to formulate additional management provisions to safeguard them. Globally, humpback whales face threats in some of their most important habitats, including potential impacts from ocean noise, ship strikes, and entanglement in fishing gear. WCS's conservation efforts remain focused on mitigating threats to these iconic whales.



THE ROAD TO RECOVERY

Humpback whale populations off the coasts of Gabon and Madagascar*



*Source: International Whaling Commission Report of the Scientific Committee 2015, Annex H

Humpbacks in Gabon and Madagascar may have **RECOVERED TO AS MUCH AS 70 AND 90 PERCENT** of pre-whaling levels



SPOTLIGHT SPECIES

Tiger

Tigers face a triple threat: they are killed for their pelts and body parts; their natural prey is disappearing due to hunting; and their habitat is shrinking and becoming fragmented. Under these pressures the world's tiger population diminished by a staggering 97 percent during the past 150 years—from an estimated 100,000 to an all-time low of about 3,400. Making these numbers even bleaker: only about 1,000 of the remaining tigers are breeding females. In all sites where WCS works, we make protection of the tiger, its prey, and its habitat our foremost priority. Because wildlife crime extends beyond the borders of tiger landscapes, WCS also works with local law enforcement authorities to dismantle wildlife criminal networks. Despite the current challenges to tiger conservation, there are bright spots, and in critical tiger landscapes across Asia, tiger populations are now recovering due to WCS's long-term investment in hard-core protection, unblinking scientific rigor, and the commitment of our Tiger range state government partners.

WCS History of Engagement

Tiger numbers are the ultimate litmus test as to whether our conservation interventions are succeeding. We therefore need accurate and precise estimates of tiger abundance. WCS scientist [Ullas Karanth](#) has led the way in developing cutting edge techniques in tiger surveys, and rigorous camera trap surveys are now the yardstick of success at all WCS tiger sites. In Russia, the longest-running tiger research effort in the world, [The Siberian Tiger Project](#), continues to unveil new information on tiger biology that informs conservation initiatives, under the leadership of WCS scientist Dale Miquelle.

WCS's successes have come from a "boots-on-the-ground" approach that focuses on securing "source sites" as the critical building blocks of tiger conservation. These are areas WCS has identified where tigers and tiger prey are protected from poachers, and where tigresses can safely rear young to disperse and repopulate the larger landscapes. Because poaching is the most immediate threat for most remaining tiger populations, we believe it is essential to secure and expand these areas. WCS applies this principle at 25 source sites in 8 tiger range states in Asia to provide safe havens to more than a third of the world's wild tigers. At most of these sites, WCS applies the [SMART](#) (Spatial Monitoring And Reporting Tool) law enforcement monitoring program, which provides park managers with the ability to monitor activities of patrol teams, assess effort and results, and quickly adjust anti-poaching strategies to new threats.

Across the larger landscapes where tigers must survive, protection alone is not enough. In the tiger landscapes of Sumatra in Indonesia, WCS staff have worked with local communities to build more than 400 tiger-proof corrals to reduce livestock losses to tiger depredation, reducing the number of tigers captured and relocated or removed from the wild from 8 in 2009 to 0 in 2016. In India, WCS's [Krithi Karanth](#) developed the [Wild Seve project](#), which speeds government compensation to farmers for livestock lost to tigers and crops lost to prey species, thus ensuring timely assistance in more than 6,000 reported conflicts. And in Russia, WCS has worked with government agencies to capture cubs of tigresses lost to poachers, eventually releasing them back into the wild to repopulate tiger habitat lost some 50 years ago.

Everywhere we work, we seek to find the "recipe" for tigers and people to co-exist in landscapes with ever increasing pressures from human numbers and economic development. In India, WCS has helped over 1,000 families voluntarily resettle outside of critical tiger habitat, easing conflicts, decreasing pressures, and ensuring a better life for both people and tigers. Annual "Tiger Day" celebrations across the Russian Far East instill a sense of pride and ownership of tigers.

In 2003, the Bronx Zoo opened [Tiger Mountain](#), featuring both Malayan and Amur tigers, to educate visitors about threats facing tigers in the wild and the importance of conservation efforts to protect them. Tiger Mountain is the 7th Bronx Zoo exhibit to receive the [Association of Zoos and Aquariums \(AZA\)](#) award for exhibit excellence—more than any other AZA member zoo.



Impact

In the Western Ghats of Karnataka State in India, **Bengal tiger numbers have quadrupled over the past 40 years**, with **350–400 tigers** now roaming across this region. Throughout much of this time, a WCS team of more than 100 dedicated staff has engaged with local government, citizen scientists, advocacy groups, and community leaders to help enable this spectacular recovery.

In Thailand's **Huai Kha Khaeng (HKK) Wildlife Sanctuary**, **major investments by WCS, coupled with strong government partnerships, have dramatically reduced poaching**. In addition, tigers dispersing out of HKK are providing a foundation for a recovering population across the entire Western Forest Complex of Thailand, with benefits even spilling over across the border into the Taninthayi region of Myanmar.

In northeastern China, where in 1998 there were an estimated 3-5 male tigers occasionally roaming across the border from Russia, **there are now many breeding females and multiple protected areas dedicated to their survival**. WCS staff were instrumental in catalyzing the creation of protected areas that were key to this recovery of tigers in northeastern China. In other key areas where WCS is engaged, such as Endau Rompin in Malaysia and the protected areas of the Russian Far East, tiger numbers are steady or slightly increasing—a success in comparison to some collapsing tiger populations elsewhere.

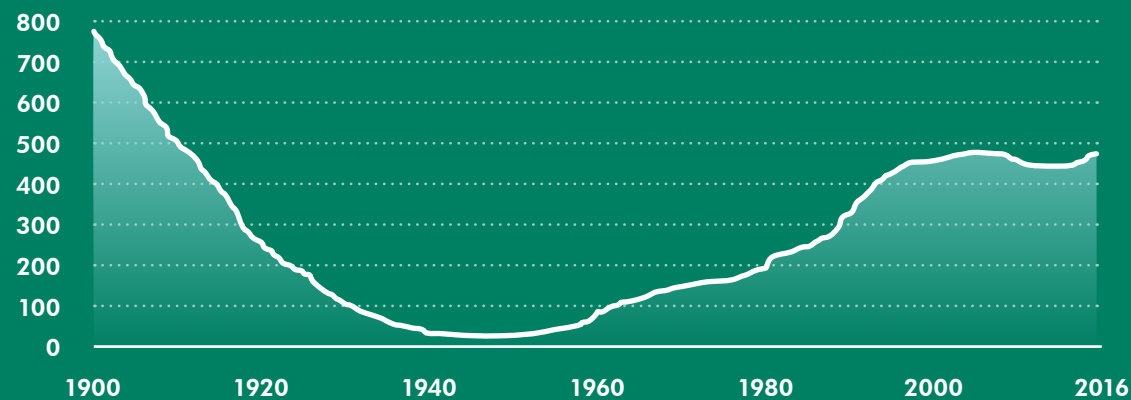
Today wildlife crime must be fought wherever it is taking place—often beyond the immediate boundaries of protected areas. In Indonesia, our **Wildlife Crimes Unit** has supported the government in **investigations of 772 wildlife crimes** since 2003, resulting in **442 prosecutions**, including scores of tiger poachers, traders, and kingpins. Similarly, over the past decade, WCS's investigation team in India has helped catalyze the detection and arrests of hundreds of wildlife criminals.

The next half century for tigers will undoubtedly prove critical. Tiger recovery will come slowly, but we believe that long-term dedication to a proven strategy, informed by a strict adherence to scientifically valid monitoring, will ensure that tigers will recover and once again thrive in key landscapes.



THE ROAD TO RECOVERY

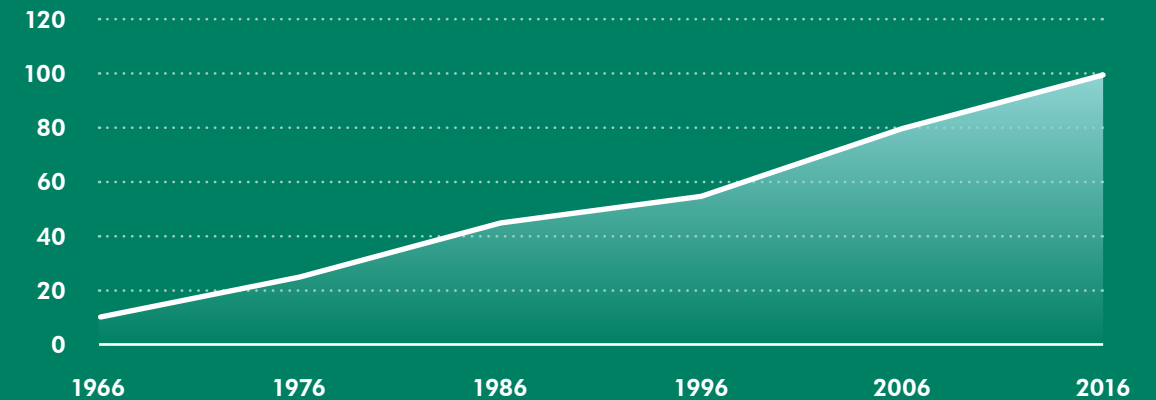
Amur Tiger Numbers in the Russian Far East



Facing extinction in the wild decades ago, **AMUR TIGERS NUMBER NEARLY 500 today.**

In India's Western Ghats, **Bengal tiger numbers have QUADRUPLED OVER THE PAST 40 YEARS**

Bengal Tiger Numbers in India's Nagarhole National Park



SPOTLIGHT SPECIES

Cambodia's Greater Adjutants

Protection of the flooded forest on Cambodia's Tonle Sap—Southeast Asia's largest lake—by community rangers has saved a vital and highly productive foraging habitat for fish that both drives the local economy and provides an essential food source for the lake's waterbirds and other wildlife. WCS has created a strong government-led effort that employs 40 community rangers to protect the flooded forest habitat and the waterbirds it supports, including the world's largest colony of the world's rarest stork: the greater adjutant. These enormous birds share this landscape with local communities and more than 30,000 pairs of waterbirds that rely on the abundant resources there.

The site is covered by the Ramsar Convention of 1971, which called for the “conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world.” But by any measure, conservation efforts for the Greater Adjutant have been a success on this grand lake that in the flood season grows as long as 170 miles and more than 65 miles wide.



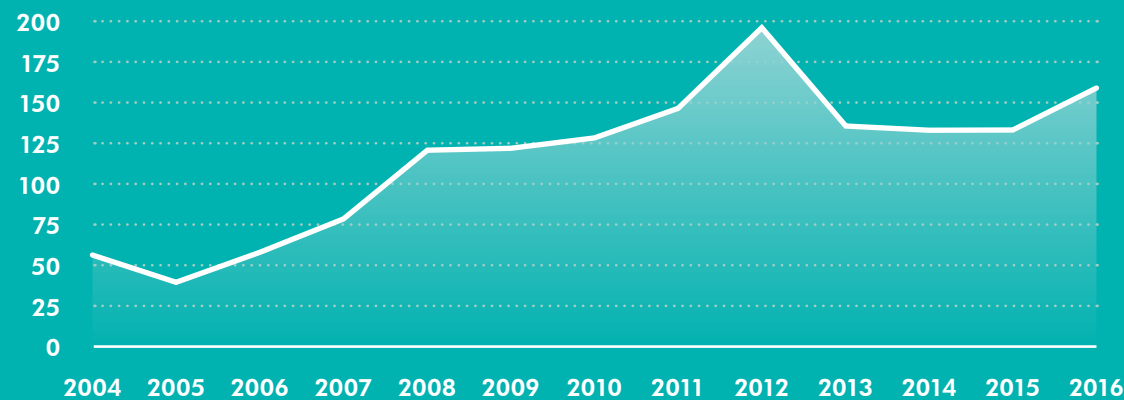
WCS History of Engagement

After the fall of the Khmer Rouge in 1998, intrepid WCS conservationists completed the first wildlife surveys in Cambodia in over 50 years. In the great lake of Tonle Sap, [WCS trustee emeritus Eleanor Briggs](#), [WCS biologist Colin Poole](#), and colleagues discovered vestiges of a once-great waterbird colony. Massive unregulated collection of eggs and chicks had reduced populations of species like the greater adjutant to just a few hundred breeding pairs. At the same time, destruction of flooded forest threatened waterbirds' primary nest sites. Working with the Cambodia Ministry of Environment, WCS paid local people to guard nests rather than raid them. On tree-top platforms, community members vigilantly protected nests throughout the breeding season. The birds rapidly increased in number. Work with the local [Sam Veasna Centre](#) has helped this thriving waterbird colony to become an important tourist destination, bringing economic benefits to communities protecting birds and nesting trees. Conservation of the flooded forest by the Cambodian Ministry of Environment and the Fisheries Administration has maintained critical habitat for the growing waterbird colony, otters, crocodiles and other wildlife.

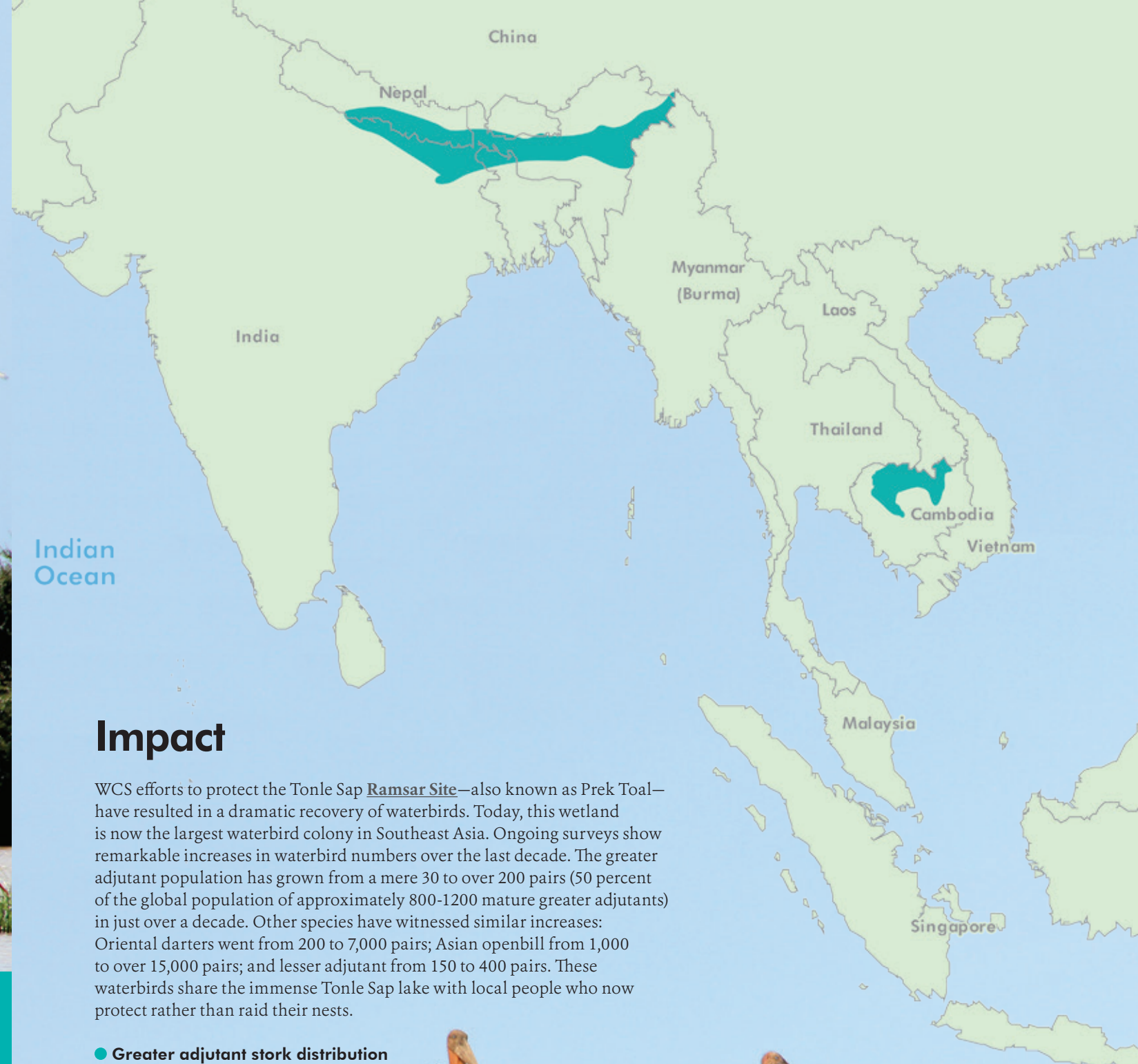


THE ROAD TO RECOVERY

Greater Adjutant Stork Nests in the Flooded Forests of Cambodia's Tonle Sap Lake



In 10 years, greater adjutants in Cambodia went from 30 TO 200 PAIRS, A NEARLY 7-FOLD INCREASE, representing half the global population.



Impact

WCS efforts to protect the Tonle Sap [Ramsar Site](#)—also known as Prek Toal—have resulted in a dramatic recovery of waterbirds. Today, this wetland is now the largest waterbird colony in Southeast Asia. Ongoing surveys show remarkable increases in waterbird numbers over the last decade. The greater adjutant population has grown from a mere 30 to over 200 pairs (50 percent of the global population of approximately 800-1200 mature greater adjutants) in just over a decade. Other species have witnessed similar increases: Oriental darters went from 200 to 7,000 pairs; Asian openbill from 1,000 to over 15,000 pairs; and lesser adjutant from 150 to 400 pairs. These waterbirds share the immense Tonle Sap lake with local people who now protect rather than raid their nests.

- Greater adjutant stork distribution



Q&A

Simon Nampindo

Simon Nampindo grew up surrounded by the spectacular wildlife of Uganda, but witnessed the destruction of his nation's natural capital with the civil unrest of the 1970s. Determined to do something to protect the animals and wild places he had come to love, Simon pursued a conservation career. As [Uganda Country Director](#) for WCS, Simon has worked to address the growth of poaching, along with land-use threats ranging from agriculture to extractive industry.

Where were you born and where did you go to school?

I was born in Kamuli District (eastern region), Uganda. I went to a rural primary school called Ndalike Primary School and later moved to Wairaka College for my secondary school, and finally, St. James Secondary School for my high school (all in Uganda) before joining Makerere University Kampala for both my undergraduate (BS Forestry, 1994–1998), and graduate studies (MS Forestry, 2000–2005), and later University of Massachusetts for my Ph.D. in environmental conservation (2008–2014).

How did you decide to go into the field of conservation?

In the early 1960s and 70s, Uganda had lots of forests and wildlife outside the protected areas (national parks, wildlife reserves and forest reserves) and wildlife used to roam all over the landscapes freely. As a young child growing up in the rural countryside, it was really fascinating to see birds of different colors and sizes fly in large groups past our house every morning and late evening all year round. Mammals and reptiles were seen almost everywhere and very huge trees grew naturally on our land. Further, my father took us on wildlife safaris in Uganda national parks and visited the Uganda wildlife zoo in Entebbe quite regularly. There was also a very strong cultural attachment to wildlife and every clan related intimately to a specific animal. For example, my clan treats the leopard as our totem, requiring us to protect this species.

Did the civil unrest of the 1970s have a direct bearing on Uganda's natural resources?

That's when everything fell apart. There was



ABOVE

WCS Uganda Country Director Simon Nampindo

RIGHT

Simon takes blood samples and monitors the temperature of a lion receiving a tracking collar in Uganda's Queen Elizabeth National Park.

massive hunting and cutting down of valuable timber tree species without government permission and control. At the age of 10, I witnessed very ruthless people invade our property and cut down all large-sized trees without my father's permission. I was terribly angered by this and asked my father to do something, but he couldn't do much because of the breakdown in the rule of law. I asked my dad to explain to me how one could be trained to protect the trees and wild animals! His response was that I should join the police or become a wildlife ranger, and so that meant getting education and selecting the right course at a college or university. As I progressed to high school, I found myself performing better in sciences.

How did you come to WCS?

After completing my Masters Degree, I was recruited by Dr. Andrew John Plumptre on November 12th, 2003 to lead a field team that was going to carry out research on the value of forests to rural livelihoods. The project was unique and required new skills, particularly in socioeconomics as well as ecology. It was also at the time the government of Uganda was in the process of developing the second Poverty Eradication Action Plan (PEAP). Since I had a strong background in environmental economics, Andy offered me the job. Before that, I had learned about WCS's work in the Albertine Rift [a geological designation for the mountains and valleys running from Lake Albert to Lake Tanganyika through Uganda, the Democratic Republic of Congo, Rwanda, Burundi, and Tanzania.] New training opportunities at WCS provided me with the opportunity to join this great organization.

As country director in Uganda, what are the most pressing conservation challenges?

The most pressing conservation challenges are: the new and emerging threats to conservation, particularly infrastructure development to support new development pathways (e.g. oil and gas, mining, illegal wildlife trade, trafficking and poaching); habitat loss due to land-use change; and a shift toward plantation agriculture. The other challenges are human population growth and increasing poverty, which make it difficult to do conservation. Similarly, unpredictable political regimes at both the local, national, or regional level make doing sustainable conservation quite difficult. All these new challenges require new skills, partnerships, technological resources, and funding. Therefore, capacity building for staff becomes critical to our work and fundraising becomes a full time job.

How can someone outside the field of conservation help with conservation efforts in Uganda and across Africa?

Knowledge is power. All that we do aims at changing human behavior and the greatest part of achieving this is information generation, dissemination and utilization. Anybody outside the field of conservation can play a critical role in marketing the work by creating awareness about the conservation challenges we are trying to tackle as well as highlighting the successes made. I encourage people to lobby donors to support conservation in Africa, to offer training opportunities for young African conservationists, to lead global campaigns in support of endangered and threatened species such as lions, great apes, chimpanzees, vultures, and rhinos, and to help to influence global policies in favor of conservation.

What are some of your most important projects today?

We have been setting up a Conservation [biodiversity] Trust Fund for Uganda as a mechanism for sustainable financing of conservation in Uganda. There is a huge opportunity to raise additional funding if we can have the trust capitalized and the capital invested responsibly. We are promoting the application of mitigation hierarchy and biodiversity offset principles as part of the Conservation impact Mitigation and Biodiversity Offsets in Africa (COMBO) project implemented in Uganda, Mozambique, Madagascar, and the Republic of Guinea. We continue to focus on the ecology of lions and elephants and the threats they face. We also work to combat the illegal wildlife trade and assess climate change impacts on species in the region found on the International Union for Conservation of Nature (IUCN) red list.

Have you been engaged in the combating wildlife trafficking and poaching?

Yes, we are supporting Uganda Wildlife Authority to improve law enforcement at the park level by using the Spatial Monitoring and Reporting Tool (SMART), building the capacity of UWA's Security and Law enforcement Unit (SLEU) through training in human, web, and cellibrite intelligence information gathering techniques, as well as setting up the canine unit to be placed at Entebbe International Airport and other border crossing posts to deter traffickers from using Uganda as a conduit for marketing illegal wildlife products.

What inspires you the most every day in your work with WCS?

Knowing that every little effort we invest in helps to save species populations and critical habitats for conservation of wildlife of international importance. In addition, knowing that WCS top management allows us to experiment with our raw ideas and is willing to embrace failure and success.

“Knowledge is power. Changing human behavior requires information generation, dissemination, and utilization.”



“In our rapidly changing world, the challenge of sustaining healthy and diverse wildlife populations has never been more complex—or more urgent. WCS continues to play a key role in shaping and supporting effective conservation and breeding strategies. We are proud to partner with WCS to deliver a better future for the world's wildlife and the people who share the landscape with them.”

—DAN ASHE, FORMER DIRECTOR OF THE U.S. FISH AND WILDLIFE SERVICE AND
CURRENT PRESIDENT OF THE ASSOCIATION OF ZOOS AND AQUARIUMS



2016 WCS Highlights

At WCS, we harness the power of our five zoological parks in New York City with our field conservation programs in nearly 60 countries and in all the world's oceans.



We discover: Through science, we produce the knowledge necessary to inform conservation action.

We protect: Through conservation action, we conserve wildlife and wild places.

We inspire: Through engagement and education, we have activated a conservation movement.

Each year, our colleagues work with partners to achieve our mission to save wildlife and wild places. Our 2016 stories, which follow in this chapter, will take you around the globe shedding a light on what wildlife conservation looks like and how we are having an impact.

LEFT

WCS scientists and colleagues with the groundbreaking Identidad Madidi expedition have identified a staggering 1,080 varieties of butterfly living in Madidi National Park, the Bolivian protected area considered to be the most biodiverse in the world. The Alexina Clearwing (*Oleria alexina* ssp.) is one of 50 species of this genus described to date.

DISCOVER

Gorillas Need More Help

In April, WCS, Fauna and Flora International, and the Democratic Republic of Congo's (DRC)'s ICCN protected area managers released a report showing a **staggering decline in Grauer's gorillas**—the world's largest great ape—due to poaching driven by illegal mining and civil unrest in their home in Eastern DRC. The report, funded by the Arcus Foundation, analyzed data collected with support from the Critical Ecosystem Partnership Fund, KfW (German Development Bank), ICCN, Newman's Own Foundation, Rainforest Trust, UNESCO, USAID, U.S. Fish and Wildlife Service, and the World Bank. It documented a 77 percent decline over the past two decades, with fewer than 4,000 individuals remaining in the wild. The results prompted the International Union for Conservation of Nature (IUCN) to uplist the species to Critically Endangered—an important designation that will help save this imperiled sub-species from extinction.



Solving a Bat Mystery

In September, WCS and partners from Montana State University, Texas Tech, and other groups announced a four-year \$2.5 million study to help scientists understand white nose syndrome (WNS)—a deadly disease encroaching on bats in western North America. **WNS disrupts the energy balance of bats** during hibernation. Diseased bats have more frequent disturbances during hibernation, quickly using up limited fat stores. The study will collect in-depth information on western species, including precise measurement of body fat and energy use during hibernation. Knowing which western bat species and populations are susceptible to WNS can help target interventions and strengthen conservation approaches. The study is funded by the U.S. Defense Department's Strategic Environmental Research and Development Program, in partnership with the U.S. Department of Energy and the U.S. Environmental Protection Agency (EPA).



Elephant Research Informing Policy Action

WCS's Andrea Turkalo, working with Cornell University and Colorado State University, led **the first published study on forest elephant demographics**, showing that this shy, retiring species is among the world's slowest reproducing animals (and slower than their close relative, the savannah elephant). The results of the study, published in the *Journal of Applied Ecology*, indicate that forest elephants will need up to 100 years to recover from the recent poaching

onslaught. The data were released just before the International Union for Conservation of Nature (IUCN) World Conservation Congress, and helped prompt the passing of resolutions at both the Congress and the 2016 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) conference in Johannesburg, South Africa to close domestic ivory markets globally.



Documenting Human Impact on Our Planet

James Watson of WCS and the University of Queensland continues to publish important studies with global policy implications. In the journal *Science*, Watson and colleagues showed for the first time that every aspect of life on Earth is already affected by human-induced climate change, from genes to entire ecosystems, with increasingly unpredictable consequences for humans. This has grave significance for how the world deals with climate change. In *Nature Communications*, Watson and colleagues reported that while the global impact of human activities on the environment is extensive, those impacts are expanding at a **slower rate than the pace of economic and population growth**. In the journal *Nature*, Watson and colleagues found that this human alteration is affecting three-quarters of the world's threatened species via habitat conversion

for agriculture and over-harvesting of their populations. In *Current Biology*, Watson demonstrated that a **catastrophic loss of global wild places** (comprising an area twice the size of Alaska and half the size of the Amazon) occurred in the past two decades at a time when such areas have become increasingly at risk from climate change and human population growth. Only 23 percent of global wilderness remains. Without a change in direction, most of our remaining wild places will be gone in 50 years. In the journal *Conservation Letters*, Watson led a paper showing that conservation strategies such as protected area establishment are not keeping up with these losses, and showed that many ecosystems across Earth are at a crisis stage.



Pivotal Research in New York Waters

Scientists from WCS's New York Seascape program, based out of the New York Aquarium, continue to work to protect marine life in the New York Bight, comprised of the coastal waters from Cape May, NJ to Montauk, NY. Efforts to tag and monitor sand tiger sharks in the Great South Bay of Long Island are ongoing and led to the discovery of a shark nursery in 2015. In a collaboration with scientists from OCEARCH, **WCS scientists joined a multi-institutional expedition** to tag and study sharks in the North Atlantic focusing on blue, mako, and white sharks. Also in 2016, the New York Aquarium and the Woods Hole Oceanographic Institution (WHOI) deployed a hi-tech near real-time acoustic monitoring buoy in New York waters to listen for

whale species migrating just off the coast of New York City. Initial species detected include the sei, right, humpback, and fin whale.

The New York Aquarium is likewise leading a broad coalition of organizations and stakeholders working to protect the Hudson Canyon, a magnificent underwater canyon located just 100 miles southeast of New York City. WCS submitted a proposal to the National Oceanic and Atmospheric Administration (NOAA) to designate the Hudson Canyon as a National Marine Sanctuary to ensure that the deep water corals and fish nurseries that the local fishing industry relies upon are protected from extractive industries.



Helping Fiji Communities after Devastating Cyclone

A series of surveys following the devastating effects of Cyclone Winston is providing a roadmap to help communities recover. The surveys, led by WCS, Fiji's Ministry of Fisheries and Forests, the Coral Reef Alliance and other partners, found that in addition to severely impacting the lives of 40 percent of Fiji's population, the storm also caused nearly US \$1.5 million in damage to boats and fishing equipment vital to the livelihoods and dietary needs of coastal communities. The surveys of affected communities indicated a **dramatic**

decrease in the availability of fresh fish. Instead of eating freshly caught fish six times a week, many coastal households saw their fish consumption drop to fewer than 2.5 times a week. The data generated by the surveys will help government, NGOs and development agencies direct assistance and resources to communities, depending on their degree of need, in a manner that ensures transparency. It will also help WCS to restore livelihoods and fisheries in a way that protects the natural resources needed for future stability.



Species Discoveries Around the World

From the rugged Himalayas to the lowlands of Bolivia, WCS scientists continue to find species new to science, underscoring the need to protect wild places before they are gone. In northeastern India a bird's unusual, melodic song led an international team of scientists from WCS, Upsala University, Michigan State University, Cloud Mountain Conservation, and other groups to discover **the Himalayan forest thrush**, *Zoothera salimalii*, which is similar in appearance to the raspy singing plain-backed thrush, *Zoothera mollissima*. In Tanzania, scientists from WCS, the Museo delle Scienze, University of Roehampton, University of Dar es Salaam; and other groups discovered a new species of chameleon. The species, *Kinyongia msuyae*, is named for Charles A. Msuya, a pioneer of Tanzanian herpetology who collected the

first-known specimen attributable to this species and has spent most of his life studying Tanzania's reptiles and amphibians. Scientists on the **ongoing Identidad Madidi expedition** through Bolivia's Madidi National Park—the world's most biologically diverse protected area—discovered three frogs, one lizard, and three catfish that are species new to science, with ten plant species under investigation as potentially new species. Participating institutions include the Bolivian government's Ministry of the Environment and Water, National Park Service, and Vice Ministry of Science and Technology; Madidi National Park; the Bolivian Biodiversity Network; WCS; Bolivia's Institute of Ecology; the Bolivian National Herbarium; the Bolivian Faunal Collection; and Armonia. Funding has been provided by the Gordon and Betty Moore Foundation and WCS.



Cutting Edge Science Informing Coral Conservation

WCS's Tim McClanahan continues to publish cutting edge science in the name of coral reef conservation. [A study of complex coral reef ecosystems](#) in the western Indian Ocean found that one species of fish—the orange-lined triggerfish—may play a significant role in maintaining a reef's ability to thrive and grow. WCS discovered that the triggerfish (*Balistapus undulatus*)—a small but brilliantly colored predatory fish—was consistently found among corals and algae that build reef systems. The study appeared in *Marine Ecology Progress Series*. McClanahan and WCS co-author Nyawira A. Muthiga studied algae, corals, fish, and sea urchins

in more than 200 Indian Ocean reefs for the study. In 2016, superheated waters from an El Nino pushed coral reefs to their edge. Our response? WCS scientist [Emily Darling helped lead an international collaboration](#) to track the global impacts of coral bleaching. We organized more than 300 surveys across the Indian and Pacific Oceans and analysed the results in near real-time. So far, scientists have observed more than 73,000 coral colonies and revealed that a staggering 56 percent of corals bleached during peak temperatures. Ongoing surveys will track recovery and identify how conservation can help corals cope with a changing climate.



Historic Declaration Signed to Protect Amazon Basin

In June, WCS organized the Amazon Waters International (AWI) Conference in Lima. More than a dozen institutions—including the Ministry of Environment of Peru, Amazonas State Environment Secretariat of Brazil, the Loreto Region Direction of Production in Peru, the Peruvian National Water Authority, and others—[signed an unprecedented commitment](#) to promote the integrity of the Amazon Basin. The basin is home to the largest continuous rainforest and most extensive freshwater ecosystem in the world. The commitment includes working toward international agreements in which the interests of each country are respected and the integrity of the environmental system is protected. The declaration emphasized that the Amazon Basin contributes significantly to the biodiversity,

climate regulation, and water balance of the planet. In the fall of 2016, AWI scientists published a geographic information system (GIS) “roadmap” in the *Earth System Science Data* journal to help guide conservation efforts at a large scale in the Amazon River basin. This initiative is the product of a two-year collaboration through the Science for Nature and People Partnership (SNAPP) between WCS, the Nature Conservancy, and the National Center for Ecological Analysis and Synthesis (NCEAS), along with several partners in Brazil and Peru. The new spatial framework—created with several major data sets and GIS technology—will help scientists better understand and mitigate the effects of deforestation and new or planned highways and dams across the Amazon Basin.

PROTECT

WCS Honors Colombian President Santos

WCS honored President Juan Manuel Santos in 2016 for his role in expanding the national park system in Colombia. In a ceremony in New York City, WCS President and CEO [Dr. Cristián Samper](#) presented President Santos with the Wildlife Conservation Society's Theodore Roosevelt Award for Conservation Leadership for his work in safeguarding wildlife and wild places in one of the world's most biodiverse countries. Since his election to the presidency in 2010, Santos has increased the total area of Colombia's protected area network to more than 6,613 square miles and has expressed his commitment to create additional protected areas in ecosystems like the Orinoco region. He was awarded the Nobel Peace Prize in 2016.



Extinction Denied: Saving the Blue Iguana

For the last 15 years the Bronx Zoo's Zoological Health Program has supported Grand Cayman, or blue, iguana (*Cyclura lewisi*) [conservation in the Cayman Islands](#). The recovery effort is shepherded by the National Trust for the Cayman Islands Blue Iguana Recovery Programme, Cayman Islands Department of the Environment, and the International Union for Conservation of Nature (IUCN) Iguana Specialist Group. The program consists of captive breeding and head-starting hatchlings until they are large enough to avoid wild predators, with nearly 1,000 iguanas successfully released since its inception. The WCS veterinary support has included pre-release evaluations, health assessments of captive and wild iguanas, determining baseline laboratory values, medical and surgical care, and disease investigations. [A new Grand Cayman iguana exhibit](#) opened at the Bronx Zoo in 2016.



Celebrating 100th Anniversary of Bronx Zoo's Animal Hospital

The Bronx Zoo has been a trailblazer in animal care and welfare across its history. In 2016, WCS's Zoological Health Program [celebrated the 100th anniversary](#) of the opening of one of the first on-site zoo animal hospitals in the world. The original 2,111-square-foot facility—that has now been re-purposed for the zoo's Amphibian Propagation Center—included a surgical suite, animal holding areas, and a morgue. As the health program expanded, its needs outgrew the original facility. A new animal hospital, the Wildlife Health Center, offering 10 times the space and all the original functionality plus updated capacities, opened in 1985. A state of the art quarantine building for new zoo arrivals has since been added. Today the

Wildlife Health Center is a renowned teaching and research hospital. Each year, veterinary students train there as part of their course work, and veterinary residents in clinical medicine and pathology receive advanced training, all learning from WCS's outstanding medical, surgical, and pathology staff. WCS's commitment to wildlife health has meanwhile expanded from the care of zoo and aquarium animals to wildlife across the globe. From the Grand Cayman Islands to the Congo to the Russian Far East, WCS field-based health staff are investigating and diagnosing a variety of illnesses threatening wildlife and, in some cases, human populations.



Queens Zoo Saving Species in the Wild

The Queens Zoo is continuing two breeding programs, releasing animals to bolster wild populations of New England cottontail rabbits and Puerto Rican crested toads. In 2015, the Queens Zoo, under the leadership of its Director Scott Silver (inset, above), started breeding New England cottontails as part of a collaborative effort with the U.S. Fish and Wildlife Service (USFWS), various state agencies in New York and New England, universities, public and private landowners, other conservation NGOs, and the

Roger Williams Park Zoo. This year, 17 kits born at the Queens Zoo were released. Puerto Rican crested toads have been bred at the Queens Zoo since 2014 as part of a collaborative effort with Association of Zoos and Aquariums (AZA). The tadpoles hatched at the Queens Zoo are sent to Puerto Rico, where biologists from the Caribbean Ecological Services and the Puerto Rico Department of Natural and Environmental Resources introduce them to the species' native habitat.



WCS and Partners Announce Major Marine Fund

WCS, along with the Waitt Foundation, the blue moon fund (bmf), and the Global Environment Facility (GEF), announced a major combined \$48 million commitment to expand the world's marine protected areas (MPAs) at the U.S. State Department's Our Ocean 2016 Conference. For the Washington, D.C. event, Secretary of State John Kerry invited heads of state, scientists, business leaders, NGOs, and others to tackle key issues such as marine protected areas, sustainable fisheries,

marine pollution, and climate-related impacts on the ocean. WCS, the Waitt Foundation and bmf together committed a minimum of \$15 million to the WCS MPA Fund, which will support MPA expansion and creation efforts in countries where WCS works. The GEF committed an additional \$33 million in line with countries' commitment to their 2020 targets. WCS continues to solicit additional commitments to grow the impact of this work even further.



Momentum Builds to End Wildlife Trafficking

The world ended 2016 with momentous news from China. On Dec. 30, China announced a timeline on closing its domestic commercial elephant ivory market by the end of 2017. President Xi Jinping had announced in 2015 that his country would take this action. Earlier in 2016, the United States adopted regulations to close its domestic elephant ivory market. These actions by China and the U.S. came as momentum has been building to close domestic ivory markets around the globe, notably in resolutions **adopted in 2016 at both the IUCN World Conservation Congress** in Hawaii and the 17th meeting of the **CITES Conference of the Parties (CoP17)** in Johannesburg, South Africa. In addition, in September 2016, the U.S. House and Senate agreed on final provisions of the Eliminate, Neutralize, and Disrupt (END) Wildlife Trafficking Act. The new law strengthens the ability of the U.S. to target wildlife traffickers, including the authority to prosecute them under federal money laundering law with higher penalties. The new law

bolsters wildlife trafficking law enforcement and increases support for wildlife rangers, encouraging the transfer of military equipment for ranger use. Significantly, it also calls for the development of strategic plans for identified “focus countries” to address wildlife trafficking. WCS has made this bill a major priority for the past two years and its passage represents a significant victory. The bipartisan bill was led by U.S. Sens. Chris Coons (D-DE), Jeff Flake (R-AZ), Dianne Feinstein (D-CA) and Lindsey Graham (R-SC), and U.S. Reps. Ed Royce (R-CA) and Eliot Engel (D-NY).

At the same time, WCS was pleased to welcome the adoption of a **European Union Action Plan Against Wildlife Trafficking** in February 2016. The plan includes including limiting EU trade in ivory, increasing EU development assistance to fight poaching, and increasing the use of EU diplomatic tools to increase political pressure on partner countries.



Cutting Greenhouse Emissions in Cambodia

The Royal Government of Cambodia, partnering with WCS, **sold to Disney** the first carbon credits associated with the Keo Seima Wildlife Sanctuary. The effort is projected to avoid the emission of some 14 million metric tons of CO2 in 10 years, allowing Disney to cut its net greenhouse emissions in half by 2020. The project looks to conserve species-rich tropical forest while contributing to the livelihoods of local people. The Keo Seima project would not be possible without the support of the U.S. government; Winrock International's Supporting Forests and Biodiversity (SFB) Project; the United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation (UN REDD); Agence Française de Développement (AFD) and Fonds Français pour l'Environnement Mondial (FFEM); Japan International Cooperation Agency (JICA); Norway's International Climate and Forest Initiative (NICFI); and the European Union (EU).



Bison Return to Blackfoot Reservation

WCS partnered with the Blackfoot Nation, Elk Island National Park in Alberta, and the Oakland Zoo in 2016 to **transfer 88 wild bison from Elk Island to ancestral homelands** on the Blackfoot Reservation in Montana. The historic event was central to the quest by Blackfoot people and other tribes and First Nations to restore bison to native lands and re-establish ties to this icon. The bison calves transferred are descended from those captured on Blackfoot land in 1873. The bison continues to sustain and provide spiritual and cultural value to Native Americans and Indian tribes. Recently, with WCS support, 20 nations from Alberta, Saskatchewan and Montana signed their first intertribal treaty in more than 150 years, expressing the uniting power of the American bison.

PROTECT

Bronx Zoo Helping to Prevent an Extinction

In 2016, the Bronx Zoo released 1,000 zoo-born Kihansi spray toads into their native habitat in the Kihansi Gorge in Tanzania. In 1999, the construction of a hydroelectric dam above the gorge dramatically changed the mist environment relied upon by these unique toads—found nowhere else on earth. Before these toads were classified as Extinct in the Wild by the International Union for Conservation of Nature (IUCN) in 2009, the Bronx Zoo was asked by the Tanzanian government to collect and breed Kihansis as a safeguard against extinction while an artificial misting system was created for the gorge. Since the new misting system was established, the Bronx Zoo has sent approximately 8,000 toads to Tanzania. **The breeding and release program** is the result of an ongoing partnership between the Bronx Zoo, Toledo Zoo, Tanzanian government, and World Bank. This is the first amphibian species to be successfully restored to the wild after being declared extinct in nature.



A Win for Fishers and Fish in Belize

In Belize, after a long struggle to address illegal and open-access fishing, a partnership of fishing communities and non-governmental organizations—under the leadership of Belize’s Fisheries Department, with support from WCS and the Environmental Defense Fund—created a new system that empowers fishermen and women to conserve and protect their fishery while still using its resources to provide for their families. **Called “Managed Access,”** the system allows local fishers to operate in two of eight specific geographic areas of the fishery, with the responsibility to help manage the areas and observe regulations. Work on this initiative has been supported by The Summit Foundation and the Oak Foundation.



WCS Informs Global Policy and Action

WCS had strong, effective and visibly active delegations at the 2016 meetings of the International Union for Conservation of Nature (IUCN) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Led by Sue Lieberman, WCS VP for International Policy, the delegations for both conferences had a high profile on site and in the media on all of our issues, as well as excellent relations “behind the scenes” with many governments. At the IUCN World Conservation Congress, WCS was able to highlight new surveys completed by WCS regarding the Grauer’s gorilla, **whose status was changed to**

Critically Endangered. At the 17th meeting of the CITES Conference of the Parties (CoP17), all WCS priorities were achieved, including greater protection through the transfer of all **eight species of pangolins and the African grey parrot to CITES Appendix I**; enhanced protection for thresher sharks, the silky shark, and all devil rays through their inclusion in Appendix II; and the rejection of proposals to reopen commercial trade in elephant ivory and rhino horn. Both the IUCN and CITES conferences took strong action on WCS priorities, including resolutions at both meetings calling on governments to close their domestic ivory markets.

SNAPP: The Science for Nature and People Partnership

WCS has partnered with The Nature Conservancy (TNC) and the National Center for Ecological Analysis and Synthesis (NCEAS) to create the **Science for Nature and People Partnership (SNAPP)**. This strategic collaboration will identify new scientific approaches that benefit nature and humankind, especially the most marginalized people. Since its inception in 2013, SNAPP's 28 working groups have yielded 35 peer-reviewed publications, 13 online tools, more than 75 global presentations, and more than \$7 million raised. This past year has seen the delivery of several new products, including a tool to help fisheries managers make better decisions and World Bank guidelines for conserving coastal ecosystems that protect human communities. SNAPP's ivory group, led by WCS's Dr. Aili Kang, is working to influence the Chinese government's closure of its domestic ivory market.



Tackling Transport of Trafficked Wildlife

WCS was signatory in 2016 to the **Buckingham Palace Declaration**, which was signed by members of the United for Wildlife Transport Taskforce and others on March 15, 2016. The Taskforce, which seeks to engage the international transport sector in stopping wildlife trafficking, includes private sector transport companies (e.g. airlines, shipping companies, cruise lines, freight forwarders) and a variety of international organizations, including the CITES Secretariat, World Customs Organization, the International Air Transport Association (IATA), and international NGOs, among others. United for Wildlife is a collaboration created by The Royal Foundation of The Duke and Duchess of Cambridge and Prince Harry, and led by The Duke of Cambridge. WCS is one of the seven major international conservation organizations that comprise the UfW collaboration, which focuses on efforts to stop the illegal wildlife trade.



Bronx Zoo/96 Elephants Campaign Smashes Record

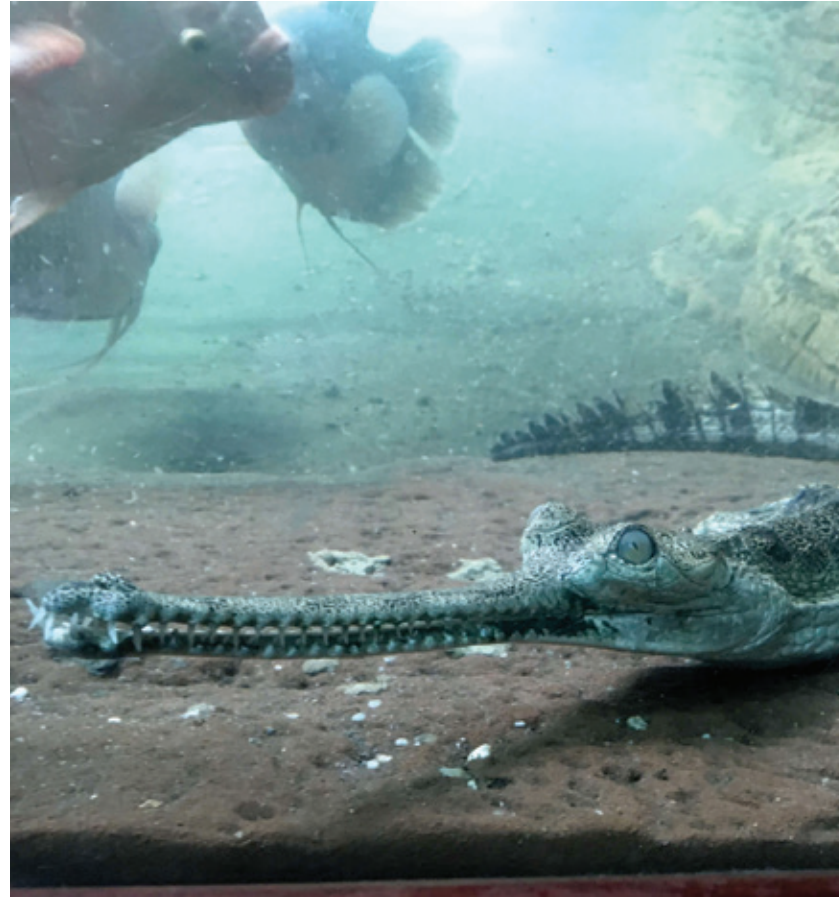
WCS's Bronx Zoo /96 Elephants now holds the record for the world's largest display of origami elephants. **The record has been certified by GUINNESS WORLD RECORD.™** Origami elephants were sent to the Bronx Zoo from all 50 states, 40 countries, and 45 AZA zoos. At an event held at the Bronx Zoo in November 2016, officials certified the new record at 78,564. The previous record of 33,764 was set in 2014 by the Zoological Society of London (ZSL)/Whipsnade Zoo in Great

Britain. The record-breaking effort was made as part of WCS's 96 Elephants campaign to raise awareness of the ongoing slaughter of elephants for their ivory. WCS worked with OrigamiUSA to organize this project, with support from the Asia Society, the AZA, the Boy Scouts of America Greater New York Councils, the Children's Museum of the Arts, the Girl Scout Council of Greater New York, the Japan Society, Origamodo, and Tuttle Publishing.

INSPIRE

Bronx Zoo on Conservation Frontline

The Bronx Zoo had several exciting additions to its collection in 2016. The Bronx zoo imported a group of 12 gharial (in photo, right) from the Madras Crocodile Bank in India, which runs a long-term, successful breeding program. Eight of the gharial will remain at the Bronx Zoo and four will be sent to the Los Angeles Zoo. The Bronx Zoo supports gharial conservation through [Jeff Lang's field work in the Chambal River](#). The colony of little penguins that debuted in 2015 as a new species at the Bronx Zoo produced a chick in May 2016. Adults are only about 13 inches tall and weigh 2 to 3 pounds. This is the first time this species has bred at the Bronx Zoo, which is supporting Taronga Zoo's little penguin conservation programs in Sydney Harbor. [Two Malayan tiger cubs born at the Bronx Zoo](#) made their public debut this summer in Tiger Mountain. The successful rearing of the cubs will help the Bronx Zoo tell the story of tigers in the wild and WCS's work to save them.



New York City Backs Culture

Through the organizing efforts of WCS and the One Percent for Culture campaign, New York City's cultural community galvanized support behind a public effort called [NYC Inspires](#) to push for an increase to the cultural budget. In late June, Mayor Bill de Blasio generously allocated a \$10 million increase to New York City's cultural organizations. This is the first increase in operating support in a decade and it shows the city's commitment to supporting culture—the lifeblood of the city. Additionally, the New York City Council provided an additional \$7 million for council initiatives that include the Cultural After School Adventure Program (CASA), the Cultural Immigrant Initiative, and SU-CASA, which brings artists to senior centers throughout the city.



American Bison Becomes U.S. National Mammal

After more than four years spent assembling a coalition, crafting legislation, and building support, WCS cheered as the U.S. House and Senate passed [the National Bison Legacy Act](#). WCS leads the American Bison Coalition, along with the National Bison Association and the InterTribal Buffalo Council, to push for greater recognition for bison and its unique historic, cultural and economic role in the United States. The National Mammal bill overcame numerous challenges in the House of Representatives and its

passage is a major success for WCS's federal affairs team, along with Capitol Hill bison champions Sen. John Hoeven (R-ND), Sen. Martin Heinrich (D-NM), Rep. William Lacy Clay (D-MO), Rep. Jeff Fortenberry (R-NE), Rep. Kristi Noem (R-SD), and Rep. José Serrano (D-NY). The official designation is a recognition and validation of 100 years of legacy-building work by the Bronx Zoo, WCS's North America Program, the American Bison Society, and others to bring this iconic American animal back from the brink of extinction.



Connecting Zoo and Aquarium Visitors to Conservation

In 2016, the WCS Education Department developed and implemented an integrated zoo and aquarium engagement plan. The goal of the program was to engage visitors interactively to connect them to nature, enhance their scientific knowledge, and encourage them to act for the environment. This public engagement strategy resulted in over 1.3 million interactions with zoo and aquarium visitors. Programming varied from theater performances about ocean plastic pollution and the popular **Zoo Quests** to the **Mobile Crew** with pop-up science experiences and even open nature play spaces for young families. This newly integrated program was

facilitated by a team of dedicated staff and 600 volunteers, along with corporate support from Canon, Empire BlueCross BlueShield, JetBlue, MetroPCS, and NewYork-Presbyterian. Many were youth from our parks' surrounding communities. Evaluation indicates that these programs are well liked by visitors, increase stay time at exhibits, and empower people to take action. These efforts represent a strong addition to the repertoire of programming conducted by our education department and present a renewed focus by the education team on connecting our visitors with WCS.



Educating the Next Generation of Conservation Scientists in Argentina and India

The Certificate Program in Biodiversity Conservation and the Masters Program in Biodiversity Conservation at the University of Buenos Aires are the **two newest initiatives to build conservation capacity** in Latin America and the Caribbean. The faculty draws from university staff and WCS conservationists from across the region and was launched with support from the U.S. Fish and Wildlife Service.

Since India's independence in 1947, wildlife conservation has been achieved through leadership by Indian citizens trained in wildlife science. To meet that challenge, WCS-India created a **Masters Degree Program in Wildlife Biology & Conservation** in 2004. The MSc Program is a collaboration with the National Centre for Biological Sciences, India's premier graduate institution for the biological sciences.

Q&A

Natalie Cash

Since arriving at WCS in 2004, Natalie Cash has made her mark with a series of award-winning videos that capture the robust work we are doing at our New York City parks and in our global field work. Here she discusses how she went from pre-vet studies to a successful communications career; stints in the Peace Corps and New York's famous Blue Note jazz club along the way; and the large body of moving wildlife video work for WCS that powerfully and consistently captures the heart of our mission.



What is your role at WCS?

I am the executive producer in Public Affairs in charge of in-house video productions at WCS. All of the videos we produce are designed to achieve one of three goals: advocacy, fundraising, attendance driving. We try to have as much impact as we can in two minutes or less.

Where did you grow up, go to school?

My father was a regional marketing manager for Esso, later Exxon, and because of his job, we moved every two to three years. I can say without hesitation that moving so often as a child taught me to become comfortable in uncomfortable situations. Navigating new terrain and social environments sharpened my ability to observe and adapt. We spent the most time as a family in Texas and that is where I graduated high school. After being done in by a fetal pig my first year of pre-vet med studies at Texas A&M, I transferred to Xavier University in Louisiana and graduated with a B.A. in Mass Communication in 1991.

How did you find your way to WCS?

My very first job was as an automation technician for WRBH - Radio for the Blind and Print Handicapped in New Orleans. WRBH was the first 24-hour FM reading radio station for the blind in the country and is one of only three such stations in the world. I loved my time at WRBH. Sharing current events and books with those who couldn't read gave me my first real sense of the power of communication and storytelling. From there I worked as a film specialist at the New Orleans Film Commission, assisting filmmakers and

production companies who wanted to film in the city, including John Woo's English-language film debut, *Hard Target*.

What brought you to New York?

I knew if I was serious about making my own films I was going to have to move to either Los Angeles or New York. For two weeks I went to L.A., where it seemed everyone had just stepped out of the pages of a magazine. New Yorkers, on the other hand, looked to me like they had just stepped out of a good novel, so I moved here. Aside from a two-year stint in the Peace Corps, I've never left. I worked at the Blue Note Jazz Club while I went to film school and sold a short film I directed to air on the Arte Channel in France and Germany. It was a narrative shot to look like a documentary, as that was the genre I was finding myself increasingly drawn to. From the Blue Note, I went to a natural history documentary production company, Pangolin Pictures. That was my first exposure to the world of wildlife filmmaking. At Pangolin, I worked on films for National Geographic, Discovery Channel and the PBS series Nature. My boss at Pangolin referred me to WCS.

Why have you chosen to work for a conservation organization?

The mission is pure. All the videos we produce, no matter the nuance, are 100 percent about animals. It is very fulfilling to know I can contribute my skills to helping wildlife. Working for WCS is satisfying for me personally because I deeply respect that all of our positions, whether taken in the zoos, the aquarium or in the field, are based on science—and also because we are headquartered in New York, the greatest city in the world.

ABOVE

Executive Producer for videography Natalie Cash at the Bronx Zoo.

RIGHT

Natalie records gelada baboons in Ethiopia's Simien Mountains National Park in February, 2016.

What are some of the projects you have managed that you find to be most fulfilling?

If I had to pick a highlights reel, it would include the 96 Elephants campaign because we had the opportunity to produce so many different styles of video—from an Antiques Roadshow parody, to the 2014 gala video looking at the poaching crisis through the eyes of a single elephant, to documenting [Andrea Turkalo's return to Dzanga bai](#); managing the formal WCS-National Geographic media relationship which resulted in numerous television specials and magazine features, including a September 2009 cover story on Eric Sanderson's Mannahatta project; producing last year's WCS Brand Manifesto video because it was a love letter to all the many parts that make up WCS and because Jim Breheny and Kathleen LaMattina let us film with the Animal Ambassadors for three days; the Bathysphere and Beyond video commemorating the [80th anniversary of William Beebe's record setting underwater descent](#) because we got to work with Maddie Thompson in Library & Archives on the old Beebe footage and it connected our history to the current work WCS is doing today at the aquarium and in the NY Seascape; [Hunt for the Tiger Slayers](#), a story that originated from a lunchtime lecture Anak Pattanavibool gave which went on to win awards at Wild Talk Africa and the International Wildlife Film Festival; traveling to Afghanistan in 2010 to produce a film on the illegal wildlife trade in war zones supporting Heidi Kretser's work with the U.S. Department of Defense; all the city and state budget funding campaign videos because we got to use staff and tractable animals as actors and because the funding was successfully restored; since 2013, we have also had the opportunity to work with Tiffany Reiser-Jacobson to produce the videos for the WCS annual gala; and the Brooklyn Bridge Forest

video because it was just one of the coolest ideas—combining landmark restoration with rainforest protection. When people tell us that they were moved by our videos, it inspires us to push harder and do more.

How has the world of video changed through the years?

Dramatically. Roles were more defined and the craft took longer to learn when I started. Today, the roles are more fluid, the equipment lighter, less expensive but still capable of producing the highest quality images. Line items that previously would have added thousands of dollars to a production budget such as aerials, custom music or high-end graphics and titles, can now be had for a fraction of the cost. Jeff Morey is an amazing co-producer as well as principal videographer, he also edits, creates motion graphics and operates a mean steadicam; and production assistant Kelsey Kovner shoots and edits and has worked across many of the WCS parks and departments, bringing tremendous inside knowledge of the organization. I made the shift to digital editing in 2010 and produce and write most of our projects and enjoy hunting for just the right music. With just the three of us producing video for the entire organization, I am extremely proud of our output.

“All the videos we produce are 100 percent about animals. It is very fulfilling to know I can contribute my skills to helping wildlife.”



“The Bronx-based Wildlife Conservation Society provides on-the-ground wildlife conservation science that helps inform policy decisions on combating wildlife trafficking and species survival.”

—NITA LOWEY, U.S. REP. (D-NY)



Financial Report

The Wildlife Conservation Society closed Fiscal Year 2015-16 (FY 2016) with total assets that exceeded \$1 billion for the second consecutive year and net assets of \$787 million, including \$311 million in unrestricted net assets. FY 2016 total revenues were \$260.3 million and expenses \$271.6 million, resulting in a \$11.3 million reduction in net assets. This performance is attributable to a number of factors, including notably, investment losses incurred during a year in which most endowments saw negative returns. A non-operating adjustment as required by a new actuarial standard resulted in a further net asset decrease of \$12.5 million. These impacts were absorbed by a balance sheet that remains strong.

LEFT

A male African lion surveys the landscape in Serengeti National Park, Tanzania. WCS is committed to the protection of African lions (*Panthera leo*) and other big cats, one of six priority species groups that form the center of WCS's efforts to reverse the decline of imperiled wildlife species and safeguard ecologically intact habitat



RIGHT
The khulan (*Equus hemionus*) or Asian wild ass is found today in southern Mongolia and parts of northern China. Historically, they were also present in Kazakhstan before being exterminated through hunting. Khulan are now listed as an endangered species on the IUCN Red List and scientific evidence suggest that abundance has declined globally by more than 50 per cent over the past two decades.

WCS's property and equipment assets reached \$333.2 million in FY 2016, up from \$298.3 million in FY 2015. FY 2016 spending on capital projects was \$51.9 million, of which the New York Aquarium accounted for \$40.6 million. Bronx Zoo projects totaled \$9.8 million and improvements at the City Zoos \$1.5 million. FY 2016 capital spending also included continued efforts to upgrade the functionality of the WCS website, particularly to provide enhanced marketing, analytics and purchase transaction capabilities.

The market value of the investment portfolio at the end of FY 2016 was \$457.0 million. For the twelve-month period ending June 30, 2016, the long-term investment portfolio had a return of -2.4%, contributing to \$11.7 million in negative investment returns. Those investment losses plus budgeted endowment spending for operations in accordance with WCS's endowment spending policy and other special allocations reduced the total value of the investment portfolio by \$31.5 million from June 30, 2015. Liabilities increased by \$9.3 million to \$236.4 million on June 30, 2016, the effect of a \$12.5 million upward adjustment to the estimated post retirement health care benefit obligation for union employees as required by a new actuarial standard, which was partially offset by lower accrued expenses. Bonds and loans payable totaling \$153.2 million reflect WCS's comprehensive financing plan to support the capital programs at the New York Aquarium and Bronx Zoo and provide liquidity for the organization. These include long-term tax exempt debt and other shorter term loans. WCS continues to retain Aa3/AA- bond ratings from Moody's and Standard and Poor's.

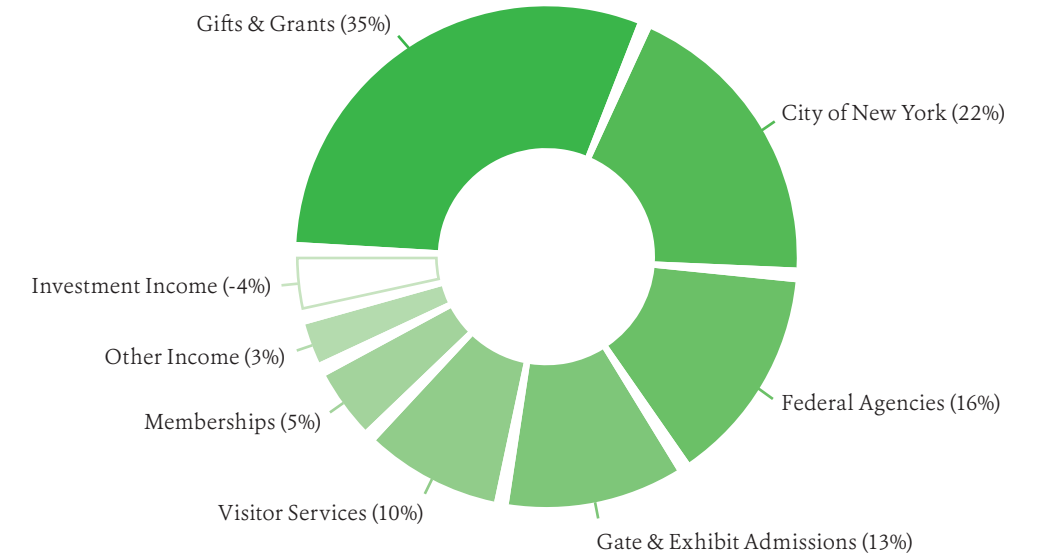
WCS's total revenues were \$260.3 million in FY 2016. Programmatic support from private contributions, federal agencies, multi-lateral and bi-lateral funding and foreign aid continues to

diversify and gifts and grants from these sources used in FY 2016 year totaled \$133 million, or just over 50% of total revenues. The City of New York provided \$56.4 million in support for the zoos and aquarium, of which \$34.0 million represents capital funding, mainly for the New York Aquarium expansion. The \$22.4 million balance is a combination of general operating support plus the cost of utilities provided for the Bronx Zoo and New York Aquarium through the Department of Cultural Affairs, and reimbursement from the Department of Parks and Recreation for WCS operation of the Central Park, Prospect Park and Queens Zoos. WCS was very fortunate to receive a grant supporting Bronx Zoo and New York Aquarium operations from the State of New York, totaling \$4.4 million in FY 2016.

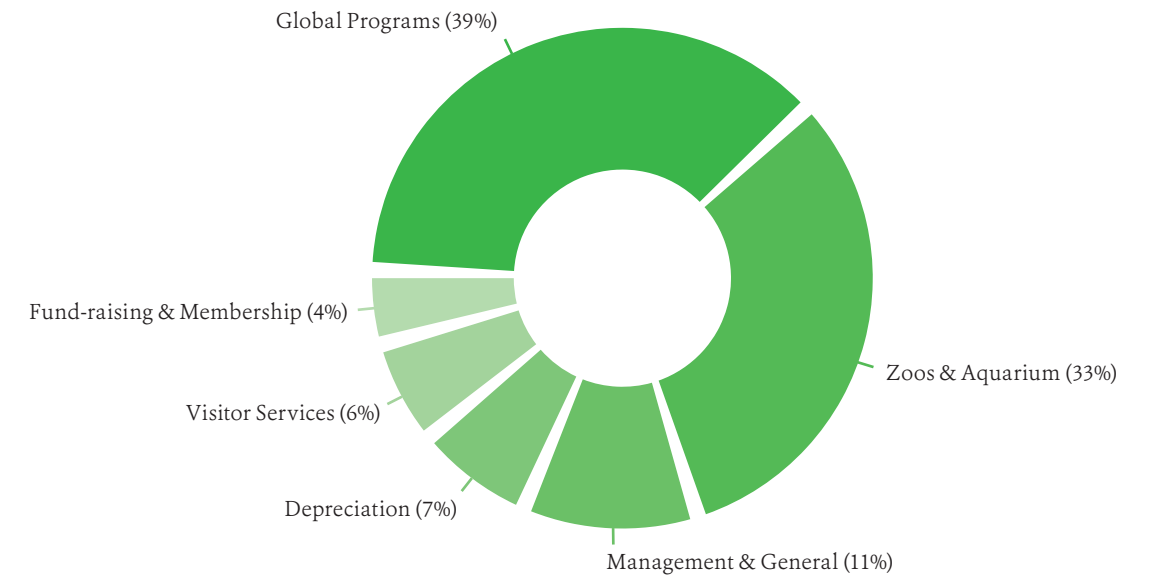
Admission and other audience-driven revenues, including membership and auxiliary services, our largest sources of unrestricted operating support, and so are critical to WCS's financial health. In FY 2016 these sources provided \$74.7 million, 29% of total revenue and almost a third of general operating revenues. Visitation to our zoos and aquarium totaled 4.31 million visitors in FY 2016, 9% higher than the prior year, despite the continuing challenges of a partially open aquarium. Investment spending for operations totaled \$21.5 million in FY 2016, a combination of the 5% payout on endowment funds in accordance with Board policy and investment income earned on operating funds. The effect investment losses reduced total revenue, however, by \$11.7 million.

WCS total expenses including depreciation reached \$271.6 million in FY 2016, 2% higher than the prior year. \$211.1 million of that amount reflects programmatic activity at our zoos and aquarium and our global programs. The \$41.8 million balance reflects management,

2016 TOTAL REVENUE (\$266.3 million)



2016 TOTAL EXPENSES (\$271.5 million)



fundraising and membership expenses at a lean 15% of all expenditures. Zoo and aquarium expenses totaled \$105.1 million, comprised of \$54.3 million at the Bronx Zoo, \$11.6 million at the New York Aquarium, \$22.8 million at the three City Zoos combined, and \$16.3 million in visitor services across all five facilities. Global Conservation Program expenses totaled \$106.1 million. The Africa program continues to be the largest continental program at \$35.9 million in expenditures with continued significant support from United States Government funding sources

including multi-year grants for programs in Congo, the Democratic Republic of Congo South Sudan, and Mozambique, as well as support from private foundations and individuals. Asia regional expenses totaled just over \$20 million, followed by North and Latin America, closing the year at \$19.0 million.

WCS's general unrestricted operating revenues totaled \$247.6 million and expenses \$251.9 million. After setting aside \$2.8 million from operations for plant renewal, WCS's general

STATEMENT OF ACTIVITIES

June 30, 2016 and 2015, in thousands

	2016	2015
CURRENT YEAR GENERAL OPERATING REVENUE		
Contributed	\$59,670	\$61,514
Membership dues	13,804	14,320
Investment spending	21,521	19,095
City of New York	22,388	25,723
New York State	4,355	4,006
U.S. Federal grants and contracts	35,450	29,240
Non-U.S. government and bilateral grants and contracts	16,487	19,582
Private organizations grants and contracts	5,560	7,227
Gate and exhibit admissions	34,262	34,410
Visitor services	26,666	24,765
Education programs	2,806	2,568
Sponsorship, licensing, and royalties	720	909
Other	3,887	3,257
Total General Operating Revenue	\$247,576	\$246,616
NON-CURRENT YEAR OPERATING ACTIVITIES AND OTHER CHANGES		
Permanently Restricted Bequests and Endowments	\$1	\$22,310
Unrestricted Bequests	\$2,932	\$2,652
Grants and Contributions designated for future use	\$11,981	\$13,711
Income from long-term investments in excess/deficit of funds utilized for current year operations	(\$33,209)	(\$2,530)
Board Designated Funds released	(\$5,695)	(\$4,896)
Funds released for capital program	\$36,713	\$49,997
TOTAL REVENUES	\$260,299	\$327,860
GENERAL OPERATING EXPENDITURES		
PROGRAM SERVICES		
Bronx Zoo	54,276	55,946
New York Aquarium	11,630	12,517
City zoos	22,834	23,682
Global programs	106,127	102,686
Total Program Services	\$194,867	\$194,831
Visitor Services	\$16,314	\$15,850
SUPPORTING SERVICES		
Management and general	29,877	27,388
Membership	2,141	2,140
Fund-raising	8,693	7,858
Total supporting services	\$40,711	\$37,386
TOTAL GENERAL OPERATING EXPENSES	\$251,892	\$248,067
Depreciation Expense	\$19,669	\$18,191
TOTAL EXPENSE	\$271,561	\$266,258
Non-operating changes	(\$12,541)	\$263
EXCESS OF TOTAL REVENUES OVER TOTAL EXPENSES	(\$23,803)	\$61,865

CONSOLIDATED BALANCE SHEETS

June 30, 2016 and 2015, in thousands

	2016	2015
ASSETS		
Cash and cash equivalents	76,530	62,117
Accounts receivable	3,205	4,063
Receivable from the City of New York	18,732	27,441
Receivable from the State of New York	2,253	5,410
Receivable from federal sources	30,579	24,511
Grants and pledges receivable	65,062	78,945
Inventories	2,432	2,651
Prepaid expenses	4,384	3,292
Investments	456,956	488,425
Amounts held in trust by others	1,843	1,998
Funds held by Bond Trustee	28,293	40,893
Property and equipment	333,215	298,254
Total Assets	\$1,023,484	\$1,038,000
LIABILITIES AND NET ASSETS		
Accounts payable and accrued expenses	37,087	39,648
Annuity liability	3,056	3,170
Loans payable	17,000	17,000
Bonds payable	136,232	136,683
Post-retirement benefit obligation	43,071	30,658
Total Liabilities	\$236,446	\$227,159
NET ASSETS (UNRESTRICTED)		
General operating	—	—
Designated for long-term investment	104,870	152,359
Net investment in property and equipment	206,132	183,246
Total Unrestricted	311,002	335,605
NET ASSETS (RESTRICTED)		
Temporarily restricted	205,441	204,642
Permanently restricted	270,595	270,594
Total Net Assets	\$787,038	\$810,841
TOTAL LIABILITIES AND NET ASSETS	\$1,023,484	\$1,038,000

operating bottom line was a \$7.2 million deficit. This result reflects two distinct challenges which we are actively addressing. The first, which was anticipated and planned for, is attributable to the New York Aquarium's partial operation due to the storm damage it sustained in Hurricane Sandy. While this will continue to present a financial challenge until the new Ocean Wonders exhibit can be opened and the damaged areas of the aquarium can be fully restored, we continue to make progress toward our goal of reopening a transformed aquarium that will provide new and exciting opportunities to connect visitors with WCS's marine conservation work in New York and around the world. The second factor reflects

a challenging paradox in that grant funding for our global conservation field programs continues to expand and diversify, but our challenge lies in funding the core operations and managerial and administrative functions required to appropriately support this program that exceeds \$100 million spread across 16 global regions. In accordance with the WCS 2020 strategic plan we are actively executing against plans to grow the revenue that will allow us to deliver our ambitious mission goals in a financially stable and sustainable way.

Q&A

Jim Morley

In three and a half decades with WCS, Jim Morley has overseen a Purchasing Department changing and adapting to new technology as the fax replaced traditional mail, email replaced the fax, and our SAP system made the majority of transactions digital. Here, he discusses his appreciation for the help of colleagues and some memorable acquisitions during his WCS tenure.



Where did you grow up, go to school and study?

I was born in the Bronx and my family moved to Rockland County, Palisades, in January of 1960. We moved one town over in 1964 to Tappan, and with the exception of time during and after college and the first three years of my marriage, I have lived in Tappan most of my life. Ironically, after having moved out of the Bronx, I came back to go to high school at Fordham Prep and graduated from Fordham College in 1973 with a degree in history.

How did you end up working for WCS?

I was working at Shea Stadium for the concessionaire, Harry M. Stevens, and wanted to try something different. I came to work for WCS (then the New York Zoological Society) in what was at that time called Visitor Services, i.e. Food Service, Merchandise, Admissions and Rides. I spent the first year of my tenure at the aquarium, responsible for Visitor Services. In 1980, I moved to work at the Bronx Zoo and was responsible for Food Service until moving to Purchasing in the fall of 1983.

“I remember being thrilled when we got our first fax machine. I could send a note to South Africa in the afternoon and have an answer the following morning.”

How has WCS grown and changed since you arrived?

In 1979, our city operations consisted of the Bronx Zoo and the New York Aquarium. Between 1988 and 1993, WCS added the three City Zoos (Prospect Park Zoo, Central Park Zoo, Queens Zoo). Over the course of time, this would add about 1.5 million people to WCS attendance. It would also add a new complexity to local operations. Our WCS Global Conservation Program was at St Catharine’s Island, which closed in 2004. The program consisted of George Schaller and a handful of conservation scientists. As the scope and breadth of WCS’s Global operations grew, I saw them housed at the Bronx Zoo, first in the basement of the Heads and Horns Building, then in trailers, and finally the Center for Global Conservation. I have been fortunate to see the visions of Dr. William Conway and Dr. John Robinson realized in the tremendous growth of our conservation efforts around the globe.

How much has the technology on your side of the business changed through the years?

When I started in Purchasing in 1983, a lot of business was conducted over the telephone. Larger purchase orders were exchanged by mail. The ordering of anti-venin (snake serum) from places like South Africa and Thailand was an adventure. I remember being thrilled when Purchasing got one of the first fax machines. Once we got a fax machine, I could send a note to South Africa in the afternoon and find an answer from the supplier the following morning. In 1983, purchase orders were seven-part forms that we typed. All of that has been replaced by the computer. Email has created efficiencies in terms of communication, though it does bring with it the challenge of how best to maintain a good relationship with suppliers.

ABOVE

WCS Purchasing Director Jim Morley at the Bronx Zoo.

RIGHT

One of Jim’s memorable purchases involves the 2011 replacement of the cooling system at the Central Park Zoo penguin exhibit, which required replicating the climate of Antarctica to exacting standards.

Ultimately, business is still done by people with people, and important business relationships cannot be solely electronic.

How has the purchase and rollout of SAP affected your work?

There have been even more changes and efficiencies. Since July of 2012, WCS has issued approximately 67,000 purchase orders. With the exception of a few hundred where a file is required for audit purposes, probably 98 percent of these transactions are digital. This also serves WCS’ Green Initiative in that there are no paper records. The information age has also affected Purchasing. When Purchasing was located in the Zoo Service Yard, we quite literally had a catalog library.

What are some of the most off-the-wall purchases you have made since taking the reins at Purchasing in 1983?

A few come to mind: Flying to Boston with Jonquil Rock of the Larsen Company to hand pick the ropes that eventually became the artificial vines in JungleWorld; purchasing the custom-made harnesses for moving the sharks into holding in anticipation of *Ocean Wonders: Sharks!* at the New York Aquarium; our 2006 replacement of all of the Bronx Zoo engines and generating equipment at the cogeneration plant. Many WCS staff don’t even realize that the Bronx Zoo generates all of the electricity used here; our 2011 replacement of the cooling system at the Central Park Zoo penguin exhibit to some very exacting standards, replicating the Antarctic environment; our purchase in 2016 of two aircraft for our operations in Africa—Congo & Mozambique; and our whale tagging equipment, which looks much like a rocket propelled harpoon.

What do you like most about working for WCS?

WCS staff, their commitment to what they do and their willingness to help. WCS procurement covers an amazing breadth of goods and services from feed, to construction, to office products. I constantly remind staff in Purchasing that if you are uncertain or don’t know exactly what you are buying ask the end user. When I came to Purchasing in 1983, the Commissary Manager was a man named George Fielding, who graciously gave of his time to explain and show me what we purchased to feed the animals. I remember with great fondness that George once spent three days with me in upstate New York going from farm to farm, first helping me to identify timothy (it’s the one with the head that looks like wheat); alfalfa (it has small roundish leaves); and, what was good hay—how it was grown, dried, cured and baled. Concerning anti-venin, Gail Bonsignore

“Words cannot convey the extent of Sandy’s damage. That our staff was able to save most of the collection and open back up is testimonial to the type of people that work for WCS.”

was the Reptile Department administrator and she patiently showed me all of the documents necessary to purchase and import the snake serum. Dave Cole, who was responsible for Zoo Operations and Construction, always had time to answer a question—and there were many. There have been dozens of WCS staff who gave graciously of their time to help me understand what exactly I was purchasing.

As you reflect on your time with WCS, what has been your best day?

Memorial Day of 2013. On that day, we celebrated the partial reopening of the New York Aquarium. I was at the aquarium the day after Hurricane Sandy and words cannot properly convey the extent of the damage to the entire campus. That the staff was able to save almost all of the collection and get part of the facility open is testimonial to the type of people who work for WCS. To have been even a small part of that effort was rewarding in a way that is difficult to describe.



“WCS has been a great champion for efforts to ban the domestic trade in elephant ivory, which helped to enable our diplomatic successes with China and at CITES. WCS has also been a valued implementing partner for many programs around the world that are helping to protect many incredible creatures and landscapes.”

—CATHERINE NOVELLI, FORMER U.S. UNDER SECRETARY OF STATE



Contributors

As WCS inspires people around the world to respect and value nature, our contributors continually inspire us to honor our promise to protect wildlife. Without our supporters, we could not remain at the forefront of making scientific discoveries, advocating for policy improvements, and ramping up protections for wild species and habitats.

LEFT

The coyote (*Canis latrans*) is one of dozens of native species visitors can see on exhibit at the Queens Zoo, a WCS facility that showcases the diversity of wildlife in the Americas. WCS now partners with Fordham University and Gotham Coyote in Project TRUE (Teens Researching Urban Ecology), an educational initiative focused on the study of coyotes and other mammals in and around New York City.

SUPPORTING GOVERNMENTS

In 2016, WCS field conservation, education, and zoo and aquarium programs benefited from significant government and agency support. We are grateful for their partnership and confidence in our programs.

NEW YORK CITY AGENCIES

Department of Cultural Affairs
Department of Parks and Recreation
Economic Development Corporation

U.S. STATE AND CITY AGENCIES

Boulder County Parks and Open Space, Colorado
California Department of Fish and Wildlife
City of Boulder Open Space & Mountain Parks, Colorado
City of Fort Collins, Colorado
Idaho Department of Transportation
Nevada Department of Wildlife
New York State Department of Education
New York State Department of Environmental Conservation
New York State Empire State Development
New York State Energy Research and Development Authority (NYSERDA)
New York State Office of Parks, Recreation and Historic Preservation
Northeast States Research Cooperative
North Pacific Research Board (NPRB)
Northwest Arctic Borough (NAB)
Wyoming Office of Tourism

U.S. FEDERAL AGENCIES

Agency for International Development
Bureau of Land Management
Bureau of Ocean Energy Management (BOEM)
Department of Defense
Department of the Interior
Department of State
Federal Emergency Management Agency (FEMA)
Fish and Wildlife Service

Forest Service
Geological Survey
Institute of Museum and Library Services
Marine Mammal Commission (MMC)
National Archives and Records Administration
National Endowment for the Humanities
National Oceanic and Atmospheric Administration
National Park Service
National Science Foundation
Postal Service

OTHER NATIONAL GOVERNMENT AGENCIES AND INITIATIVES

African Development Bank (AfDB)
Agence Française de Développement (AFD), France
Agroecologia Universidad Cochabamba (AGRUCO), Bolivia
Asian Development Bank
Australian Department of Foreign Affairs and Trade (DFAT)
Austrian Federal Ministry for Agriculture, Forestry, Environment and Water Management through the LifeWeb Initiative
Bauchi State Government (BASG), Nigeria
Danish Aid Agency (DANIDA)
Darwin Initiative, a joint DFID/DEFRA fund, United Kingdom
Department for International Development (DFID), United Kingdom
Development Bank of Latin America (CAF)
Economic and Social Research Council (ESRC), United Kingdom
Far Eastern Branch of the Russian Academy of Sciences
Fonds Français pour l'Environnement Mondial (FFEM)
Foundation for Environment and Development in Cameroon (FEDEC)

German Agency for International Cooperation (GIZ)
German Development Bank (KfW Entwicklungsbank)
German Federal Ministry for Economic Cooperation and Development (BMZ)
German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB)
Guatemala Ministry of Environment and Natural Resources
Guatemala National Council of Protected Areas (CONAP)
Illegal Wildlife Trade Challenge Fund, a joint DFID/DEFRA fund, United Kingdom
Japan Ministry of Foreign Affairs
Ministry for Foreign Affairs of Finland
Ministry of Environment, Nature Conservation, and Tourism, Democratic Republic of Congo
Ministry of Foreign Affairs, Norway
Ministry of Interior, Cambodia
Myanmar Government (Burma)
Natural Environment Research Council (NERC), United Kingdom
Norway International Climate and Forest Initiative (NICFI)
Norwegian Aid Agency (NORAD)
Peruvian Trust Fund for National Parks and Protected Areas
Programa Biocultura, Swiss Agency for Development and Cooperation (SDC)
Regional Autonomous Corporation of Valle del Cauca, Colombia
Robert Bosch Stiftung, Germany

INTERNATIONAL AGENCIES AND INITIATIVES

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
Convention on Migratory Species
Critical Ecosystem Partnership Fund (CEPF)

European Commission
Food and Agriculture Organization of the United Nations
Global Environment Facility (GEF)
Greater Virunga Transboundary Collaboration (GVTC)
Indian Ocean Commission
Inter-American Development Bank (IDB)
International Centre for Integrated Mountain Development (ICIMOD)
International Trade Centre
International Whaling Commission
International Union for Conservation of Nature (IUCN)
IUCN Netherlands
Save our Species (SOS) Fund (IUCN, Global Environment Facility, and the World Bank)
The World Bank
United Nations Children's Fund
United Nations Development Programme
United Nations Environment Programme
United Nations Educational, Scientific & Cultural Organization
United Nations Office on Drugs and Crime
Western Indian Ocean Marine Science Association
World Food Programme

RIGHT

WCS Exec VP for Public Affairs John Calvelli announces passage of the National Bison Legacy Act with Congressional supporters, L-R: Rep. Kristi Noem (R-SD), Rep. Jeff Fortenberry (R-NE), Rep. Lacy Clay (D-MO), Sen. Martin Heinrich (D-NM), and Rep. José Serrano (D-NY).



City and State Support

WCS is grateful to the City of New York, which provides operating and capital funds through the Department of Cultural Affairs and the Department of Parks and Recreation. We thank Mayor Bill de Blasio, Speaker Melissa Mark-Viverito and members of the New York City Council, and Brooklyn Borough President Eric Adams for their support this past year. The City of New York is vital to the public/private partnership on which WCS's service to the people of New York rests. WCS is grateful

to Governor Andrew M. Cuomo and the New York State Legislature for providing an historic increase to the Environmental Protection Fund and significant increases to two of its programs: the Zoos, Botanical Gardens and Aquariums program, administered by the New York State Office of Parks, Recreation and Historic Preservation and the Oceans and Great Lakes Initiative administered by the New York State Department of Environmental Conservation.

Government and Agency Support to WCS Global Programs

In FY 2016, the U.S. Agency for International Development (USAID) was the leading government donor to WCS field programs, including for activities in Central Africa (Central Africa Regional Program for the Environment) and the Andean Amazon (Initiative for Conservation in the Andean Amazon), as well as Indonesia, Mozambique, South Sudan, Tanzania, Uganda, and others. The U.S. Fish and Wildlife Service (USFWS) continues to provide significant core support to the WCS marine and terrestrial species conservation and capacity building programs throughout Africa, Asia, and the Americas, and the U.S. Bureau of International Narcotics and Law Enforcement Affairs (INL) supports WCS activities to combat wildlife trafficking networks in Southeast Asia and Latin America. Through an umbrella agreement, the National Park Service supports bison and migratory species conservation, as well

as wolverine restoration in North America. WCS is grateful for continued support from the Australian Department of Foreign Affairs and Trade; the Austrian Federal Ministry for Agriculture, Forestry, Environment and Water Management; the European Commission; Agence Française de Développement (AFD); the German government, through the German Development Bank (KfW) and German Agency for International Cooperation (GIZ); the Global Environment Facility (GEF) and United Nations Development Program (UNDP); Norwegian Aid Agency (NORAD) International Climate and Forest Initiative and the Norwegian Ministry of Foreign Affairs; the Save our Species (SOS) fund (founding partners IUCN, GEF, and the World Bank); the UK Darwin Initiative; the UK Economic and Social Research Council; the UK Illegal Wildlife Trade (IWT) Challenge Fund; and the World Bank.

Q&A

Thuy Hoang

Thuy Hoang's early work in the reproductive health field prepared her for the One Health approach that focuses on linkages between human, animal and ecological health. As Country Director for WCS Viet Nam, Thuy's work has expanded to include a focus on tackling the growing problem of illegally traded wildlife originating in Africa and Latin America.

Where did you grow up and go to school?

I grew up in I grew up and went to schools in Ha Noi. I earned two bachelor degrees—one to be a teacher of English and the other in international economic management. I then earned a master's degree in Public and Economics Management. Having a background in education and an understanding of the dynamic perspectives of economics has helped me map out various factors that hinder and/or facilitate any given issue and to apply a holistic problem-solving approach throughout my career.

Where did you work before coming to WCS?

I started my career in public health and women's health with Pathfinder International and Ipas, where we worked with physicians to improve reproductive health services provided to women and couples. With my experience in capacity building and behavior change, I moved to work more with animal health officers and poultry farmers to prevent avian influenza and pandemic threats. I performed this work at Abt Associates and FHI360. I was able to expand my expertise in understanding human health in the context of environmental drives and the wildlife farming business. That was how I was introduced to zoonoses—diseases spread between humans and

“Our goal is a program that demonstrates political commitment and informs Vietnamese citizens about the risks of partaking in wildlife crimes.”



ABOVE
Ms. Hoang Bich Thuy,
Country Director for the
WCS Viet Nam Program.

RIGHT
Under Thuy's leadership
WCS Viet Nam is scaling
up enforcement capacity
and cooperation to combat
wildlife trafficking networks
in Southeast Asia.

wildlife. I became better aware of the public health cost of emerging infectious diseases and the benefits of taking a one health approach that looked broadly at human, animal and ecological health to prevent and control outbreaks in human and poultry production.

How long have you been at WCS and what is your focus?

I joined the WCS Viet Nam Program in April 2015 as a Program Manager and moved on to become Country Director in August, 2016. In this role, I provide support in building the partnerships with local government agencies and international collaboration to strengthen law enforcement on wildlife trafficking to and through Viet Nam. I have been facilitating the implementation of more than ten grants from different government and private donors. We work closely to build capacity for law enforcement officers—including environmental police, forest protection officers, and prosecutors and judges working on detection, investigation, and prosecution of wildlife crimes.

How did you decide to work for a conservation organization after working in the area of family planning and reproductive health?

I am interested in changes that improve lives. Whatever I have been working on, it has been about the human-centered approach and people's behaviors. I have worked with physicians to provide better client-centered health services,

and I have worked with animal health workers and poultry farmers to prevent avian influenza and pandemic threats. We are now working with law enforcement officers to combat wildlife crimes. I have been able to widen my knowledge and experience from human health, to animal health, to the concept of one health. I am always interested in exploring the core question of behavior change—how does the decision to do or not to do something affect a person?

What are some of your most important projects now?

One of our current major projects includes building and strengthening trans-continental enforcement partnerships and government commitment to effectively address and combat wildlife trafficking in Viet Nam. This includes support from GIZ/Polifund to strengthen enforcement cooperation between Viet Nam and Mozambique, especially between Viet Nam Supreme People's Procuracy and Mozambican General Office of Attorney, Viet Nam Ministry of Public Security and Ministry of Interior. We are also receiving support from the MacArthur Foundation to activate an influencing network to advocate for specific actions and enhancement in the national response to wildlife trafficking in Viet Nam. The goal is to implement an effective wildlife crime prevention outreach program that demonstrates political commitment and informs Vietnamese citizens about the risks of partaking in wildlife crimes in Viet Nam and African countries (e.g., Tanzania, Mozambique, and Kenya).

You mentioned capacity building earlier. How is that going?

We are also scaling up enforcement capacity and cooperation to combat wildlife trafficking networks in Latin America and Southeast Asia. This work includes a two-year project supported

by the Bureau of International Narcotics Control and Law Enforcement to improve the legislative frameworks (including the 2015 Penal Code) to control wildlife trafficking and corruption. We will gather, analyze and share information and actionable intelligence to catalyze effective enforcement actions along major trafficking networks in hotspot provinces in Viet Nam.

What are some of the conservation challenges in Viet Nam?

I would say there are currently three key challenges. First, we are working in an environment where protecting endangered wildlife species is not always a priority of the Government of Viet Nam. Second, we do not have a result-oriented monitoring system of law enforcement actions. Third, we lack a recognized, socially-secure system that supports efforts to reduce wildlife crimes.

What inspires you in your job each day?

I like to start my day brainstorming the question: What could we do differently? Answers to this question help me to motivate my team to think beyond what they have written in proposals and flesh out more practical solutions with our local partners in combating wildlife crimes.

“I like to start my day brainstorming the question: What could we do differently? Answers to this question help my team to flesh out practical solutions.”



“The Blackfeet Tribe Buffalo Program is very thankful to the Wildlife Conservation Society for working closely with us on restoring buffalo to our homelands.”

—ERVIN CARLSON, BLACKFEET TRIBE BUFFALO PROGRAM



Conservation Partners

Since its founding more than a century ago as the New York Zoological Society, WCS has combined the strength of its urban zoological parks with its groundbreaking field conservation efforts to become the most effective global organization working for the protection of wildlife and wild places.

This work, and the long-term commitment to landscapes and seascapes where it occurs, requires both a rigorous grounding in science and enormous dedication from a global staff of 4,000. Importantly, it likewise requires working in partnership with hundreds of organizations, government bodies, and institutions that share our goals and vision for the future of our planet.

We recognize those partners here, with enormous appreciation for the results we are achieving together.

LEFT

Since the 1960s, WCS has been conducting research on wild flamingo populations in places such as the Altiplano region of the South American Andes and, more recently, the Bahama Islands, where WCS researchers conducted the first ever archipelago wide survey for American (or Caribbean) flamingoes (*Phoenicopterus ruber*).

CONSERVATION PARTNERS

Abilene Zoo
 Abantu Foundation
 Abrams Books
 Academy of Agricultural Sciences
 Acadia University
 ACDI/VOCA
 Aceh Barat Daya District Police
 Action for Wildlife Organization
 Adirondack Association of Towns and Villages, and numerous local communities
 Adirondack Center For Loon Conservation
 Adirondack Chapter of the Nature Conservancy
 Adirondack Climate and Energy Action Plan
 Adirondack Common Ground Alliance
 Adirondack Community Trust
 Adirondack Council
 Adirondack Economic Development Corporation
 Adirondack Foundation
 Adirondack Land Trust
 Adirondack Life
 Adirondack Mountain Club
 Adirondack North Country Association
 Adirondack Park Agency
 Adirondack Park Invasive Plant Program
 Adirondack Regional Tourism Council
 Adirondack Youth Climate Summit
 Adirondack to Algonquin Conservation Association
 Adirondack Wild
 Adirondack 46ers
 ADK Action
 Administração Nacional das Áreas de Conservação (ANAC)
 Administración de Parques Nacionales (Argentina)
 Administración Nacional de Laboratorios e Institutos de Salud (ANLIS)
 Administración Técnica Forestal y de Fauna Silvestre
 Administration Bureau of Anhui, Chinese Alligator National Nature Reserve
 Administration Bureau of Hunchun, Amur Tiger National Nature Reserve
 Administration Bureau of Zhejiang Changxing Chinese Alligator National Nature Reserve
 Adobe Systems, Inc.
 Advanced Conservation Strategies
 Afghanistan Conservation Corps (ACC)
 Afghanistan Ministry of Agriculture, Irrigation and Livestock (MAIL)
 Afghanistan Ministry of Economy
 Afghanistan Ministry of Education
 Afghanistan Ministry of Information and Culture
 Afghanistan Ministry of Justice
 Afghanistan Ministry of Transport
 Afghanistan Wildlife Executive Committee
 Africa Biodiversity Collaborative Group (ABCG)
 Africa Nature Organisation (ANO)
 African Alliance for Development Action (AADA)
 African Conservation Fund
 African Development Bank (ADB)
 African Elephant Fund (UNEP)
 African Parks Network
 African Union—Interafrican Bureau for Animal Resources (AU-IBAR)
 African Wildlife Foundation
 African Zoological Park
 AfriCapacity
 AG Urupasma Magallanes
 Aga Khan Development Network
 Aga Khan Rural Support Programme (AKRSP)
 Agence Congolaise de la Faune et des Aires Protégées (ACFAP)
 Agence Française de Développement (AFD)
 Agence National des Parcs Nationaux (ANPN)
 Agence Nationale des Parcs Nationaux - Gabon (Solange Ngouesso)
 Agence pour la Recherche et la Valorisation Marines (ARVAM)
 Agencia de Regulación y Control de la Bioseguridad y Cuarentena para Galápagos, Ecuador
 Agencia Felicidad
 Agencia Suiza para el Desarrollo y la Cooperación - COSUDE
 Agency Coordinating Body for Afghan Relief
 Agriculture Department, Gilgit-Baltistan
 Agriculture Technology Services Association
 Agroecología Universitaria Cochabamba (AGRUCO)
 Agrupación de Productores de Algas y Frutos del Mar de Navidad
 Agroecológicos Tumupasa
 Agropecuarias—INIA
 Ailan Awareness
 Ailan Foundation
 Air Shepherd
 Asia Society
 AKA Associates
 Akron Zoo
 Alan and Pat Koval Foundation
 Alaska Beluga Whale Committee
 Alaska Department of Environmental Conservation, State of Alaska
 Alaska Department of Fish and Game
 Alaska Eskimo Whaling Commission
 Alaska Fisheries Science Center, National Oceanic and Atmospheric Administration
 Alaska Geographic Arctic Youth Ambassadors Program
 Alaska Marine Exchange
 Alaska Nanuq Commission
 Alaska Network Inventory and Monitoring Program, NPS
 Alaska Teen Media Institute
 Alaska Wilderness League
 Albatross Task Force/BirdLife
 Albert Einstein College of Medicine of Yeshiva University
 Alberta Community Bat Program
 Alberta Conservation Association
 Alberta Ecotrust foundation
 Alberta Speleological Society
 Alberta Wilderness Association
 Albertine Rift Conservation Society
 Albuquerque Bio Park
 Alexandria Zoological Park
 Alcaldía de Laguna de Perlas
 Alcaldía de San Juan de Nicaragua
 ALCES™ Land Use Group
 Aleutian and Bering Sea Islands Landscape Conservation Cooperative
 Algalab Universidad de Concepción
 Alianza Gato Andino
 Alianza para la Conservación del Jaguarate
 Alianza Valor Minero
 Along the Yangtze River Wetland Nature Reserve in Anqing city
 All Russia Research Institute of Wildlife Management, Hunting, and Farming
 All Russian Research Institute for Nature Protection
 Paul G. Allen's Vulcan Inc.
 Alliance for Coney Island
 Alliance of Marine Mammals Parks and Aquariums
 Alliance for Reproduction and Conservation
 Amazon Conservation Association (ACA)
 American Association of Zoo Veterinarians
 American Association of Zookeepers
 Bronx Zoo Chapter
 Brookfield Zoo Chapter
 Columbus Chapter
 Dallas Chapter
 Detroit Chapter
 Honolulu Chapter
 Midnight Sun Chapter
 Milwaukee Chapter
 South Florida Chapter
 Tucson Chapter
 Tulsa Chapter
 American Bird Conservancy
 American Chamber of Commerce (AMCHAM)
 American Farmland Trust
 American Fisheries Society
 American International University
 American Legion—Post 213
 American Museum of Natural History (AMNH)
 American Prairie Reserve



ABOVE WCS has been working to make the sale of elephant ivory ornaments a thing of the past through the efforts of the 96 Elephants campaign, which has been focused on securing bans on domestic sales of ivory, increasing protection for elephants, and educating the public about the connection between the elephant poaching crisis and ivory consumption.

American Veterinary Medical Association
 American Wildlands
 American Zoo and Aquarium Association
 Amicale des Ressortissants de Dibwa (AREDI)
 AMSA
 Amur Leopard and Tiger Alliance (ALTA)
 Amur-Ussuri Center for Avian Biodiversity
 Anchor Club—NYPD
 Anderson & Platt
 Andes Fueguina
 Andes Iron
 Andhra Pradesh State Forest Department, Government of Andhra Pradesh
 Andra Coral Project
 Anemone Arts
 Angkor Centre for Biodiversity Conservation
 Anhui Breeding Center for Chinese Alligator Reproduction (ARCCAR)
 Anhui Normal University
 Animal and Plant Health Inspection Service (APHIS)
 American Veterinary Medical Association
 Animal and Plant Health Inspection Service of Environment-Argentina
 Animal Behavioral Insights
 Animal Friend Jog Jakarta (AFJ)
 Animal Medical Center
 Animal Concerns Research and Education Society
 Animal Sanctuary Trust Indonesia (ASTI)
 Animal Specialty Center
 Anti-Smuggling Unit of the Vietnam Customs Department (Ministry of Finance)
 Animal Welfare Institute
 Anti Smuggling & Investigation
 AP Leventis Conservation Foundation
 Anyuak Recovery Trust (ART)
 APD Proyectos
 AP Instituto Nacional de Desarrollo Forestal y Gestión del Sistema de Áreas Protegidas, Ministerio de Agricultura y Bosques(INDEFOR)
 A.P. Leventis Ornithological Research Institute, University of Jos
 Appalachian Corridor
 Appalachian State University
 American Veterinary Medical Association
 Animal and Plant Health Inspection Service of Environment-Argentina
 Animal Behavioral Insights
 Animal Friend Jog Jakarta (AFJ)
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 AP Instituto Nacional de Desarrollo Forestal y Gestión del Sistema de Áreas Protegidas, Ministerio de Agricultura y Bosques(INDEFOR)
 A.P. Leventis Ornithological Research Institute, University of Jos
 Appalachian Corridor
 Appalachian State University
 Appropriate Technology Projects (ATprojects) Papua New Guinea
 Apenheul Primate Conservation Trust
 Apolobamba National Natural Area of Integrated Management
 Aquarium of Niagara
 Aquatic Wildlife Conservation, Office of Ministry of Agriculture of the PRC
 ARC—Onderstepoort Veterinary Institute
 ARC Centre of Excellence for Coral Reef Studies, James Cook University
 ARC Centre of Excellence for Environmental Decisions, University of Queensland
 Archie Carr Center for Sea Turtle Research (ACCSTR), University of Florida
 Arctic Council
 Arctic Institute of North America
 Área de Conservación Regional Comunal Tamshiyacu Tahuayo
 Áreas Naturales Protegidas del Neuquén
 Arizona Game and Fish Department
 Arizona Zoological Society/Phoenix Zoo

CONSERVATION PARTNERS



ABOVE WCS's REDD+ program in Madagascar's Makira forest now benefits local communities through investments in education, agriculture, sanitation, and improved rights relating to forest reserves, all while greatly reducing greenhouse gases caused by deforestation.

Arpels Family Foundation
 Arthur W. Cunningham Intermediate School
 Artron Art
 Asian Development Bank
 Asian Turtle Program
 ASL & English High School
 Asociación Accidental Comunitaria Paiche Takana II
 Asociación Balam
 Asociación Boliviana de Agentes de Conservación (ABOLAC)
 Asociación Boliviana Para el Desarrollo Rural
 Asociación CALIDRIS
 Asociación Civil Armonía
 Asociación Colombiana de Parques Zoológicos y Acuarios (ACOPAZOA)
 Asociación de Canopy de Villa Alcira
 Asociación de Comunidades Forestales de Petén
 Asociación de Comunidades Indígenas de Arajuno
 Asociación de Mujeres Waorani del Ecuador
 Asociación de Productores Agroecológicos Tumupasa

Asociación de Productores de Cacao Nativo Ecológico del Municipio de Mapiri
 Asociación de Productores de Cacao Nativo Ecológico del Pueblo Leco de Larecaja
 Asociación de Productores de Café Ecológico Regional Larecaja
 Asociación Faunagua
 Asociación Forestal Integral
 Asociación Forestal Integral San Andrés Petén
 Asociación para la Conservación de la Cuenca Amazonica (ACCA)
 Asociación para la Investigación y el Desarrollo Integral (AIDER)
 Asociación Red Colombiana de Reservas Naturales de la Sociedad Civil (RESNATUR)
 Aspinall Foundation
 Assam State Forest Department, Government of Assam
 Assiniboine Park Conservancy
 Associação de Proprietários de Reservas Particulares do Patrimônio Natural de Mato Grosso do Sul
 Association Beauval Nature

Association Belko'o de Deng (ABDD)
 Association Megaptera Protectors of Bosawás (ACAPROBO), Nicaragua
 Association of Fish and Wildlife Agencies (AFWA)
 Association of Protected Areas Management Organizations
 Association of Traditional Marine Mammal Hunters, Chukotka (CHAZTO)
 Association of Zoos & Aquariums (AZA)
 Association Ondighi de Kessala
 Association pour la Conservation de la Nature au Rwanda (ACNR)
 Association pour la Promotion de l'Élevage en Savane et au Sahel (APESS)
 Association pour la protection des mammifères marins autour de Madagascar (CETAMADA)
 Association Rwandaise des Ecologistes (ARECO)
 Astella Development Corporation
 Atikus
 Audubon
 Audubon Alaska
 Audubon New York

Aula Verde
 Aurora Research Institute
 Australian Agency for International Development (AUSAID)
 Australian Department of Foreign Affairs and Trade
 Australian Government Department of Foreign Affairs and Trade
 Australian High Commission Direct Aid Programme (DAP)
 Australian Marine Mammal Centre
 Australian Marine Mammal Commission
 Autoridad de Fiscalización y Control Social de Bosques y Tierra
 Aventures Sans Frontières
 Aves Argentinas
 AvF Consulting
 Avianca
 AZA Tiger Species Survival Plan's Tiger Conservation Campaign
 AZUL
 Badan Pengelola Pesisir dan Laut Terpadu (BPPLT SULUT)
 Bahamas National Trust
 Balai Kawasan Konservasi Perairan Nasional, Kupang
 Balai Taman Nasional Karimunjawa
 Band-e-Amir Community Association (BACA)
 Band-e-Amir Community Council
 Band-e-Amir Protected Area Committee
 Bangladesh Ministry of Environment and Forests
 Banque Africaine de Développement
 Bappeda Kabupaten Lombok Utara, Nusa Tenggara
 Barat Bappeda Kota Sabang, Aceh
 Barnard College, Columbia University, New York
 Bat Conservation International
 Bauchi State Government
 Bay Islands Conservation Association
 Bay of Bengal Large Marine Ecosystem (BOBLME)
 Bayer Indonesia

BC Habitat Conservation Trust Fund
 BC Hydro and Power Authority
 BC Ministry of Agriculture, Animal Health Lab
 BC Ministry of Environment
 BC Ministry of Forest Lands and Natural Resource Operations
 BC Speleological Federation
 Beardsley Zoo/Connecticut Zoological Society
 Bear Trust International
 Beast Relief
 Beaufort Sea Partnership
 Beaverhead County Planner
 Belfast Zoo
 Belize Audubon Society
 Belize Coast Guard
 Belize Fisheries Department
 Belize Fishermen Cooperative Association
 Belize Fisherman Federation
 Belize Tourism Board
 Belize Zoo
 Belizean Agriculture Department
 Belmont Business Improvement District
 Beneath the Sea
 Bengkulu Provincial Police
 Bergen County Zoological Park
 Berggorilla and Regenwald Direkthilfe
 Bering Landbridge National Preserve
 Bethany College
 Biblioteca de Puerto Natales
 Big Sky Community Corporation
 Big Sky Natural Resource Council
 Big Sky Owners Association
 Big Sky Resort
 Big Sky Town Center
 Big Sky Watershed Corps
 Big Hole Watershed Committee
 BilliBilli Productions
 Binder Park Zoo
 Biodiversity and Nature Conservation Association
 Biodiversity Conservation Agency (Ministry of Natural Resources and Environment)
 Biodiversity Research Institute
 Biomeme, Inc.
 Biomimicry 3.8 Institute
 Biota
 BirdLife International

Birmingham Zoo
 Bird Studies Canada
 Black Kettle Farm
 Blackfoot Nation
 Blackfoot Challenge
 Blank Park Zoo
 Blood Tribe
 Blue Ocean Institute
 Blue Pearl Veterinary Specialists
 Blue Ventures
 Bluefields Indian & Caribbean University (BICU)
 Bodhi Tree Foundation
 Bogani Nani Wartabone National Park Authority
 Bolivian Bat Conservation Program (PCMB-BIOTA)
 Bolshe-Khekhtsirski State Zapovednik
 Bonobo Conservation Initiative
 Boonshoft Museum of Discovery
 Border Police of Badakhshan, Ministry of Interior
 Boreal Leadership Council
 Boreal Partners In Flight
 Boreal Songbird Institute
 Born Free USA
 Bosma Enterprises
 Botchinski State Zapovednik
 Botswana, Department of Wildlife and National Parks
 Boulder County Parks & Open Space
 Boy Scouts of America Greater NY Council
 Brainerd Foundation
 Bramble Park Zoo
 Brandywine Zoo
 Brazil's TAMAR Sea Turtle Project
 Brec's Baton Rouge Zoo
 Breeze Radio
 Brevard Zoo
 Bring2Mind
 British Broadcasting Corporation (BBC)
 British Columbia (Province of) Environment
 British Columbia Ministry of Forest Lands and Natural Resource Operations
 British Columbia Speleological Federation
 Resources Operations
 British Petroleum International

British Trust for Ornithology
 Bronx County Historical Society
 Bronx Institute
 Bronx Museum of the Arts
 Bronx River Alliance
 Bronx Science Consortium
 Brookhaven National Laboratory
 Brooklyn Academy of Music
 Brooklyn Aquarium Society
 Brooklyn Botanic Garden
 Brooklyn Children's Museum
 Brooklyn College
 Brooklyn Cyclones
 Brooklyn International High School
 Brooklyn Museum
 Brooklyn Public Library
 Brooklyn Science and Engineering Academy
 Brooklyn V.A. Community Club House
 Brown University
 Bua Provincial Office
 Budongo Conservation Field Station
 Buffalo Wool Company
 Buffalo Zoo
 Bukit Barisan Selatan National Park Authority
 Bunaken Marine National Park Authority
 Burung Indonesia
 Bureau of Indian Affairs
 Bureau of Land Management
 Busch Gardens
 Butler Conservation Fund
 Buttonwood Park Zoo
 Cabildo Verde Sabana de Torres
 Cabrillo Marine Aquarium
 Cakaudrove Provincial Office
 Cala Consultores
 Caldwell Zoo
 California Academy of Sciences, Bibikely Biodiversity Institute
 California Department of Fish and Wildlife
 Calvin College
 Cambodia Fisheries Administration
 Cambodia Rural Development Team
 Cambridge University —Protected areas CCI initiative
 Cameron Park Zoo
 Campo Lourdes Lodging
 Canadian Boreal Initiative

CONSERVATION PARTNERS

Canadian Cave Conservancy	Central de Pueblos Indígenas del Norte de La Paz	Centre of Excellence in Epidemiological Modelling and Analysis (SACEMA)	Changsha Zoo, Changsha, China
Canadian Environmental Law Association	Central Florida Zoo & Botanical Gardens	Centro Aclimatación Zoológica (CAZ)	Charles Darwin Foundation, Galápagos, Ecuador
Canadian Parks and Wilderness Society	Central for Locally Managed Marine Areas	Centro Austral de Investigaciones Científicas (CADIC)	Charles Paddock Zoo
Canadian Wildlife Federation	Central Indígena del Pueblo Leco de Apolo	Centro Bahía Lomas Universidad Santo Tomás	Chattanooga Zoo
Canadian Wildlife Service	Central Park East II	Centro Ballena Azul, Chile	Cheetah Conservation Fund (CCF)
Canopy	Central Veterinary Diagnostic and Research Laboratory	Centro Chaqueño para la Conservación e Investigación	Chester Zoo, UK
Canyon Creek Foundation	Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD)	Centro COPAS Sur-Austral de la Universidad de Concepción	Cheyenne Mountain Zoo
Cape Krusenstern National Monument	Centre de Recherche en Sciences Naturelles (CRSN)	Centro de Acción Legal Ambiental y Social de Guatemala	Chicago Field Museum
Cape May County Zoo	Centre de Transfer de Technologies (CTTB)	Centro de Aclimatación Zoológica	Chicago Zoological Society
Capital Airport Holding Company	Centre Estadual de Unidades de Conservação	Centro de Conservación Marina de la Pontificia Universidad Católica de Chile	Chile Verde
Carbano Florestal	Centre for Applied Social Sciences (CASS), Faculty of Social Sciences, University of Zimbabwe	Centro de Ecología Aplicada de Neuquén (CEAN)	Chimpanzee Sanctuary and Wildlife Conservation Trust (CSWCT), Uganda
Carcross Tagish First Nation	Centre for Development Orientated Research into Agricultural Systems	Centro de Estudios Avanzados en Zonas Áridas (CEAZA)	China Environmental Protection Foundation
Care Ecuador	Centre for Ecology and Conservation, University of Exeter	Centro de Estudios de Conservación	China Green Carbon Foundation
CARE International	Centre for Social and Creative Media University of Goroka	Centro de Estudios Conservacionistas (CECON), Guatemala	China Wildlife Conservation Association
Caritas	Centre for Spatial Environmental Research, University of Queensland	Centro de Estudios del Cuaternario (CEQUA)	China Zoo Association
Carnegie Hall	Centre for Wildlife Studies, Bengaluru	Centro de Estudios del Hombre Austral	Chinese American Arts Council
Cary Institute of Ecosystem Studies	Centre International de Recherches Medicales de Franceville (CIRMF)	Centro de Investigación e Innovación para el Cambio Climático (CIICC), Universidad Santo Tomás	Chisholm-Thomson Family Foundation
C-Change	Centre National de la Recherche Scientifique et Technologique (CENAREST)	Centro de Estudios de Ecosistemas Costeros	Chittagong University
Casella Resource Solution	Centre National de Recherche Oceanographiques (CNRO)	Centro de Investigaciones Marinas—Universidad de la Havana	Christine Stevens Wildlife Award
Cayman Islands Department of the Environment	Centre National des Données et Informations Océanographiques (CNDIO)	Centro Nacional Patagónico (CENPAT) CONICET	Chuilexi Conservancy (block L5N, L6, R6 NNR)
Cementos Argos	Centre National des Inventaires d'Aménagement Forestière (CNI AF)	Centro para el Desarrollo de la Investigación Científica (CEDIC)	Chukot—TINRO
Center for Collaborative Conservation	Centre National d'Inventaire et d'Aménagement des Ressources Forestières et Fauniques	Centro Oriental de Ecosistemas y Biodiversidad	Chunox Fishermen Association
Center for Elephant Conservation		Ceresub/Programa Explora Universidad de Los Lagos	Cibola Farms (VA)
Center for International Earth Science Information Network (CIESIN)		Champlain Area Trails	Cincinnati Zoo
Center for International Forestry (CIFOR)			CISCO
Center for Large Landscape Conservation			Citecamp de la Universidad de Santiago de Chile
Center for Natural Resources and Environmental Studies			CITES Elephant Trade Information System (ETIS)
Centre for Social and Creative Media, University of Goroka			CITES/Monitoring the Illegal Killing of Elephants (MIKE) Program
Center for the Understanding of Nature (CEN), Nicaragua			Citizens Campaign for the Environment
Central Adirondack Partnership for the 21st Century			City Atlas
Central Africa Regional Program for Environment			City of Fort Collins
Central African Forests Commission (COMIFAC)			City of New York, Department of City Planning
Central African World Heritage Forest Initiative			City of New York, Department of Parks and Recreation, Natural Resources Group
Central Amusements International			City University of New York (CUNY)
Central Cooperativa del Valle Sandia (CECOVASA)			City University of New York (CUNY), Institute for Sustainable Cities



ABOVE A new training program developed by WCS, World Wildlife Fund, Conservation International, and Universitas Papua has helped empower dive guides and other local stakeholders with the expertise to monitor coral reefs in Indonesia's Raja Ampat and other locations within the biodiverse Coral Triangle.

Clark Fork Coalition	Columbia University, Center for Infection and Immunity	Competing Claims on Natural Resources Program
Clark Labs	Columbia University, New York	Comunidad Andina de Naciones —Programa BioCAN
Cleveland Metroparks Zoo and the Cleveland Zoological Society	Columbia University, Pediatric Gastroenterology, Hepatology, and Nutrition	Comunidad Marka Copacabana De Antaquilla
Clifton Fine Economic Development Corporation	Columbus Zoo & Aquarium	Coney Island Beach Shop
Climate Change and Development Authority (CCDA)	Comisión Madre Tierra y Medio Ambiente - Asamblea Legislativa Departamental de La Paz	Coney Island Brighton Beach Open Swimmers (CIBBOWS)
Clinton Global Initiative (CGI)	Comisión Nacional de Áreas Naturales Protegidas (CONANP)	Coney Island History Project
Clinton Health Access Initiative	Comité de Gestion des Ressources Naturelles de Conkouati	Coney Island Polar Bear Club USA
Cloudsplitter Foundation	Comité Français de l'UICN	Coney Island, USA
Clyde Peeling's Reptiland	Committee for Environmental Protection under the Government of the Republic of Tajikistan	Confederated Salish and Kootenai Tribes
Coakley High Peaks ACE	Communal Government of Kakhkabila	Congolaise Industrielle des Bois
Coast Development Authority	Community Empowerment for Progress Organization (CEPO)	Conkouati Douli National Park, Ministry of Water and Forests
Coastal Development Partnership	Colorado Parks and Wildlife Department	Conseil pour la Defense des Droits des Communautés et la Protection de l'Environnement
Coastal Marine Institute	Colorado State University—School of Global Environmental Sustainability	Conseil pour la Défense Environnementale par la Légalité et la Traçabilité (CODELT)
Coastal Zone Management Authority and Institute, Belize		Consejo Asesor Karukinka Indígena del Pueblo Tacana
Colegio Dunalastair		Consejo Chile California
Colegio María Auxiliadora		Consejo de Innovación para el Desarrollo
Colombian Foundation for Studies on Parasites (FUNCEP)		
Colliers Wilderness Reserve		
Colorado Parks and Wildlife Department		
Colorado State University		
Colorado State University—School of Global Environmental Sustainability		

CONSERVATION PARTNERS



ABOVE
Herds of forest elephants (*Loxodonta africana cyclotis*) congregate in a forest clearing known as a “bai” in Dzanga-Sangha National Park in the Central African Republic. WCS conservation scientist Andrea Turkalo has worked at the bai for more than two decades studying the social behavior of these gentle giants.

Consejo Nacional de Áreas Protegidas (CONAP-Guatemala)	Conservation Leadership Programme	Cornell Department of Communications
Consejo Nacional de Ciencia y Tecnología (CONACYT)	Conservation Measures Partnership	Cornell Lab of Ornithology
Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET)	Conservation Outcomes	Cornell Survey Research Institute
Consejo Regional Autónomo del Atlántico Sur	Conservation Planning Institute	Cornell University
Consejo Regional T'simane Moseten	Conservation Strategy Fund	Cornell University College of Veterinary Medicine
Conservation and Environment Protection Authority (CEPA)	Conservation Through Public Health, Uganda	Cornell University Human Dimensions Research Unit
Conservation of Arctic Flora and Fauna	Consorcio de Gobiernos Provinciales del Ecuador	Cornell University Press
Conservation Association of the Mbe Mountains	Convention on International Trade in Endangered Species of Wild Fauna and Flora Secretariat	Cornell University Sustainable Development Institute
Conservation Breeding Specialist Group (SSC/IUCN)	Convention on Migratory Species	Corporación Ambiental la pedregosa
Conservation Development Centre	Cool Culture	Corporación Autónoma Regional de Caldas (COPORCALDAS)
Conservation Farming Union	Coopera	Corporación Autónoma Regional de los Valles del Sinú y del San Jorge (CVS)
Conservation Fund	Cooperación Alemana para el desarrollo	Corporación Autónoma Regional de Tolima (CORTOLIMA)
Conservation Initiative on Human Rights	Coopération Allemande	Corporación Autónoma Regional de Risaralda (CARDER)
Conservation International	Cooperativa Carmelita	Corporación Autónoma Regional del Valle del Cauca
Conservation International - Conservation Stewards Program	Cooperativa Payun Matru	Corporación Ecolex
Conservation Justice (Gabon)	Co-operative Department of Belize	Corporación Nacional Forestal (CONAF)
	Co-Operative Freshwater Ecology Unit	Corporación Oikos
	Cooperazione e Sviluppo (CESVI)	
	CORFO-Innova	
	Cornell Cooperative Extension	

Corporación para el Desarrollo Sostenible del Sur de la Amazonía	Department of Anthropology, Washington University	Department of National Environmental Protection Agency, Badakhshan	Dinas Kelautan dan Perikanan, Kabupaten Aceh Besar
Council of Jewish Émigré Community Organization	Department of Biotechnology, Government of India	Department of National Environmental Protection Agency, Bamyán	Dinas Kelautan dan Perikanan Kabupaten Lombok Utara, Nusa Tenggara Barat
CPAWS—Wildlands League	Department of Civil & Environmental Engineering, Massachusetts Institute of Technology	Department of New Ireland	Dinas Kelautan dan Perikanan Kota Sabang
Craighead Environmental Research Institute	Department of Defense Legacy Program	Department of Pathology & Immunology, Center for Genome Sciences & Systems Biology, Washington University School of Medicine	Dinas Kelautan dan Perikanan Provinsi Aceh
Craighead Institute	Department of Defense Natural Resources Program	Department of Public Health Badakhshan, Ministry of Public Health	Dirección de Fauna Silvestre, Argentina
Crest Megaway Sdn. Bhd.	Department of Education, Badakhshan	Department of Public Health Bamyán, Ministry of Public Health	Dirección de Recursos Naturales Renovables de Mendoza
Criminal Investigation Department, Indonesia National Police	Department of Education, Bamyán	Department of Science & Technology, Government of India	Dirección de Vialidad Magallanes
Creston Valley Wildlife Management Area	Department of Environment and Conservation, PNG	Department of Town and Country Planning (DTCP), Malaysia	Dirección del Parque Nacional Galápagos, Ecuador
Critical Ecosystem Partnership Fund (CEPF)	Department of Environment, Bangladesh	Department of Veterinary and Livestock Development, Zambia	Dirección Forestal y de Fauna Silvestre (DGFFS)
Cronulla Fisheries Research Centre	Department of Environment, Cayman Islands	Department of Veterinary Services, Botswana	Dirección General de Biodiversidad y Áreas Protegidas
Cross Foundation	Department of Environment, Iran	Department of Western Asia & Africa - Ministry of Foreign Affairs	Dirección General de Epidemiología (DGE)
Cross River National Park	Department of Environmental Conservation	Department of Wildlife and National Parks, Botswana	Dirección Regional de Comercio Exterior Turismo y Artesanía (DIRCETURA Loreto)
Cross River State Forestry Commission	Department of Environmental Science, Policy, and Management, University of California, Berkeley	Department of Wildlife And National Parks, Peninsular Malaysia	Dirección Regional de la Producción de Loreto
Crown of the Continent Conservation Initiative	Department of Environmental Sciences, Emory University	Derecho, Ambiente y Recursos Naturales	Dirección Regional de Salud de Loreto (DIRESA)
Crucero Australis	Department of Fisheries, Ministry of Livestock and Fisheries, Myanmar	Detroit Zoo	Direction des Aires Protégées Terrestres, Madagascar
CuriOdyssey at Coyote Point	Department of Forestry, Peninsular Malaysia	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	Direction for Biodiversity Conservation, System of Protected Areas (DCBSAP)
Customs of the People's Republic of China	Department of Forests and Non-Renewable Natural Resources Zanzibar (DFNRNR)	Development Alternatives, Inc.	Direction Générale de la Météorologie, Madagascar
Dakota Territory Buffalo Association	Department of Forestry, Peninsular Malaysia	Development and Environmental Law Center (DELIC)	Direction Générale de la Pêche et de l'Aquaculture
DAK Bar	Department of Geography, Simon Fraser University	Dewan Pengelolaan Taman Nasional Bunaken	Direction Générale des Pêches, Gabon
Dakota Zoo	Department of Manus Province	Dialogo Florestal	Directorate General of Rural Community Empowerment, Ministry of Home Affairs, Indonesia
Dalhousie University	Department of Ministry of Agriculture, Irrigation and Livestock, Badakhshan	Diamer Poverty Alleviation Programme	Directorate of Biodiversity and Conservation, Ministry of Forestry, Indonesia
Dallas Zoo	Department of Ministry of Agriculture, Irrigation and Livestock, Bamyán	Dian Fossey Gorilla Fund International	Directorate of Forest Protection and Nature Conservation (PHKA), Ministry of Forestry
Dangdang.com	Department of Municipality of Wakhan, Badakhshan	Dickerson Park Zoo	Directorate of Investigation and Forest Protection, Ministry of Forestry, Indonesia
Dangriga Fisherman Association	Department of Municipality of Yakawlang, Bamyán	DINAP-Unidade de Epidemiologica Veterinaria	
Daniel Kopulos & Fauna, NYC			
Danish International Development Agency			
Darwin Initiative/DEFRA, UK			
Dartmouth College			
DD&B Worldwide			
Defenders of Wildlife			
Defensores de la Naturaleza			
Delaware State University			
Deno's Wonder Wheel			
Denver Mountain Parks			
Denver Zoo			
Department for International Development (DFID), United Kingdom			
Department of Animal Health (Ministry of Agriculture and Rural Development)			

CONSERVATION PARTNERS

Directorate of Veterinary Services, Namibia
 Directorate-General for Maritime Affairs and Fisheries, Gabon
 Direktorat Konservasi Kawasan dan Jenis Ikan, Ditjen KP3K, Kementerian Kelautan dan Perikanan, Republik Indonesia
 Disabled American Veterans—Fort Hamilton Chapter 28
 Disgrafic
 District Administration, Astor
 District Administration, Diamer
 District Administration, Ghizer
 District Administration, Gilgit
 District Administration, Hunza-Nagar
 Ditjen Perlindungan Hutan dan Konservasi Alam, Kementerian Kehutanan, Republik Indonesia
 Dogwood Alliance
 Dornod Province Environmental Protection Agency
 Dos Puentes Elementary School
 DoSomething.org
 DotNetNuke
 Dublin Zoo
 Ducks Unlimited Canada
 Duke University
 Duke-NUS Graduate Medical School, Singapore
 Dunbarton Equine Specialist
 Dunemere Foundation
 Durham University (Mongolia Darwin and Tibet grants)
 Durrell Institute of Conservation and Ecology (DICE)
 Dynatec Company-Sherritt (BBOP)
 Earth Institute, Columbia University
 Earthjustice
 Earth Rangers
 Earthscape, Landscape Management and Development, Inc.
 Earth Survey Project
 East African Community, Department of Environment and Natural Resources (EAC)
 East African Wildlife Society
 East China Normal University
 Eastern Highlands Provincial Government
 Eastern Highlands Provincial Health Authority
 Eastern Mongolia Protected Areas Administration
 Eastern Mongolian Community Conservation Association (EMCCA)
 Eben Holz
 EcoAdapt
 EcoAgriculture Partners
 Eco-Asia Environmental Institute
 Eco-based Sustainable Natural Resources Development Interest Group
 ECODIT, LLC
 EcoHealth Alliance
 Ecojustice
 Ecole de Terrain en Ecologie Tropicale
 Ecole National des Eaux et Forets
 Ecología y Biodiversidad—CASEB
 Economic Development Board, Singapore
 Economically Progressive Ecosystem Development
 Ecopetrol
 Ecosystem Conservation and Community Development Initiative
 Ecosystèmes Forestiers d'Afrique Centrale (ECOFAC), EU
 EcoTrust
 Ecuadorian Ministry of the Environment
 Eden Conservation Trust
 Edmonton Valley Zoo
 Effie Kokrine Early College
 Charter School
 Eijkman Institute for Molecular Biology
 Eijkman Institute, Jakarta, Indonesia
 Einstein University School of Medicine
 El Museo del Barrio
 El Paso Zoological Society
 El Perfu-Waká Archeological Project
 Elephant Care International
 Elephant Conservation Network
 Elephant Daze
 Elephant Listening Project
 Elephant Livelihood Initiative Environment
 Elephant Room, Inc.
 Ellen Trout Zoo
 Embajada de EEUU (U.S. Embassy, Chile)
 Embajada Real de Dinamarca
 Embiara - Pantanal Lodge
 Emerging Wildlife Conservation Leaders
 Empire State Development
 Market NY Program/I Love NY
 Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA)
 Empresa de Ecoturismo de San Miguel del Bala
 Empresa de Servicios Públicos Domiciliarios EPM
 Empresa Nacional del Petróleo (ENAP)
 Energy Smart Park Initiative
 Endangered Wildlife Trust
 Ennis Montana School District
 Enough Project
 Enterprise Works/VITAE
 Entreprise HOLCIM
 Environment and Climate Change Canada
 Environment and Rural Development Foundation (ERuDeF)
 Environment Canada
 Environment Society of Oman: Whale and Dolphin Research Group
 Environment Watch Afghanistan
 Environmental Action (Detroit)
 Environmental Advocates of New York
 Environmental Conservation Trust (ECOTRUST)
 Environmental Crime Division, National Police, Mongolia
 Environmental Defense Fund
 Environmental Investigation Agency
 Environmental Justice Forum of Peten
 Environmental Systems Research Institute
 EnviroVet
 Erasmus Medical Center, Rotterdam
 Erie Zoological Society
 Esco Kivu
 Escuela Agricola Panamericana Zamorano
 Escuela Baudilia Avendaño
 Escuela Bernardo O'Higgins
 Escuela de Cerro Sombrero
 Escuela Ignacio Carrera Pinto
 Escuela Patagonia
 Escuela Santiago Bueras
 Escuela Villa Las Nieves
 ESET
 Eskimo Walrus Commission
 Esri
 Estación Científica Yasuní
 Pontificia Universidad Católica del Ecuador
 Estación Costera de Investigaciones Marinas
 Estación de Biodiversidad Tiputini - Universidad San Francisco de Quito
 Estância Ambiental Quinta do Sol
 Etablissement d'Enseignement Supérieur des Sciences Agronomiques, Université d'Antananarivo
 European Association of Zoos and Aquaria (EAZA)
 European Commission
 European Union Delegation Kabul
 Ex-Comisión Nacional del Medio Ambiente
 Exelis
 Explora—CONICYT
 Ex-Prisoners of War—Key Chapter Faculty of Veterinary Science, University of Pretoria
 ExxonMobil PNG Limited
 Eye and Retina Consultants
 Eyebeam Art and Technology Center
 Facultad de Ciencias Exactas y Naturales - Universidad Nacional de Asunción (FACEN-UNA)
 Facultad Latinoamericana de Ciencias Sociales
 Faculty of Forestry, Kasetsart University
 Faculty of Veterinary Science, University of Pretoria
 FANAMBY
 Fama Comunicación
 Fauna and Flora International (FFI)
 Fazenda 23 de Marco
 Fazenda Barranco Alto
 Fazenda Ecológica
 Fazenda Querencia
 Federación Comunas Kichwas del Río Napo



ABOVE
 In addition to studying the wildlife of Madidi National Park and other natural wonders in Bolivia, WCS also provides training in livestock health services to indigenous community para-veterinarians to minimize pathogenic threats to people and animals alike.

Federación Interprovincial de Comunas y Comunidades Kichwas de la Amazonía Ecuatoriana
 Federación Nacional de Cafeteros
 Federal Departments and Ministries in Malaysia
 Federal Highway Administration
 Federal Transit Administration
 Fédération des Associations du Parc National de la Lopé (FAPNL)
 FEGS Health and Human Services System
 Festival International De Cine de la Antártica sobre Ambiente y Sustentabilidad (FICAMS)
 FHI 360
 Fiji Community Development Programme
 Fiji Department of Environment
 Fiji Environmental Law Association
 Fiji Locally Managed Marine Area Network
 Fiji National Protected Areas Committee
 Fish and Wildlife Compensation Program
 FISHBIO
 Fisheries and Oceans Canada (DFO)
 Fisheries Administration, Ministry of Agriculture, Forestry and Fisheries, Cambodia
 Fisheries Department, Gilgit-Baltistan
 Fisheries Joint Management Council (ISR)
 Fitz Roy Expeditions
 Flint Hills Discovery Center (KS)
 Flora y Fauna
 Flora y Fauna, Cuba
 Florida International University
 Flushing Town Hall
 Fondation BGFI Bank
 Fondation pour les Aires Protégées et Biodiversité de Madagascar
 Fondation Prince Albert II de Monaco
 Fondo de las Americas (FONDAM)
 Fondo Ecuatoriano Populorum Progreso
 Fondo para la Acción Ambiental y la Niñez
 Fonds Française pour l'Environnement Mondial (FFEM), Congo
 Food and Agriculture Organization (FAO)
 Food and Rural Development (FORUDEV)
 Fordham University
 Forcepoint-Websense®
 Web Filter & Security
 Forest Department, Belize
 Forest Department Sarawak
 Forest Trends
 Forest Protection Department (FPD)
 Forest, Wildlife and Environment Department, Gilgit-Baltistan
 Forest Department, Wildlife Circle Forest Resources and People (FOREP)
 Forestry Administration of Anhui Province
 Forestry Administration of Anqing City
 Forestry Administration of Guangdong Province
 Forestry Administration of Guangxi Province
 Forestry Administration of Heilongjiang Province
 Forestry Administration of Jilin
 Forestry Administration of Qinghai Province

CONSERVATION PARTNERS



Forestry Administration of Tibet Autonomous Region
 Forestry Administration of Zhejiang Province
 Forestry Administration, Ministry of Agriculture, Forestry and Fisheries, Cambodia
 Forestry Directorate, Vietnam
 Forever Costa Rica
 Forina (Indonesian Orangutan Forum)
 Fort Peck Tribe
 Fort Wayne's Children Zoo
 Fort Wayne Zoological Society
 Foundation for Environment and Development in Cameroon
 Foundation for the Americas
 Foundation to Save Wildlife
 Foundation Tri-National de la Sanga (FTNS)
 Foundations of Success (FOS)
 FPT Corporation
 Frankfurt Zoological Society (FZS)
 Franklin Park Zoo
 Free the Bears Fund, Inc.
 Freedom to Roam
 Fresno Chaffee Zoo
 Friends for Conservation and Development, Belize

Friends for Conservation and Development, Guatemala
 Friends of Masoala
 Friends of Nature and Environment (WATALA)
 Friends of the Earth
 Friends of the National Zoo
 Friends of Wildlife Myanmar
 Fundação Vitória Amazônica
 Fundació Añihué
 Fundación Altrópico
 Fundación Ambiente y Recursos Naturales
 Fundación Aquamarinandacion Biodiversidad (Argentina)
 Fundación Biodiversa Colombia
 Fundación Cambio Democrático
 Fundación Charles Darwin
 Fundación CEQUA—Chile
 Fundación Chile
 Fundación Ciencia Joven
 Fundación Cipav
 Fundación Defensores de la Naturaleza, Guatemala
 Fundación Ecosistemas de Chaco Oriental—ECO (Argentina)
 Fundación Ecológica
 Fundación FEDENA
 Fundación FUNGI
 Fundación Grupo Argos
 Fundación Humedales

Fundación La Salle de Ciencias Naturales
 Fundación La Salle de Ciencias Naturales, Venezuela
 Fundación Las Mellizas
 Fundación Loro Parque
 Fundación Mario Santo Domingo
 Fundación MERI
 Fundación Moisés Bertoni
 Fundación Mustakis
 Fundación Natura
 Fundación Omacha
 Fundación OMORA
 Fundación Orinoquia Biodiversa
 Fundación Orquídea
 Fundación Palmarito Casanare
 Fundación para el Desarrollo del Sistema Nacional de Áreas Protegidas (FUNDESNAP)
 Fundación para el Desarrollo Sustentable del Chaco
 Fundación para el Ecodesarrollo y Conservación (FUNDAECO), Guatemala
 Fundación para el Patrimonio Cultural y Natural Maya
 Fundación para la Autonomía y el Desarrollo de la Costa Atlántica de Nicaragua

ABOVE
 Following the devastating effects of Cyclone Winston, WCS is working with local communities to develop a recovery plan based on the criteria of a community's ability to restore its livelihoods and sustainable fishing activities.

Fundación para la Conservación de los Recursos Naturales y Ambiente en Guatemala
 Fundación para la Defensa del Interés Público
 Fundación Patagonia Natural (FPN)
 Fundación Patagonia Sur-Centro
 Fundación Patrimonio Cultural y Natural Maya (PACUNAM)
 Fundación Peruana para la Conservación de la Naturaleza
 Fundación ProPetén
 Fundación Proyecto Primates
 Fundación San Ignacio de Huinay
 Fundación Senda Darwin
 Fundación Simón I. Patiño, Centro de Ecología y Difusión
 Fundación Smurfit Cartón de Colombia
 Fundación Suiza en Puerto Yartou
 Fundación Vida Silvestre Argentina
 Fundación Teko Kavi
 Fundación Terram
 Fundación Vida Silvestre Argentina (FVSA)
 Fundación yuchán
 Fundación Zoológica de Cali
 Fundamazonia
 Fundo Brasileiro para a Biodiversidade—FUNBIO
 Future West
 Gabon Bleu
 GalvMed
 Gargiulos
 GEA de la Universidad de Magallanes
 Georgia Aquarium
 Gigi Lend Me a Hand Band
 Gilgit-Baltistan Environmental Protection Agency
 Gili Ecotrust
 Gilman International Conservation
 GiproRybFlot
 Girl Scout Council of Greater New York
 Glacier Two Medicine Alliance
 Gladron Chemicals Sdn. Bhd.
 Global Environmental Facility (GEF)
 Global Kids, Inc
 Global Ocean Biodiversity Initiative (GOBI)
 Global Tiger Forum, New Delhi

Global Viral
 Global Vision International (GVI)
 Global Wallace
 Goa State Forest Department, Government of Goa
 Gobernación de Alto Paraguay
 Gobernación de Tierra del Fuego
 Gobierno Comunal Kriol
 Gobierno Municipal de Izxiamas
 Gobierno Municipal de Santa Rosa del Yacuma
 Gobierno Municipal Francisco de Orellana
 Gobierno Provincial de Orellana
 Gobierno Provincial de Pastaza
 Gobierno Regional de Cuzco
 Gobierno Regional de Loreto
 Gobierno Regional de Madre de Dios
 Gobierno Regional de Puno
 Gobierno Territorial Indígena Kipla Sait Tasbaika, Region Especial Alto Wanky y Bocay (KST)
 Gobierno Territorial Indígena Mayangna Sauni Bu. Region Especial Wanky Wihtay Bukawas (MSB)
 Gobierno Territorial Indígena Miskitu Indian Tasbaika Kum (MITK)
 Gobierno Territorial Rama Creole (GTRK)
 Gobierno Territorial Rama y Kriol
 Gobierno Territorial Region Especial Wanky Wihta y Bukawas
 Golder Associates
 Golfing for Elephants
 Good Shepherd Services
 Google
 Gorilla Organization
 Goulougo Triangle Ape Project (GTAP)
 Government of Alberta
 Government of Gilgit-Baltistan, Pakistan
 Governo da Província de Cabo Delgado
 Governo da Província de Niassa
 Grace Dodge Career & Technical High School
 Gravel Bar
 Great Ape Survival Programme (GRASP)

Great Apes Film Initiative
 Great Elephant Census
 Great Northern Landscape Conservation Cooperative
 Great Plains Zoo and Delbridge Museum
 Greater Los Angeles Zoo Association
 Greater Virunga Transboundary Collaboration
 Greater Yellowstone Association
 Greater Yellowstone Coalition
 Greater Yellowstone Coordinating Committee
 Green Action Environmental Association of Guangdong, University of Technology
 Green Beagle Environment Institute
 Green Reef
 Greenpeace
 Green River Valley Land Trust
 Greensboro Science Center
 GreenViet
 GRET—Professionnels du développement solidaire
 Greenville Zoo
 Grimsö Wildlife Research Station
 Grupo Argos S.A.
 Grupo de Especialistas en Camélidos Sudamericanos
 Grupo de Estudios Ambientales (GEA)
 Grupo Randi Randi
 Guangdong Forest Public Security Bureau
 Guangdong Forestry Police Department
 Guangdong Sub-Administration of China Customs
 Guangzhou Bureau of Parks and Forestry
 Guangzhou Office of Endangered Species Import and Export Management Office
 Guangzhou Office of the State Endangered Species Import and Export Management Office
 Guangxi Forestry Police Department
 Gunung Gede Pangrango National Park Authority
 Gunung Halimun Salak National Park Authority
 Gunung Leuser National Park Authority

Haas School of Business
 Habitat Conservation Trust Foundation
 Habitat Ecologique et Liberté des Primates (HELP), Congo
 Hammer Endurance Fuels
 Hammond Property Management
 Hansdieter and Thildy Kretschmer Foundation
 Hanoi University of Agriculture
 Happy Hollow Zoo
 Hard Rock Café
 HarimauKita—The Sumatran Tiger Conservation Forum
 Harvard Medical School
 Harvard School of Public Health
 Harvard University Center for the Environment
 Health Map
 Healthy Reefs Initiative
 Heart of Brooklyn
 Heart of the Rockies Initiative
 Heilongjiang Forest Industry Bureau
 Henry Phillip Kraft Family Memorial Fund
 Henry Vilas Zoo
 Henry's Fork Legacy Project
 Herbario Nacional De Bolivia
 Herbert S. Eisenberg IS 303
 Hewlett
 Hifadhi ya Mazingira na Utalii Rungwe (HIMARU)
 Highstead
 Hofstra University
 Hong Kong University
 Honolulu Zoo
 Hoopa Valley Tribe
 Hopkins Fisherman Association
 Horizon Media
 Hornbill Research Foundation
 Hotel Plaza Athanee
 Houston Zoo
 Htoo Foundation
 Huai Kha Khaeng Foundation
 Huangpu Customs District
 People's Republic of China
 Human Nature Projects
 Humane Society International
 Humane Society of the United States
 Humboldt State University
 Hunchun Border Army
 Hunchun City Government
 Hunchun Forest Public Security Bureau

CONSERVATION PARTNERS

Hunchun Tianhe Amur Tiger Conservation Association	Institute of Arctic Biology at University of Alaska, Fairbanks	Instituto de Desenvolvimento Sustentável do Amazonas	Instituto Socioambiental, Brazil
Hunchun Wildlife Conservation Association	Institute of Applied Science, University of the South Pacific	Instituto de Desenvolvimento Sustentável Mamirauá	Integral Ecology Research Center
Hunter College	Institute of Biological Problems of the North, Russian Academy of Sciences	Instituto de Ecología, Universidad Mayor de San Andrés	InterAction
Hunting the Rez	Institute of Biological Problems of the North, Far Eastern Branch of the Russian Academy of Sciences	Instituto de Ecología y Biodiversidad (IEB)	Interagency Grizzly Bear Committee I&E Grant Program
IAGRO	Institute of Biology and Soils Academy of Sciences	Instituto de Investigación de Recursos Biológicos - Alexander von Humboldt	Interagency Grizzly Bear Study Team
Hustai National Park Trust	Institute of Biology, Mongolian Academy of Sciences	Instituto de Investigación en Biodiversidad y Medioambiente	Intercooperation - Helvetas
Hyderabad Tiger Conservation Society (HyTiCoS), Hyderabad	Institute of Geography, Far Eastern Branch of the Russian Academy of Sciences	Instituto de Investigaciones Agropecuarias, Chile	International Animal Exchange, Inc
Ibonga	Institute of Marine Biology	Instituto de Investigaciones Geograficas - Universidad Mayor de San Andres	International Animal Rescue (IAR)
Ice Seal Committee	Institute of Marine Resources, University of the South Pacific	Instituto de Investigaciones Técnicas Científicas (IITCUP)	International Centre for Integrated Mountain Development
Idaho Department Fish and Game	Institute of Marine Sciences of the University of California—Santa Cruz	Instituto de Investigación en Ciencia Animal y Ecosalud, Facultad de Medicina	International Centre for Research in Agro-Forestry (ICRAF)
Idaho National Laboratory	Institute of Medical Research	Instituto de Veterinaria y Zootecnia, USAC, Guatemala	International Centre for Tropical Agriculture (Centro Internacional Agricultura Tropical—CIAT)
Idaho Transportation Department	Institute of Museum and Library Sciences (IMLS)	Instituto de la Patagonia	International Conservation and Education Fund (INCEF)
IDEXX Laboratories	Institute of Natural Resources of the University of Natal	Instituto de Investigacion en Ciencia Animal y Ecosalud, Facultad de Medicina Veterinaria y Zooteenia, USAC, Guatemala	International Conservation Caucus Foundation
Iditarod Area School District	Institute of Tropical Forest Conservation, Mbarara University of Science and Technology, Uganda	Instituto de Pesquisas Ecológicas (IPE)	International Forestry Resources and Institutions (IFRI)
IKIAM, Universidad Regional Amazónica	Institute of Zoology, Academy of Sciences	Instituto Fomento Pesquero (IFOP)	International Fund for Animal Welfare (IFAW)
Independent Directorate of Local Governance	Instituto Antártico Chileno (INACH)	Instituto Forestal Nacional (INFONA)	International Gorilla Conservation Programme (IGCP)
Independent University	Investigaciones de las Zonas Áridas	Instituto Interamericano de Cooperación para la Agricultura (IICA)	International High School for Health Sciences
Inacap Punta Arenas	Instituto de Antropología e Historia, Guatemala	Instituto Nacional de Conservación y Desarrollo Forestal, Áreas Protegidas y Vida Silvestre (ICF), Republica de Honduras	International Institute for Sustainable Development
Indian Ocean Commission	Instituto Baleia Jubarte/ Humpback Whale Institute, Brazil	Instituto Nacional de Pesquisas da Amazônia	International Livestock Research Institute
Indian Statistical Institute, Bengaluru	Instituto de Biología Molecular Biotecnología De La Universidad Mayor De San Andrés	Instituto Nacional de Salud, Gobierno Regional de Cuzco	International Marine Mammals Trainers Association
Indianapolis Zoological Society, Inc.	Instituto Chico Mendes da Conservação da Biodiversidade	Instituto Nacional de Salud, Peru	International NGO Safety Office
Indira Gandhi National Forest Academy, Dehradun	Instituto de Antropología e Historia, Guatemala	Instituto Nacional de Tecnología Agropecuaria (INTA)	International Trade Centre
Individual Reform & Restoration Movement, Inc. (IRRM)	Instituto de Conservación de Ballenas (ICB)	Instituto Oikos	International Polar Year (Canadian Federal Government Program)
Indo-Burma Conservation Organization - Asian Turtle Program	Instituto de Derecho y Economía Ambiental	Instituto Piagaçu-Purus	International Rural Poultry Centre (IRPC)/KYEEMA Foundation
Indonesian Institute of Sciences (LIPI)		Instituto Quinta do Sol	International Society for Infectious Disease
Indonesian Veterinary Research Center (Balitvet) Bogor			International Union for Conservation of Nature and Natural Resources (IUCN)
INDUFOR OY			International Whaling Commission (IWC)
Iniciativa para la Conservación de la Amazonia Andina			International YMCA
InsideRSE			
Inspection Tiger			
Institut Congolais pour la Conservation de la Nature (ICCN)			
Institut de recherche pour le développement (IRD), Gabon			
Institut Halieutique et des Sciences Marines (IHSM)			
Institut Pasteur			
Institute for Tropical Forest Conservation			



ABOVE Last December, WCS Canada released “The Caribou Story Map”—a web-based interactive tool that provides users with locations of mining claims and information on the potential effects of mining exploration activities on caribou (*Rangifer tarandus*) habitat in Ontario’s Far North.

International Zoo Veterinary Group	IUCN/SSC Iguana Specialist Group	Jardín Infantil Papelucho
Intertribal Buffalo Council	IUCN/SSC Shark Specialist Group	Jaringan KuALA
Interteam - Cooperante de Suiza Para el Intercambio	IUCN/SSC Tortoise and Freshwater Turtle Specialist Group	Jilin Wildlife Conservation Association
Inuit Circumpolar Council (ICC)	IUCN Transboundary Specialist Group	Joe Johnston Sketchbook
Inuvialuit Joint Secretariat	Ivory for Elephants	John Jay College
Invisible Children	Ixiamas Municipality	John Ball Zoo
Iranian Cheetah Society (ICS)	Izaak Walton League of America	Johor National Parks Corporation
Iringa District Council	Jackson Hole Conservation Alliance	Joseph Vance Architects
Irkutsk State University	Jackson Hole Wildlife Federation	Julie Suess Photography
Irwin Altman Middle School 172	Jackson Zoo	Kaa-Iya del Gran Chaco National Park and Natural Area of Integrated Management
Island Conservation	Jacksonville Zoo & Gardens	Kabu Tours
Island Conservation Chile	Jacobi Medical Center	Kabul Municipality
iTaukei Affairs Board	Jagannath University	Kabul University
iTaukei Land Trust Board	JAGWOOD+, Nicaragua	Kabul Zoo
IUCN Conservation Breeding Specialist Group	Jahangirnagar University	Kadoorie Farm & Botanic Garden
IUCN Primate Specialist Group, Great Apes Section	Jakarta Animal Aid Network (JAAN)	Kalopsia Life
IUCN/SSC African Elephant Specialist Group—Africa-wide	Jakarta Provincial Police	Kambako Safaris (block L8 NNR)
IUCN/SSC Asian Elephant Specialist Group	Jamaica Center for Arts & Learning	Kansas Buffalo Association
IUCN/SSC Asian Wild Cattle Specialist Group—Saola	James Cook University	Kansas City Zoo
IUCN/SSC Asian Wild Cattle Working Group in Laos and Vietnam	Janice Dinegar Boyd	Karakoram International University Gilgit-Baltistan
IUCN/SSC Cat Specialist Group	Japan Society	Karnataka State Forest Department, Government of Karnataka
IUCN/SSC Crocodile Specialist Group	JASCO Applied Science	Kasetsart University Faculty of Forestry
	Jardín Caperucita Roja	Katala Foundation Incorporated
		Kathy Ruttenberg

CONSERVATION PARTNERS



Kavango Zambezi Transfrontier Conservation Area (KAZA TFCA) Secretariat
 KCET TV
 Kélonia
 Kelompok Pencinta Laut Kélonia (The Observatory of Marine Turtles)
 Kementerian Kehutanan
 Kenya Coast Development Authority
 Kenya Marine & Fisheries Research Institute (KMFRRI)
 Kenya Sea Turtle Conservation Trust (KESCOM)
 Kenya Wildlife Service (KWS)
 Kerala State Forest Department, Government of Kerala
 Kevon Sdn. Bhd.
 Khabarovsk Fund for Wildlife
 Khabarovsk Wildlife Foundation
 Khabarovskii Krai Society of Hunters and Fishermen
 Khabarovskiy Union of Hunters and Game Managers
 Khentii Province Environmental Protection Agency
 Khulna University
 Kids Unplugged
 King's College, London

Kingsborough Community College
 Knoxville Zoo
 Kolmarden Wildlife Park
 Kolumb Enterprises
 Kreditanstalt für Wiederaufbau (KfW)
 Kronotsky Zapovednik
 Kudremukh Wildlife Foundation, Mangaluru
 Kwanlin Dün First Nation
 Laboratory of Genomic Diversity, National Cancer Institute
 La Corona Archaeological Project
 L'École nationale vétérinaire d'Alfort (ENVA)
 La Empresa Urrá S.A. E.S.P.
 LaGuardia College
 La Organización del Sector Pesquero y Acuícola del Istmo Centroamericano
 La Paz Zoo
 Lake Champlain Basin Program
 Lakehead University
 Lake Placid Land Conservancy
 Lamont Doherty Earth Observatory—Columbia University
 Lampung Provincial Police
 Lan Airlines
 Lancaster University

Land of the Leopard National Park
 Land Tenure Center at the University of Wisconsin
 Land Trust Alliance
 Landscape Management and Development (LAMDEV)
 Landcare Research (NZ)
 LASP-Yayasan Lembaga Analisis Sosial dan Pembangunan
 Laurentian University
 Lava Lake Institute
 LA Zoo & Botanical Gardens
 Lazovskii Zapovednik
 Le Silo National des Graines Forestières (SNGF)
 Leadership for Conservation in Africa
 Lee Richardson Zoo
 Lefebvre Conservation
 Lehigh Valley Zoo
 Lehman College
 Leibniz-Zentrum für Marine Tropenökologie
 Leuser International Foundation
 Liceo Hernando de Magallanes, Porvenir
 Liceo Polivalente Hernando de Magallanes
 L.I.F.E. Leave Ivory for Elephants
 Lifelong Learning Group

ABOVE
 Utilizing the zoos and aquarium as an engaging environment to learn about science and conservation, WCS Education staff spark a connection with animals and nature with a diverse cross-section of New York metro area school children.

LightHawk
 Lilian L. Rashkis School
 Lillooet Naturalist Society
 Lincoln Center for the Performing Arts, Inc.
 Lincoln Children's Zoo
 Lincoln Institute of Land Policy
 Lincoln Park Zoo
 Linden Trust for Conservation Literacy Inc. (LINC)
 Little Rock Zoo
 Livestock and Dairy Development Department, Gilgit-Baltistan
 Local Level Government in Papua New Guinea
 Lola Star Boutique
 Lola Ya Bonobo, Amis des Bonobos au Congo (ABC)
 Lone Mountain Land
 Long Island Veterinary Specialists
 Loremans' Screen Printing
 Louisville Zoo
 Lowry Park Zoo
 Luambeze Lda (block R3 NNR)
 Lukuru Wildlife Research Project
 Luna Park—Central Amusement International (CAI)
 Lundin for Africa
 Lutheran Relief Service
 Luwire Lda (Block L7R NNR)
 MacBride Museum
 Madagascar Ministry of Development and Land Use Planning
 Madagascar National Parks (MNP)
 Madidi Natural Area of Integrated Management and National Park
 Madison Conservation District
 Madison County Commissioners & County Planner
 Madison River Foundation
 Madison Valley Ranchlands Group
 Maharashtra State Forest Department, Government of Maharashtra
 Makerere University Biological Field Station
 Makerere University—Kampala, Uganda
 Malaysia Nature Society
 Maliasili Initiatives

Management and Ecology of Malaysian Elephants (MEME)
 Management Bureau of Hunchun Amur Tiger National Nature Reserve
 Manaus Center for Zoonosis Control (CCZ)
 Mancomunidad de Municipalidades del Inambari
 Mancomunidad de Municipios del Norte Paceyño Tropical
 Mancomunidad Municipal de la Amazonía de Puno
 Manga
 Mangrove Service Network
 Manomet
 Manhattan College
 Manta Marine Pvt. Ltd.
 Manus Civil Society Forum
 Manus Provincial Government
 Maran Road Sawmill
 Mare Cares
 Marine and Coastal Management, Republic of South Africa
 Marine and Coastal Management, Rogge Bay, South Africa
 Marine and Fisheries Office, Minahasa Utara
 Marine Conservation Institute
 Marine Ecology Group, University of Western Australia
 Marine Exchange of Alaska
 Marine Mammal Commission
 Marine Science Association of Myanmar (MSAM)
 Mariri Lda (Block L5S NNR)
 Mary White Ovington PS/IS 30
 Maryland Zoo
 Mary Miss/City as Living Laboratory
 Massachusetts Division of Fisheries and Wildlife
 Matawa First Nations Management
 Mato Grosso do Sul (MS) State Environmental Agency, (IMASUL)
 Max Planck Institute for Evolutionary Anthropology
 Maya Archaeology Initiative
 Maya Lin/What is Missing Project
 Mayumba National Park, Gabon
 McaI. Antonio Jose de Sucre Institute of Technical Scientific Research of the Police University
 McKenzie River Gathering

MedAir
 Media Impact
 Melton Consulting
 Memorial University of Newfoundland and Labrador
 Memphis Zoo
 Mentoring USA
 Mercy Corps
 Mesker Park Zoo and Botanic Garden
 Metapiri Lda (block L3 NNR)
 Metropolitan Museum of Art
 Miami Zoo
 Mianus River Gorge Preserve
 Microsoft Research (CCI Initiative)
 MidAtlantic Regional Council on the Ocean (MARCO)
 MIHARI Network
 Miller Park Zoo
 Milne Technologies
 Milwaukee County Zoo
 Minera Los Pelambres
 Mining Watch Canada
 Ministère de la Pêche et des Ressources Halieutiques, Madagascar
 Ministère de l'Economie Forestière et du Développement Durable (MEFDD)
 Ministère de l'Education Nationale, de l'Enseignement Supérieur, de la Recherche Scientifique, de l'Innovation et de la Culture
 Ministère de l'Environnement, Conservation de la Nature et Tourisme
 Ministère de l'Environnement, Conservation de la Nature et Tourisme, Democratic Republic of Congo
 Ministère de l'Environnement, de l'Ecologie, et des Forêts
 Ministère de l'Enseignement Supérieur et de la Recherche, Madagascar
 Ministère des Eaux et Forêts (MINEF), Madagascar
 Ministère des Ressources Halieutiques et de la Pêche
 Ministerio Coordinador de Sectores Estratégicos del Ecuador

Ministerio de Agricultura, Gandadería, Acuicultura y Pesca, Ecuador
 Ministerio de Agricultura, Ganadería y Alimentación (MAGA), Guatemala
 Ministerio de Ambiente y Desarrollo Sostenible (MADS), Colombia
 Ministerio de Ciencia, Tecnología y Medio Ambiente, Cuba
 Ministerio de Obras Públicas
 Ministerio de Turismo del Chubut de Ecuador
 Ministerio del Ambiente, Dirección de Diversidad Biológica
 Ministerio del Ambiente, Peru
 Ministerio del Ambiente, Vivienda y Desarrollo Territorial
 Ministerio del Ambiente y Recursos Naturales, Guatemala
 Ministerio del Ambiente y los Recursos Naturales (MARENA), Nicaragua
 Ministerio del Ambiente, y los Recursos Naturales, Secretaria Tecnico de Bosawás (SETAB)
 Ministerio del Medio Ambiente de Chile
 Ministerio Público, Guatemala
 Ministry Coordination of Public Welfare (Menkokesra)
 Ministry for the Coordination of Environmental Affairs, Mozambique
 Ministry of Agriculture, Madagascar
 Ministry of Agriculture and Forestry, Lao PDR
 Ministry of Agriculture and Rural Development (MARD), Vietnam
 Ministry of Agriculture, Forestry and Fisheries (MAFF), Cambodia
 Ministry of Agriculture, Spain
 Ministry of Animal Production, Republic of Congo
 Ministry of Climate Change, Pakistan
 Ministry of Community Development, Youth and Sports
 Ministry of Defense, Laos
 Ministry of Defense, Mozambique

CONSERVATION PARTNERS

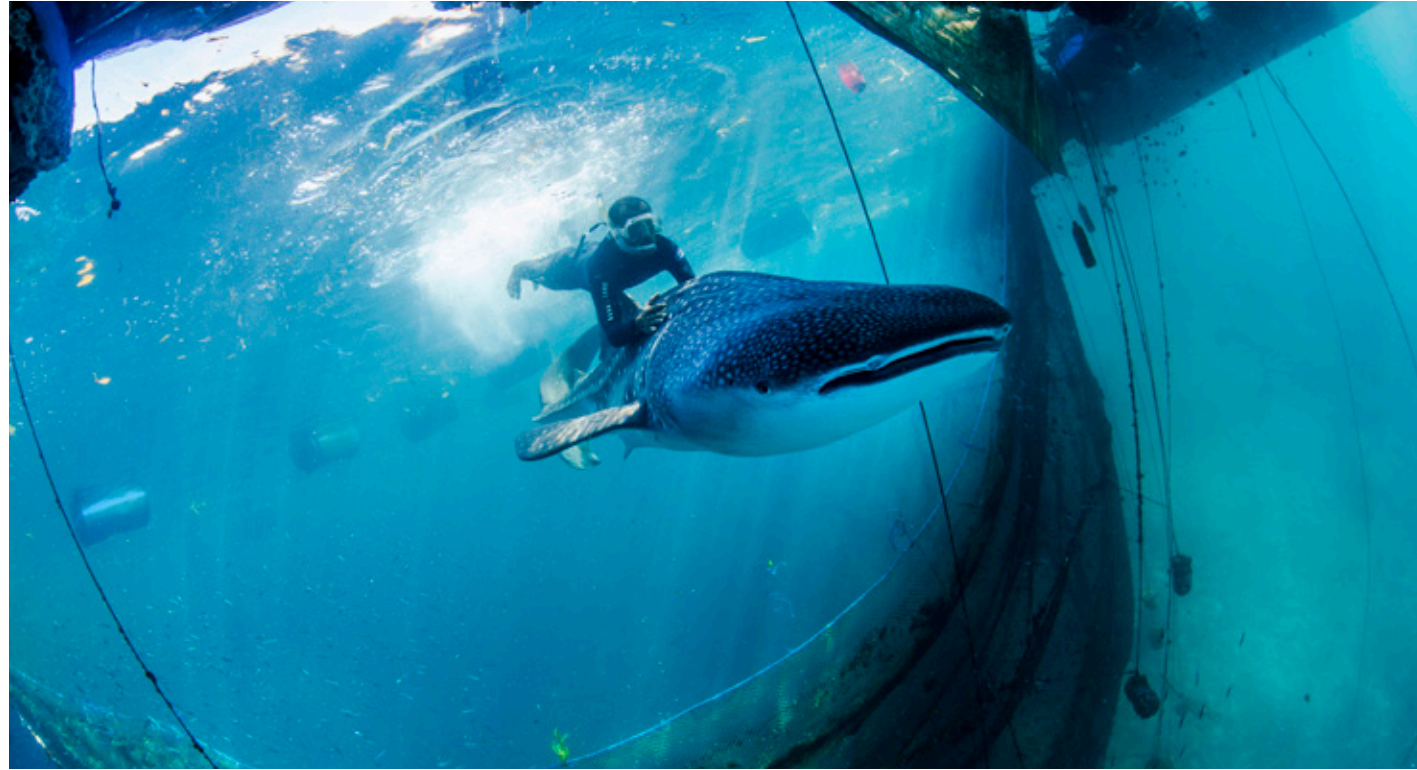
Ministry of Development and Landuse Planning	Ministry of Natural Resources and Environment, Thailand	Montana Watershed Coordination Council	Nacionalidad Sápara del Ecuador
Ministry of Education, Laos	Department of National Parks, Wildlife and Plant Conservation, Office of Natural Resources and Environmental Policy and Planning	Montana Wilderness Association	Nacionalidad Waorani del Ecuador
Ministry of Education of Congo Brazzaville	Ministry of Public Health and Sports, Bolivia	Montana Wildlife Federation	Nagqu Management Sub-Bureau, Chang Tang National Reserve of Tibet Autonomous Region
Ministry of Environment & Forests, Government of India	Ministry of Research and Education, Academy of Sciences, Tajikistan	Montefiore Medical Center	Nah Ho Productions
Ministry of Environment and Green Development, Mongolia	Ministry of Science, Argentina	Monterey Bay Aquarium	Nam Theun 2 Power Company
Ministry of Environment and Tourism, Namibia	Ministry of Sustainable Development, Forest Economy and Environment, Gabon	Moose Cree First Nation	Naples Zoo at Caribbean Gardens
Ministry of Environment, Cambodia	Ministry of the Attorney General, Belize	Morobe Provincial Government	Nashville Zoo
Ministry of Environment, Direction General Forests, Madagascar	Ministry of Tourism, Belize	MosaicMill Oy	National Aeronautics and Space Administration
Ministry of Environment, Uganda	Ministry of Tourism, Environment and Natural Resources, Zambia	Moscow State University	National Agricultural Research Institute (NARI)
Ministry of Environment, Water and Forests	Ministry of Tourism, Mozambique	Moscow Zoo	National Agricultural Research Institute, Papua New Guinea
Ministry of Environment, Wildlife and Tourism, Botswana	Ministry of Tourism, Uganda	Mote Marine Laboratory	National Animal Health Centre Lao PDR
Ministry of Environment, Nature Protection and Sustainable Development	Ministry of Wildlife Conservation and Tourism in South Sudan	Mount Sinai Medical Center	National Animal Health Laboratory, Lao PDR
Ministry of Finance, Afghanistan	Minnesota Buffalo Association	Mountain Conservation and Development Programme (MCDP)	National Audubon Society
Ministry of Fisheries Development, Kenya	Minnesota Zoo	Mountain Equipment Co-op	National Bison Association
Ministry of Foreign Affairs, Afghanistan	Missouri Botanical Gardens	Mountain Lake PBS	National Botanical Garden of Belgium (Meise)
Ministry of Foreign Affairs, Laos	Mitsubishi Corporation	Mouvement des Indigènes, Autochtones et Pygmées du Gabon (MINAPYGA)	National Center for Ecological Analysis and Synthesis (NCEAS)
Ministry of Foreign Affairs, Madagascar	Foundation for the Americas	Mozilla Hive NYC Learning Network	National Center of Tropical Diseases (CENETROP)
Ministry of Forest Economy, Republic of Congo	Molecular Ecology Research Group, University of Florence (Florence, Italy)	Mozy	National Center of Veterinary Diagnostic, Ministry of Agriculture, Tajikistan
Ministry of Forestry and Wildlife (MINFOF), Botswana	Mongolian Customs Agency	Mpala Research Centre and Wildlife Foundation	National Centre for Biological Sciences, Government of India
Ministry of Forestry, Fisheries and Sustainable Development, Belize	Mongolian General Agency for Specialized Inspection	Muddy Pond Trust	National Centre for Biological Sciences, Tata Institute of Fundamental Research
Ministry of Health, Republic of Congo	Mongolian State Border Defense Agency	Muichic Natural Jewelry	National Directorate of Veterinary Services (DNSV)
Ministry of Higher Education, Afghanistan	Mongolian State Central Veterinary Laboratory	Municipal Art Society of New York	National Elephant Center
Ministry of Interior (Provincial & District Police), Mozambique	Monitoring the Illegal Killing of Elephants (MIKE)	Municipal Government of Orellana	National Emerging Infectious Disease Coordination Office (NEIDCO), Laos
Ministry of Labour, Thailand	Montana Bison Association	Municipalidad de Forte Olimpo	National Environment Management Agency, Uganda
Ministry of Natural Resources and Agriculture, Belize	Montana Department of Environmental Quality	Municipalidad de Porvenir	National Environment Management Authority (NEMA), Rwanda
Ministry of Natural Resources and Environment, Department of Forest Resource Conservation, Laos	Montana Department of Natural Resource Conservation	Municipalidad de Primavera	National Environmental Education Foundation
	Montana Department of Transportation	Municipalidad de Puerto Casado	National Environmental Protection Agency (NEPA), Afghanistan
	Montana Fish, Wildlife and Parks	Mural, Mural on the Wall	National Environmental Standards and Regulations Enforcement Agency
	Montana Livestock Loss Board	Murdochs Ranch and Home Supply	
	Montana State University	Museo de Porvenir	
		Museo delle Scienze, Trento	
		Museo Tridentino Di Scienze Naturali	
		Museum of Jewish Heritage	
		Museum of Natural History: Noel Kempff Mercado, Bolivia	
		Museum of the City of New York	
		Museum of the Moving Image	
		Muyissi Environnement	
		Myanmar Bird and Nature Society	
		Myanmar Floriculturist Association	
		Nacional de Áreas Protégidas, Bolivia	



ABOVE
A red and green macaw (*Ara chloropterus*) was part of the Bronx Zoo's spectacular "Birds in Flight," show presented by JetBlue last summer. The education show featured free-flying macaws, condors, falcons, hawks, vultures, owls and other birds.

National Fish and Wildlife Foundation	National Office for the Environment (ONE), Madagascar	National Trust for the Cayman Island's Blue Iguana Recovery Programme
National Fisheries Authority (NFA) Papua New Guinea	National Parks Board, Singapore	National Trust of Fiji
National Fisheries College (NFC)	National Park Service - GLAC	National University of Laos
National Fisheries College, University of Natural Resources	National Park Service - GRTE	National University of Mongolia
National Forest Authority (NFA), Rwanda	National Parks Board, Singapore	National University of Singapore
National Forestry Authority, Papua New Guinea	National Parks Conservation Association	National Wildlife Federation
National Forestry Authority (NFA), Uganda	National Parks Service, Chile and Argentina	National Wildlife Health Center, Madison and Honolulu Field Station
National Geographic Society	National Planning Commission	National Wildlife Refuge Association
National Indian Health Board	National Protected Areas	Native Village of Kotzebue, Alaska
National Institute for Hygiene and Epidemiology, Ministry of Health	National Research Council of Argentina	Native Village of Point Lay, Alaska
National Institute for Oceanographic Data (CNDIO/CENAREST)	National Research Institute, Papua New Guinea	Native Village of Shageluk, Alaska
National Institute of Statistics of Rwanda	National Science and Engineering Research Council of Canada (NSERC)	Natural Areas Conservancy
National Maritime and Safety Authority, Papua New Guinea	National Science Foundation (NSF)	Natural History Museum of the Adirondacks—The Wild Center
National Ministry of Health, Peru	National Service of Animal Health and Food Safety (SENASAG)	Natural Resources Conservation Agency (BKSDA Aceh)
National Oceanic and Atmospheric Administration (NOAA)	National Service of Protected Areas (SERMAP)	Natural Resources Conservation Agency (BKSDA Bengkulu)
	National Tiger Conservation Authority, Ministry of Environment & Forests, Government of India	Natural Resources Conservation Agency (BKSDA Central Java)
		Natural Resources Conservation Agency (BKSDA Central Kalimantan)

CONSERVATION PARTNERS



- Natural Resources Conservation Agency (BKSDA Jakarta)
- Natural Resources Conservation Agency (BKSDA Jambi)
- Natural Resources Conservation Agency (BKSDA Lampung)
- Natural Resources Conservation Agency (BKSDA West Java)
- Natural Resources Conservation Agency (BKSDA West Kalimantan)
- Natural Resources Conservation Agency (BKSDA West Sumatra)
- Natural Resources Conservation Agency (BKSDA Yogyakarta)
- Natural Resources Conservation Services (NRCS)
- Natural Resources Defense Council (NRDC)
- Naturaleza y Cultura Internacional
- Nature and Wildlife Conservation Division, Forest Department, Ministry of Environmental Conservation and Forestry, Myanmar
- Nature Conservancy Canada
- Nature Fiji-Mareqeti Viti
- Nature Harness Initiatives (NAHI), Uganda
- Nature Protection Team (NPT)
- Nature Fiji-Mareqeti Viti
- Nature Uganda
- NatureServe Network (AKDN)
- NetHope
- Networks of Centres of Excellence (NCE)
- Nevada Department of Wildlife (NDOW)
- Nevada Record Book Foundation
- New England Aquarium
- New England Biolab Foundation
- New England Equine Practice
- New Forests Company
- New Ireland Province Learning and Training Network
- New Jersey Division of Fish & Wildlife, Endangered and Non-Game Species program
- New Visions for Public Schools
- New York Blood Center
- New York Botanical Garden
- New York City Ballet
- New York City Center
- New York City Department for the Aging
- New York City Department of City Planning
- New York City Department of Cultural Affairs
- New York City Department of Design and Construction
- New York City Department of Economic Development
- New York City Department of Education
- New York City Department of Environmental Protection
- New York City Department of Parks and Recreation
- New York City Department of Parks and Recreation, Natural Resources Group
- New York City Department of Transportation
- New York City Museum Educators Roundtable
- New York City Natural Areas Conservancy
- New York City Opera
- New York City Urban Field Station
- New York Community Trust
- New York Hall of Science
- New York League of Conservation Voters
- New York Natural Heritage Program
- New York State Adirondack Park Agency

ABOVE Last May, WCS's Wildlife Crimes Unit in Indonesia, working with local authorities, confiscated and released back into the wild two illegally caught whale sharks (*Rhincodon typus*) from a major supplier of large marine megafauna to the international wildlife trade. Further investigations revealed that the sharks were destined for facilities being built in China or Southeast Asia.

- New York State Department of Education
- New York State Department of Environmental Conservation
- New York State Department of State
- New York State Department of Transportation
- New York State Energy Research and Development Authority
- New York State Marine Educators Association
- New York State Museum
- New York State Olympic Regional Development Agency
- New York University
- New Zealand's International Aid & Development Agency
- New Zealand Nature Institute—Initiative for People Centered Conservation (NZNI—IPECON)
- Newcastle University
- Newcourse
- Newcrest Mining Ltd
- Newport School
- Ngari Management Sub-Bureau, Chang Tang National Reserve of Tibet Autonomous Region
- Niassa Carnivore Project
- Niassa Hunter Safaris (block R2 NNR)
- Nicaragua Armed Forces
- Nicaragua National Police
- Nigerian Federal Ministry of Environment
- Nigerian National Park Service
- NOAA, Atlantic States Marine Fisheries Commission (ASMFC)
- NOAA, Bureau of Ocean Energy Management (BOEM)
- NOAA, Mid Atlantic Fisheries Management Council (MAFMC)
- NOAA, National Marine Fisheries Service (NMFS)
- NOAA, Office of National Marine Sanctuaries
- Nomadic Nature Conservation (NNC)
- Nomrog Strictly Protected Area Administration
- North Atlantic Landscape Conservation Cooperative
- North Carolina Aquarium at Fort Fisher
- North Carolina Museum of Natural Sciences
- North Carolina State University
- North Carolina Zoological Society
- North Country Public Radio
- North Dakota State University
- North Pacific Research Board
- North Slope Borough, Alaska
- North Sumatra Military Police
- North Sumatra Provincial Police
- Northeast Equine Center
- Northeastern States Research Cooperative
- Northeastern Wisconsin Zoo & Brown County Parks
- Northern Forest Atlas Foundation
- Northern Forest Center
- Northern New York Audubon
- North-South Consultants, Inc.
- North-South University
- Northwest Arctic Borough, Alaska
- Northwest BC Reptile and Amphibian Monitoring Program
- Northwest Boreal Landscape Conservation Cooperative
- Norwegian Agency for Development Cooperation (Norad)
- Northwell Health
- Northwest Arctic Borough Amphibian Monitoring Program
- Northwest Zoopath
- NPS-Natural Sounds and Night Skies Division
- NY/NJ Baykeeper
- Nyanga Tour
- Oakland Zoo
- Ocean Conservancy
- Ocean Diving Club, Syiah Kuala University
- Ocean Park Conservation Foundation
- Oceana
- Oceana Chile
- Oceania Regional Office, IUCN
- Oceanic Society
- Oceans and Coastal Resources Program
- Office Burundais pour la Protection de l'Environnement
- Office National de la Chasse et de la Faune Sauvage et Direction de l'Agriculture et de la Forêt, Mayotte—France
- Office National des Forêts (ONFI)
- Office of Climate Change and Development, Papua New Guinea
- Office of the District Governor of Wakhan, Badakhshan
- Office of the District Governor of Yakawlang/Band-e-Amir, Bamyan
- Office of the Governor, Badakhshan
- Office of the Governor, Bamyan
- Office of U.S. Foreign Disaster Assistance for Latin America and the Caribbean USAID/OFD
- Oglala Lakota Sioux Tribes
- Oglebay's Good Zoo
- Okapi Conservation Project
- Oklahoma Bison Association
- Oklahoma Zoological Society
- Olam International Limited
- Omaha Zoo
- Omaha's Henry Doorly Zoo and Aquarium
- Oman Ministry of Environment and Climate Affairs
- One More Generation
- Onon Balj National Park Protected Area Administration
- Ontario Fur Managers Federation
- Ontario Ministry of Natural Resources
- Ontario Ministry of the Environment and Climate Change
- Ontario Nature
- OpenDNS
- Open Society Forum
- Open Space Institute (OSI)
- Oregon Department of Fish and Wildlife
- Oregon State University
- Oregon Tilth
- Oregon Zoo
- Organisation Concertée des Ecologistes et Amis de la Nature
- Organisation d'Accompagnement et d'Appui aux Pygmées
- Organismo de Supervisión de los Recursos Forestales y de Fauna Silvestre
- Organización del Sector Pesquero y Acuicola del Istmo Centroamericano (OSPESCA)
- Organización Indígena de la Cuenca del Caura Kuyujani, Venezuela
- Organización Indígena de la Cuenca del Caura
- Organización Manejo y Conservación (OMYC), Guatemala
- Organización Quindiana de Ambientalistas "Orquídea"
- Organization of Young Citizens of Guinea
- Organized Village of Grayling, Alaska
- Origami USA
- Origamido
- Osborn Memorial Lecture Fund
- Osмосe
- Oxfam International, Papua New Guinea
- Oxford University Clinical Research Unit (OUCRU)
- Ozark Gear
- P.S. 1 Contemporary Art Center
- P.S. 188
- P.S. 205 Fiorello LaGuardia
- P.S. 329
- Pace University
- Pacific Development and Conservation Trust
- Pacific Institute of Geography
- Pact
- Paignton Zoo (U.K.)
- Palm Beach Zoo
- Palmyre Zoo
- Palung Foundation
- Pamir Biological Institute
- PAMS Foundation
- Pan-American Health Organization (PAHO), Bolivia
- Panthera
- Papua New Guinea Centre for Locally Managed Areas
- Papua New Guinea Eco-Forestry Forum
- Papua New Guinea Forest Authority
- Papua New Guinea Institute of Biological Research
- Papua New Guinea Sustainable Development Program
- Parachute Festival
- Par Explora-Conicyt Magallanes

CONSERVATION PARTNERS

Parks Canada	Phoenix Fund	Project for the Application of Law for Fauna	Red de Alta Dirección-Universidad del Desarrollo
Parks & Wildlife Department, Gilgit-Baltistan	Pilon Lajas Biosphere Reserve	Project Tusk—Princeton High School	Red de Manejo de Bosques Latifoliadas de Honduras (REMBLAH)
Parque "Acero Marka Rancho Resort"	Pinedale Travel and Tourism Commission	Projet de l'Application de la Loi Faunique (PALF)	Red de Reservas Silvestres Privadas
Parque Andino Juncal	Pittsburgh Zoo & PPG Aquarium	Projet Protection des Gorilles (PPG)	Red Paraguaya de Conservación en Tierras Privadas Refracciones
Parque Nacional Bahauja Sonene	Plan4theLand	Projeto Saium de Coleira, Universidade Federal do Amazonas	Red River Zoo
Parque Nacional del Manu	Planning and Development Department, Gilgit-Baltistan	ProNaturaleza	Refractions Research
Parque Nacional Llanganates	Paul Smiths College	Prospectors and Developers Association of Canada (PDAC)	Regional Animal Health Office, region VI and VII, Department of Animal Health, Ministry of Agricultural and Rural Development
Parque Nacional Natural Chingaza	Point Defiance Zoo and Aquarium	Protect the Adirondacks	Regional Executive Units of Environmental Health (DGFFS)
Parques Naturales Nacionales de Colombia	Police Athletic League	Protected Areas Conservation Trust, Belize	Regional Office of Sustainable Tourism
Parque Pingüino Rey	Policía Boliviana- Instituto de Investigaciones Técnico Científicas de la Universidad Policial "Mcal. Antonio José de Sucre"	Protected Areas Secretariat, Belize	Regional Program for Forest and Wildlife Resource Management—Loreto (PRMRFFS—Loreto)
Partenariat pour les Tortues Marines du Gabon	Pontificia Universidade Católica do Rio Grande do Sul, Brazil	Provincial Administration Offices of Laos	Regions Analanjirofo, SAVA, SOFIA, DIANA, ATSIMO ANDREFANA
Partenariat Tortue	Pontificia Universidad Católica de Chile	Provincial Government of Orellana	Regulations Department of Guangzhou Customs
Partners in Food Solutions	Pontificia Universidad Javeriana	Provincial Government of Pastaza	Reid Park Zoo
Partners of the Forum for the Conservation of the Patagonian Sea and Areas of Influence	Potawatomi Zoological Society	Public Health Agency of Canada	Relief International
Partnership for the East Asian-Australasia Flyway (EAAFP)	Potter Park Zoo	Public Theater/New York Shakespeare Festival	Rénatura
Partnerships for Community Development Fiji	Pousada Aracauna	Pueblo Zoo	Renewable Energy Association, Myanmar
Passaic County Community College	Pousada Caburé	Puerto Rico Department of Fish and Wildlife	Republic Services
Patagonia, Inc.	Prairie Island Indian Community	Pure ADK	Research and Conservation Foundation of Papua New Guinea (RCF)
Patagonia Wildlife	Prefeitura Municipal de Corguinho	Queen Elizabeth II Botanic Park	Research and Production Agency for Biological Preparations, Academy of Agricultural Sciences State Veterinary Inspection Services, Ministry of Agriculture, Tajikistan
Patrimonio Natural	Primate Conservation	Queens Botanical Garden	Research Foundation for the State University of NY
Paulatuk Hunters and Trappers Committee (PHTC)	Primate Partnership Fund	Queens College, SUNY	Réseau d'Initiatives pour la Nature et le Développement Regional et Africain
PC Connection	Primorskaya State Agricultural Academy	Queens Museum of Art	Réseau des Aires Protégées d'Afrique Centrale (RAPAC)
PCI Media Impact	Primorskii Krai Society of Hunters and Fishermen	Queens School for Inquiry	Réseau des Organisation Locales du Lom et Djerem (ROLOM)
Peace Corps	Princeton University	Queens Theatre in the Park	Reserva Añihue
Peace Parks Foundation	Procuradoria Geral da República de Moçambique (PGR)	Quinn Company	
Peacock Foundation	Prodipan	Ra Provincial Office	
Pearl Lagoon Territorial Government	ProFauna	Rachel Carson High School for Coastal Studies	
Peccay Specialist Group	PROFONANPE	Racine Zoological Society	
PEER Associates	Professionals for Fair Development (GRET)	Racing Extinction	
Pehuén editores	Program Konservasi Harimau Sumatera (The Sumatran Tiger Conservation Programme)	RACOMI	
People and Carnivores	Programa de Conservación, Gestión y Uso Sostenible de la Diversidad Biológica de Loreto	Rainforest Alliance	
People Centered Conservation Mongolia (PCC)	Programa de las Naciones Unidas para el Desarrollo	Rajshahi University	
Peoria Zoo	Programa de Naciones Unidas para el Medio Ambiente (PNUMA)	RAMSAR	
Percy FitzPatrick Institute of African Ornithology, University of Cape Town	Project Dragonfly at Miami University	Rare	
Perkumpulan Celebio		Rare Planet	
Perkumpulan PETRA		Ratel Trust	
Persian Wildlife Heritage Foundation (PWHF)		Rayonex Healing Center	
Petén Guatemala		Raquet Lake Camp	
Pew Charitable Trusts		Razorfish	
Philadelphia Zoo		RECOFTC	



ABOVE A Wallace's standardwing (*Semioptera wallacii*), a type of bird of paradise found only in Indonesia, is classified as Near Threatened by IUCN due to fragmentation of its forested habitat.

Reserva Nacional Calipuy	Roger Williams University	Rwanda Environmental Management Authority
Reserva Nacional Matsés	Rolling Hills Zoo	Rwanda Natural Resources Authority
Reserva Nacional Pacaya Samiria	Rosamond Gifford Zoo	Sachs Harbour Hunters and Trappers Committee (SHHTC)
Reserva Nacional Tambopata	Rosprirodnadzor, Russian Ministry of Natural Resources	Sackler Institute for Comparative Genomics
Reservas Particulares do Patrimônio Natural de Mato Grosso do Sul	Royal Bank of Scotland Foundation India, Mumbai	Sacramento Zoo
Resource Africa	Royal Botanical Gardens	Safari Club International
Reverie Foundation	Royal Canadian Navy	Safari West Wildlife Preserve
Reyes Municipality	Royal Museum of Central Africa, Tervuren, Belgium	Safrique (block L1 NNR)
Rhinoceros and Tiger Conservation Fund	Rukwa Environmental Youth Organization (REYO)	Saint Louis Zoo
Rhino Protection Unit	Rungwe District Council	Saint Matthew's University (SMU)
International Rhino Foundation in Indonesia	Rupantar	Salina Reserve
Right Whale Health Monitoring Program	Rural Environment and Development Organization	Sam Veasna Center
RINDRA	Rurrenabaque Municipality	San Antonio Zoo
Ritamix Sdn. Bhd.	Russian Academy of Sciences Far East Branch	San Andrés
Riquelme, Porvenir	Russian Federal Agency Inspection Tiger	San Diego Management and Monitoring Program
Rivard Consulting	Russian Marine Mammal Council	San Diego Zoo
Riverbanks Zoo	Russian Ministry of Natural Resources	San Francisco Estuary Institute
Rocky Mountain Bird Observatory	Ruta Fuegoina	San Francisco Zoological Society
Robert H. Goddard High School	Rwanda Development Board (RDB)	Sanctuaire des Bonobos du Congo-Lola Ya Bonobo
Rocky Mountain Bird Observatory	Rwanda Environment and Development Organization (REDO)	Sansom Mlup Prey
Rocky Mountain Land Use Initiative		Santa Ana Zoo
Rocky Mountain Wild		Santa Barbara Zoological Park
Roger Williams Park Zoo		Santa Rosa de Yacuma Municipality
		Santuario Histórico Machupicchu

CONSERVATION PARTNERS

Santuario Nacional de Calipuy Saola Working Group	Secretaría del Ambiente (SEAM) Secretaria do Meio Ambiente do Estado do Amazonas	Singapore Zoo Sistema Regional de Áreas Protegidas del Eje Cafetero	State Endangered Species Import and Export Management Office	Taku Tlingit First Nation Tanah Karo District Police	The Environmental Conservation Trust Fund of Uganda (ECOTrust)	The World Bank The World Bank's Corazón del Corredor Project, Nicaragua	Tullow Oil Tulsa Zoo
Sarawak Forestry Corporation	Secretaria Municipal de Meio Ambiente e Sustentabilidade do Município de Manaus	Protegidas del Eje Cafetero	State Forestry Administration, PR China	Tanzania National Parks (TANAPA)	The Field Museum, Chicago	The Young Women's Leadership School East Harlem	Tupper Lake Chamber of Commerce/Tupper Lake Tinman Triathlon
Sapienza Università di Roma, Rome (CCI Initiative)	Secretaria Municipal de Meio Ambiente e Sustentabilidade do Município de Manaus	Skype	State University of New York, College of Environmental Science and Forestry	Tanzania Natural Resources Forum (TNRFF)	The Forest Protection Department, Ministry of Agriculture and Rural Development	Theodore Roosevelt Conservation Partnership	Turner Construction
Sarah Morris Art	Secretaria Municipal de Meio Ambiente e Sustentabilidade do Município de Manaus	SMART Partnership	State University of New York, College of Environmental Science and Forestry	Tanzania Wildlife Research Institute (TAWIRI)	The Green Club Green Group of Afghanistan (GGA)	Theun Hinboun Hydropower Company	Turtle Conservancy
Sarasota Marine Laboratory	Secretaria Municipal de Meio Ambiente e Sustentabilidade do Município de Manaus	Smithsonian Institution	Staten Island Children's Museum	Taronga Conservation Society Australia	The Global Environment Facility/ Small Grants Programme (GEF/SGP)	Turtle Conservation Fund	Turtle Survival Alliance
Sarteneja Association for Conservation and Development	Secretariat for the Pacific Regional Environment Programme	Smithsonian National Zoological Park	Staten Island Historical Society	Tartarugas da Amazônia	The Heart of the Rockies Initiative	TUSQER	Tuttle Publishing
Sarteneja Fisherman Association	Secretariat for the Pacific Regional Environment Programme	Snow Leopard Foundation (SLF)	Staten Island Museum	Tasbapauny, Marshall Point	The Henry Phillip Kraft Family Memorial Fund	Two Countries, One Forest	Uganda Carbon Bureau
Save One Planet	Sedgwick County Zoo	Snow Leopard Trust (SLT)	Staten Island School for Civic Leadership	Territorial Government	Tiger Research and Conservation Trust	Uganda Conservation Foundation	Uganda Wildlife Authority (UWA)
Save Our Species	Sega Girls Anti-Ivory Club	Sociedad Chilena de Ciencias del Mar	Staten Island Zoological Society	Taste NY	Toledo Institute for Development and Environment (TIDE)	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Save PNG Inc	Selawik National Wildlife Refuge, US Fish and Wildlife	Sociedad Civil Mamirauá	Staying Connected Initiative Partners	Technical and Technological College, Choibalsan	Toledo Zoo	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Save the Elephants	Seneca Park Zoo	Sociedad Ictiológica de Chile	Stellenbosch University College of Veterinary Medicine	Telangana State Forest Department, Government of Telangana	Tolga Bat Hospital	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Save the Environment of Afghanistan (SEA)	Sequoia Park Zoo	Sociedad Peruana de Derecho Ambiental	Steppe Forward Programme (SFP)	Temaikèn	TOMAGE	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Save Wild Tigers	Servicio Agrícola y Ganadero (SAG)	Sociedad Peruana de Derecho Ambiental	Stevens Institute of Technology	Terrapin Bright Green	Tom's Diner	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Saving Asia's Vultures from Extinction (SAVE)	Servicio Nacional de Áreas Naturales Protegidas, Perú	Sociedad Peruana de Derecho Ambiental	Stockholm University	Terrasos S.A.	Topeka Zoo	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Scenic Hudson	Servicio Nacional de Sanidad Agropecuaria e Inocuidad Alimentaria (SENASAG)	Sociedad Peruana de Derecho Ambiental	Stoller Corporation	Territorial Authority of Ten Indigenous and Afro-Descendant Communities of the Pearl Lagoon Basin	Toronto Zoo	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Scholars' Academy	Servicio Nacional de Sanidad y Calidad Agroalimentaria (SENASA)	Sociedad Peruana de Derecho Ambiental	Stony Brook University	Teslin Tlingit Council (Yukon)	Total E&P Uganda (TEPU)	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
School of Environmental Studies, University of Victoria	Servicio Nacional de Turismo	Sociedad Peruana de Derecho Ambiental	Society for Conservation Biology	Teton Regional Land Trust	Total S.A.	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
School of Global Environmental Sustainability	Servicio Nacional Forestal y de Fauna Silvestre	Sociedad Peruana de Derecho Ambiental	Society for Marine Mammalogy	Teton Science School	Tourism Cares	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Science and Resilience Institute at Jamaica Bay	Shan Shui Conservation Center	Sociedad Peruana de Derecho Ambiental	Society of Yukon Bird Observatories	Texas Bison Association	Towns of Clifton and Fine	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Science for Nature & People Partnership (SNAPP)	Shanghai Administration Department of Afforestation and City Appearance	Sociedad Peruana de Derecho Ambiental	Socio Bosque Program	Texas State Aquarium	TRAFFIC	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Scientists from the Alaska Department of Fish and Game	Shark Advocates International	Sociedad Peruana de Derecho Ambiental	Soekarno-Hatta Airport Quarantine	T-T-Gear Charitable Trust	Trails Only Yukon Association	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Scientists of the North Slope Borough	Shark Legacy	Sociedad Peruana de Derecho Ambiental	Soekarno-Hatta International Airport Customs	Thaga Connect	Transportation Security Administration (TSA)	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Seaduck Joint Venture	Shark Reef Aquarium	Sociedad Peruana de Derecho Ambiental	Solicitor General's Office, Belize	The Adirondack Forty-Sixers	Travesia	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Sea to Shore Alliance	Shark Trust (U.K.)	Sociedad Peruana de Derecho Ambiental	Soluciones Practicas	The Anti-Smuggling Criminal Investigation Bureau of the General Administration of Customs, China	Trenton Science Museum	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Sea Turtle Conservancy	Sharon Wee	Sociedad Peruana de Derecho Ambiental	Sonoran Institute	The Biomimicry Institute	Trent University	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Seattle Aquarium	Shedd Aquarium	Sociedad Peruana de Derecho Ambiental	South African National Parks (SANParks)	The Book Jar Publishing Co.	Trevor Zoo at Millbrook School	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Seatuck Environmental Association	Shifting Mosaics Consulting	Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Center for Biodiversity and Conservation of the American Museum of Natural History (CBC-AMNH)	Tribal Government of St. Paul Island, Alaska	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Seatuck Environmental Association	Shikar-Safari Club International	Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Center for Conservation of the American Museum of Natural History (CBC-AMNH)	Tropical Ecology Assessment and Monitoring Network	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
SeaWeb Asia-Pacific	Shingle Shanty Preserve and Research Station	Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Center for Tropical Forest Science of the Smithsonian Tropical Research Institute	Tropical Forest Conservation Act	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Secretaría de Ambiente y Desarrollo Sustentable, Argentina	Shorefront YM-YWCA	Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Civil Society Coalition for Oil	Tropical Forest Conservation Action Sumatera	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Secretaría de Energía, Recursos Naturales, Ambiente, y Minas (MiAmbiente). Republica de Honduras	Siberut National Park Authority	Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Congolese Center of Environmental Data Collection	Tropenbos International	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Secretaría de Estado do Meio Ambiente e Desenvolvimento, Centro Estadual de Unidades de Conservação (SDS-CEUC)	Sierra Club	Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Department of Animal Health, Ministry of Agriculture and Rural Development	Trout Unlimited	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Secretaría de Estado do Meio Ambiente e Desenvolvimento, Centro Estadual de Unidades de Conservação (SDS-CEUC)	Sierra Pacific Industries	Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Environmental Conservation Trust Fund of Uganda (ECOTrust)	Trust for Environmental Education, Chennai	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
Secretaría de los Recursos Naturales/Gobierno de las Regiones Autonomas de la Costa Caribe Sur (SERENA/GRAAS)	Sikhote-Alin Biosphere Reserve	Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Field Museum, Chicago	Trust for Mutual Understanding	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
	Sikhote-Alin Zapovednik	Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Forest Protection Department, Ministry of Agriculture and Rural Development	Trust for Public Land	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
	Simon Fraser University	Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Green Club Green Group of Afghanistan (GGA)	Tsavo Trust	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
	SIMPONA	Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Global Environment Facility/ Small Grants Programme (GEF/SGP)	Tug Hill Commission	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
	Sindicato N°8 de Armadores Artesanales	Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Heart of the Rockies Initiative	Tug Hill Tomorrow Land Trust	Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
	Singapore Economic Development Board	Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Henry Phillip Kraft Family Memorial Fund		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Jane Goodall Institute Conservation and Management Trust		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Kenya Sea Turtle Conservation and Management Trust		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Natural Capital Project		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Nature Conservancy (TNC)		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Nature Conservancy of Canada		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Nature Conservancy of New York		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Nature Conservancy of New York		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The North Sulawesi Watersports Association (NSWA)		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Ocean Project		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Pacific Community		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Pew Environment Group		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Picture House of Pelham, New York		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Resolve: LRA Crisis Initiative		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The River Project		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Royal Foundation of the Duke and Duchess of Cambridge and Prince Harry		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Society for Conservation GIS		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Society of Canton Nature Conservation		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Southern Institute for Ecology		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The University of Hong Kong		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The University of Vermont's Gund Institute of Ecological Economics		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Urban Assembly Harbor School		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Wild Center		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Wilderness Society		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Wildlands Network		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Wildlife Trade Monitoring Network		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)
		Sociedad Peruana de Derecho Ambiental	South African Veterinary Foundation	The Wildlife Society		Uganda Wildlife Authority (UWA)	Uganda Wildlife Authority (UWA)

CONSERVATION PARTNERS

United Nations Food and Agricultural Organization, Emergency Centre for Transboundary Animal Diseases, Regional Office for Southern Africa (FAO-ECTAD)	United States National Park Services (NPS)	Universidade Federal de Mato Grosso do Sul	University of KwaZulu-Natal	Veterinary Medical Center of Long Island	Western Environmental Law Center	Working Dogs for Conservation	Yoluka Ong Fundacion en Biodiversidad y Conservacion
United Nations World Food Programme (WFP)	United States Naval Medical Research—Unit Six (NAMRU-6)	Universidade Federal do ABC	University of Mahajanga, Flora Department	Veterinary Research and Diagnostic Laboratory Cochabamba (LIDIVECO)	Western Forest Complex Conservation Foundation	World Association of Zoos and Aquariums (WAZA)	York High School Marine/Global Ecotours
United States Africa Command Headquarters, U.S. Armed Forces, Africa (AfriCom)	United to End Genocide	Universidade Federal do Amazonas	University of Manitoba	Veterinary Society for Sumatran Wildlife Conservation (VSSWIC)	Western Governors Association	World Bank	Yorkville East Middle School
United States Agency for International Development (USAID)	Universidad Austral de Chile	Universidade Federal do Rio Grande do Norte	University of Maryland	Viceministry of Environment, Bolivia	Western Indian Ocean—Consortium (WIO-C)	World Elephant Day	You Gotta Believe
United States Bureau of Land Management (BLM)	Universidad Autónoma Gabriel René Moreno (UAGRM)	Universidades de la Región Autónoma de la Costa Caribe Nicaragüense (URRACAN)	University of Massachusetts, Amherst	Vid Pic Promotions	Western Indian Ocean Marine Science Association (WIOMSA)	World Food Organization (WFO)	Youth Muse
United States Centers for Disease Control (CDC)	Universidad Autónoma José Ballivian - Centro de Investigación en Biodiversidad y Medio Ambiente (CIBIOMA)	Universitas Negeri Papua	University of Miami	Vietnam CITES Management Authority (Ministry of Agriculture and Rural Development)	Western Resource Advocates	World Organization for Animal Health Sub-Regional Representation for Southern Africa (OIE)	Yukon Conservation Society
United States Climate Action Network	Universidad Católica del Ecuador	Université de La Rochelle, France	University of Michigan	Vietnam Forest Administration (VNFOREST) - Ministry of Agriculture & Rural Development	Wetlands International	World Resources Institute (WRI)	Yukon Environment
United States Coast Guard (USCG)	Universidad Católica del Norte	Universitè de Science et Technique Masuku	University of Minnesota	Vietnam National University of Agriculture	Whale and Dolphin Conservation Society	World Wide Fund for Nature (WWF)	Yukon Government - Forest Management Branch
United States Department of Agriculture (USDA)	Universidad de Buenos Aires (UBA)	Universitè Senghor d'Alexandrie	University of Montana	Viget Labs	Whale Conservation Institute Argentina (ICB)	World Wildlife Fund	Yvon Chouinard
United States Department of Defense	Univerdad de los Andes	University Malaysia Sarawak: Institute of Biodiversity and Conservation	University of Nevada, Reno	Village Animal Hospital—Jericho	White Oak Conservation	WWF – African Great Apes Programme	Zambia Wildlife Authority (ZAWA)
United States Department of Education	Universidad de Chile	University of Alaska	University of Papua New Guinea	Village Focus International	Wild About Animals	WWF-International	Zanzibar Animal Affection Society (ZAASO)
United States Department of Energy	Universidad de Magallanes	University of Alabama	University of Pretoria	Virginia Polytechnic Institute and State University	Wild Act	Wyoming Department of Transportation	Zhejiang Changxing Natural Breeding Research Center for Chinese Alligator
United States Department of Justice	Universidad del Rosario, Colombia	University of Alberta	University of Queensland	Virginia Zoo	Wild Aid	Wyoming Game and Fish Department	Zona Austral AG Pesca Artesanal
United States Department of State	Universidad del Valle, Colombia	University of Antananarivo, Faculty of Sciences	University of Rhode Island	Virunga Foundation	Wild Screen	Wyoming Land Trust	Zoo Atlanta
United States Department of the Interior	Universidad del Rosario, Colombia	University of Arizona	University of Rwanda	WABC - 7	Wild Team (formerly Wildlife Trust of Bangladesh)	Wyoming Migration Initiative	Zoo Boise
United States Department of the Treasury	Universidad del Valle, Colombia	University of British Columbia	University of Saskatchewan	Wabafu Fishermen Association	Wild4Ever	Wyoming Office of Tourism	Zoo de Granby (Canada)
United States Forest Service (USFS)	Universidad del Rosario, Colombia	University of California, Berkeley	University of South Pacific, Marine Studies Programme	Wageningen University—Plant Production Systems Group	Wild4Life	XComm Global	Zoo Miami
United States Embassy in Laos	Universidad del Rosario, Colombia	University of California, Berkeley	University of Stirling, UK	Wakhan Pamir Association (WPA)	WildCane	Xinhua News Agency	Zoo New England
United States Embassy in Malaysia	Universidad del Valle, Colombia	University of California, Berkeley	University of Tennessee	Walt Disney' Animal Kingdom	Wildcat Foundation	Ya'axche Conservation Trust	Zoo Zürich
United States Environmental Protection Agency (EPA)	Universidad del Valle, Colombia	University of California, Berkeley	University of Texas, El Paso	Walt Disney Company	Wildcat Service Corporation	Yale University	Zoological Society of London (ZSL)
United States Fish and Wildlife Service (USFWS)	Universidad del Valle, Colombia	University of California, Berkeley	University of Toronto	Washington Avenue Merchants Association	Wilderness Society	Yale University's Occupational and Environmental Medicine Program	Zoological Society of San Diego
United States Geological Survey (USGS)	Universidad del Valle, Colombia	University of California, Berkeley	University of Veterinary and Animal Sciences, Lahore	Washington State University	Wildfowl and Wetland Trust	Yanbian Morning Post	Zoológico Municipal Vesty Pakos
United States Marine Mammal Commission (MMC)	Universidad del Valle, Colombia	University of California, Berkeley	University of Victoria	WATALA	Wildlands Network	Yankari Resort and Safari	Zov Taiga
United States National Institute of Allergic and Infectious Diseases	Universidad del Valle, Colombia	University of California, Berkeley	University of Virginia	Watamu Turtle Watch (WTW)	Wildlife Alliance	YAPEKA (Nature Conservation Education Foundation)	Zov Tigr National Park
United States National Marine Fisheries Center	Universidad del Valle, Colombia	University of California, Berkeley	University of Wageningen	Water for Wildlife	Wildlife Clubs of Uganda	Yayasan (Rhino Foundation of Indonesia)	Zshuk Art Initiative
	Universidad del Valle, Colombia	University of California, Berkeley	University of Washington	Watermill Gardens	Wildlife Conservation Film Festival	Yayasan Lam Jabat	
	Universidad del Valle, Colombia	University of California, Berkeley	University of Waterloo	Wave Hill	Wildlife Department of Khabarovskii Krai	Yayasan Lembaga Analisis Sosial dan Pembangunan (LASP)	
	Universidad del Valle, Colombia	University of California, Berkeley	University of Wisconsin	Way Kambas National Park Authority	Wildlife Department of Primorskii Krai	Yayasan Orangutan Sumatera Lestari—Orangutan Information Centre	
	Universidad del Valle, Colombia	University of California, Berkeley	University of Wyoming	WDM Architects	Wildlife Division of Wildlife Department of Primorskii Krai	Yayasan PUGAR	
	Universidad del Valle, Colombia	University of California, Berkeley	Upper Green River Alliance	WebEx	Wildlife Division (WD)	Yayasan SEMANK	
	Universidad del Valle, Colombia	University of California, Berkeley	Urban Assembly School for Wildlife Conservation	WebSense	Wildlife Dynamics, Inc.	Yayasan Swara Perempuan	
	Universidad del Valle, Colombia	University of California, Berkeley	Urban Neighborhood Services	Wellcome Trust Sanger Institute	Wildlife Institute of India	Yayasan Terangi	
	Universidad del Valle, Colombia	University of California, Berkeley	Urban Science Academy	West Coast Environmental Law	Wildlife Management Institute	Yayasan Wahana Liar	
	Universidad del Valle, Colombia	University of California, Berkeley	Urithi Wetu-Tanzania	Western Arctic National Parklands, National Park Service	Wildlife Reserves Singapore	Yellowstone Ecological Research Center	
	Universidad del Valle, Colombia	University of California, Berkeley	USAID	Western EcoSystems Technology	Wildlife Safari	Yellowstone Safari Conservation Company	
	Universidad del Valle, Colombia	University of California, Berkeley	US Embassy, Malaysia		Wildlife Trust Alliance	Yellowstone to Yukon Conservation Initiative (Y2Y)	
	Universidad del Valle, Colombia	University of California, Berkeley	US Fish and Wildlife Service		Wildlife Works	Yoga Journal	
	Universidad del Valle, Colombia	University of California, Berkeley	US State Department		Wildtracks		
	Universidad del Valle, Colombia	University of California, Berkeley	Ussuriski State Zapovednik		Wildtracks Ecological Consulting		
	Universidad del Valle, Colombia	University of California, Berkeley	Utah's Hogel Zoo		Winter Wildlands Alliance		
	Universidad del Valle, Colombia	University of California, Berkeley	Utica Zoo		Women in Fisheries Network - Fiji		
	Universidad del Valle, Colombia	University of California, Berkeley	Vancouver Aquarium		Woodland Park Zoo		
	Universidad del Valle, Colombia	University of California, Berkeley	Vanderbilt University		Woodland Park Zoo Keepers, in memory of Watoto		
	Universidad del Valle, Colombia	University of California, Berkeley	Vermont Natural Resources Council		Woods Hole Research Center		
	Universidad del Valle, Colombia	University of California, Berkeley	Veterinarios sin Fronteras Canada		WorkAC		
	Universidad del Valle, Colombia	University of California, Berkeley	Veterinary and Animal Breeding Agency, Ministry of Industry and Agriculture				

Q&A

Colleen McCann

Bronx Zoo Mammal Curator Colleen McCann was drawn to the park's primates as a kid growing up in the Bronx. After completing graduate research on the zoo's gelada baboons and obtaining her PhD, Colleen joined the curatorial staff, where she is currently responsible for 130 species and 2,000 individual animals. Here, she shares highlights from two and half decades' work with some of the Bronx Zoo's most iconic animals.



Where did you grow up, go to school and study?

I grew up in the Bronx and the Bronx Zoo was my childhood zoo. Living in an apartment around the corner from the zoo and botanical gardens, my family made regular visits to both parks. I attended SUNY Albany as an undergraduate majoring in biology and anthropology and attended the CUNY graduate program in biological anthropology, studying primatology under former WCS conservation biologist, John Oates.

Why did you decide to be a primatologist?

It started as a kid coming to the Bronx Zoo and the story goes that I was enamored with the primates in the Monkey House. The primates were mesmerizing. It is truly a case of the zoo providing vivid, memorable experiences that in a very positive way impacted me in later years. In college, I had a passion for science and animal behavior and had a few really inspiring professors who introduced me to the topic.

How did you end up working at the Bronx Zoo?

As I started my graduate research studies on the reproductive physiology of geladas, the Bronx Zoo was acquiring several geladas from other zoos in preparation for the opening of Ethiopian Highlands. This proved to be opportunistic as my research would require obtaining biological samples from geladas in order to describe their estrus cycle. I submitted a request in order to conduct this research and was granted permission. Gaining access to the 'behind the scenes' provided me a view into the various aspects of their husbandry care. This gave me further insights into the skill sets needed to ensure the health and care of one of the largest zoo collections of animals. I was ultimately offered a curatorial internship in

the Mammal Department. This introduced me to what transpires on a daily basis in operating the mammal department and the best practices in husbandry care of mammals. Once I completed my PhD work, I was offered a curatorial position.

Describe your work as Curator of Mammals at the Bronx Zoo

There's a tremendous amount of responsibility involved in caring for a live collection. You can't put them away over the holiday and come back to them on Tuesday! We house approximately 130 species of mammals from mice to elephants, and over 2,000 individual animals—as well as fish and invertebrates. It takes a large dedicated staff of skilled animal people to ensure the health and well-being of a collection that includes nearly every order of mammals. Most of our activities involve the daily husbandry operation of the collection and maintaining the exhibits and holding spaces. And the ever-present responsibility for the safety of the staff and visitors that comes with working with animals. Another aspect of the job entails providing help to other departments, such as assisting with an education event.

What are some of the highlights of your work with geladas inhabiting the Simien Mountains of Ethiopia?

I still continue my behavioral-endocrinology research on geladas along with colleagues at the University of Michigan, who maintain a research site in the Simien Mountains. Geladas are unique as primates and have evolved several strategies that allow them to adapt to the harsh environment of the mountainous regions of Ethiopia. The focus of our research is in investigating the proximate mechanisms for these physiological adaptations. Sampling from the Bronx Zoo geladas provides

ABOVE

Bronx Zoo Mammal Curator Colleen McCann

RIGHT

In addition to her curating duties, Colleen continues her behavioral-endocrinology research on gelada baboons along with colleagues at the University of Michigan. Sampling from the Bronx Zoo geladas provides important biological validation for the sampling of geladas in the wild.

important biological validations for the sampling of geladas in the wild. This collaborative research has allowed us to investigate the physiological adaptations to the cold montane habitat and its marked seasonality, as well as the effects on gelada populations from living in close proximity to humans and their livestock. Additionally, we continue to explore male and female reproductive strategies as they present a unique structure when compared to the closely related baboon species.

What are some of your current projects?

I've been working with colleagues on giraffe infrasonic and bat ultrasonic auditory studies. In giraffes, the focus is to acoustically identify giraffe calls, or sounds, and pair that with a behavioral correlate. Giraffes do not make vocalizations that are audible to the human ear (aside from the occasional snort) but are believed to communicate through infrasonic calls. The challenge is identifying those infrasonic sounds acoustically and then finding a behavioral correlate as an indicator for their communication. Through audio recordings under different conditions, we look for acoustic structures resembling calls. Simultaneously, we record the giraffe's behavior in order to pair specific behaviors, such as neck stretching, to the infrasonic calls.

How did you decide to do the bat research and what does that entail?

More recently, I have been conducting acoustic surveys of the local bat populations in and around our parks in New York City. The bats that occur in this area are insectivorous bats that use echolocation to locate their prey. The calls they emit are not audible as they occur well outside the upper range of what humans can hear. In 2012, I began a collaboration with Fordham University to survey bats in the Bronx. We looked at four different locations in the Bronx, including the Bronx Zoo, and set up acoustic recorders to record bat calls as they navigate in search of prey during sunset and sunrise hours. We found that there are actually quite a few species of bats that take up residence in the Bronx—five out of nine that range within NY state. While the most common bat seen in urban areas is the big brown bat, the one we found most often was the Eastern red bat, a tree-dwelling species.

What were the implications for WCS's parks?

These results led us to conclude that our parks offer important green space for native species either resident here or migrating through NYC. At the completion of this initial study, I decided to expand the study to include our other city zoos to see if we had the same species present in the other boroughs. We are currently in the

final stages of analysis but the results show that we have the same three species (Eastern red, big brown, and silver-haired bats) at all three city zoos and that the Bronx Zoo is the only one of our parks with hoary bats and tri-colored bats. So there are differences at each site and now we are doing further investigations into what other environmental factors are responsible for these differences (e.g., access to water, insects and trees).

What has been your best day at the Bronx Zoo?

In the last 25 years, I have observed the births of many different species. Watching a giraffe give birth is truly fascinating, primarily due to their stature but also in how quickly the calves are standing and nursing. The birth of our last baby gorilla ended up with our gorilla care staff hand-rearing him for 6 months due to complications with the mother after delivery. The most anxious but rewarding day was when we introduced this little male back to his mother and she immediately scooped him up into her arms as if she'd been waiting for us to return him.

"It takes a large staff of skilled animal people to ensure the well-being of a collection that includes nearly every order of mammals."



2016 STAFF PUBLICATIONS

IN PRESS/EARLY VIEW CITATIONS (49)

Please note: In Press/Early View, etc. citations have been separated out and can be found before the 2016 official citations. They are not calculated in the total number of citations until assigned an official publication issue/date.

Amaral, A. R., **B. D. Smith, R. M. Mansur**, R. L. Brownell and **H. C. Rosenbaum** (Online First). “Oceanographic drivers of population differentiation in Indo-Pacific bottlenose (Tursiops aduncus) and humpback (Sousa spp.) dolphins of the northern Bay of Bengal.” *Conservation Genetics*. 10.1007/s10592-016-0913-7.

Bagchi, R., D. G. Hole, S. H. M. Butchart, Y. C. Collingham, L. D. Fishpool, **A. J. Plumptre, I. Owunji, H. Mugabe** and S. G. Willis (Accepted Article).

“Forecasting potential routes for movement of endemic birds among important sites for biodiversity in the Albertine Rift under projected climate change.” *Ecography*. 10.1111/ecog.02712.

Bland, L. M., J. Bielby, S. Kearney, C. D. L. Orme, **J. E. M. Watson** and B. Collen (Accepted Article). “Toward reassessing data-deficient species.” *Conservation Biology*. 10.1111/cobi.12850.

Bontrager, A., H. Kretser, K. Leong and N. Connelly (In Press). “Conservation Opportunity and Risk Mapping for Carnivores Using Landowner Survey Data from the Greater Yellowstone Ecosystem.” *The Professional Geographer*. 14p. 10.1080/00330124.2016.1208101.

Buuveibaatar, B., S. Strindberg, P. Kaczensky, **J. Payne, B.** Chimeddorj, G. Naranbaatar, S. Amarsaikhan, B. Dashnyam, T. Munkhzul, T. Purevsuren, D. A.

Hosack and T. K. Fuller (FirstView). “Mongolian Gobi supports the world’s largest populations of khulan *Equus hemionus* and goitered gazelles *Gazella subgutturosa*.” *Oryx FirstView*: 9p. 10.1017/S0030605316000417.

Chapman, C. A. and K. M. Milich (forthcoming). Logging. The International Encyclopedia of Primatology. A. Fuentes, John Wiley & Sons, Inc. 10.1002/9781119179313. wbpri0003.

Cooney, R., D. Roe, H. Dublin, J. Phelps, **D. Wilkie**, A. Keane, H. Travers, D. Skinner, D. W. S. Challender, J. R. Allan and D. Biggs (Accepted Article). “From Poachers to Protectors: Engaging Local Communities in Solutions to Illegal Wildlife Trade.” *Conservation Letters*. 10.1111/conl.12294.

Critchlow, R., **A. J. Plumptre**, B. Andira, **M. Nsubuga**, M. Driciru, A. Rwetsiba, F. Wanyama and C. M. Beale (Accepted Article). “Letter: Improving Law Enforcement Effectiveness and Efficiency in Protected Areas Using Ranger-collected Monitoring Data.” *Conservation Letters*. 10.1111/conl.12288.

Di Marco, M., **J. E. M. Watson**, H. P. Possingham and O. Venter (Accepted Article). “Limitations and trade-offs in the use of species distribution maps for protected area planning.” *Journal of Applied Ecology*. 10.1111/1365-2664.12771.

Durant, S. M., N. Mitchell, R. Groom, N. Pettorelli, **A. Ipavec**, A. P. Jacobson, R. Woodroffe, M. Böhm, L. T. B. Hunter, M. S. Becker, F. Broekhuis, S. Bashir, L. Andresen, O. Aschenborn, M. Beddiah, F. Belbachir, A. Belbachir-Bazi, A. Berbash, I. Brandao de Matos Machado, C. Breitenmoser,

M. Chege, D. Cilliers, H. Davies-Mostert, A. J. Dickman, F. Ezekiel, M. S. Farhadinia, P. Funston, P. Henschel, J. Horgan, H. H. de Longh, H. Jowkar, R. Klein, P. A. Lindsey, L. Marker, K. Marnewick, J. Melzheimer, J. Merkle, J. M’Soka, M. Msuha, H. O’Neill, M. Parker, G. Purchase, S. Sahailou, Y. Saidu, A. Samna, A. Schmidt-Küntzel, E. Selebatso, E. A. Sogbohossou, A. Sultant, E. Stone, E. van der Meer, R. van Vuuren, M. Wykstra and K. Young-Overton (Early edition). “The global decline of cheetah *Acinonyx jubatus* and what it means for conservation.” *Proceedings of the National Academy of Sciences*. 10.1073/pnas.1611122114.

Eaton, D. P., A. Keuroghlian, M. d. C. A. Santos, A. L. J. Desbiez and D. W. Sada (In Press). “Citizen scientists help unravel the nature of cattle impacts on native mammals and birds visiting fruiting trees in Brazil’s southern Pantanal.” *Biological Conservation*. 10.1016/j.biocon.2016.09.010.

Ekernas, L. S., W. M. Sarmiento, H. S. Davie, R. P. Reading, J. Murdoch, G. J. Wingard, S. Amgalanbaatar and **J. Berger** (Accepted Article). “Desert pastoralists’ negative and positive effects on rare wildlife in the Gobi.” *Conservation Biology*. 10.1111/cobi.12881.

Essington, T. E., L. Ciannelli, S. S. Heppell, P. S. Levin, **T. R. McClanahan**, F. Micheli, É. E. Plagányi and I. E. van Putten (First Online). “Empiricism and Modeling for Marine Fisheries: Advancing an Interdisciplinary Science.” *Ecosystems*: 8p. 10.1007/s10021-016-0073-0.

Farris, Z. J., M. J. Kelly, S. Karpanty, A. Murphy, **F. Ratelolahy, V. Andrianjakarivelo** and **C. Holmes** (In Press). “The times they are a changin’: Multi-year surveys reveal exotics replace native

carnivores at a Madagascar rainforest site.” *Biological Conservation*. 10.1016/j.biocon.2016.10.025.

Goswami, V. R. and **D. Vasudev** (Perspective article). “Triage of conservation needs: the juxtaposition of conflict mitigation and connectivity considerations in heterogeneous, human-dominated landscapes.” *Frontiers in Ecology and Evolution* 4(144). 10.3389/fevo.2016.00144.

Harris, J. B. C., M. W. Tingley, F. Hua, D. L. Yong, J. M. Adeney, T. M. Lee, **W. Marthy**, D. M. Prawiradilaga, C. H. Sekercioglu, Suyadi, N. Winarni and D. S. Wilcove (Accepted Article). “Measuring the impact of the pet trade on Indonesian birds.” *Conservation Biology*. 10.1111/cobi.12729.

Hudson, L. N., T. Newbold, S. Contu, S. L. L. Hill, I. Lysenko, **J. V. Dolia, A. Kumar** and e. al (Early View). “The database of the PREDICTS (Projecting Responses of Ecological Diversity In Changing Terrestrial Systems) project.” *Ecology and Evolution*. 10.1002/ece3.2579.

Jacob, A. L., M. J. Lechowicz and **C. A. Chapman** (Early View). “Non-native fruit trees facilitate colonization of native forest on abandoned farmland.” *Restoration Ecology*. 10.1111/rec.12414.

Johnson, C. A., D. Raubenheimer, **C. A. Chapman**, K. J. Tombak, A. J. Reid and J. M. Rothman (Early View). “Macronutrient balancing affects patch departure by guerezas (*Colobus guereza*).” *American Journal of Primatology*: n/a-n/a. 10.1002/ajp.22495.

Johnson, H. E., **J. R. Sushinsky**, A. Holland, E. J. Bergman, T. Balzer, J. Garner and **S. E. Reed** (Early View). “Increases in residential



ABOVE

This year more than 100,000 students participated in workshops designed to increase scientific literacy and foster a connection with wildlife and conservation.

and energy development are associated with reductions in recruitment for a large ungulate.” *Global Change Biology*. 10.1111/gcb.13385.

Kaye, S. W., **H. Daverio**, R. Eddy, R. Ossiboff, J. Peters-Kennedy and J. K. Morrissey (In press). “Surgical Resection of an Interrenal Cell Adenocarcinoma in a Woma Python (*Aspidites Ramsayi*) With 18-Month Follow-Up.” *Journal of Herpetological Medicine and Surgery*. 10.5818/15-11-065.1.

Kelly, T. R., W. B. Karesh, C. K. Johnson, K. V. K. Gilardi, S. J. Anthony, T. Goldstein, **S. H. Olson**, C. Machalaba and J. A. K. Mazet (In Press). “One Health proof of concept: Bringing a transdisciplinary approach to surveillance for zoonotic viruses at the human-wild animal interface.” *Preventive Veterinary Medicine*. 10.1016/j.prevetmed.2016.11.023. <http://dx.doi.org/10.1016/j.prevetmed.2016.11.023>

Kershaw, F., I. Carvalho, J. Loo, C. Pomilla, P. B. Best, K. P. Findlay, **S. Cerchio**, T. Collins, M. H. Engel, G. Minton, P. Ersts, J. Barendse, P. G. H. Kotze, **Y. Razafindrakoto, S. Nguessono**, M. Mejer, M. Thorton and **H. C. Rosenbaum** (Accepted Article). “Multiple processes drive genetic structure of humpback whale (*Megaptera novaeangliae*) populations across spatial scales.” *Molecular Ecology*. 10.1111/mec.13943.

Krishnadas, M., **A. Kumar** and L. S. Comita (2016). “Environmental gradients structure tropical tree assemblages at the regional scale.” *Journal of Vegetation Science* 27(6): 1117–1128. 10.1111/jvs.12438.

Lacroix, A., V. Duong, V. Hul, S. San, H. Davun, K. Omaliss, **S. Chea**, A. Hassanin, W. Theppangna, **S. Silthammavong, K. Khammavong, S. Singhalath, Z. Greatorex, A. E. Fine**, T. Goldstein, **S. Olson, D. O. Joly, L. Keatts**, P. Dussart, A. Afelt, R. Frutos and P. Buchy (In Press). “Genetic

diversity of coronaviruses in bats in Lao PDR and Cambodia.” *Infection, Genetics and Evolution*. 10.1016/j.meegid.2016.11.029.

Lastarria-Cornhiel, S., **V. Villaseñor, Z. Barahona** and **L. Orti** (In Press). “Gender empowerment in the Gran Chaco.” *Women’s Studies International Forum*. 10.1016/j.wsif.2016.11.009.

Lawler, J., **J. E. M. Watson** and E. Game (In Press). “Conservation in the face of climate change: recent developments.” *F1000Research*. 10.12688/f1000research.6490.1.

LeDuc, R.G., E. I. Archer, A. R. Lang, K. K. Martien, B. Hancock-Hanser, J. Ptorres-Florez, R. Hucke-Gaete, **H. R. Rosenbaum**, K. van Waerebeek, R. L. Brownell and B. L. Taylor (Accepted Article). “Genetic variation in blue whales in the eastern Pacific: implication for taxonomy and use of common wintering grounds.” *Molecular Ecology*. 10.1111/mec.13940.

2016 STAFF PUBLICATIONS



Lewis, S. A., N. Setiasih, D. Fahmi, M. P. O'Malley, **S. J. Campbell**, M. Yusuf and A. B. Sianipar (Preprint). [“Assessing Indonesian manta and devil ray populations through historical landings and fishing community interviews.”](#) *PeerJ PrePrints*. 10.7287/peerj.preprints.1334v1.

Li, Z., A. Kang, J. Gu, Y. Xue, Y. Ren, **Z. Zhu, P. Liu**, J. Ma and G. Jiang (In Press). [“Effects of human disturbance on vegetation, prey and Amur tigers in Hunchun Nature Reserve, China.”](#) *Ecological Modelling*. 10.1016/j.ecolmodel.2016.08.014.

Liang, X., A. Kang and N. Pettorelli (FirstView). [“Understanding habitat selection of the Vulnerable wild yak *Bos mutus* on the Tibetan Plateau.”](#) *Oryx*. 10.1017/S0030605315001155.

Lockyer, C. H. and **G. T. Braulik** (Online Early). [“An evaluation of age estimation using teeth from South Asian River dolphins \(*Platanistidae*\).”](#) *NAAMCO*

Scientific Journals **10**. 10.7557/3.3268.

Mahood, S. P., J. P. Silva, P. M. Dolman and R. J. Burnside (First View). [“Proposed power transmission lines in Cambodia constitute a significant new threat to the largest population of the Critically Endangered Bengal florican *Houbaropsis bengalensis*.”](#) *Oryx*. 9p. 10.1017/S0030605316000739.

Manguette, M. L., K. W. Greenway, V. H. Kandza, M. Breuer-Ndoundou Hockemba, F. B. Mavinga, R. J. Parnell, E. J. Stokes and **T. Breuer** (Early View). [“Life-history patterns of the Sitatunga \(*Tragelaphus spekii*\) at Mbeli Bai, northern Congo.”](#) *African Journal of Ecology*. 3p. 10.1111/aje.12321.

Martinez, J. and **R. B. Wallace** (Online First). [“Ecological and Behavioural Factors Influencing Territorial Call Rates for the Bolivian Titi Monkeys, *Plecturocebus modestus* and](#)

[Plecturocebus olallae.”](#) *Folia Primatologica* **87**(5): 12p. 10.1159/000448710.

Metcalfe, K., **T. Collins**, K. E. Abernethy, **R. Boumba**, J.-C. Dengui, **R. Miyalou, R. J. Parnell**, K. E. Plummer, D. J. F. Russell, G. K. Safou, D. Tilley, R. A. Turner, **H. VanLeeuwe**, M. J. Witt and B. J. Godley (Accepted Article).

[“Addressing Uncertainty in Marine Resource Management; Combining Community Engagement and Tracking Technology to Characterise Human Behaviour.”](#) *Conservation Letters*. 10.1111/conl.12293.

Murphy, A. J., S. M. Goodman, Z. J. Farris, S. M. Karpanty, **V. Andrianjakarivelo** and M. J. Kelly (First online). [“Landscape trends in small mammal occupancy in the Makira–Masoala protected areas, northeastern Madagascar.”](#) *Journal of Mammalogy*. 10.1093/jmammal/gyw168.

Nuttall, M., M. Nut, **V. Ung** and **H. O’Kelly** (FirstView). [“Abundance](#)

ABOVE
A 2016 study published by WCS’s Sarah Durant and colleagues indicated that there are only about 7,100 wild cheetahs (*Acinonyx jubatus*) left in the world, leading the authors to recommend that the International Union for Conservation of Nature (IUCN) change the cheetah’s Red List threat status from Vulnerable to Endangered.

[estimates for the endangered Green Peafowl *Pavo muticus* in Cambodia: identification of a globally important site for conservation.”](#) *Bird Conservation International*: 13p. 10.1017/S0959270916000083.

Paré, J. A. and L. Sigler (In press). [“An overview of reptile fungal pathogens in the genera *Nannizziopsis*, *Paranannizziopsis*, and *Ophidiomyces*.”](#) *Journal of Herpetological Medicine and Surgery* **0**(0): null. 10.5818/15-05-046.1.

Piaggio, A. J., G. Segelbacher, P. J. Seddon, L. Alphey, **E. L. Bennett**, R. H. Carlson, R. M. Friedman, D. Kanavy, R. Phelan, K. H. Redford, M. Rosales, L. Slobodian and K. Wheeler (In Press). [“Is It Time for Synthetic Biodiversity Conservation?”](#) *Trends in Ecology & Evolution*. 10.1016/j.tree.2016.10.016.

Polisar, J., B. de Thoisy, D. I. Rumiz, **F. D. Santos, R. B. McNab, R. Garcia-Anleu, G. Ponce-Santizo**, R. Arispe and C. Venegas (First online). [“Using certified timber extraction to benefit jaguar and ecosystem conservation.”](#) *Ambio*: 16p. 10.1007/s13280-016-0853-y.

Poole, C. M. and C. R. Shepherd (FirstView). [“Shades of grey: the legal trade in CITES-listed birds in Singapore, notably the globally threatened African grey parrot *Psittacus erithacus*.”](#) *Oryx*. 10.1017/S0030605314000234.

Sawyer, R. M., Z. S. E. Fenosoa, **A. Andrianarimisa** and G. Donati (First online). [“The effect of habitat disturbance on the abundance of nocturnal lemur species on the Masoala Peninsula, northeastern Madagascar.”](#) *Primates*: 11p. 10.1007/s10329-016-0552-0.

Shanee, N., **A. P. Mendoza** and S. Shanee (Early View). [“Diagnostic overview of the illegal trade in primates and law enforcement in Peru.”](#) *American Journal of Primatology*: n/a-n/a. 10.1002/ajp.22516.

Sigouin, A., M. Pinedo-Vasquez, R. Nasi, **C. Poole, B. Horne** and T. M. Lee (Early View). [“Priorities for the trade of less charismatic freshwater turtle and tortoise species.”](#) *Journal of Applied Ecology*. 10.1111/1365-2664.12797.

Sullivan, M. J. P., J. Talbot, S. L. Lewis, O. L. Phillips, **M. E. Leal** and e. al (In Press). [“Diversity and carbon storage across the tropical forest biome.”](#) *Scientific Reports*. Link?

Turkalo, A. K., P. H. Wrege and G. Wittemyer (Early View). [“Slow intrinsic growth rate in forest elephants indicates recovery from poaching will require decades.”](#) *Journal of Applied Ecology*. 10.1111/1365-2664.12764.

Valenta, K., O. Nevo, C. Martel and **C. A. Chapman** (First Online). [“Plant attractants: integrating insights from pollination and seed dispersal ecology.”](#) *Evolutionary Ecology*: 19p. 10.1007/s10682-016-9870-3.

Villada-Bedoya, S., **C. A. Cultid-Medina**, F. Escobar, R. Guevara and G. Zurita (Early View). [“Edge effects on dung beetle assemblages in an Andean mosaic of forest and coffee plantations.”](#) *Biotropica*. 10.1111/btp.12373.

2016
(415 citations)

Abbott, B. W., J. B. Jones, E. A. G. Schuur, F. S. Chapin, W. B. Bowden, M. S. Bret-Harte, H. E. Epstein, M. D. Flannigan, T. K. Harms, T. N.

Hollingsworth, M. C. Mack, A. D. McGuire, S. M. Natali, A. V. Rocha, S. E. Tank, M. R. Turetsky, J. E. Vonk, K. P. Wickland, G. R. Aiken, H. D. Alexander, R. M. W. Amon, B. W. Benschoter, Y. Bergeron, K. Bishop, O. Blarquez, B. Bond-Lamberty, A. L. Breen, I. Buffam, Y. H. Cai, C. Carcaillet, S. K. Carey, J. M. Chen, H. Y. H. Chen, T. R. Christensen, L. W. Cooper, J. H. C. Cornelissen, W. J. de Groot, T. H. DeLuca, E. Dorrepaal, N. Fetcher, J. C. Finlay, B. C. Forbes, N. H. F. French, S. Gauthier, M. P. Girardin, S. J. Goetz, J. G. Goldammer, L. Gough, P. Grogan, L. D. Guo, P. E. Higuera, L. Hinzman, F. S. Hu, G. Hugelius, E. E. Jafarov, R. Jandt, J. F. Johnstone, J. Karlsson, E. S. Kasischke, G. Kattner, R. Kelly, F. Keuper, G. W. Kling, P. Kortelainen, J. Kouki, P. Kuhry, H. Laudon, I. Laurion, R. W. Macdonald, P. J. Mann, P. J. Martikainen, J. W. McClelland, U. Molau, S. F. Oberbauer, D. Olefeldt, D. Pare, M. A. Parisien, S. Payette, C. H. Peng, O. S. Pokrovsky, E. B. Rastetter, P. A. Raymond, M. K. Reynolds, G. Rein, J. F. Reynolds, **M. Robards**, B. M. Rogers, C. Schadel, K. Schaefer, I. K. Schmidt, A. Shvidenko, J. Sky, R. G. M. Spencer, G. Starr, R. G. Striegl, R. Teisserenc, L. J. Tranvik, T. Virtanen, J. M. Welker and S. Zimov (2016). [“Biomass offsets little or none of permafrost carbon release from soils, streams, and wildfire: an expert assessment.”](#) *Environmental Research Letters* **11**(3): 13. 10.1088/1748-9326/11/3/034014.

Abernethy, K., **F. Maisels** and L. J. T. White (2016). [“Environmental Issues in Central Africa.”](#) *Annual Review of Environment and Resources* **41**: 1-33. 10.1146/annurev-environ-110615-085415.

Acevedo, J., A. Aguayo-Lobo, J. L. Brito, D. Torres, B. Cáceres, **A. Vila**, M. Cardena and P. Acuña (2016). [“Review of the current distribution of southern elephant](#)

[seals in the eastern South Pacific.”](#) *New Zealand Journal of Marine and Freshwater Research* **50**(2): 240-258. 10.1080/00288330.2015.1132746.

Aloisio, J. M., A. R. Tuininga and J. D. Lewis (2016). [“Crop species selection effects on stormwater runoff and edible biomass in an agricultural green roof microcosm.”](#) *Ecological Engineering* **88**: 20-27. 10.1016/j.ecoleng.2015.12.022.

Althor, G., **J. E. M. Watson** and R. A. Fuller (2016). [“Global mismatch between greenhouse gas emissions and the burden of climate change.”](#) *Scientific Reports* **6**: 6p. 10.1038/srep20281

Amaral, A. R., J. Loo, H. Jaris, C. Olavarria, D. Thiele, P. Ensor, A. Aguayo and **H. C. Rosenbaum** (2016). [“Population genetic structure among feeding aggregations of humpback whales in the Southern Ocean.”](#) *Marine Biology* **163**(6): 13p. 10.1007/s00227-016-2904-0.

Ancrenaz, M., **M. Guma**, A. J. Marshall, E. Meijaard, S. A. Wich and S. Husson (2016). [“Pongo pygmaeus \(Bornean Orangutan\).](#)

IUCN. 10.2305/IUCN.UK.2016-1.RLTS.T17975A17966347.en.

Andrianarimisa, A. (2016) [Communauté aviaire et écologie du paysage au service de la conservation](#), Edition Universitaires Européennes.

Antunes, A. P., R. M. Fewster, E. M. Venticinque, C. A. Peres, T. Levi, F. Rohe and G. H. Shepard (2016). [“Empty forest or empty rivers? A century of commercial hunting in Amazonia.”](#) *Science Advances* **2**(10). 10.1126/sciadv.1600936.

Arihafa, A. (2016). [“Factors influencing community mangrove planting success on](#)

2016 STAFF PUBLICATIONS

Manus Island, Papua New Guinea. *Conservation Evidence* **13**: 42-46.

Ateweberhan, M. and T. R. McClanahan (2016). “**Partitioning scleractinian coral diversity across reef sites and regions in the Western Indian Ocean.**” *Ecosphere* **7**(5). 10.1002/ecs2.1243.

Athreya, V., J. D. C. Linnell, S. Ghosal and M. Odden (2016). Case Study 5: Large carnivores in human-dominated landscapes in India. *Tropical Conservation: Perspectives on Local and Global Priorities*. A. A. Aguirre and R. Sukumar, Oxford University Press: 132-135.

Athreya, V., M. Odden, J. D. C. Linnell, J. Krishnaswamy and K. U. Karanth (2016). “**A cat among the dogs: leopard (*Panthera pardus*) diet in a human-dominated landscape in western Maharashtra, India.**” *Oryx* **50**(1): 156-162. 10.1017/S0030605314000106.

Atkinson, S. C., **S. D. Jupiter**, V. M. Adams, **J. C. Ingram**, S. Narayan, C. J. Klein and H. P. Possingham (2016). “**Prioritising Mangrove Ecosystem Services Results in Spatially Variable Management Priorities.**” *PLoS ONE* **11**(3): e0151992. 10.1371/journal.pone.0151992.

Azcedo, F. C. C. d., T. G. d. Oliveira, R. C. d. Paula, C. B. d. Campos, E. A. Moraes Jr, S. M. C. Cavalcanti, W. M. Tomas, R. L. P. Boulhosa, P. G. Crawshaw Jr, B. d. M. Beisiegel, D. A. Sana, K. M. Paschoaleto, M. d. B. Ferraz and **J. Polisar** (2016). Estado del jaguar (*Panthera onca*) en Brasil. El jaguar en el siglo XXI: la perspectiva continental. R. Medillin, J. A. de la Torre, H. Zarza, C. Chavez and G.

Ceballos, Fondo de Cultura Economica 366-433.

Baker, A. C., A. M. S. Correa and R. Cuning (2017). **Diversity, Distribution and Stability of *Symbiodinium* in Reef Corals of the Eastern Tropical Pacific.** Coral Reefs of the Eastern Tropical Pacific: Persistence and Loss in a Dynamic Environment. P. W. Glynn, D. P. Manzello and I. C. Enochs, Springer Netherlands: 405-420. 10.1007/978-94-017-7499-4_13.

Barca, B., A. Lindon and M. Root-Bernstein (2016). “**Environmentalism in the crosshairs: Perspectives on migratory bird hunting and poaching conflicts in Italy.**” *Global Ecology and Conservation* **6**: 189-207. 10.1016/j.gecco.2016.03.001.

Barca, B., C. Vincent, S. Khang, M. Nuttall and K. Hobson (2016). “**Multi-Female Group in the Southernmost Species of *Nomascus*: Field Observations in Eastern Cambodia Reveal Multiple Breeding Females in a Single Group of Southern Yellow-Cheeked Crested Gibbon *Nomascus gabriellae*.**” *Asian Primates Journal* **6**(1): 15-19.

Barr, L. M., **J. E. M. Watson**, H. P. Possingham, T. Iwamura and R. A. Fuller (2016). “**Progress in improving the protection of species and habitats in Australia.**” *Biological Conservation* **200**: 184-191. 10.1016/j.biocon.2016.03.038.

Barrionuevo, M. and **E. Frere** (2016). “**Delayed start of full incubation is related to a delayed brood patch development in Magellanic Penguins *Spheniscus magellanicus*.**” *Bird Study* **63**(3): 353-358. 10.1080/00063657.2016.1184617. 17 Barrionuevo, M., N. Marchisio and **E. Frere** (2016). “**Factors Affecting Brood Patch Development in Magellanic Penguins *Spheniscus magellanicus*.**” *Acta Ornithologica*

51(1): 1-11. 10.3161/00016454AO2016.51.1.001.

Bayles, B. R., K. A. Brauman, J. N. Adkins, B. F. Allan, A. M. Ellis, T. L. Goldberg, **C. D. Golden**, D. S. Grigsby-Toussaint, S. S. Myers, **S. A. Osofsky**, T. H. Ricketts and J. B. Ristaino (2016). “**Ecosystem Services Connect Environmental Change to Human Health Outcomes.**” *EcoHealth* **13** (3): 443-449. 10.1007/s10393-016-1137-5.

Beaudrot, L., J. A. Ahumada, **T. O'Brien**, P. Alvarez-Loayza, K. Boekee, A. Campos-Arceiz, D. Eichberg, S. Espinosa, E. Feagraus, C. Fletcher, K. Gajapersad, **C. Hallam**, J. Hurtado, P. A. Jansen, A. Kumar, E. Larney, M. G. M. Lima, C. Mahony, E. H. Martin, **A. McWilliam**, B. Mugerwa, **M. Ndoundou-Hockemba**, J. C. Razafimahaimodison, H. Romero-Saltos, F. Rovero, J. Salvador, F. Santos, D. Sheil, W. R. Spironello, M. R. Willig, N. L. Winarni, A. Zvoleff and S. J. Andelman (2016). “**Standardized Assessment of Biodiversity Trends in Tropical Forest Protected Areas: The End Is Not in Sight.**” *PLoS Biol* **14**(1). 10.1371/journal.pbio.1002357.

Beaudrot, L., K. Kroetz, P. Alvarez-Loayza, I. Amaral, **T. Breuer**, C. D. Fletcher, P. A. Jansen, D. Kenfack, M. G. M. Lima, A. R. Marshall, E. H. Martin, **M. Ndoundou-Hockemba**, **T. G. O'Brien**, J. C. Razafimahaimodison, H. Romero-Saltos, F. Rovero, **C. H. Roy**, D. Sheil, C. E. F. Silva, W. R. Spironello, R. Valencia, A. Zvoleff, J. Ahumada and S. Andelman (2016). “**Limited carbon and biodiversity co-benefits for tropical forest mammals and birds.**” *Ecological Applications* **26**(4): 1098-1111. 10.1890/15-0935.

Beckmann, J. P., S. H. Olson, R. G. Seidler and J. Berger (2016). “**Sub-lethal effects of energy**

development on a migratory mammal—The enigma of North American pronghorn.” *Global Ecology and Conservation* **6**: 36-47. 10.1016/j.gecco.2016.02.001.

Benjamin, W. A., B. J. Jeremy, A. G. S. Edward, I. F. Stuart Chapin, B. B. William, M. S. Bret-Harte, E. E. Howard, D. F. Michael, K. H. Tamara, N. H. Teresa, C. M. Michelle, A. D. McGuire, M. N. Susan, V. R. Adrian, E. T. Suzanne, R. T. Merritt, E. V. Jorien, P. W. Kimberly, R. A. George, D. A. Heather, M. W. A. Rainer, W. B. Brian, B. Yves, B. Kevin, B. Olivier, B.-L. Ben, L. B. Amy, B. Ishi, C. Yihua, C. Christopher, K. C. Sean, M. C. Jing, Y. H. C. Han, R. C. Torben, W. C. Lee, J. H. C. Cornelissen, J. d. G. William, H. D. Thomas, D. Ellen, F. Ned, C. F. Jacques, C. F. Bruce, H. F. F. Nancy, G. Sylvie, P. G. Martin, J. G. Scott, G. G. Johann, G. Laura, G. Paul, G. Laodong, E. H. Philip, H. Larry, H. Feng Sheng, H. Gustaf, E. J. Elchin, J. Randi, F. J. Jill, K. Jan, S. K. Eric, K. Gerhard, K. Ryan, K. Frida, W. K. George, K. Pirkko, K. Jari, K. Peter, L. Hjalmar, L. Isabelle, W. M. Robie, J. M. Paul, J. M. Pertti, W. M. James, M. Ulf, F. O. Steven, O. David, P. David, P. Marc-André, P. Serge, P. Changhui, S. P. Oleg, B. R. Edward, A. R. Peter, K. R. Martha, R. Guillermo, F. R. James, **R. Martin**, M. R. Brendan, S. Christina, S. Kevin, K. S. Inger, S. Anatoly, S. Jasper, G. M. S. Robert, S. Gregory, G. S. Robert, T. Roman, J. T. Lars, V. Tarmo, M. W. Jeffrey and Z. Sergei (2016). “**Biomass offsets little or none of permafrost carbon release from soils, streams, and wildfire: an expert assessment.**” *Environmental Research Letters* **11**(3): 034014.

Bentzen, R., A. Dondua, R. Porter, M. Robards and D. Solovyeva (2016). “**Large-scale movements of Dunlin breeding in Chukotka, Russia, during the non-breeding**

period.” *Wader Study* **123**(2). 10.18194/ws.00034.



ABOVE While Latin America covers only 16 percent of the globe it is home to 40 percent of the world's biodiversity. Existing species like this chestnut-mandibled toucan (*Ramphastos swainsonii*) from Costa Rica are illegally traded to meet national and international demand, making them a prime target for illegal wildlife trafficking.

Bentzen, R., J. M. Castellini, R. Gerlach, C. Dykstra and T. O'Hara (2016). “**Mercury concentrations in Alaska Pacific halibut muscle relative to stable isotopes of C and N and other biological variables.**” *Marine Pollution Bulletin* **13**(1-2): 110-116. 10.1016/j.marpolbul.2016.08.068.

Bjorndal, K. A., M. Chaloupka, V. S. Saba, C. E. Diez, R. P. van Dam, B. H. Krueger, J. A. Horrocks, A. J. B. Santos, C. Bellini, M. A. G. Marcovaldi, M. Nava, S. Willis, B. J. Godley, S. Gore, L. A. Hawkes, A. McGowan, M. J. Witt, T. B. Stringell, A. Sanghera, P. B. Richardson, A. C. Broderick, Q. Phillips, M. C. Calosso, J. A. B. Claydon, J. Blumenthal, F. Moncada, G. Nodarse, Y. Medina, S. G. Dunbar, L. D. Wood, **C. J. Lagueux, C. L. Campbell, A. B. Meylan, P. A. Meylan, V. R. Burns Perez, R. A. Coleman, S. Strindberg, V. Guzmán-H, K. M. Hart, M. S. Cherkiss, Z. Hillis-Starr,**

I. F. Lundgren, R. H. Boulon, S. Connett, M. E. Outerbridge and A. B. Bolten (2016). “**Somatic growth dynamics of West Atlantic hawksbill sea turtles: a spatio-temporal perspective.**” *Ecosphere* **7**(5). 10.1002/ecs2.1279.

Blackburn, D. C., C. Boix, E. Greenbaum, M. Fabrezi, D. Meirte, **A. J. Plumtre** and E. L. Stanley (2016). “**The distribution of the Bururi Long-fingered Frog (*Cardioglossa cyaneospila*, family Arthroleptidae), a poorly known Albertine Rift endemic.**” *Zootaxa* **4170**(2): 355-364. 10.11646/zootaxa.4170.2.8.

Blasiak, R., E. Pacheco, K. Furuya, **C. D. Golden**, A. R. Jauharee, Y. Natori, H. Saito, H. Sinan, T. Tanaka, N. Yagi and E. Yiu (2016). “**Local and regional experiences with assessing and fostering ocean health.**” *Marine Policy* **71**: 54-59. 10.1016/j.marpol.2016.05.011.

Bonnell, T. R., **C. A. Chapman** and R. Sengupta (2016). “**Interaction**

between scale and scheduling choices in simulations of spatial agents.” *International Journal of Geographical Information Science* **30**(10): 2075-2088. 10.1080/13658816.2016.1158822.

Bonnell, T. R., R. R. Ghai, T. L. Goldberg, R. Sengupta and **C. A. Chapman** (2016). “**Spatial patterns of persistence for environmentally transmitted parasites: Effects of regional climate and local landscape.**” *Ecological Modelling* **338**: 78-89. 10.1016/j.ecolmodel.2016.07.018.

Boron, V., J. Tzanopoulos, J. Gallo, J. Barragan, L. Jaimes-Rodriguez, **G. Schaller** and E. Payán (2016). “**Jaguar Densities across Human-Dominated Landscapes in Colombia: The Contribution of Unprotected Areas to Long Term Conservation.**” *PLoS ONE* **11**(5): 14p. 10.1371/journal.pone.0153973.

Borrelli, L., L. Lema, M. Berardi, I. Hoermann, J. Salinas and **A. Vila** (2016). “**Comparación entre el**

2016 STAFF PUBLICATIONS



ABOVE
Camouflage grouper (*Epinephelus polyphekadion*) aggregating to spawn in French Polynesia at one of the few remaining known unfished aggregations for this species. If not managed, such aggregation sites gradually disappear along with the populations they support. Among coral reef fishes, more than 60 percent of aggregations for which we have sufficient information have declined, and some have completely disappeared from overfishing.

contenido ruminal y fecal en la composición botánica de la dieta de un huemul (Comparison of ruminal and fecal content in the botanical composition of the diet of one huemul)." *Anales Instituto Patagonia (Chile)* **44**(2): 73-76.

Breuer, T., A. M. Robbins and M. M. Robbins (2016). "Sexual coercion and courtship by male western gorillas." *Primates* **57**(1): 29-38. 10.1007/s10329-015-0496-9.

Breuer, T., F. Maisels and V. Fishlock (2016). "The consequences of poaching and anthropogenic change for forest elephants." *Conservation Biology* **30**(5): 1019-1026. 10.1111/cobi.12679.

Brito, I. L., S. Yilmaz, K. Huang, L. Xu, **S. D. Jupiter**, A. P. Jenkins, **W. Naisilisili**, M. Tamminen, C. S. Smillie, J. R. Wortman, B. W. Birren, R. J. Xavier, P. C. Blainey, A. K. Singh, D. Gevers and E. J. Alm (2016). "Mobile genes in the human microbiome are structured from global to individual scales." *Nature*

535(7612): 18p. 10.1038/nature18927

Brownscombe, J. W., T. P. Parmar, J. Almeida, E. Giesbrecht, J. Batson, X. Chen, S. Wesch, T. D. Ward, **C. M. O'Connor** and S. J. Cooke (2016). "The efficacy of assisted ventilation techniques for facilitating the recovery of fish that are exhausted from simulated angling stress." *Fisheries Research* **186**(Part 3): 619-624. 10.1016/j.fishres.2016.04.017.

Bull, J. W., A. Gordon, **J. E. M. Watson** and M. Maron (2016). "Seeking convergence on the key concepts in 'no net loss' policy." *Journal of Applied Ecology* **53**(6): 1686-1693. 10.1111/1365-2664.12726.

Bulla, M., M. Valcu, A. M. Dokter, A. G. Dondua, A. Kosztolanyi, A. L. Rutten, B. Helm, B. K. Sandercock, B. Casler, B. J. Ens, C. S. Spiegel, C. J. Hassell, C. Kupper, C. Minton, D. Burgas, D. B. Lank, D. C. Payer, E. Y. Loktionov, E. Nol, E. Kwon, F. Smith, H. R. Gates, H. Vitnerova,

H. Pruter, J. A. Johnson, J. J. H. St Clair, J. F. Lamarre, J. Rausch, J. Reneerkens, J. R. Conklin, J. Burger, J. Liebezeit, J. Bety, J. T. Coleman, J. Figuerola, J. Hooijmeijer, J. A. Alves, J. A. M. Smith, K. Weidinger, K. Koivula, K. Gosbell, K. M. Exo, L. Niles, L. Koloski, L. McKinnon, L. Praus, M. Klaassen, M. A. Giroux, M. Sladeczek, M. L. Boldenow, M. I. Goldstein, M. Salek, N. Senner, N. Ronka, N. Lecomte, O. Gilg, O. Vincze, O. W. Johnson, P. A. Smith, P. F. Woodard, P. S. Tomkovich, P. F. Battley, **R. Bentzen**, R. B. Lanctot, R. Porter, S. T. Saalfeld, S. Freeman, S. C. Brown, S. Yezerinac, T. Szekely, T. Montalvo, T. Piersma, V. Loverti, V. M. Pakanen, W. Tijssen and B. Kempnaers (2016). "Unexpected diversity in socially synchronized rhythms of shorebirds." *Nature* **540**(7631): 109-113. 10.1038/nature20563.

Burke, R. L., **P. P. Calle**, M. P. Figueras and T. M. Green (2016). "Internal Body Temperatures of an Overwintering Adult *Terrapene carolina* (Eastern Box

Turtle)." *Northeastern Naturalist* **23**(3): 364-366. 10.1656/045.023.0304.

Butchart, S. H. M., M. Di Marco and **J. E. M. Watson** (2016). "Formulating smart commitments on biodiversity: lessons from the Aichi Targets." *Conservation Letters* **9**(6): 457-468. 10.1111/conl.12278.

Butt, N., H. P. Possingham, C. De Los Rios, R. Maggini, R. A. Fuller, S. L. Maxwell and **J. E. M. Watson** (2016). "Challenges in assessing the vulnerability of species to climate change to inform conservation actions." *Biological Conservation* **199**: 10-15. 10.1016/j.biocon.2016.04.020.

Buuveibaatar, B. (2016). *Distribution and Population Dynamics of Ungulates in the Mongolian Gobi.* Department of Environmental Conservation, University of Massachusetts Amherst Doctor of Philosophy: 114p.

Buuveibaatar, B., T. Mueller, **S. Strindberg**, P. Leimgruber, P. Kaczensky and T. K. Fuller (In Progress). "Human activities negatively impact distribution of ungulates in the Mongolian Gobi." *Biological Conservation* **203**: 168-175. 10.1016/j.biocon.2016.09.013.

Cáceres, B., A. Kusch and **A. R. Vila** (2016). Manual de Buenas Prácticas para el Turismo de Intereses Especiales en Ecosistemas Marinos y Costeros Australes... Punta Arenas, Chile. Wildlife Conservation Society Chile.

Cameron, K. N., P. Reed, D. B. Morgan, A. I. Ondzić, C. M. Sanz, H. S. Kühl, **S. H. Olson**, E. Leroy, **W. B. Karesh** and R. Mundry (2016). "Spatial and Temporal Dynamics of a Mortality Event among Central African Great Apes."

PLoS ONE **11**(5): 14p. 10.1371/journal.pone.0154505.

Caro, T. and **T. R. B. Davenport** (2016). "Wildlife and wildlife management in Tanzania." *Conservation Biology* **30**(4): 716-723. 10.1111/cobi.12658.

Carrasco, L. R., S. K. Papworth, J. Reed, W. S. Symes, A. Ickowitz, **T. Clements**, K. S. H. Peh and T. Sunderland (2016). "Five challenges to reconcile agricultural land use and forest ecosystem services in Southeast Asia." *Conservation Biology* **30**(5): 962-971. 10.1111/cobi.12786.

Cerchio, S., L. Trudelle, A. N. Zerbini, J.-B. Charrassin, Y. Geyer, F. X. Mayer, **N. Andrianarivelo**, J.-L. Jung, O. Adam and **H. C. Rosenbaum** (2016). "Satellite telemetry of humpback whales off Madagascar reveals insights on breeding behavior and long-range movements within the southwest Indian Ocean." *Marine Ecology Progress Series* **562**: 193-209. 10.3354/meps11951.

Chapman, C. A., A. DeLuycker, R. A. Reyna-Hurtado, J. C. Serio-Silva, T. B. Smith, K. B. Strier and T. L. Goldberg (2016). "Safeguarding biodiversity: what is perceived as working, according to the conservation community?" *Oryx* **50**(2): 302-307. 10.1017/s0030605314000738.

Chapman, C. A., D. Twinomugisha, J. A. Teichroeb, K. Valenta, R. Sengupta, D. Sarkar and J. M. Rothman (2016). *How Do Primates Survive Among Humans? Mechanisms Employed by Vervet Monkeys at Lake Nabugabo, Uganda.* Ethnoprimatology: Primate Conservation in the 21st Century. M. T. Waller, Springer: 77-94.

Chapman, C. A., S. Friant, K. Godfrey, C. Liu, D. Sakar, V. A. M.

Schoof, R. Sengupta, D. Twinomugisha, K. Valenta and T. L. Goldberg (2016). "Social Behaviours and Networks of Vervet Monkeys Are Influenced by Gastrointestinal Parasites." *PLoS ONE* **11**(8): 13p. 10.1371/journal.pone.0161113.

Chapman, S., **J. E. M. Watson** and C. A. McAlpine (2016). "Large seasonal and diurnal anthropogenic heat flux across four Australian cities." *Journal of Southern Hemisphere Earth Systems Science* **66**(3): 342-360.

Chase, M. J., S. Schlossberg, C. R. Griffin, P. J. C. Bouché, S. W. Djene, **P. W. Elkan**, S. Ferreira, **F. Grossman**, E. M. Kohi, K. Landen, P. Omondi, A. Peltier, S. A. J. Selier and R. Sutcliffe (2016). "Continent-wide survey reveals massive decline in African savannah elephants." *PeerJ* (e2354). 10.7717/peerj.2354.

Churchyard, T., M. A. Eaton, S. Havery, J. Hall, J. Millett, A. Farr, **R. J. Cuthbert**, C. Stringer and J. A. Vickery (2016). "The biodiversity of the United Kingdom's Overseas Territories: a stock take of species occurrence and assessment of key knowledge gaps." *Biodiversity and Conservation* **25**(9): 1677-1694. 10.1007/s10531-016-1149-z.

Ciancio, J. E., **F. Quintana**, J. E. Sala and R. P. Wilson (2016). "Cold birds under pressure: Can thermal substitution ease heat loss in diving penguins?" *Marine Biology* **163**(2): 15p. 10.1007/s00227-016-2813-2.

Cinner, J. E., C. Huchery, M. A. MacNeil, N. A. J. Graham, **T. R. McClanahan**, J. Maina, E. Maire, J. N. Kittinger, C. C. Hicks, C. Mora, E. H. Allison, **S. D'Agata**, A. Hoey, D. A. Feary, L. Crowder, I. D. Williams, M. Kulbicki, L. Vigliola, L. Wantiez, G. Edgar, R. D. Stuart-Smith, S. A. Sandin, A. L. Green, M. J. Hardt, M. Beger, A.

Friedlander, **S. J. Campbell**, **K. E. Holmes**, S. K. Wilson, E. Brokovich, A. J. Brooks, J. J. Cruz-Motta, D. J. Booth, P. Chabanet, C. Gough, M. Tupper, S. C. A. Ferse, U. R. Sumaila and D. Mouillot (2016). "Bright spots among the world's coral reefs." *Nature* **535**(7612): 416-419. 10.1038/nature18607

Clancy, M. M., A. L. Newton and **J. M. Sykes** (2016). "Management of Osteomyelitis Caused by Salmonella Enterica Subsp. *Houtenae* in a Taylor's Cantil (*Agkistrodon Bilineatus Taylori*) Using Amikacin Delivered via Osmotic Pump." *Journal of Zoo and Wildlife Medicine* **47**(2): 691-694. 10.1638/2015-0207.1.

Clancy, M. M., M. Davis, **M. T. Valitutto**, K. Nelson and **J. M. Sykes** (2016). "Salmonella infection and carriage in reptiles in a zoological collection." *Journal of the American Veterinary Medical Association* **248**(9): 1050-1059. 10.2460/javma.248.9.1050.

Collen, B., N. K. Dulvy, K. J. Gaston, U. Gärdenfors, D. A. Keith, A. E. Punt, H. M. Regan, M. Böhm, **S. Hedges**, M. Seddon, S. H. M. Butchart, C. Hilton-Taylor, M. Hoffmann, S. P. Bachman and H. R. Akçakaya (2016). "Clarifying misconceptions of extinction risk assessment with the IUCN Red List." *Biology Letters* **12**(4). 10.1098/rsbl.2015.0843.

Copello, S., G. S. Blanco, J. P. Seco Pon, **F. Quintana** and M. Favero (2016). "Exporting the problem: Issues with fishing closures in seabird conservation." *Marine Policy* **74**: 120-127. 10.1016/j.marpol.2016.09.008.

Corrigan, L. J., A. Fabiani, L. F. Chauke, C. R. McMahon, M. de Bruyn, M. N. Bester, A. Bastos, **C. Campagna**, M. M. Muelbert and A. R. Hoelzel (2016). "Population differentiation in the context of

2016 STAFF PUBLICATIONS

Holocene climate change for a migratory marine species, the southern elephant seal. *Journal of Evolutionary Biology* 29(9): 1667–1679. 10.1111/jeb.12870.

Cote, I. M., **E. S. Darling** and C. J. Brown (2016). **“Interactions among ecosystem stressors and their importance in conservation.”** *Proceedings of the Royal Society B-Biological Sciences* 283(1824): 9. 10.1098/rspb.2015.2592.

Cross, M., E. Matthews, N. Alm, J. F. Calvelli and S. Mangubhai (2016). **Series of blogs by WCS staff at the IUCN World Conservation Congress taking place September 1–10 in Honolulu, Hawaii.** *Conservation Now: Blogging from IUCN 2016*, Medium.com

Cultid-Medina, C. A. and F. Escobar (2016). **“Assessing the Ecological Response of Dung Beetles in an Agricultural Landscape Using Number of Individuals and Biomass in Diversity Measures.”** *Environmental Entomology* 45(2): 310–319. 10.1093/ee/nvv219.

Cuthbert, R. J., G. Bush, M. Chapman, B. Ken, E. Neale and N. Whitmore (2016). *Analysis of National Circumstances in the Context of REDD+ and Identification of REDD+ Abatement Levers in Papua New Guinea: Report produced by the Wildlife Conservation Society (Goroka, Papua New Guinea), for Papua New Guinea’s UN-REDD National Programme.* Wildlife Conservation Society. Papua New Guinea Programme.

Cuthbert, R. J., M. A. Taggart, M. Saini, A. Sharma, A. Das, M. D. Kulkarni, P. Deori, S. Ranade, R. N. Shringarpure, T. H. Galligan and R. E. Green (2016). **“Continuing**

mortality of vultures in India associated with illegal veterinary use of diclofenac and a potential threat from nimesulide.” *Oryx* 50(1): 104–112. 10.1017/S003060531500037X.

Cuthbert, R. J., R. M. Wanless, A. Angel, M. H. Burle, G. M. Hilton, H. Louw, P. Visser, J. W. Wilson and P. G. Ryan (2016). **“Drivers of predatory behavior and extreme size in house mice *Mus musculus* on Gough Island.”** *Journal of Mammalogy* 97(2): 533–544. 10.1093/jmammal/gyv199.

D’agata, S., D. Mouillot, L. Wantiez, A. M. Friedlander, M. Kulbicki and L. Vigliola (2016). **“Marine reserves lag behind wilderness in the conservation of key functional roles.”** *Nature Communications* 7: 10p. 10.1038/ncomms12000.

Dashnyam, B., T. Purevsuren, S. Amarsaikhan, D. Bataa, **B. Buuveibaatar** and G. Dutson (2016). **“Malfunction Rates of Bird Flight Diverters on Powerlines in the Mongolian Gobi.”** *Mongolian Journal of Biological Sciences* 14(1-2): 13–20.

Daw, T. M., C. C. Hicks, K. Brown, T. Chaigneau, F. A. Januchowski-Hartley, W. W. L. Cheung, S. Rosendo, B. Crona, S. Coulthard, C. Sandbrook, C. Perry, S. Bandeira, **N. A. Muthiga**, B. Schulte-Herbrüggen, J. Bosire and **T. R. McClanahan** (2016). **“Elasticity in ecosystem services: exploring the variable relationship between ecosystems and human well-being.”** *Ecology and Society* 21(2): 10.5751/ES-08173-210211.

de Lange, E., **E. Woodhouse** and E. J. Milner-Gulland (2016). **“Approaches Used to Evaluate the Social Impacts of Protected Areas.”** *Conservation Letters* 9(5):

327–333. 10.1111/conl.12223. = **Devarajan, K.** (2016). **“The Antsy Social Network: Determinants of Nest Structure and Arrangement in Asian Weaver Ants.”** *Plos ONE* 11(6): 15. 10.1371/journal.pone.0156681.

Di Fonzo, M. M. I., H. P. Possingham, W. J. M. Probert, J. R. Bennett, **L. N. Joseph**, A. I. T. Tulloch, S. Shaun O’Connor, J. Densem and R. F. Maloney (2016). **“Evaluating trade-offs between target persistence levels and numbers of species conserved.”** *Conservation Letters* 9(1): 51–57. 10.1111/conl.12179.

Di Marco, M., **J. E. M. Watson**, O. Venter and H. P. Possingham (2016). **“Viewpoint: Global Biodiversity Targets Requires Both Sufficiency and Efficiency.”** *Conservation Letters* 9(6): 395–397. 10.1111/conl.12299.

Diaz Santos, F., **J. Polisar** and L. Maffei (2016). Avances en el conocimiento de los jaguares en Nicaragua. El jaguar en el siglo XXI: la perspectiva continental. R. Medillin, J. A. de la Torre, H. Zarza, C. Chavez and G. Ceballos, Fondo de Cultura Economica 168–183.

DiMarco, M., T. Brooks, A. Cuttelod, L. D. C. Fishpool, C. Rondinini, R. J. Smith, L. Bennun, S. H. M. Butchart, S. Ferrier, R. P. B. Foppen, L. Joppa, D. Juffe-Bignoli, A. T. Knight, J. F. Lamoreux, P. F. Langhammer, I. May, H. P. Possingham, P. Visconti, **J. E. M. Watson** and S. Woodley (2016). **“Quantifying the relative irreplaceability of important bird and biodiversity areas.”** *Conservation Biology* 30(2): 392–402. 10.1111/cobi.12609. <http://dx.doi.org/10.1111/cobi.12609>

Dimitriadis, C., A. I. Borthagaray, **R. Vilela**, M. Casadevall and A.

Carranza (2016). **“A network approach to by-catch in a multi-species Mediterranean small-scale fishery.”** *Fisheries Research* 173(3): 273–281. 10.1016/j.fishres.2015.07.036.

Doughty, C. E., A. Wolf, N. Morueta-Holme, P. M. Jorgensen, B. Sandel, C. Violle, B. Boyle, N. J. B. Kraft, R. K. Peet, B. J. Enquist, J. C. Svenning, **S. Blake** and M. Galetti (2016). **“Megafauna extinction, tree species range reduction, and carbon storage in Amazonian forests.”** *Ecography* 39(2): 194–203. 10.1111/ecog.01587.

Duangchantrasiri, S., **M. Umponjan**, S. Simcharoen, **A. Pattanavibool**, S. Chaiwattana, S. Maneerat, **N. S. Kumar**, D. Jathanna, A. Srivathsa and **K. U. Karanth** (2016). **“Dynamics of a low-density tiger population in Southeast Asia in the context of improved law enforcement.”** *Conservation Biology* 30(3): 639–648. 10.1111/cobi.12655.

Dumas, S. E., **L. Lungu, N. Mulambya, W. Daka**, E. McDonald, E. Steubing, T. Lewis, K. Backel, J. Jange, B. Lucio-Martinez, **D. Lewis** and A. J. Travis (2016). **“Sustainable smallholder poultry interventions to promote food security and social, agricultural, and ecological resilience in the Luangwa Valley, Zambia.”** *Food Security* 8(3): 507–520. 10.1007/s12571-016-0579-5.

Dumas, S. E., L. Lungu, **N. Mulambya, W. Daka**, E. McDonald, E. Steubing, T. Lewis, K. Backel, J. Jange, B. Lucio-Martinez, **D. Lewis** and A. J. Travis (2016). **“Erratum to: Sustainable smallholder poultry interventions to promote food security and social, agricultural, and ecological resilience in the Luangwa Valley, Zambia.”** *Food*



ABOVE There is a growing recognition among scientists and practitioners that conservation now encompasses the idea that our natural ecosystems like the Adirondack wetlands above are fundamentally important to sustaining all life on earth—including our own.

Security 8(3): 521–522. 10.1007/s12571-016-0590-x.

Edwards, B. A., F. M. Southee and J. L. McDermid (2016). **“Using climate and a minimum set of local characteristics to predict the future distributions of freshwater fish in Ontario, Canada, at the lake-scale.”** *Global Ecology and Conservation* 8: 71–84. 10.1016/j.gecco.2016.08.006. 6

Ekernas, L. S. and **J. Berger** (2016). Challenges and opportunities for conserving equid migrations. *Wild Equids: Ecology, Management, and Conservation*. J. I. Ransom and P. Kaczensky. Baltimore, Maryland, Johns Hopkins University Press.

El Bizri, H. R., J. C. B. Macedo, A. P. Paglia and **T. Q. Morcatty** (2016). **“Mining undermining Brazil’s environment.”** *Science* 353(6296): 228–228. 10.1126/science.aag1111.

Ellison, W. T., R. Racca, C. W. Clark, B. Streever, A. S. Frankel, E. Fleishman, R. Angliss, **J. Berger**, D.

Ketten, M. Guerra, M. Leu, M. McKenna, T. Sformo, B. Southall, R. Suydam and L. Thomas (2016). **“Modeling the aggregated exposure and responses of bowhead whales *Balaena mysticetus* to multiple sources of anthropogenic underwater sound.”** *Endangered Species Research* 30: 95–108. 10.3354/esr00727.

Escamilo, L., J. Kunen and R. Wallace (2016). **Series of blogs in NewWorlder.** *NewWorlder*.

Espinosa, S., L. Albuja, D. G. Tirira, **G. Zapata-Ríos**, E. Araguillin and V. Utreras (2016). Análisis del estado de conservación del jaguar en Ecuador. El Jaguar en el Siglo XXI: la perspectiva continental. R. Medillin, J. A. de la Torre, H. Zarza, C. Chavez and G. Ceballos, Fondo de Cultura Economica 319–338.

Ewango, C. E. N., D. Kenfack, M. N. Sainge, D. W. Thomas and X. M. van der Burgt (2016). **“Gambeya korupensis (Sapotaceae):**

Chrysophylloideae), a new rain forest tree species from the Southwest Region in Cameroon.” *Kew Bulletin* 71(2): 6p. 10.1007/s12225-016-9633-x.

Fagundes, C. K., R. C. Vogt and P. De Marco Júnior (2016). **“Testing the efficiency of protected areas in the Amazon for conserving freshwater turtles.”** *Diversity and Distributions* 22(2): 123–135. 10.1111/ddi.12396.

Farris, Z. J., H. M. Boone, S. Karpanty, A. Murphy, **F. Ratelolahy, V. Andrianjakarivelo** and M. J. Kelly (2016). **“Feral cats and the fitoaty: first population assessment of the black forest cat in Madagascar’s rainforests.”** *Journal of Mammalogy* 97(2): 518–525. 10.1093/jmammal/gyv196.

Farris, Z. J., M. J. Kelly, S. Karpanty and **F. Ratelolahy** (2016). **“Patterns of spatial co-occurrence among native and exotic carnivores in north-eastern Madagascar.”**

2016 STAFF PUBLICATIONS



Animal Conservation **19**(2): 189–198. 10.1111/acv.12233.

Fennessy, J., T. Bidon, F. Reuss, V. Kumar, **P. Elkan**, Maria A. Nilsson, M. Vamberger, U. Fritz and A. Janke (2016). “**Multi-locus Analyses Reveal Four Giraffe Species Instead of One.**” *Current Biology* **26**(18): 2543-2549. 10.1016/j.cub.2016.07.036.

Figueroa, A., M. Contreras, **B. Saavedra** and C. Espoz (2016). **Chilean Wetlands: Biodiversity, Endemism, and Conservation Challenges.** *The Wetland Book: II: Distribution, Description and Conservation.* C. M. Finlayson, G. R. Milton, R. C. Prentice and N. C. Davidson. Dordrecht, Springer Netherlands: 1-17. 10.1007/978-94-007-6173-5_247-1.

Fischelli, N., G. Schuurman, A. Symstad, A. Ray, B. Miller, M. Cross and **E. Rowland** (2016). *Resource Management and Operations in Southwest South Dakota: Climate Change Scenario Planning*.

Workshop Summary, January 20-21, 2016, Rapid City, SD. U.S. National Park Service, Natural Resource Stewardship and Science.

Fischelli, N., G. Schuurman, A. Symstad, A. Ray, Friedman, Jonathan, B. Miller and **E. Rowland** (2016). *Resource Management and Operations in Central North Dakota: Climate Change Scenario Planning*.

Fletcher, R. J., N. S. Burrell, B. E. Reichert, **D. Vasudev** and J. D. Austin (2016). “**Divergent Perspectives on Landscape Connectivity Reveal Consistent Effects from Genes to Communities.**” *Current Landscape Ecology Reports* **1**(2): 67–79. 10.1007/s40823-016-0009-6.

Folgado, J., C. Casanova and **I. Imong** (2016). “Relation of Collecting Non-Timber Forest

Products with Hunting of Bushmeat in the Cross River National Park.” *Folia Primatologica* **87**(3): 149-149.

Forero-Medina, G., V. P. Páez, M. F. Garcés-Restrepo, J. L. Carr, A. Giraldo and M. Vargas-Ramírez (2016). “**Research and Conservation Priorities for Tortoises and Freshwater Turtles of Colombia.**” *Tropical Conservation Science* **9**(4): 14p. 10.1177/1940082916673708.

Forrester, T., **T. O'Brien**, E. Feagraus, P. Jansen, **J. Palmer**, R. Kays, J. Ahumada, B. Stern and W. McShea (2016). “**An Open Standard for Camera Trap Data.**” *Biodiversity Data Journal* **4**: 8p. 10.3897/BDJ.4.e10197.

Frechette, J., S. Han and **S. Brook** (2016). *Siamese Crocodile Conservation in Cambodia: An Update on Recent Activities and Progress.* 24th Working Meeting of the IUCN-SSC Crocodile Specialist

ABOVE
The Amazon Waters Initiative (AWI)—the product of a two-year collaboration through the Science for Nature and People Partnership (SNAPP) between WCS, the Nature Conservancy, and the National Center for Ecological Analysis and Synthesis (NCEAS)—recognizes the many threats to the Amazon’s ecosystems, including unmanaged fisheries, habitat destruction, ill-planned infrastructure, and climate change. It works actively to maintain the integrity of this vast, interconnected, and dynamic system.

Group, Skukuza, South Africa, IUCN.

Fredston-Hermann, A., C. J. Brown, S. Albert, C. J. Klein, **Mangubhai S.**, J. L. Nelson, L. Teneva, A. Wenger, S. D. Gaines and B. S. Halpern (2016). “**Where Does River Runoff Matter for Coastal Marine Conservation?**” *Frontiers in Marine Science* **3**(273). 10.3389/fmars.2016.00273.

Fruth, B., J. R. Hickey, C. André, T. Furuichi, J. Hart, T. Hart, H. Kuehl, **F. Maisels**, J. Nackoney, G. Reinartz, T. Sop, J. Thompson and E. A. Williamson (2016). *Pan paniscus*. IUCN Red List.

Funwi-Gabga, N., H. S. Kuehl, **F. Maisels** and E. A. Williamson (2016). **The status of apes across Africa and Asia: Annex IV, Ape population abundance estimates.** *State of the Apes 2013: Extractive Industries and Ape Conservation.* Cambridge, MA, Cambridge University Press: 28p.

Galbany, J., T. S. Stoinski, D. Abavandimwe, **T. Breuer**, W. Rutkowski, N. V. Batista, F. Ndagijimana and S. C. McFarlin (2016). “**Validation of two independent photogrammetric techniques for determining body measurements of gorillas.**” *American Journal of Primatology* **78**(4): 418–431. 10.1002/ajp.22511.

Galetti, M., F. Pedrosa, **A. Keuroghlian** and I. Sazima (2016). “**Liquid lunch – vampire bats feed on invasive feral pigs and other ungulates.**” *Frontiers in Ecology and the Environment* **14**(9): 505-506. 10.1002/fee.1431.

Galligan, T. H., M. A. Taggart, **R. J. Cuthbert**, D. Svobodova, J. Chipangura, D. Alderson, V. M. Prakash and V. Naidoo (2016). “**Metabolism of aceclofenac in cattle to vulture-killing diclofenac.**” *Conservation Biology*

30(5): 1122–1127. 10.1111/cobi.12711.

García Anleu, R., R. B. McNab, J. Polisar, V. H. Ramos, J. Moreira, G. Ponce-Santizo, K. Duchez, R. Escobar and A. Santose (2016). **Estado del Jaguar en Guatemala: Informe de 2013.** El jaguar en el siglo xxi: La perspectiva continental. R. A. Medellín, A. de la Torre, H. Zarza, C. Chávez and G. Ceballos. México, UNAM, Instituto de Ecología: 93-111.

Garg, K. M., **R. Tizard**, N. S. R. Ng, E. Cros, A. Dejtardol, B. Chattopadhyay, N. Pwint, M. Päckert and F. E. Rheindt (2016). “**Genome-wide data help identify an avian species-level lineage that is morphologically and vocally cryptic.**” *Molecular Phylogenetics and Evolution* **102**: 97–103. 10.1016/j.ympev.2016.05.028.

Gartner, M. C., **D. M. Powell** and A. Weiss (2016). “**Comparison of Subjective Well-Being and Personality Assessments in the Clouded Leopard (Neofelis nebulosa), Snow Leopard (Panthera uncia), and African Lion (Panthera leo).**” *Journal of Applied Animal Welfare Science* **19**(3): 294-302. 10.1080/10888705.2016.1141057. 10.10

Gassman, D., **S. J. Richards** and D. A. Polhemus (2016). “**Idiocnemis schorri sp. nov., a new damselfly species from southern Papua New Guinea (Odonata: Platycnemididae).**” *Zootaxa* **4171**(3). 10.11646/zootaxa.4171.3.5.

Gatto, A. J. and **P. Yorio** (2016). “**Assessing the trophic niche of South American Terns integrating conventional and isotopic methods.**” *Emu* **116**(3): 230-240. 10.1071/mu15010.

Gerritsmann, H., G. L. Stalder, P. Kaczensky, **B. Buuveibaatar, J. Payne**, S. Boldbaatar and C. Walzer (2016). “**Arterial pH and Blood Lactate Levels of Anesthetized Mongolian Khulan (Equus hemionus hemionus) in the Mongolian Gobi Correlate with Induction Time.**” *Journal of Wildlife Diseases* **52** (3): 642-646. 10.7589/2015-07-198.

Ghai, R. R., M. I. Thurber, A. El Bakry, **C. A. Chapman** and T. L. Goldberg (2016). “**Multi-method assessment of patients with febrile illness reveals over-diagnosis of malaria in rural Uganda.**” *Malaria Journal* **15**(1): 1-6. 10.1186/s12936-016-1502-4.

Gilbert, M., B. Buuveibaatar, A. Fine and **L. Jambal** (2016). “**Declining breeding populations of White-naped Cranes in Eastern Mongolia, a ten-year update.**” *Bird Conservation International* **26**(4): 490-504. 10.1017/S0959270915000301.

Girard, A., M. C. Godgenger, A. Gibudi, J. Fretey, A. Billes, D. Roumet, G. Bal, N. Bréhéret, **A. Bitsindou, H. Van Leeuwe, B. Verhage, S. Ricois, J. P. Bayé, J. Carvalho, H. Lima, E. Neto, H. Angoni, I. Ayissi, C. Bebeya, J. Folack, J. R. Ngueguim** and M. Girondot (2016). “**Marine Turtles Nesting Activity Assessment and Trend along the Central African Atlantic Coast for the Period of 1999-2008.**” *International Journal of Marine Science and Ocean Technology* **3**(3): 21-32.

Glennon, M. J. and C. L. Seewagen (2016). “Conservation status and monitoring of Bicknell’s thrush in the Adirondacks and New England: A brief review.” *The Adirondack Journal of Environmental Studies* **20**: 123-137.

Glennon, M. J. and **H. E. Kretser** (2016). “State of the Birds in

Exurbia.” *The Adirondack Journal of Environmental Studies* **20**: 49-66.

Goetze, J., T. Langlois, J. Claudet, F. Januchowski-Hartley and **S. D. Jupiter** (2016). “**Periodically harvested closures require full protection of vulnerable species and longer closure periods.**” *Biological Conservation* **203**: 67-74. 10.1016/j.biocon.2016.08.038.

Goldenberg, S. Z., S. Oduor, **M. F. Kinnaird**, D. Daballen, I. Douglas-Hamilton and G. Wittemyer (2016). “**Evidence of strong spatial segregation between elephant subpopulations in the contiguous Laikipia–Samburu ecosystem in Kenya.**” *African Journal of Ecology* **54**(2): 261-264. 10.1111/aje.12310.

Goldstein, H., R. Hudson and **P. Calle** (2016). **Ground breaking procedure gives new hope for the survival of Rafetus.** *Turtle Survival Alliance Blog.*

Gompper, M. E., D. B. Lesmeister, **J. C. Ray**, J. R. Malcolm and R. Kays (2016). “**Differential Habitat Use or Intraguild Interactions: What Structures a Carnivore Community?**” *PLoS ONE* **11**(1): 18p. 10.1371/journal.pone.0146055.

González Carman, V., I. Bruno, S. Maxwell, K. Álvarez, D. Albareda, E. M. Acha and **C. Campagna** (2016). “**Habitat use, site fidelity and conservation opportunities for juvenile loggerhead sea turtles in the Río de la Plata, Argentina.**” *Marine Biology* **163**(1): 13p. 10.1007/s00227-015-2795-5.

Gray, M., C. C. Wilmers, **S. E. Reed** and A. M. Merenlender (2016). “**Landscape feature-based permeability models relate to puma occurrence.**” *Landscape and Urban Planning* **147**: 50-58. 10.1016/j.landurbplan.2015.11.009.

2016 STAFF PUBLICATIONS

Greatorax, Z. F., S. H. Olson, S. Singhalath, S. Silithammavong, K. Khammavong, A. E. Fine, W. Weisman, B. Douangneun, W. Theppangna, L. Keatts, M. Gilbert, W. B. Karesh, T. Hansel, S. Zimicki, K. O'Rourke, D. O. Joly and J. A. K. Mazet (2016). "Wildlife Trade and Human Health in Lao PDR: An Assessment of the Zoonotic Disease Risk in Markets." *PLoS ONE* **11**(3): e0150666. 10.1371/journal.pone.0150666.

Gustavsen, K. A., K. L. Stanhope, A. S. Lin, J. L. Graham, P. J. Havel and J. R. Paul-Murphy (2016). "Effects of Exercise on the Plasma Lipid Profile in Hispaniolan Amazon Parrots (Amazona Ventralis) with Naturally Occurring Hypercholesterolemia." *Journal of Zoo and Wildlife Medicine* **47**(3): 760-769. 10.1638/2015-0192.1.

Hallam, C. D., A. Johnson, H. O'Kelly, S. Seateun, T. Thamsatith, T. G. O'Brien and S. Strindberg (2016). "Using occupancy-based surveys and multi-model inference to estimate abundance and distribution of crested gibbons (Nomascus spp.) in central Laos." *American Journal of Primatology* **78**(4): 462-472. 10.1002/ajp.22508.

Handel, S. N., J. Marra, M. K. Kaunzinger, V. M. Bricelj, J. Burger, R. L. Burke, **M. Camhi**, C. P. Colon, O. P. Jensen, J. LaBelle, **H. C. Rosenbaum, E. W. Sanderson**, H. D. Schlesinger, J. R. Waldman and C. B. Zarnoch (2016). Ecology of Jamaica Bay: History, Status and Resilience. Prospects for Resilience: Insights from New York City's Jamaica Bay. **E. W. Sanderson**, W. D. Solecki, J. R. Waldman and A. S. Parris. Washington, D.C., Island Press.

Harris, S., **F. Quintana**, J. Ciancio, L. Riccialdelli and A. Raya Rey (2016). "Linking foraging

behavior and diet in a diving seabird." *Marine Ecology* **37**(2): 419-432. 10.1111/maec.12327.

Harrison, R. D., R. Sreekar, J. F. Brodie, **S. Brook**, M. Luskin, **H. O'Kelly, M. Rao**, B. Scheffers and N. Velho (2016). "Impacts of hunting on tropical forests in Southeast Asia." *Conservation Biology* **30**(5): 972-981. 10.1111/cobi.12785.

Hartter, J., N. Dowhaniuk, C. A. MacKenzie, S. J. Ryan, J. E. Diem, M. W. Palace and **C. A. Chapman** (2016). "Perceptions of risk in communities near parks in an African biodiversity hotspot." *Ambio* **45**(6): 692-705. 10.1007/s13280-016-0775-8.

Helke, K. L., K. N. Nelson, A. M. Sargeant, B. Jacob, S. McKeag, J. Haruna, V. Vemireddi, M. Greeley, D. Brocksmith, N. Navratil, A. Stricker-Krongrad and **C. Hollinger** (2016). "Pigs in Toxicology: Breed Differences in Metabolism and Background Findings." *Toxicologic Pathology* **44**(4): 575-590. 10.1177/0192623316639389

Hellmann, J. K., M. G. Sovic, H. L. Gibbs, A. R. Reddon, **C. M. O'Connor**, I. Y. Ligocki, S. Marsh-Rollo, S. Balshine and I. M. Hamilton (2016). "Within-group relatedness is correlated with colony-level social structure and reproductive sharing in a social fish." *Molecular Ecology* **25**(16): 4001-4013. 10.1111/mec.13728.

Hossain, A. N. M., A. Barlow, C. G. Barlow, **A. J. Lynam**, S. Chakma and T. Savini (2016). "Assessing the efficacy of camera trapping as a tool for increasing detection rates of wildlife crime in tropical protected areas." *Biological Conservation* **201**: 314-319. 10.1016/j.biocon.2016.07.023.

Hotte, M. H. H., I. A. Kolodin, S. L. Bereznuik, J. C. Slaght, L. L. Kerley, S. V. Soutyrina, G. P. Salkina, O. Y. Zaumyslova, **E. J. Stokes and D. G. Miquelle** (2016). "Indicators of success for smart Law enforcement in protected areas: A case study for Russian Amur Tiger (Panthera tigris altaica) reserves." *Integrative Zoology* **11**(1): 2-15. 10.1111/1749-4877.12168.

Howard, T. G., M. D. Schlesinger, C. Lee, G. Lampman and **T. H. Tear** (2016). "Guiding conservation and renewable energy development using a paired return-on-investment approach." *Biological Conservation* **201**: 69-77. 10.1016/j.biocon.2016.06.029.

Hoy, J., B. Poulter, K. Emmett, **M. Cross**, R. Al-Chokhachy and M. Maneta (2016). "From terrestrial to aquatic fluxes: Integrating stream dynamics within a dynamic global vegetation modeling framework." European Geosciences Union General Assembly 2016 Vienna, Austria.

Hoyos, M., P. Bloor, T. Defler, J. Vermeer, **F. Rohe** and I. Farias (2016). "Phylogenetic relationships within the Callicebus cupreus species group (Pitheciidae: Primates): Biogeographic and taxonomic implications." *Molecular Phylogenetics and Evolution* **102**: 208-219. 10.1016/j.ympev.2016.05.031.

Hoyos, M., P. Bloor, T. Defler, J. Vermeer, **F. Röhe** and I. Farias (2016). "Phylogenetic relationships within the Callicebus cupreus species Group (Pitheciidae: Primates): Biogeographic and taxonomic implications." *Molecular Phylogenetics and Evolution* **102**: 208-219. 10.1016/j.ympev.2016.05.031.

Huertas, V. and C. J. Lagueux (2016). "First Recorded Mass Stranding of the Short-Finned Pilot Whale (Globicephala macrorhynchus) on the Caribbean Coast of Nicaragua." *Aquatic Mammals* **42**(1): 27-34. 10.1578/am.42.12016.27.

Humle, T., **F. Maisels**, J. F. Oates, **A. Plumptre** and E. A. Williamson (2016). "Pan troglodytes." IUCN Red List

Ihlow, F., J. E. Dawson, T. Hartmann and **S. Som** (2016). "Indotestudo elongata (Blyth 1854)—Elongated Tortoise, Yellow-headed Tortoise, Yellow Tortoise." *Chelonian Research Monographs No. 5, Conservation Biology of Freshwater Turtles and Tortoises* 096.091-096.014. 10.3854/crm.5.096.elongata.v1.2016.

Imong, I., E. Bassey, A. Dunn and R. Bergl (2016). "Improving Law Enforcement Monitoring in the Afi Mountain Wildlife Sanctuary." *Gorilla Journal: Journal of Berggorilla & Regenwald Direkthilfe* **52**: 11-12.

Imong, I., H. S. Kuhl, M. M. Robbins and R. Mundry (2016). "Evaluating the potential effectiveness of alternative management scenarios in ape habitat." *Environmental Conservation* **43**(2): 161-171. 10.1017/S0376892915000417

Isasi-Catalá, E., **J. Acosta, A. Anchante, G. Bianchi, J. Caro, N. Falconi, L. Maffei, J. L. Martínez and I. Goldstein** (2016). "Modelos de Ocupación para el Monitoreo de la Efectividad de Estrategias de Conservación del Área de Conservación Tamshiyacu Tahuayo - ACRCTT, Loreto - Perú." *Ecología Aplicada* **15**(2): 61-68. 10.21704/rea.v15i2.744.

Jacobson, A. P., P. Gerngross, J. R.



ABOVE For conservationists, respect for traditional foodways holds out the hope of maintaining genetic diversity of crops; unique cuisines that define cultures; and traditional ranching and fishing practices. This is the theme of a new opinion series launched by WCS VP for the Americas Julie Kunen in 2016 for *New Worlder* magazine.

Lemeris Jr., R. F. Schoonover, C. Anco, C. Breitenmoser-Wursten, **S. M. Durant**, M. S. Farhadinia, P. Henschel, J. F. Kamler, A. Laguardia, S. Rostro-Garcia, A. B. Stein and L. Dollar (2016). "Leopard (Panthera pardus) status, distribution, and the research efforts across its range." *PeerJ*: 28p. 10.7717/peerj.1974.

Jaith, V. F., S. J. Lindfield, **S. Mangubhai**, C. Warren, B. Fitzpatrick and N. Loneragan (2016). "Higher Abundance of Marine Predators And Changes In Fishers' Behavior Following Spatial Protection Within The World's Biggest Shark Fishery." *Frontiers in Marine Science* **3**. 10.3389/fmars.2016.00043.

Jefferson, T. A. and **B. D. Smith** (2016). "Re-assessment of the Conservation Status of the Indo-Pacific Humpback Dolphin (Sousa chinensis) Using the IUCN Red List Criteria." Humpback Dolphins (Sousa Spp.): Current Status and Conservation. T. A. Jefferson and B. E. Curry, Academic

Press. 73: 1-26. 10.1016/bs.amb.2015.04.002.

Jefferson, T. A. and **B. D. Smith** (2016). "Re-assessment of the Conservation Status of the Indo-Pacific Humpback Dolphin (Sousa chinensis) Using the IUCN Red List Criteria." Humpback Dolphins. T. A. Jefferson and B. E. Curry. San Diego, Elsevier Academic Press Inc. 73: 1-26. 10.1016/bs.amb.2015.04.002.

Jenkins, A. P., **S. Jupiter**, U. Mueller, A. Jenney, **G. Vosaki**, V. Rosa, A. Naucukidi, K. Mulholland, R. Strugnell, M. Kama and P. Horwitz (2016). "Health at the Sub-catchment Scale: Typhoid and Its Environmental Determinants in Central Division, Fiji." *EcoHealth* **13**(4): 633-651. 10.1007/s10393-016-1152-6.

Johnson, A., J. Goodrich, T. Hansel, A. Rasphone, S. Saypanya, C. Vongkhamheng, Venevongphet and S. Strindberg (2016). "To protect or neglect? Design, monitoring, and evaluation of a

law enforcement strategy to recover small populations of wild tigers and their prey." *Biological Conservation* **202**: 99-109. 10.1016/j.biocon.2016.08.018.

Jones, H. P., N. D. Holmes, S. H. M. Butchart, B. R. Tershy, P. J. Kappes, I. Corkery, A. Aguirre-Muñoz, D. P. Armstrong, E. Bonnaud, A. A. Burbidge, K. Campbell, F. Courchamp, P. E. Cowan, **R. J. Cuthbert**, S. Ebbert, P. Genovesi, G. R. Howald, B. S. Keitt, S. W. Kress, C. M. Miskelly, S. Opper, S. Poncet, M. J. Rauzon, G. Rocamora, J. C. Russell, A. Samaniego-Herrera, P. J. Seddon, D. R. Spatz, D. R. Towns and D. A. Croll (2016). "Invasive mammal eradication on islands results in substantial conservation gains." *Proceedings of the National Academy of Sciences*. 10.1073/pnas.1521179113.

Jones, K. R., **A. J. Plumptre, J. E. M. Watson**, H. P. Possingham, S. Ayebare, **A. Rwetsiba, F. Wanyama, D. Kujirakwinja** and C. J. Klein (2016). "Testing the effectiveness of surrogate species

2016 STAFF PUBLICATIONS



for conservation planning in the Greater Virunga Landscape, Africa.” *Landscape and Urban Planning* **145**: 1-11.

Jones, K. R., J. E. M. Watson, H. P. Possingham and C. J. Klein (2016). “Incorporating climate change into spatial conservation prioritisation: A review.” *Biological Conservation* **194**: 121-130. 10.1016/j.biocon.2015.12.008.

Joppa, L. N., B. Connor, P. Visconti, C. Smith, J. Geldmann, M. Hoffmann, J. E. M. Watson, S. H. M. Butchart, M. Virah-Sawmy, B. S. Halpern, S. E. Ahmed, A. Balmford, W. J. Sutherland, M. Harfoot, C. Hilton-Taylor, W. Foden, E. D. Minin, S. Pagad, P. Genovesi, J. Hutton and N. D. Burgess (2016). “Filling in biodiversity threat gaps.” *Science* **352**(6284): 416. 10.1126/science.aaf3565.

Joppa, L. N., J. E. M. Bailie and J. G. Robinson (2016). Do protected

areas safeguard biodiversity? Protected Areas: Are They Safeguarding Biodiversity? L. N. Joppa, J. E. M. Bailie and J. G. Robinson, Wiley-Blackwell.

Joppa, L. N., J. E. M. Bailie and J. G. Robinson (2016). Protected Areas: Are They Safeguarding Biodiversity?, Wiley-Blackwell.

Jowkar, H., S. Ostrowski, M. Tahbaz and P. Zahler (2016). “The Conservation of Biodiversity in Iran: Threats, Challenges and Hopes.” *Iranian Studies* **49**(6): 1065-1077. 10.1080/00210862.2016.1241602.

Jupiter, S. D., S. D’agata, E. S. Darling, J. M. Maina, T. R. McClanahan, S. Mangubhai, S. J. Campbell, Y. Nand, M. I. Fox, N. A. Muthiga, C. Abunge, S. T. Pardede, S. A. Tarigan, F. Setiawan, B. Randriamanantsoa, E. Muttaqin, A. Tewfik and e. al (2016). *13th International Coral Reef Symposium Abstract Book*. 13th International Coral Reef

Symposium, Bridging Science to Policy. Honolulu, Hawaii.

K., C. R., M. Manley, S. Mangubhai, E. Sokowaqanilotu, W. Lalavanua, A. Bogiva, A. Caginitoba, T. Delai, M. Draniatu, S. Dulunaqio, M. Fox, I. Koroiwaqa, W. Naisilisili, A. Rabukawaqa, K. Ravonoloa and T. Veibi (2016). *Impact of Tropical Cyclone Winston on Fisheries-Dependent Communities in Fiji*. Wildlife Conservation Society.

Kaida, N. and N. A. Dang (2016). “Tourists’ perception of marine ecosystem conservation in the Nha Trang Bay Marine Protected Area, Vietnam.” *Tropics* **24**(4): 187-194. 10.3759/tropics.24.187.

Karanth, K. K. (2016). “Wildlife in the Matrix: Spatio-Temporal Patterns of Herbivore Occurrence in Karnataka, India.” *Environmental Management* **57**(1): 189-206. 10.1007/s00267-015-0595-9.

ABOVE
The high and rugged mountain home of the snow leopard (*Panthera uncia*) provides a level of protection through its extreme remoteness. Here in this rocky alpine habitat, the snow leopard and local human pastoralists eke out an existence in near-isolation from the rest of the world.

Karanth, K. K., V. Sankararaman, S. Dalvi, A. Srivathsa, R. Parameshwaran, S. Sharma, P. Robbins and A. Chhatre (2016). “Producing Diversity: Agroforests Sustain Avian Richness and Abundance in India’s Western Ghats.” *Frontiers in Ecology and Evolution* **4**: 10p. 10.3389/fevo.2016.00111.

Karanth, K. U. (2016). “Tracking Tigers: The science of surveying these elusive cats has advanced dramatically, but conservation agencies lag behind.” *Scientific American* **315**: 54-59. 10.1038/scientificamerican0716-54. 54

Karanth, K. U., D. G. Miquelle, J. Goodrich and A. Gopalaswamy (2016). “Statement of Concern by Tiger Biologists on the WWF-GTF Report.” *Conservation India*.

Kim, S., Y. S. Cho, H.-M. Kim, O. Chung, H. Kim, S. Jho, H. Seomun, J. Kim, W. Y. Bang, C. Kim, J. An, C. H. Bae, Y. Bhak, S. Jeon, H. Yoon, Y. Kim, J. Jun, H. Lee, S. Cho, O. Uphyrkina, A. Kostyria, J. Goodrich, D. Miquelle, M. Roelke, J. Lewis, A. Yurchenko, A. Bankevich, J. Cho, S. Lee, J. S. Edwards, J. A. Weber, J. Cook, S. Kim, H. Lee, A. Manica, I. Lee, S. J. O’Brien, J. Bhak and J.-H. Yeo (2016). “Comparison of carnivore, omnivore, and herbivore mammalian genomes with a new leopard assembly.” *Genome Biology* **17**(1): 12p. 10.1186/s13059-016-1071-4.

Klüg-Baerwald, B. J., L. E. Gower, C. Lausen and R. M. Brigham (2016). “Environmental correlates and energetics of winter flight by bats in Southern Alberta, Canada.” *Canadian Journal of Zoology* **94**(12): 829-836. 10.1139/cjz-2016-0055.

Koehn, L. E., J. J. Hard, E. P. Akst and P. D. Boersma (2016). “Natural selection on morphology varies among years and by sex in

Magellanic Penguins (*Spheniscus magellanicus*.)” *The Auk* **133**(4): 783-805. 10.1642/auk-16-50.1.

Kopplitz, S. N., L. J. Mickley, M. E. Marlier, J. J. Buonocore, P. S. Kim, T. Liu, M. P. Sulprizio, R. S. DeFries, D. J. Jacob, J. Schwartz, M. Pongsiri and S. S. Myers (2016). “Public health impacts of the severe haze in Equatorial Asia in September–October 2015: demonstration of a new framework for informing fire management strategies to reduce downwind smoke exposure.” *Environmental Research Letters* **11**(9): 9p. 10.1088/1748-9326/11/9/094023.

Kormos, C. F., B. Bertzky, T. Jaeger, Y. Shi, T. Badman, J. A. Hilty, B. G. Mackey, R. A. Mittermeier, H. Locke, E. Osipova and J. E. M. Watson (2016). “A Wilderness Approach under the World Heritage Convention.” *Conservation Letters* **9**(3): 228–235. 10.1111/conl.12205.

Kottwitz, J. J. and M. Ortiz (2016). “Bovine Viral Diarrhea Virus in Zoos: A Perspective from the Veterinary Team.” *Frontiers in Microbiology* **6**(1496). 10.3389/fmicb.2015.01496.

Kretser, H., M. Glennon, A. Whitelaw, A. Hurt, K. Pilgrim and M. Schwartz (2016). “Scat-Detection Dogs Survey Low Density Moose in New York.” *Alces: A Journal Devoted to the Biology and Management of Moose* **52**: 55–66.

Krishna, Y. C., A. Kumar and K. Isvaran (2016). “Wild Ungulate Decision-Making and the Role of Tiny Refuges in Human-Dominated Landscapes.” *PLoS ONE* **11**(3): e0151748. 10.1371/journal.pone.0151748.

Krishnadas, M. and S. Sridhara (2016). “Going Nowhere? Roads and Conservation in India.” *Conservation India*.

Krishnadas, M., A. Kumar and L. S. Comita (2016). “Environmental gradients structure tropical tree assemblages at the regional scale.” *Journal of Vegetation Science* **27**(6): 1117–1128. 10.1111/jvs.12438.

Kühl, H. S., A. K. Kalan, M. Arandjelovic, F. Aubert, L. D’Auvergne, A. Goedmakers, S. Jones, L. Kehoe, S. Regnaut, A. Tickle, E. Ton, J. van Schijndel, E. E. Abwe, S. Angedakin, A. Agbor, E. A. Ayimisin, E. Bailey, M. Bessone, M. Bonnet, G. Brazolla, V. E. Buh, R. Chancellor, C. Cipoletta, H. Cohen, K. Corogenes, C. Coupland, B. Curran, T. Deschner, K. Dierks, P. Dieguez, E.

Dilambaka, O. Diotoh, D. Dowd, A. Dunn, H. Eshuis, R. Fernandez, Y. Ginath, J. Hart, D. Hedwig, M. Ter Heegde, T. C. Hicks, I. Imong, K. J. Jeffery, J. Junker, P. Kadam, M. Kambi, I. Kienast, D. Kujirakwinja, K. Langergraber, V. Lapeyre, J. Lapuente, K. Lee, V. Leinert, A. Meier, G. Maretti, S. Marroccoli, T. J. Mbi, V. Mihindou, Y. Moebius, D. Morgan, B. Morgan, F. Mulindahabi, M. Murai, P. Niyigabae, E. Normand, N. Ntare, L. J. Ormsby, A. Piel, J. Pruetz, A. Rundus, C. Sanz, V. Sommer, F. Stewart, N. Tagg, H. Vanleeuwe, V. Vergnes, J. Willie, R. M. Wittig, K. Zuberbuehler and C. Boesch (2016). “Chimpanzee accumulative stone throwing.” *Scientific Reports* **6**: 22219. 10.1038/srep22219

Kusch, A., I. Ramirez, A. Vila, D. Droguett, K. Paulsen, J. Cabello, F. Repetto, S. Alejandra and M. Chauveau (2016). “Resultados del Taller ‘Actualización del Plan de Acción para la conservación del huemul *Hippocamelus bisulcus* (Molina, 1782) en la zona austral de Chile’ (Results of Workshop: Updated action plan for the conservation of the andean deer *Hippocamelus bisulcus* (Molina, 1782) in austral Chile.)” *Anales*

Instituto Patagonia (Chile) **44**(2): 61-72.

Lakshminarayanan, N., K. K. Karanth, V. R. Goswami, S. Vaidyanathan and K. U. Karanth (2016). “Determinants of dry season habitat use by Asian elephants in the Western Ghats of India.” *Journal of Zoology* **298**(3): 169–177. 10.1111/jzo.12298.

Larson, C. L., S. E. Reed, A. M. Merenlender and K. R. Crooks (2016). “Effects of Recreation on Animals Revealed as Widespread through a Global Systematic Review.” *PLOS ONE* **11**(12). 10.1371/journal.pone.0167259.

Laske, S. M., T. B. Haynes, A. E. Rosenberger, J. C. Koch, M. S. Wipfli, M. Whitman and C. E. Zimmerman (2016). “Surface water connectivity drives richness and composition of Arctic lake fish assemblages.” *Freshwater Biology* **61**(7): 1090–1104. 10.1111/fwb.12769.

Lausen, C. L. and T. J. Hill (2016). *Hibernation Ecology of Silver-Haired Bats Overwintering in British Columbia, Canada (Abstracts from the 2016 Annual Meeting of the Society for Northwestern Vertebrate Biology, Held Jointly with Northwest Partners in Amphibian and Reptile Conservation, Idaho Bat Working Group, Idaho Bird Conservation Partnership, and Idaho Partners in Amphibian and Reptile Conservation, at the Coeur D’Alene Resort, Coeur D’Alene, Idaho, 22–26 February 2016)*. 2016 Annual Meeting of the Society for Northwestern Vertebrate Biology, Coeur D’Alene, Idaho, 10.1898/1051-1733-972.144.

Lee, E., J. Burkhart, S. Olson, A. A. Billings, J. A. Patz and E. J. Harner (2016). “Relationships of climate and irrigation factors with

2016 STAFF PUBLICATIONS

malaria parasite incidences in two climatically dissimilar regions in India. *Journal of Arid Environments* **124**: 214-224. 10.1016/j.jaridenv.2015.08.010.

Leisher, C., G. Temsah, F. Booker, M. Day, L. Samberg, D. Prosnitz, B. Agarwal, **E. Matthews**, D. Roe, D. Russell, T. Sunderland and **D. Wilkie** (2016). **“Does the gender composition of forest and fishery management groups affect resource governance and conservation outcomes? A systematic map.”** *Environmental Evidence* **5**(1): 10p. 10.1186/s13750-016-0057-8.

Lester, J., S. Paige, **C. A. Chapman**, M. Gibson, J. Holland Jones, W. M. Switzer, N. Ting, T. L. Goldberg and S. D. W. Frost (2016). **“Assessing Commitment and Reporting Fidelity to a Text Message-Based Participatory Surveillance in Rural Western Uganda.”** *PLoS ONE* **11**(6). 10.1371/journal.pone.0155971.

Li, J., T. M. McCarthy, H. Wang, B. V. Weckworth, **G. B. Schaller**, C. Mishra, Z. Lu and S. R. Beissinger (2016). **“Climate refugia of snow leopards in High Asia.”** *Biological Conservation* **203**: 188-196. 10.1016/j.biocon.2016.09.026.

Liang, J., T. W. Crowther, N. Picard, S. Wiser, M. Zhou, G. Alberti, E.-D. Schulze, A. D. McGuire, F. Bozzato, H. Pretzsch, S. de-Miguel, A. Paquette, B. Hérault, M. Scherer-Lorenzen, C. B. Barrett, H. B. Glick, G. M. Hengeveld, G.-J. Nabuurs, S. Pfautsch, H. Viana, A. C. Vibrans, C. Ammer, P. Schall, D. Verbyla, N. Tchebakova, M. Fischer, J. V. Watson, H. Y. H. Chen, X. Lei, M.-J. Schelhaas, H. Lu, D. Gianelle, E. I. Parfenova, C. Salas, E. Lee, B. Lee, H. S. Kim, H. Bruelheide, D. A. Coomes, D. Piotta, T. Sunderland, B. Schmid, S. Gourlet-Fleury, B. Sonké, R. Tavana, J. Zhu, S. Brandl, J. Vayreda, F. Kitahara, E. B. Searle,

V. J. Neldner, M. R. Ngugi, C. Baraloto, L. Frizzera, R. Bałazy, J. Oleksyn, T. Zawila-Niedzwiecki, O. Bouriaud, F. Bussotti, L. Finér, B. Jaroszewicz, T. Jucker, F. Valladares, A. M. Jagodzinski, P. L. Peri, C. Gonmadje, **W. Marthy**, **T. O'Brien**, E. H. Martin, A. R. Marshall, F. Rovero, R. Bitariho, P. A. Niklaus, P. Alvarez-Loayza, N. Chamuya, R. Valencia, F. Mortier, V. Wortel, N. L. Engone-Obiang, L. V. Ferreira, D. E. Odeke, R. M. Vasquez, S. L. Lewis and P. B. Reich (2016). **“Positive biodiversity-productivity relationship predominant in global forests.”** *Science* **354**(6309). 10.1126/science.aaf8957.

Linnell, J. D. C., A. Trouwborst, L. Boitani, P. Kaczensky, D. Huber, S. Reljic, J. Kusak, A. Majic, T. Skrbinssek, H. Potocnik, M. W. Hayward, E. J. Milner-Gulland, **B. Buuveibaatar**, K. A. Olson, L. Badamjav, R. Bischof, S. Zuther and U. Breitenmoser (2016). **“Border Security Fencing and Wildlife: The End of the Transboundary Paradigm in Eurasia?”** *PLoS Biol* **14**(6): 13p. 10.1371/journal.pbio.1002483.

Logan, N., E. McMonagle, A. A. Drew, E. Takahashi, M. McDonald, M. D. Baron, **M. Gilbert**, S. Cleaveland, D. T. Haydon, M. J. Hosie and B. J. Willett (2016). **“Efficient generation of vesicular stomatitis virus (VSV)-pseudotypes bearing morbilliviral glycoproteins and their use in quantifying virus neutralising antibodies.”** *Vaccine* **34**(6): 814-822. 10.1016/j.vaccine.2015.12.006.

Loh, T.-L., **A. Tewfik**, L. Aylesworth and R. Phoonsawat (2016). **“Species in wildlife trade: socio-economic factors influence seahorse relative abundance in Thailand.”** *Biological Conservation* **201**: 301-308. 10.1016/j.biocon.2016.07.022.

Lu, A., T. J. Bergman, **C. McCann**, A. Stinespring-Harris and J. C. Beehner (2016). **“Growth trajectories in wild geladas (Theropithecus gelada).”** *American Journal of Primatology* **78**(7): 707-719. 10.1002/ajp.22535.

Luebke, J. F., J. V. Watters, J. Packer, L. J. Miller and **D. M. Powell** (2016). **“Zoo Visitors’ Affective Responses to Observing Animal Behaviors.”** *Visitor Studies* **19**(1): 60-76. 10.1080/10645578.2016.1144028.

Luef, E. M., **T. Breuer** and S. Pika (2016). **“Food-Associated Calling in Gorillas (Gorilla g. gorilla) in the Wild.”** *PLoS ONE* **11**(2): e0144197. 10.1371/journal.pone.0144197.

Lynam, A. J., L. Porter and A. Campos-Arceiz (2016). **“Conservation focus: the challenge of conservation in changing tropical Southeast Asia.”** *Conservation Biology* **30**(5): 931-932. 10.1111/cobi.12781.

Madin, J. S., K. D. Anderson, M. H. Andreasen, T. C. L. Bridge, S. D. Cairns, S. R. Connolly, **E. S. Darling**, M. Diaz, D. S. Falster, E. C. Franklin, R. D. Gates, M. O. Hoogenboom, D. Huang, S. A. Keith, M. A. Kosnik, C.-Y. Kuo, J. M. Lough, C. E. Lovelock, O. Luiz, J. Martinelli, T. Mizerek, J. M. Pandolfi, X. Pochon, M. S. Pratchett, H. M. Putnam, T. E. Roberts, M. Stat, C. C. Wallace, E. Widman and A. H. Baird (2016). **“The Coral Trait Database, a curated database of trait information for coral species from the global oceans.”** *Scientific Data* **3**(Article number: 160017). 10.1038/sdata.2016.17.

Madin, J. S., M. O. Hoogenboom, S. R. Connolly, **E. S. Darling**, D. S. Falster, D. Huang, S. A. Keith, T. Mizerek, J. M. Pandolfi, H. M. Putnam and A. H. Baird (2016).

“A Trait-Based Approach to Advance Coral Reef Science.” *Trends in Ecology & Evolution* **31**(6): 419-428. 10.1016/j.tree.2016.02.012.

Madinda, N. F., B. Ehlers, Wertheim, J.O, C. Akoua-Koffi, R. A. Bergl, C. Boesch, D. Boji Mungu Akonkwa, W. Eckardt, B. Fruth, T. R. Gillespie, M. Gray, G. Hohmann, S. Karhemere, **D. Kujirakwinja**, K. Langergraber, J. J. Muyembe, R. Nishuli, M. Pauly, K. J. Petrzalkova, M. M. Robbins, A. Todd, G. Schubert, T. S. Stoinski, R. M. Wittig, K. Zuberbühler, M. Peeters, F. H. Leendertz and S. Calvignac-Spencer (2016). **“Assessing host-virus co-divergence for close relatives of Merkel cell polyomavirus infecting African great apes.”** *Journal of Virology* **90**(19): 8531-8541. 10.1128/JVI.00247-16.

Mahood, S. P. (2016). **“Chestnut-cheeked Starling Agropsar philippensis: first unequivocal record for Cambodia.”** *BirdingASIA* **25**: 118-119.

Mahood, S. P. (2016). **“The first documented record of Northern Boobook Ninox japonica in Cambodia.”** *BirdingASIA* **25**: 119-120.

Mahood, S. P. and J. W. Duckworth (2016). **“Status of pinnipeds in Southeast Asia.”** *Mammalia* **80**(2): 227-230. 10.1515/mammalia-2014-0144.

Maina, J., J. Kithiia, J. Cinner, **E. Neale**, **S. Noble**, **D. Charles** and **J. E. M. Watson** (2016). **“Integrating social-ecological vulnerability assessments with climate forecasts to improve local climate adaptation planning for coral reef fisheries in Papua New Guinea.”** *Regional Environmental Change* **16**(3): 881-891. 10.1007/s10113-015-0807-0.



ABOVE The blue poison dart frog (*Dendrobates tinctorius azureus*) on exhibit at the Central Park Zoo is native to the southernmost part of Suriname, in South America. While its poison can paralyze or kill predators, it is nonetheless preyed upon by snakes and large spiders.

Maire, E., J. Cinner, L. Velez, C. Huchery, C. Mora, **S. Dagata**, L. Vigliola, L. Wantiez, M. Kulbicki and D. Mouillot (2016). **“How accessible are coral reefs to people? A global assessment based on travel time.”** *Ecology Letters* **19**(4): 351-360. 10.1111/ele.12577.

Maisels, F., R. A. Bergl and E. A. Williamson (2016). *Gorilla gorilla*. IUCN Red List.

Maisels, F., **S. Strindberg**, D. Greer, K. Jeffery, D. L. Morgan and C. Sanz (2016). *Pan troglodytes ssp. troglodytes*. IUCN.

Maisels, F., **S. Strindberg**, **T. Breuer**, D. Greer, K. Jeffery and **E. Stokes** (2016). *Gorilla gorilla ssp. gorilla*. IUCN Red List.

Mangubhai, S. (2016). **Series of blog postings on Fiji coral reefs.** *National Geographic Voices*. Maron, M., A. Gordon, B. G. Mackey, H. P. Possingham and **J. E. M. Watson** (2016). **“Interactions between biodiversity offsets and**

protected area commitments: Avoiding perverse outcomes.” *Conservation Letters* **9**(5): 384-389. 10.1111/conl.12222.

Maron, M., C. D. Ives, H. Kujala, J. W. Bull, F. J. F. Maseyk, S. Bekessy, A. Gordon, **J. E. M. Watson**, P. E. Lentini, P. Gibbons, H. P. Possingham, R. J. Hobbs, D. A. Keith, B. A. Wintle and M. C. Evans (2016). **“Taming a Wicked Problem: Resolving Controversies in Biodiversity Offsetting.”** *BioScience* **66**(6): 489-498. 10.1093/biosci/biw038.

Martin, T. G. and **J. E. M. Watson** (2016). **“Intact ecosystems provide best defence against climate change.”** *Nature Climate Change* **6**(2): 122-124. 10.1038/nclimate2918.

Marvin, D. C., L. P. Koh, **A. J. Lynam**, S. Wich, A. B. Davies, R. Krishnamurthy, **E. Stokes**, R. Starkey and G. P. Asner (2016). **“Integrating technologies for scalable ecology and**

conservation.” *Global Ecology and Conservation* **7**: 262-275. 10.1016/j.gecco.2016.07.002.

Matiukhina, D. S., Vitkalova, Anna V., **A. N. Rybin**, V. V. Aramilev, Shevtsova, Elena I. and **Miquelle, Dale G.** (2016). **“Camera-trap monitoring of Amur Tiger (Panthera tigris altaica) in southwest Primorsky Krai, 2013-2016: preliminary results.”** *Nature Conservation Research* **1** (3): 36-43.

Maxwell, S. L., R. A. Fuller, T. M. Brooks and **J. E. M. Watson** (2016). **“Biodiversity: The ravages of guns, nets and bulldozers (Comment).”** *Nature* **536**(7615): 143-145. 10.1038/536143a.

McAloose, D., **M. V. Rago**, **M. Di Martino**, A. Chirife, **S. H. Olson**, L. Beltramino, L. M. Pozzi, L. Musmeci, L. La Sala, N. Mohamed, J. E. Sala, L. Bandieri, J. Andrejuk, **A. Tomaszewicz**, **T. Seimon**, M. Sironi, L. E. Samartino, V. Rowntree and **M. M. Uhart** (2016).

2016 STAFF PUBLICATIONS



“Post-mortem findings in southern right whales *Eubalaena australis* at Peninsula Valdes, Argentina, 2003-2012.” *Diseases of Aquatic Organisms* **119**(1): 17-36. 10.3354/dao02986.

McCarthy, T., D. Mallon, E. W. Sanderson, P. Zahler and K. Fisher (2016). What is a Snow Leopard: Biogeography and Status Overview. *Snow Leopards*. T. McCarthy and D. Mallon, Academic Press.

McClanahan, T. R. and C. A. Abunge (2016). “Perceptions of fishing access restrictions and the disparity of benefits among stakeholder communities and nations of south-eastern Africa.” *Fish and Fisheries* **17**(2): 417-437. 10.1111/faf.12118.

McClanahan, T. R. and N. A. Muthiga (2016). “Geographic extent and variation of a coral reef trophic cascade.” *Ecology* **97**(7): 1862-1872. 10.1890/15-1492.1.

McClanahan, T. R. and N. A. Muthiga (2016). “Similar impacts of fishing and environmental stress on calcifying organisms in Indian Ocean coral reefs.” *Marine Ecology Progress Series* **560**: 87-103. 10.3354/meps11921.

McClanahan, T. R. and P. S. Rankin (2016). “Geography of conservation spending, biodiversity, and culture.” *Conservation Biology* **30**(5): 1089-1101. 10.1111/cobi.12720.

McClanahan, T. R., C. R. Sebastián and J. E. Cinner (2016). “Simulating the outcomes of resource user- and rule-based regulations in a coral reef fisheries-ecosystem model.” *Global Environmental Change* **38**: 58-69.

McClanahan, T. R., J. M. Maina, N. A. J. Graham and K. R. Jones (2016). “Modeling Reef Fish Biomass, Recovery Potential, and Management Priorities in the Western Indian Ocean.” *PLoS*

ONE **11**(5): 21p. 10.1371/journal.pone.0154585.

McClanahan, T., N. A. Muthiga and C. A. Abunge (2016). “Establishment of Community Managed Fisheries’ Closures in Kenya: Early Evolution of the Tengefu Movement.” *Coastal Management* **44**(1): 1-20. 10.1080/08920753.2016.1116667.

McClure, M. L., A. J. Hansen and R. M. Inman (2016). “Connecting models to movements: testing connectivity model predictions against empirical migration and dispersal data.” *Landscape Ecology* **31**(7): 1419-1432. 10.1007/s10980-016-0347-0.

McNeil, G. V., C. N. Friesen, S. M. Gray, A. Aldredge and L. J. Chapman (2016). “Male colour variation in a eurytopic African cichlid: the role of diet and hypoxia.” *Biological Journal of the Linnean Society* **118**(3): 551-568. 10.1111/bij.12748.

ABOVE
The Linne's two-toed sloth (*Choloepus didactylus*) is a popular feature at the Bronx Zoo's Children Zoo. This sloth species is native to South America, where it is found across the continent north of the Amazon River.

McNulty, S., M. J. Glennon and M. McCormack (2016). “Rusty Blackbirds in New York State: Ecology, Current Status, and Future.” *The Adirondack Journal of Environmental Studies* **20**: 86-100.

Melletti, M., M. Groenenberg, T. Breuer, A. Turkalo, F. Hogg, D. Ekouoth and L. Korte (2016). *Comparative Analysis of Forest Buffalo Grouping Patterns in Central Africa*. 2nd African Buffalo Symposium Windhoek, Namibia.

Mellin, C., D. Mouillot, M. Kulbicki, T. R. McClanahan, L. Vigliola, C. J. A. Bradshaw, R. E. Brainard, P. Chabanet, G. J. Edgar, D. A. Fordham, A. M. Friedlander, V. Parravicini, A. M. M. Sequeira, R. D. Stuart-Smith, L. Wantiez and M. J. Caley (2016). “Humans and seasonal climate variability threaten large-bodied coral reef fish with small ranges.” *Nature Communications* **7**: 9. 10.1038/ncmms10491.

Mendonça, W. C. D. S., B. Marioni, J. B. Thorbjarnarson, W. E. Magnusson and R. Da Silveira (2016). “Caiman hunting in Central Amazonia, Brazil.” *The Journal of Wildlife Management* **80**(8): 1497-1502. 10.1002/jwmg.21127.

Midgley, J. J., T. Sawe, P. Abanyam, K. Hints and P. Gacheru (2016). “Spinescent East African savannah acacias also have thick bark, suggesting they evolved under both an intense fire and herbivory regime.” *African Journal of Ecology* **54**(1): 118-120. 10.1111/aje.12246.

Miller, C., A. Batibasaga, P. Chand, S. Dulunaqio, M. Fox, S. Jupiter, W. Naisilisili, Y. Nand, S. Sharma-Gounder and B. Smith (2016). “Cetacean diversity, common occurrence and community importance in Fijian waters.”

Pacific Conservation Biology **22**(3): 272-280. 10.1071/PC14933.

Miquelle, D. G., I. I. Jimenez-Perez, G. Lopez, D. Onorato, V. V. Rozhnov, R. Arenas, E. Y. Blidchenko, J. Boixader, M. Criffield, L. Fernandez, G. Garrote, J. A. Hernandez-Blanco, S. V. Naidenko, M. Lopez-Parra, T. Del Rey, G. Ruiz, M. A. Simon, P. A. Sorokin, M. Garcia-Tardio and A. A. Yachmennikova (2016). Rescue, Rehabilitation, Translocation, Reintroduction and Captive Rearing: Lessons from Handling the Other Big Cats. *Snow Leopards*. T. McCarthy and D. Mallon, Academic Press.

Miranda-Chumacero, G. (2016). “La tasa de mortalidad en la extracción de peces ornamentales en la TCO Tacana: Un factor más al elegir las especies a cosechar (Mortality rate of ornamental fishes during harvest in the Tacana TCO: an additional factor when selecting species for harvest).” *Ecología en Bolivia* **51**(2): 157-168.

Mockrin, M. H., S. E. Reed, L. Pejchar and S. Jessica (2016). “Balancing housing growth and land conservation: Conservation development preserves private lands near protected areas.” *Landscape and Urban Planning* **157**: 598-607. 10.1016/j.landurbplan.2016.09.015.

Mohammad, G., S. N. Mostafawi, J. Dadul and T. Rosen (2016). Corral Improvements. *Snow Leopards*. T. McCarthy and D. Mallon, Academic Press.

Moheb, Z. and R. Paley (2016). Central Asia: Afghanistan. *Snow Leopards*. T. McCarthy and D. Mallon, Academic Press.

Moheb, Z., N. Jahed and H. Noori (2016). “Bactrian deer (*Cervus elaphus bactrianus*) still exist in Afghanistan.” *Deer Specialist Group News (DSG Newsletter)* **28**: 5-12.

Molineri, C., M. d. C. Zúñiga, B. C. Ramos, L. P. Giraldo and W. Cardona (2016). “Three new species of Leptoxyphes Eaton (Ephemeroptera: Leptoxyphidae) from Colombia.” *Iheringia. Série Zoológica* **106**. 10.1590/1678-4766e2016024

Montoya-Bustamante, S., V. Rojas-Díaz and A. M. Torres-González (2016). “Interactions between frugivorous bats (Phyllostomidae) and Piper tuberculatum (Piperaceae) in a tropical dry forest remnant in Valle del Cauca, Colombia.” *Revista de Biología Tropical (International Journal of Tropical Biology and Conservation)* **64** (2). 10.15517/rbt.v64i2.20689.

Mora, J. M., J. Polisar, H. Portillo and F. Castaneda (2016). Estado de Conservacion del jaguar (*Panthera onca*) en Honduras. El jaguar en el siglo XXI: la perspectiva continental. R. Medillin, J. A. de la Torre, H. Zarza, C. Chavez and G. Ceballos, Fondo de Cultura Economica 137-167.

Moreira-Ramírez, J. F., R. Reyna-Hurtado, M. Hidalgo-Mihart, E. Eduardo Naranjo, M. C. Ribeiro, R. García-Anleu, M. Mérida and G. Ponce-Santizo (2016). “Importance of waterholes for white-lipped peccary (*Tayassu pecari*) in the Selva Maya, Guatemala; Importancia de las aguadas para el pecaari de labios blancos (*Tayassu pecari*) en la Selva Maya, Guatemala.” *Therya* **7**(1): 51-64 10.12933/therya-16-344.

Morgan, D. B., W. Winston and C. M. Sanz (2016). “Comparing the

spatial dimensions of gorilla and chimpanzee sleeping sites: Nearest-neighbor nest distances of sympatric apes along a conservation gradient (AAPA Abstracts).” *American Journal of Physical Anthropology* **159**(Supplement S62, Program of the 85th Annual Meeting of the American Association of Physical Anthropologists): 234-234. 10.1002/ajpa.22955.

Morgan, D., C. Sanz, J. R. Onononga and S. Strindberg (2016). “Factors Influencing the Survival of Sympatric Gorilla (*Gorilla gorilla gorilla*) and Chimpanzee (*Pan troglodytes troglodytes*) Nests.” *International Journal of Primatology* **37**(6): 718-737. 10.1007/s10764-016-9934-9.

Morrison, T. A., W. A. Link, W. D. Newmark, C. A. H. Foley and D. T. Bolger (2016). “Tarangire revisited: Consequences of declining connectivity in a tropical ungulate population.” *Biological Conservation* **197**: 53-60.

Moyes, C. L., F. M. Shearer, Z. Huang, A. Wiebe, H. S. Gibson, V. Nijman, J. Mohd-Azlan, J. F. Brodie, S. Malaivijitnond, M. Linkie, H. Samejima, T. G. O'Brien, C. R. Trainor, Y. Hamada, A. J. Giordano, M. F. Kinnaird, I. R. F. Elyazar, M. E. Sinka, I. Vythilingam, M. J. Bangs, D. M. Pigott, D. J. Weiss, N. Golding and S. I. Hay (2016). “Predicting the geographical distributions of the macaque hosts and mosquito vectors of *Plasmodium knowlesi* malaria in forested and non-forested areas.” *Parasites & Vectors* **9**(1): 1-12. 10.1186/s13071-016-1527-0.

Murphy, A. J., Z. J. Farris, S. Karpanty, F. Ratelolahy and M. J. Kelly (2016). “Estimating Encounter Rates and Densities of

2016 STAFF PUBLICATIONS

Three Lemur Species in Northeastern Madagascar. *International Journal of Primatology* 37(3): 371-389. 10.1007/s10764-016-9906-0. 10.1007/s10764-016-9906-0

Musgrave, S., **D. Morgan**, E. Lonsdorf, R. Mundry and **C. Sanz** (2016). “Tool transfers are a form of teaching among chimpanzees.” *Scientific Reports* 6. 10.1038/srep34783

Muthanna, P. M. and **D. Vasudev** (2016). “Residents of Mudumalai Tiger Reserve secure funds for resettlement after a 25-year struggle.” *Oryx* 50(2): 205-206. 10.1017/s0030605316000077.

Mwachireya, S. A., **McClanahan, Tim R.**, Cote, Isabelle M. and B. E. Hartwick (2016). “Increased Terrestrial Disturbances Modify Skeletal Properties and Mechanical Strength of Hard Corals.” *Environment and Natural Resources Research* 6(4): 153-173. 10.5539/enr.v6n4p153.

Mwakalobo, A., A. Kaswamila, A. Kira, O. Chawala and **T. Timothy** (2016). “Tourism Regional Multiplier Effects in Tanzania: Analysis of Singita Grumeti Reserve Tourism in the Mara Region.” *Journal of Sustainable Development* 9 (4): 44-60. 10.5539/jsd.v9n4p44

Myers, S. S., C. D. Golden, A. A. Almada, S. A. Osofsky, **M. J. Pongsiri** and P. H. Alliance (2016). “Research in planetary health: a call for abstracts.” *The Lancet* 388(10056): 2070. 10.1016/S0140-6736(16)32054-2.

Nallar, R., Z. Papp, F. A. Leighton, T. Epp, J. Pasick, Y. Berhane, R. Lindsay and C. Soos (2016). “Ecological determinants of Avian Influenza virus, West Nile virus, and Avian Paramyxovirus infection and antibody status in

Blue-winged Teal (Anas Discors) in the Canadian prairies.” *Journal of Wildlife Diseases* 52(1): 33-46. 10.7589/2013-07-191.

Narayan, S., M. W. Beck, B. G. Reguero, I. J. Losada, B. van Wesenbeeck, N. Pontee, J. N. Sanchirico, **J. C. Ingram**, G.-M. Lange and K. A. Burks-Copes (2016). “The Effectiveness, Costs and Coastal Protection Benefits of Natural and Nature-Based Defences.” *PLoS ONE* 11(5): 17p. 10.1371/journal.pone.0154735.

Narváez, V. and **G. Zapata-Ríos** (2016). Guía para la identificación de ataques a animales domésticos causados por carnívoros grandes. Ministerio del Ambiente y Wildlife Conservation Society.

Naveda-Rodríguez, A., F. H. Vargas, S. Kohn and **G. Zapata-Ríos** (2016). “Andean Condor (Vultur gryphus) in Ecuador: Geographic Distribution, Population Size and Extinction Risk.” *PLoS ONE* 11(3): e0151827. 10.1371/journal.pone.0151827.

Naveda-Rodríguez, A., K. L. Bildstein and F. H. Vargas (2016). “Geographic patterns of species richness of diurnal raptors in Venezuela.” *Biodiversity and Conservation* 25(6): 1037-1052. 10.1007/s10531-016-1102-1.

Neubert, K., **I. Yulianto**, S. Kleinertz, S. Theisen, B. Wiryawan and H. W. Palm (2016). “Parasite fauna of white-streaked grouper, Epinephelus ongus (Bloch, 1790) (Epinephelidae) from Karimunjawa, Indonesia.” *Parasitology Open* 2: 11p. 10.1017/pao.2016.6.

Nguyen, T. H., A. Sinha, S. Gholami, **A. Plumptre**, L. Joppa, M. Tambe, M. Driciru, F. Wanyama, A. Rwetsiba, R. Critchlow and C. Beale (2016). CAPTURE: A New Predictive Anti-Poaching Tool for

Wildlife Protection. 15th International Conference on Autonomous Agents and Multiagent Systems (AAMAS) Singapore, International Foundation for Autonomous Agents and Multiagent Systems.

Nuttall, M., D. Willcox, M. Nut, R. Seng and M. Handschuh (2016). “The first records of Red-legged Crane Rallina fasciata for Cambodia.” *BirdingASIA* 25: 114-115.

O’Brien, T. (2016). Camera traps for conservation: Monitoring protected area investments. In *Protected Areas: Are They Safeguarding Biodiversity?* L. N. Joppa, J. E. M. Bailie and **J. G. Robinson** (eds), Wiley-Blackwell: 228-241.

Oliveira, C., M. Wahlberg, M. A. Silva, M. Johnson, **R. Antunes**, D. M. Wisniewska, A. Fais, J. Gonçalves and P. T. Madsen (2016). “Sperm whale codas may encode individuality as well as clan identity.” *The Journal of the Acoustic Society of America* 138(2860). 10.1121/1.4949478.

Oliveira, L. d. C. and **K. Didier** (2016). “O que Precisamos saber para o Sucesso de um bom Monitoramento? Dicas Baseadas nos Padrões Abertos de Conservação.” *Biodiversidade Brasileira* 6(1): 48-60.

Olivero, J., J. E. Fa, M. A. Farfán, J. Lewis, B. Hewlett, **T. Breuer**, G. M. Carpaneto, M. Fernández, F. Germi, S. Hattori, J. Head, M. Ichikawa, K. Kitanaishi, J. Knights, N. Matsuura, A. Migliano, B. Nese, A. Noss, D. O. Ekoumou, P. Paulin, R. Real, M. Riddell, E. G. J. Stevenson, M. Toda, J. M. Vargas, H. Yasuoka and R. Nasi (2016). “Distribution and Numbers of Pygmies in Central African Forests.” *PLoS ONE* 11(1). 10.1371/journal.pone.0144499.

Omeja, P. A., M. J. Lawes, A. Corriveau, K. Valenta, D. Sarkar, F. P. Paim and **C. A. Chapman** (2016). “Recovery of tree and mammal communities during large-scale forest regeneration in Kibale National Park, Uganda.” *Biotropica* 48(6): 770-779. 10.1111/btp.12360.

Orr, A. G. and **S. J. Richards** (2016). “Three new species of Papuagrion Ris, 1913 (Odonata: Coenagrionidae) from the Hindenburg Wall region of western Papua New Guinea.” *Zootaxa* 4072(3): 319-332.

Orton, P., K. MacManus, E. Sanderson, J. Mills, **M. Giampieri**, **K. Fisher**, G. Yetman, E. Doxsey-Whitfield, D. Hugens, Z. Wu, L. Yin, N. Georgas and A. Blumberg (2016). Quantifying the Value and Communicating the Protective Services of Nature-Based Flood Mitigation using Flood Risk Assessment: Technical Report, Draft 2.1. National Oceanic and Atmospheric Administration. Coastal Ocean Climate Applications.

Ostrowski, S. (2016). “The Eurasian Otter Lutra lutra an Afghanistan: A Review of the Sparse Available Information.” *IUCN/SCC Otter Specialist Group Bulletin* 33(1): 50-53.

Ostrowski, S. and **M. Gilbert** (2016). Diseases of Free-ranging Snow Leopards and Primary Prey Species. Snow Leopards. T. McCarthy and D. Mallon, Academic Press.

Ostrowski, S., H. Rahmani, J. M. Ali, R. Ali and **P. Zahler** (2016). “Musk deer Moschus cupreus persist in the eastern forests of Afghanistan.” *Oryx* 50(02): 323-328. doi:10.1017/S0030605314000611.



ABOVE

The proboscis monkey (*Nasalis larvatus*) finds itself increasingly endangered in its jungle habitat on the island of Borneo. WCS Malaysia Country Director Melvin Gumal identifies land clearing for timber and conversion to oil palm as a significant threat to this large monkey species. WCS is working with the Malaysian government to protect more forest habitat from development.

Osuri, A. M., J. Ratnam, V. Varma, P. Alvarez-Loayza, J. Hurtado Astaiza, M. Bradford, C. Fletcher, **M. Ndongou-Hockemba**, P. A. Jansen, D. Kenfack, A. R. Marshall, B. R. Ramesh, F. Rovero and M. Sankaran (2016). “Contrasting effects of defaunation on aboveground carbon storage across the global tropics.” *Nature Communications* 7: 7p. 10.1038/ncomms11351. <http://dx.doi.org/10.1038/ncomms11351>

Parkins, K. L., M. Michelle, C. **McCann** and J. A. Clark (2016). “Bats in the Bronx: Acoustic Monitoring of Bats in New York City.” *Urban Naturalist* 10: 1-16.

Parris, A. S., W. D. Solecki, **E. W. Sanderson** and J. R. Waldman (2016). The Future of Jamaica Bay: Putting Resilience into Practice. Prospects for Resilience: Insights from New York City's Jamaica Bay. **E. W. Sanderson**, W. D. Solecki, J. R. Waldman and A. S. Parris. Washington, D.C., Island Press.

Paudel, K., T. Amano, R. Acharya, A. Chaudhary, H. S. Baral, K. P. Bhusal, I. P. Chaudhary, R. E. Green, **R. J. Cuthbert** and T. H. Galligan (2016). “Population trends in Himalayan Griffon in Upper Mustang, Nepal, before and after the ban on diclofenac.” *Bird Conservation International* 26(3): 286-292. 10.1017/S0959270915000192.

Penaluna, B. E., A. Abadía-Cardoso, J. B. Dunham, F. J. García-Dé León, R. E. Gresswell, A. R. Luna, E. B. Taylor, **B. B. Shepard**, R. Al-Chokhachy, C. C. Muhlfeld, K. R. Bestgen, K. Rogers, M. A. Escalante, E. R. Keeley, G. M. Temple, J. E. Williams, K. R. Matthews, R. Pierce, R. L. Mayden, R. P. Kovach, J. C. Garza and K. D. Fausch (2016). “Conservation of Native Pacific Trout Diversity in Western North America.” *Fisheries* 41(6): 286-300. 10.1080/03632415.2016.1175888.

Perera-Romero, L., **J. Polisar** and **L. Maffei** (2016). Grandes vertebrados terrestres en tierras ancestrales indígenas del alto Cauca: importancia de los acuerdos comunitarios para la conservación del Escudo Guayanés venezolano (Large terrestrial vertebrates of the indigenous ancestral lands from Upper Cauca: the importance of community-based agreements for the Venezuelan Guiana Shield conservation). Conservación de grandes vertebrados en áreas no protegidas de Colombia. Venezuela y Brasil. E. Payán, C. A. Lasso and C. Castaño-Uribe. Bogotá, Colombia, Instituto de Investigación de Recursos Biológicos Alexander von Humboldt.

Petriz, O. A., D. S. M. Guzman, **K. Gustavsen**, K. T. Wiggins, P. H. Kass, E. Houck, C. J. Murphy and J. Paul-Murphy (2016). “Evaluation of the mydriatic effects of topical administration of rocuronium bromide in Hispaniolan Amazon

2016 STAFF PUBLICATIONS



parrots (*Amazona ventralis*). *Journal of the American Veterinary Medical Association (Javma)* **248**(1): 67-71. 10.2460/javma.248.1.67.

Petrunenko, Y. K., I. L. Polkovnikov, **M. Gilbert** and **D. G. Miquelle** (2016). “**First recorded case of tiger killing Eurasian lynx.**” *European Journal of Wildlife Research* **62**(3): 373-375. 10.1007/s10344-016-1007-z.

Petrunenko, Y. K., R. A. Montgomery, I. V. Seryodkin, O. Y. Zaumyslova, **D. G. Miquelle** and D. W. Macdonald (2016). “**Spatial variation in the density and vulnerability of preferred prey in the landscape shape patterns of Amur tiger habitat use.**” *Oikos* **125**(1): 66–75. 10.1111/oik.01803.

Platt, S. G. and T. R. Rainwater (2016). “Crocodylus Moreletii (Morelet’s Crocodile). Troglodytism.” *Herpetological Review* **47**(3): 457-458.

Platt, S. G., A. R. Berezin, D. J.

Miller and T. R. Rainwater (2016). “**A Dietary Study of the Rough-footed Mud Turtle (*Kinosternon hirtipes*) in Texas, USA.**” *Herpetological Conservation and Biology* **11**(1): 142–149.

Platt, S. G., F. Li and **Q. He** (2016). *A Population and Nesting Survey of Reintroduced Chinese Alligators at Dongtan Wetland Park, Shanghai, China.* Wildlife Conservation Society.

Platt, S. G., Q. He, J. Wang and **S. Lu** (2016). “**Reproduction in a Reintroduced Population of Chinese Alligators.**” *Crocodile Specialist Group Newsletter* **35**(3): 11-15.

Platt, S. G., T. R. Rainwater, J. C. Meerman and S. M. Miller (2016). “Notes on the diet, foraging behavior, and venom of some snakes in Belize.” *Mesoamerican Herpetology* **3**(1): 162-170.

Plumptre, A. and S. Nixon (2016).

“**New survey reveals dramatic decline of Grauer’s gorilla.**” *Oryx* **50**(2): 203-203. 10.1017/s0030605316000089.

Plumptre, A. J., S. Nixon, **D. K. Kujirakwinja,** G. Vieilledent, R. Critchlow, E. A. Williamson, R. Nishuli, **A. E. Kirkby** and J. S. Hall (2016). “**Catastrophic Decline of World’s Largest Primate: 80% Loss of Grauer’s Gorilla (*Gorilla beringei graueri*) Population Justifies Critically Endangered Status.**” *PLoS ONE* **11**(10). 10.1371/journal.pone.0162697.

Polak, T., **J. E. M. Watson,** J. R. Bennett, H. P. Possingham, R. A. Fuller and J. Carwardine (2016). “**Balancing ecosystem and threatened species representation in protected areas and implications for nations achieving global conservation goals.**” *Conservation Letters* **9**(6): 438–445. 10.1111/conl.12268.

Pollard, E., **R. Victorine,** R. Tizard

ABOVE
A grizzly bear (*Ursus arctos*) and cub in Alaska. Recovering populations of grizzlies farther south in the Greater Yellowstone Ecosystem may soon lead to this brown bear being removed from the Endangered Species List in that landscape.

and S. W. Hlaing (2016). *The Taninthayi Nature Reserve Project as a Model of Compensation of Impacts to Biodiversity.* SPE International Conference and Exhibition on Health, Safety, Security, Environment, and Social Responsibility Stavanger, Norway, Society of Petroleum Engineers. 10.2118/179418-MS.

Powell, D. (2016). *Species and subspecies concepts in taxonomy: an introduction to the confusion.* AZA Ungulate Taxon Advisory Group Meeting Omaha, NE. 10.13140/RG.2.1.2863.2727.

Powell, D. M. and C. Vitale (2016). “**Behavioral changes in female Asian elephants when given access to an outdoor yard overnight.**” *Zoo Biology* **35**(4): 298–303. 10.1002/zoo.21289.

Powell, D. M. and M. Ardaio (2016). “**Survey of U.S. zoo and aquarium animal care staff attitudes regarding humane euthanasia for population management.**” *Zoo Biology* **35**(3): 187–200. 10.1002/zoo.21278.

Prager, C. M., A. Varga, P. Olmsted, **J. C. Ingram,** M. Cattau, C. Freund, R. Wynn-Grant and S. Naeem (2016). “**An assessment of adherence to basic ecological principles by payments for ecosystem service projects.**” *Conservation Biology* **30**(4): 836–845. 10.1111/cobi.12648.

Pruvot, M. and S. Morand (2016). “**Editorial - Links between biodiversity and health: consequences and opportunities for collaboration.**” *Cambodian Journal of Natural History* **2**: 77–81.

Pruvot, M., M. Lejeune, S. Kutz, W. Hutchins, M. Musiani, A. Massolo and K. Orsel (2016). “**Better Alone or in Ill Company? The Effect of Migration and Inter-Species**

Comingling on *Fascioloides magna* Infection in Elk.” *PLoS ONE* **11**(7): 16p. 10.1371/journal.pone.0159319.

Purcell, S. W., P. Ngualaefe, S. J. Foale, N. Cocks, B. R. Cullis and **W. Lalavanua** (2016). “**Multiple Factors Affect Socioeconomics and Wellbeing of Artisanal Sea Cucumber Fishers.**” *PLOS ONE* **11**(12): 20p. 10.1371/journal.pone.0165633.

Radachowsky, J. (2016). *Series of blog postings on surveying Central American forests.* *National Geographic Voices.*

Ramos, E. A., D. N. Castelblanco-Martínez, C. A. Niño-Torres, K. Jenko and **N. Auil Gomez** (2016). “**A Review of the Aquatic Mammals of Belize.**” *Aquatic Mammals* **42**(4): 476-493. 10.1578/AM.42.4.2016.476.

Ramos, V. H. and A. I. Flores (2016). *The Role of Earth Observation for Managing Biodiversity and Disasters in Mesoamerica: Past, Present, and Future.* Earth Science Satellite Applications: Current and Future Prospects. F. Hossain. Cham, Switzerland, Springer International Publishing: 3-25. 10.1007/978-3-319-33438-7_1.

Ramsay, E., R. Sadler, R. Rush, **T. Seimon, A. Tomaszewicz,** E. A. Fleetwood, **D. McAloose** and R. P. Wilkes (2016). “**Canine Distemper Virus Antibody Titers in Domestic Cats After Delivery of a Live Attenuated Virus Vaccine.**” *Journal of Zoo and Wildlife Medicine* **47**(2): 551-557. 10.1638/2015-0182.1.

Rao, M., G. Shahabuddin and L. R. Carrasco (2016). Integrating community managed areas into protected area systems: The promise of synergies and the

reality of trade-offs. Protected Areas: Are They Safeguarding Biodiversity? L. N. Joppa, J. E. M. Baillie and **J. G. Robinson,** Wiley-Blackwell: 169-189.

Rao, M., T. Lyman, M. Linkie, M. Muslich, M. Leggett, W. Marthy, M. C. Sibarani, W. Pusparini, A. Srivathsa, N. S. Kumar, K. U. Karanth, H. Naing, K. T. Latt, G. Junkume, B. Buuveibaatar, S. Strindberg, Y. D. Setyorini, I. Hermawati, K. Z. Ya, T. Z. Naing, S. Platt, A. Diment, S. Htun, T. Myint, R. Tizard, T. Naing, M. Lubis, S. Mahood, M. Lubis, D. Wijaya, R. I. Khairanis, M. Kholis, P. P. Aung, M. Nuttall, G. Junkume, T. Zaw, K. M. Myo, M. M. Soe, M. M. Win, N. M. L. Thant, N. Lin, K. K. T. Zin, P. P. Aung and e. al (2016). *Conservation Asia 2016 Abstract Book.* Conservation Asia 2016, Sustainable Landscapes for People, Business and Biodiversity: Singapore.

Ray, J. C. (2016). *Addressing Cumulative Impacts under Canada’s Species at Risk Act (in chapter Cumulative Impacts and Environmental Values).* The Integration Imperative: Cumulative Environmental, Community and Health Effects of Multiple Natural Resource Developments. M. P. Gillingham, G. R. Halseth, C. J. Johnson and M. W. Parkes. New York, NY, Springer International Publishing: 62-63. 10.1007/978-3-319-22123-6_3.

Rayan, D. M. and **M. Linkie** (2016). “**Managing conservation flagship species in competition: Tiger, leopard and dhole in Malaysia.**” *Biological Conservation* **204**(Part B): 360–366. 10.1016/j.biocon.2016.11.009.

Rebstock, G. A., P. D. Boersma and P. García-Borboroglu (2016). “**Changes in habitat use and nesting density in a declining**

seabird colony.” *Population Ecology* **58**(1): 105-119. 10.1007/s10144-015-0523-0.

Reddon, A. R., **C. O’Connor,** I. Ligoeki, J. Hellmann, S. Marsh-Rollo, I. Hamilton and S. Balshine (2016). “**No evidence for larger brains in cooperatively breeding cichlid fishes.**” *Canadian Journal of Zoology* **94**(5): 373-378. 10.1139/cjz-2015-0118.

Reddy, G. V., **K. U. Karanth, N. S. Kumar,** J. Krishnaswamy and **K. K. Karanth** (2016). *Recovering Biodiversity in Indian Forests.* Singapore, Springer Singapore. 10.1007/978-981-10-0911-2.

Reddy, G. V., **K. U. Karanth, N. S. Kumar,** J. Krishnaswamy and **K. K. Karanth** (2016). *Results and Findings. Recovering Biodiversity in Indian Forests.* G. V. Reddy, **U. Karanth, N. S. Kumar,** J. Krishnaswamy and **K. K. Karanth.** Singapore, Springer Singapore: 43-84. 10.1007/978-981-10-0911-2_4.

Reddy, G. V., **K. U. Karanth, N. S. Kumar,** J. Krishnaswamy and **K. K. Karanth** (2016). *Role of Wildlife Protected Areas in India. Recovering Biodiversity in Indian Forests.* G. V. Reddy, **K. U. Karanth, N. S. Kumar,** J. Krishnaswamy and **K. K. Karanth.** Singapore, Springer Singapore: 1-11. 10.1007/978-981-10-0911-2_1.

Reddy, G. V., **K. U. Karanth, N. S. Kumar,** J. Krishnaswamy and **K. K. Karanth** (2016). *Study Species, Habitats and Hypotheses. Recovering Biodiversity in Indian Forests.* G. V. Reddy, **K. U. Karanth, N. S. Kumar,** J. Krishnaswamy and **K. K. Karanth.** Singapore, Springer Singapore: 13-21. 10.1007/978-981-10-0911-2_2.

2016 STAFF PUBLICATIONS

Reddy, G. V., **K. U. Karanth, N. S. Kumar**, J. Krishnaswamy and **K. K. Karanth** (2016). Survey Design, Field and Analytical Methods. Recovering Biodiversity in Indian Forests. G. V. Reddy, **K. U. Karanth, N. S. Kumar**, J. Krishnaswamy and **K. K. Karanth**. Singapore, Springer Singapore: 23-41. 10.1007/978-981-10-0911-2_3.

Reddy, G. V., **K. U. Karanth, N. S. Kumar**, J. Krishnaswamy and **K. K. Karanth** (2016). Synthesis, Discussion and Conclusions. Recovering Biodiversity in Indian Forests. G. V. Reddy, **K. U. Karanth, N. S. Kumar**, J. Krishnaswamy and **K. K. Karanth**. Singapore, Springer Singapore: 85-91. 10.1007/978-981-10-0911-2_5.

Redford, K. H., **K. Aune** and G. Plumb (2016). Hope is a bison. *Conservation Biology* **30**(4): 689–691. 10.1111/cobi.12717.

Reyna-Hurtado, R., H. Beck, M. Altrichter, C. A. Chapman, T. R. Bonnell, **A. Keuroghlian**, A. L. Desbiez, J. F. Moreira-Ramírez, G. O’Farrill, J. Fragoso and E. J. Naranjo (2016). What Ecological and Anthropogenic Factors Affect Group Size in White-lipped Peccaries (Tayassu pecari)? *Biotropica* **48**(2): 246–254. 10.1111/btp.12269.

Riley, J. A., K. Parkins, **C. McCann** and J. A. Clark (2016). “Can You Hear Me Now? Using Ultrasonic Vocalizations to Explore the Natural History of New York City Bats.” *Integrative and Comparative Biology* **56**: E357-E357.

Ripple, W. J., G. Chapron, J. V. López-Bao, **S. M. Durant**, D. W. Macdonald, P. A. Lindsey, **E. L. Bennett**, R. L. Beschta, J. T. Bruskotter, A. Campos-Arceiz, R. T. Corlett, C. T. Darimont, A. J.

Dickman, R. Dirzo, H. T. Dublin, J. A. Estes, K. T. Everatt, M. Galetti, **V. R. Goswami**, M. W. Hayward, S. Hedges, M. Hoffmann, L. T. B. Hunter, G. I. H. Kerley, M. Letnic, T. Levi, **F. Maisels**, J. C. Morrison, M. P. Nelson, T. M. Newsome, L. Painter, R. M. Pringle, C. J. Sandom, J. Terborgh, A. Treves, B. Van Valkenburgh, J. A. Vucetich, A. J. Wirsing, A. D. Wallach, C. Wolf, R. Woodroffe, H. Young and L. Zhang (2016). Saving the World’s Terrestrial Megafauna. *BioScience* **66**(10): 807-812. 10.1093/biosci/biw092.

Risidianto, D., D. J. Martyr, R. T. Nugraha, A. Harihar, H. T. Wibisono, I. A. Haidir, D. W. Macdonald, N. D’Cruze and **M. Linkie** (2016). Examining the shifting patterns of poaching from a long-term law enforcement intervention in Sumatra. *Biological Conservation* **204**(Parl B): 306–312. 10.1016/j.biocon.2016.10.029.

Rivera, S. J., L. F. Pacheco, D. Achá, C. I. Molina and **G. Miranda-Chumacero** (2016). Low total mercury in Caiman yacare (Alligatoridae) as compared to carnivorous, and non-carnivorous fish consumed by Amazonian indigenous communities. *Environmental Pollution* **218**: 366–371. 10.1016/j.envpol.2016.07.013.

Robards, M. D., G. K. Silber, J. D. Adams, J. Arroyo, D. Lorenzini, K. Schwehr and J. Amos (2016). Conservation science and policy applications of the marine vessel Automatic Identification System (AIS)—a review. *Bulletin of Marine Science* **92**(1): 75–103. <http://dx.doi.org/10.5343/bms.2015.1034>.

Robbins, A. M., M. Gray, **T. Breuer, M. Manguette, E. J. Stokes**, P. Uwingeli, I. Mburanumwe, E.

Kagoda and M. M. Robbins (2016). Mothers may shape the variations in social organization among gorillas. *Royal Society Open Science* **3**: 10p. 10.1098/rsos.160533.

Romano, M., **H. Ferreyra**, G. Ferreyroa, F. V. Molina, **A. Caselli**, I. Barberis, P. Beldoménico and M. Uhart (2016). Lead pollution from waterfowl hunting in wetlands and rice fields in Argentina. *Science of the Total Environment* **545–546**: 104-113. 10.1016/j.scitotenv.2015.12.075.

Rosen, T. and **P. Zahler** (2016). Transboundary Initiatives and Snow Leopard Conservation. Snow Leopards. T. McCarthy and D. Mallon, Academic Press.

Rostro-García, S., J. F. Kamler, E. Ash, G. R. Clements, L. Gibson, **A. J. Lynam**, R. McEwing, **H. Naing** and S. Paglia (2016). Endangered leopards: Range collapse of the Indochinese leopard (Panthera pardus delacourii) in Southeast Asia. *Biological Conservation* **201**: 293-300. 10.1016/j.biocon.2016.07.001.

Rowland, E. L., N. Fresco, **D. Reid** and **H. A. Cooke** (2016). Examining climate-biome (“cliome”) shifts for Yukon and its protected areas. *Global Ecology and Conservation* **8**: 1-17. 10.1016/j.gecco.2016.07.006.

Saavedra-Rodríguez, C. A. (2016). La cacería, amenaza potencial para la dinámica poblacional de pacaranas (*Dinomys branickii*) en Colombia (Poaching and niche specificity increase extinction risk for pacaranas (*Dinomys branickii*) in unprotected lands of the Colombian Andes). *Conservación de grandes vertebrados en áreas no protegidas de Colombia, Venezuela y Brasil*. C. A. Lasso, E. Payán Garrido, C. Castaño-Urbe,

D. Núñez and M. A. Morales-Betancourt. Bogota, Colombia, Instituto de Investigación de Recursos Biológicos Alexander von Humboldt (IAvH): 133 - 148.

Saavedra-Rodríguez, C. A. (2016). La cacería, amenaza potencial para la dinámica poblacional de pacaranas (*Dinomys branickii*) en Colombia. *Conservación de grandes vertebrados en áreas no protegidas de Colombia, Brasil y Venezuela*. E. Payán, C. A. Lasso and C. Castaño-Urbe. Bogotá, Colombia, Instituto de Investigación de Recursos Biológicos Alexander von Humboldt (IAvH).

Sadler, R. A., E. Ramsay, **D. McAloose**, R. Rush and R. P. Wilkes (2016). Evaluation of Two Canine Distemper Virus Vaccines in Captive Tigers (Panthera Tigris). *Journal of Zoo and Wildlife Medicine* **47**(2): 558-563. 10.1638/2015-0223.1.

Samper, C. (2016). Foreword. *Crop Genetic Diversity in the Field and on the Farm: Principles and Applications in Research Practices*. D. I. Jarvis, T. Hodgkin and e. al. New Haven, CT, Yale University Press.

Sanderson, E. W. (2016). Cartographic Evidence for Historical Geomorphological Change and Wetland Formation in Jamaica Bay, New York. *Northeastern Naturalist* **23**(2): 277-304. 10.1656/045.023.0208.

Sanderson, E. W., D. Mallon, T. McCarthy, **P. Zahler** and **K. Fisher** (2016). Global Strategies for Snow Leopard Conservation: A Synthesis. Snow Leopards. T. McCarthy and D. Mallon, Academic Press: 44.

Sanderson, E. W., P. Orton, J. R. Fischbach and D. Knopman (2016).



ABOVE

As climate change makes itself felt across the world’s oceans, recent surveys by WCS indicate that some coral reefs appear to be escaping the superheated waters or showing limited heat stress or bleaching. Finding reefs that serve as climate refuges and managing them globally is one of the WCS Marine Program’s highest priorities for action.

Computational Modeling of the Jamaica Bay System. Prospects for Resilience: Insights from New York City’s Jamaica Bay. **E. W. Sanderson**, W. D. Solecki, J. R. Waldman and A. S. Parris. Washington, D.C., Island Press.

Sanderson, E. W., W. D. Solecki, J. R. Waldman and A. S. Parris (2016). Prospects for Resilience: Insights from New York City’s Jamaica Bay. Washington, D.C., Island Press. **Sanz, C. M.** and **D. B. Morgan** (2016). Rethinking chimpanzee tool use: Niche construction and developmental bias in maintaining technological traditions among African apes (AAPA Abstracts). *American Journal of Physical Anthropology* **159**(Supplement S62, Program of the 85th Annual Meeting of the American Association of Physical Anthropologists): 279-280. 10.1002/ajpa.22955.

Sanz, C. M., **D. B. Morgan** and W. D. Hopkins (2016). Lateralization and Performance Asymmetries

in the Termite Fishing of Wild Chimpanzees in the Goulougo Triangle, Republic of Congo. *American Journal of Primatology* **78**(11): 1190-1200. 10.1002/ajp.22574.

Sautner, S. (2016). *Fish On, Fish Off*, Lyons Press.

Sayer, J., D. Endamana, A. K. Boedhihartono, M. Ruiz-Perez and **T. Breuer** (2016). Learning from change in the Sangha Tri-National landscape. *International Forestry Review* **18**(Supplement 1): 130-139. 10.1505/146554816819683771.

Schaller, G. (2016). Foreword. Snow Leopards. T. McCarthy and D. Mallon, Academic Press.

Scheffers, B. R., L. De Meester, T. C. L. Bridge, A. A. Hoffmann, J. M. Pandolfi, R. T. Corlett, S. H. M. Butchart, P. Pearce-Kelly, K. M. Kovacs, D. Dudgeon, M. Pacifici, C. Rondinini, W. B. Foden, T. G. Martin, C. Mora, D. Bickford and J.

E. M. Watson (2016). The broad footprint of climate change from genes to biomes to people. *Science* **354**(6313). 10.1126/science.aaf7671.

Schneider, L., **C. R. Ferrara**, R. C. Vogt and C. Schaffer (2016). Subsistence-Level Chelonian Exploitation on the Rio Negro and One Viable Alternative. *Chelonian Conservation and Biology* **15**(1): 36-42. 10.2744/CGB-1188.1.

Scioscia, G., A. Raya Rey and **A. Schiavini** (2016). Breeding biology of Magellanic Penguins (Spheniscus magellanicus) at the Beagle Channel: interannual variation and its relationship with foraging behaviour. *Journal of Ornithology* **157**(3): 773–785. 10.1007/s10336-016-1341-7.

Segan, D. B., K. A. Murray and **J. E. M. Watson** (2016). A global assessment of current and future biodiversity vulnerability to habitat loss–climate change

2016 STAFF PUBLICATIONS



interactions.” *Global Ecology and Conservation* 5: 12-21. 10.1016/j.gecco.2015.11.002.

Seimon, A., J. Allen, T. Seimon, S. Talbot and D. Hoadley (2016). “Crowd-sourcing the El Reno 2013 Tornado: A new approach for collation and display of storm chaser imagery for scientific applications.” *Bulletin of the American Meteorological Society* 97(11): 2069–2084. 10.1175/BAMS-D-15-00174.1.1

Seimon, T. A., M. Gilbert, S. Neabore, C. Hollinger, A. Tomaszewicz, A. Newton, T. Chang and D. McAloose (2016). “Avian Hemosporidian Parasite Lineages in Four Species of Free-ranging Migratory Water Birds from Mongolia, 2008.” *Journal of Wildlife Diseases* 52(3): 682-687. 10.7589/2015-11-311. Service, U. S. F. a. W., H. Quigley, C. A. Lopez Gonzalez, E. W.

Sanderson, K. Fisher and e. al (2016). *Jaguar Draft Recovery Plan (Panthera onca)*. U.S. Fish and Wildlife Service. U. S. F. a. W. Service, 10.13140/RG.2.2.19972.53127 Seryodkin, I. V., A. M. Panichev

and J. C. Slaght (2016). “Geophagy by brown bears in the Russian Far East.” *Ursus* 27(1): 11-17. 10.2192/URSUS-D-15-00014.1.

Shelmidine, N., B. Murphy and K. Massarone (2016). “Husbandry and propagation of the Chinese big-headed turtle (*Platysternon megacephalum*) at the Wildlife Conservation Society’s Prospect Park Zoo.” *Zoo Biology* 35(2): 174–179. 10.1002/zoo.21271.

Shuter, A. D., M. H. Parsons and R. J. Sarno (2016). “Association of Male Inguinal Patch Size with Mate Assortment in the Kihansi Spray Toad, *Nectophrynoides asperginis*.” *Journal of Herpetology* 50(2): 222-226. 10.1670/15-078

Siraj-ud-Din, M., R. A. Minhas, M. Khan, U. Ali, S. S. Bibi, B. Ahmed and M. S. Awan (2016). “Conservation Status of Ladakh Urial (*Ovis vignei vignei* Blyth, 1841) in Gilgit Baltistan, Pakistan.” *Pakistan Journal of Zoology* 48(5): 1353-1365.

Sirén, A. H. and D. S. Wilkie (2016). “The effects of ammunition price on subsistence hunting in an Amazonian village.” *Oryx* 50(1):

47-55. 10.1017/S003060531400026X.

Slaght, J. C. (2016). East of Siberia, a series of blog postings about owls, tigers, and fieldwork in the Russian Far East, *Scientific American Guest Blog*.

Slaght, J. C. and S. G. Surmach (2016). “Blakiston’s Fish-owl *Bubo blakistonii* and logging: applying resource selection information to endangered species conservation in Russia.” *Bird Conservation International* 26(2): 214-224. 10.1017/s0959270915000076.

Smitz, N., D. Cornelis, P. Chardonnet, A. Caron, M. de Garine-Wichatitsky, F. Jori, A. Mouton, A. Latinne, L. M. Pigneur, M. Melletti, K. L. Kanapeckas, J. Marescaux, C. L. Pereira and J. Michaux (2016). “Genetic structure of fragmented southern populations of African Cape buffalo (*Syncerus caffer caffer*) (vol 14, 203, 2014).” *Bmc Evolutionary Biology* 16. 10.1186/s12862-016-0585-4.

Soanes, K., M. C. Lobo and R. van der Ree (2016). “Radio-collared squirrel glider (*Petaurus*

ABOVE

The Eastern Steppe of Mongolia hosts plentiful wildlife species monitored by WCS, including gazelle, grey wolves, eastern moose, Pallas’s cats, and a rich variety of birds of prey, along with 200 nomadic herders.

norfolcensis) struck by vehicle and transported 500 km along freeway.” *Australian Mammalogy* 38(1): 127-129. 10.1071/am15013.

Solecki, W. D., E. W. Sanderson, J. R. Waldman and A. S. Parris (2016). Introduction: Why Prospects for Resilience for Jamaica Bay? Prospects for Resilience: Insights from New York City’s Jamaica Bay. E. W. Sanderson, W. D. Solecki, J. R. Waldman and A. S. Parris. Washington, D.C., Island Press.

Soueter, N. J., V. Simpson, A. Mould, J. C. Eames, T. N. E. Gray, R. Sinclair, F. Tracy, J. A. Jurgens and A. Billingsley (2016). “Editorial: Will the recent changes in protected area management and the creation of five new protected areas improve biodiversity conservation in Cambodia?” *Cambodian Journal of Natural History* 2016(1): 1-5.

Spira, C., G. Mitamba, A. Kirkby, T. Kalikunguba, R. Nishuli and A. Plumptre (2016). *Grauer’s Gorilla Numbers Increasing in Kabuzi-Biega National Park Highlands: 2015 Census in Tshivanga Sector (Unpublished report by the Wildlife Conservation Society)*. Wildlife Conservation Society.

Stanton, D. W. G., J. Hart, A. Vosper, N. F. Kumpel, J. Wang, J. G. Ewen and M. W. Bruford (2016). “Non-invasive genetic identification confirms the presence of the Endangered okapi (*Okapia johnstoni*) south-west of the Congo River.” *Oryx* 50(1): 134-137. 10.1017/S0030605314000593.

Star, J., E. L. Rowland, M. E. Black, C. A. F. Enquist, G. Garfin, C. H. Hoffman, H. Hartmann, K. L. Jacobs, R. H. Moss and A. M. Waple (2016). “Supporting Adaptation Decisions through Scenario Planning: Enabling the Effective

Use of Multiple Methods.” *Climate Risk Management* 13: 88–94. 10.1016/j.crm.2016.08.001. Stein, A. B., V. Athreya, P. Gerngross, G. Balme, P. Henschel, U. Karanth, D. Miquelle, S. Rostro, J. F. Kamler and A. Laguardia (2016). *Panthera pardus, Leopard*. 10.2305/IUCN.UK.2016-1.RLTS. T15954A50659089.en.

Stocks, A., M. R. Reyes and C. A. Rios-Franco (2016). “GIS and the A’i of Colombia: Reserves, Resguardos and the Future.” *International Journal of Applied Geospatial Research (IJAGR)* 7(3). 10.4018/IJAGR.2016070103.

Stoeth, E. (2016). “Wild in the City: The importance of urban environmental exploration for students and teachers.” *Green Teacher* (111): 27-29.

Strindberg, S., R. A. Coleman, V. R. Burns Perez, C. L. Campbell, J. Majil and J. Gibson (2016). “In-water assessments of sea turtles at Glover’s Reef Atoll, Belize.” *Endangered Species Research* 31: 211-225. 10.3354/esr00765.

Swanson, L., M. Dorsch, M. Giampieri, P. Orton, A. S. Parris and E. W. Sanderson (2016). Change and Resilience of Jamaica Bay’s Ecological Systems. Prospects for Resilience: Insights from New York City’s Jamaica Bay. E. W. Sanderson, W. D. Solecki, J. R. Waldman and A. S. Parris. Washington, D.C., Island Press.

Swanson, L., M. Dorsch, M. Giampieri, P. Orton, A. S. Parris and E. W. Sanderson (2016). Dynamics of the Biophysical Systems of Jamaica Bay. Prospects for Resilience: Insights from New York City’s Jamaica Bay. E. W. Sanderson, W. D. Solecki, J. R. Waldman and A. S. Parris.

Washington, D.C., Island Press. Symes, W. S., M. Rao, M. B. Mascia and R. L. Carrasco (2016). “Why do we lose protected areas? Factors influencing protected area downgrading, downsizing and degazettment (PADDD) in the tropics and sub-tropics.” *Global Change Biology* 22(2): 656–665. 10.1111/gcb.13089.

Tchaicka, L., T. R. O. d. Freitas, A. Bager, S. L. Vidal, M. Lucherini, A. Iriarte, A. Novaro, E. Geffen, F. S. Garcez, W. E. Johnson, R. K. Wayne and E. Eizirik (2016). “Molecular assessment of the phylogeny and biogeography of a recently diversified endemic group of South American canids (Mammalia: Carnivora: Canidae).” *Genetics and Molecular Biology* 39(3): 442-451. 10.1590/1678-4685-GMB-2015-0189

Terborgh, J., L. C. Davenport, R. Niangadouma, E. Dimoto, J. C. Mouandza, O. Scholtz and M. R. Jaen (2016). “Megafaunal influences on tree recruitment in African equatorial forests.” *Ecography* 39(2): 180–186. 10.1111/ecog.01641.

Terborgh, J., L. C. Davenport, R. Niangadouma, E. Dimoto, J. C. Mouandza, O. Schultz and M. R. Jaen (2016). “The African rainforest: odd man out or megafaunal landscape? African and Amazonian forests compared.” *Ecography* 39(2): 187-193. 10.1111/ecog.01643.

Thomas, L. H., I. V. Seryodkin, J. M. Goodrich, D. G. Miquelle, R. J. Birtles and J. C. M. Lewis (2016). “Detection of Hepatozoon Felis in Ticks Collected from Free-Ranging Amur Tigers (*Panthera tigris altaica*), Russian Far East, 2002–2012.” *Journal of Wildlife Diseases* 52(3): 674-676. 10.7589/2015-10-277.

Thomas, P. R. (2016). Bronx Zoo: Ambassadors from the Roof of the World. *Snow Leopards*. T. McCarthy and D. Mallon, Academic Press.

Thouless, C. R., H. T. Dublin, J. J. Blanc, D. P. Skinner, T. E. Daniel, R. D. Taylor, F. Maisels, H. L. Frederick and P. Bouche (2016). *African Elephant Status Report 2016: An update from the African Elephant Database*. IUCN/SSC African Elephant Specialist Group.

Timm, R. M., V. Weijola, K. P. Aplin, S. C. Donnellan, T. F. Flannery, V. Thomson and R. H. Pine (2016). “A new species of *Rattus* (Rodentia: Muridae) from Manus Island, Papua New Guinea.” *Journal of Mammalogy* 97(4): 1177-1196. 10.1093/jmammal/gyw034.

Tolisano, J., P. Nguon and D. Chhun (2016). *Sustainable Finance Mechanisms for Conservation of Forests and Protected Areas in Cambodia: Finance Options Assessment Report*. Technical Working Group on Forestry Reform of the Cambodian Forestry Administration, and Wildlife Conservation Society.

Travers, H., T. Clements and E. J. Milner-Gulland (2016). “Predicting responses to conservation interventions through scenarios: A Cambodian case study.” *Biological Conservation* 204(Part B): 403–410. 10.1016/j.biocon.2016.10.040.

Trudelle, L., S. Cerchio, A. N. Zerbini, Y. Geyer, F.-X. Mayer, J.-L. Jung, M. R. Hervé, S. Pous, J.-B. Sallée, H. C. Rosenbaum, O. Adam and J.-B. Charrassin (2016). “Influence of environmental parameters on movements and habitat utilization of humpback whales (*Megaptera novaeangliae*) in the Madagascar breeding

2016 STAFF PUBLICATIONS

ground.” *Royal Society Open Science* 3(12). 10.1098/rsos.160616. 16

Tulloch, A. I. T., M. D. Barnes, J. Ringma, R. A. Fuller and **J. E. M. Watson** (2016). “**Understanding the importance of small patches of habitat for conservation.**” *Journal of Applied Ecology* 53(2): 418-429. 10.1111/1365-2664.12547.

Tulloch, V. J. D., C. J. Brown, H. P. Possingham, **S. D. Jupiter**, J. M. Maina and C. Klein (2016). “**Improving conservation outcomes for coral reefs affected by future oil palm development in Papua New Guinea.**” *Biological Conservation* 203: 43-54. 10.1016/j.biocon.2016.08.013.

Turra, A., A. Perez, F. Lucena-Frédou, M. Muelbert, **A. Raya Rey**, L. Schejter, J. Calcagno, E. Marschoff and B. Ferreira (2016). **South Atlantic Ocean.** *The First Global Integrated Marine Assessment: World Ocean Assessment I*. L. Inniss, A. Simcock and e. al, United Nations. Division for Ocean Affairs and the Laws of the Sea: 43p.

Uhrin, M., U. Hüttmeir, M. Kipson, P. Estók, K. Sachanowicz, S. Bücs, **B. Karapandža**, M. Paunović, P. Presetnik, A. Bashta, E. Maxinová, B. Lehotská, R. Lehotský, L. Barti, I. Csösz, F. Szodoray-Paradi, I. Dombi, T. Görföl, S. A. Boldogh, C. Jéré, I. Pocora and P. Benda (2016). “**Status of Savi’s pipistrelle Hypsugo savii (Chiroptera) and range expansion in Central and south-eastern Europe: a review.**” *Mammal Review* 46(1): 1-16. 10.1111/mam.12050.

Uthe, P., R. Al-Chokhachy, A. V. Zale, **B. B. Shepard**, T. E. McMahon and T. Stephens (2016). “**Life History Characteristics and Vital Rates of Yellowstone Cutthroat Trout in Two Headwater Basins.**” *North*

American Journal of Fisheries Management 36(6): 1240-1253. 10.1080/02755947.2016.1206643.

Vasudev, D. and R. J. Fletcher Jr (2016). “**Mate choice interacts with movement limitations to influence effective dispersal.**” *Ecological Modelling* 327: 65-73.

Venter, O., **E. W. Sanderson**, A. Magrach, J. R. Allan, J. Beher, K. R. Jones, H. P. Possingham, W. F. Laurance, P. Wood, B. M. Fekete, M. A. Levy and **J. E. M. Watson** (2016). “**Global terrestrial Human Footprint maps for 1993 and 2009.**” *Scientific Data* 3: Article number: 160067 10.1038/sdata.2016.67.

Venter, O., **E. W. Sanderson**, A. Magrach, J. R. Allan, J. Beher, K. R. Jones, H. P. Possingham, W. F. Laurance, P. Wood, B. M. Fekete, M. A. Levy and **J. E. M. Watson** (2016). “**Sixteen years of change in the global terrestrial human footprint and implications for biodiversity conservation.**” *Nature Communications* 7: Article number: 12558. 10.1038/ncomms12558.

Venticinque, E., B. Forsberg, B. R. Barthen, P. Petry, L. Hess, **A. Mercado, C. Canás, M. Montoya, C. Durigan and M. Goulding** (2016). “**An Explicit GIS-Based River Basin Framework for Aquatic Ecosystem Conservation in the Amazon.**” *Earth System Science Data* 8(2): 651-661. 10.5194/essd-2016-17.

Vermeulen, E., R. Bastida, L. G. Berninsone, P. Bordino, M. Failla, P. Fruet, **G. Harris**, M. Iniguez, M. Marchesi, P. Petracci, L. Reyes, M. Sironi and S. Bräger (2016). *A review of the status of the common bottlenose dolphin (Tursiops truncatus) in Argentina: working paper.* International Whaling Commission. 10.13140/

RG.2.1.2167.1929. Vieilledent, G., O. Gardi, C. Grinand, **C. Burren**, M. Andriamanjato, C. Camara, C. J. Gardner, L. Glass, A. Rasolohery, H. Rakoto Ratsimba, V. Gond and J. R. Rakotoarijaona (2016). “**Bioclimatic envelope models predict a decrease of tropical forest carbon stocks with climate change in Madagascar.**” *Journal of Ecology* 104(3): 703–715. 10.1111/1365-2745.12548.

Vila, A. R., V. Falabella, M. Gálvez, A. Fariás, **D. Droguett** and **B. Saavedra** (2016). “**Identifying high-value areas to strengthen marine conservation in the channels and fjords of the southern Chile ecoregion.**” *Oryx* 50(2): 308-316. 10.1017/s0030605314000908.

Vilela, R., U. Pena, R. Esteban and R. Koemans (2016). “**Bayesian spatial modeling of cetacean sightings during a seismic acquisition survey.**” *Marine Pollution Bulletin* 109(1): 512–520. 10.1016/j.marpolbul.2016.05.011.

Waerebeek, K. V., P. K. Ofori-Danson, J. Debrah, **T. Collins**, A. Djiba and A. S. O. Bilal (2016). *On the status of the common bottlenose dolphin Tursiops truncatus in western Africa, with emphasis on fisheries interactions, 1947-2015.* Scientific Committee Meeting of the International Whaling Commission. Bled, Slovenia. 10.13140/RG.2.1.4159.1287.

Wallace, R. (2016). **Series of blog postings on the Madidi Expedition.** *National Geographic Voices.*

Walston, J., E. J. Stokes and **S. Hedges** (2016). The importance of Asia’s protected areas for safeguarding commercially high value species. Protected Areas: Are They Safeguarding Biodiversity? L.

N. Joppa, J. E. M. Bailie and **J. G. Robinson**, Wiley-Blackwell: 190-208.

Wang, T., L. Feng, P. Mou, J. Wu, J. L. D. Smith, W. Xiao, H. Yang, H. Dou, X. Zhao, Y. Cheng, B. Zhou, H. Wu, L. Zhang, Y. Tian, Q. Guo, X. Kou, X. Han, **D. G. Miquelle**, C. D. Oliver, R. Xu and J. Ge (2016). “**Amur tigers and leopards returning to China: direct evidence and a landscape conservation plan.**” *Landscape Ecology* 31(3): 13p. 10.1007/s10980-015-0278-1.

Watkins, C. J., M. C. Quist, **B. B. Shepard** and S. C. Ireland (2016). “**Electrofishing Effort Requirements for Estimating Species Richness in the Kootenai River, Idaho.**” *Northwest Science* 90(3): 315-327. 10.3955/046.090.0310.

Watson, J. (2016). “**Bring Climate Change Back from the Future: The ‘shock’ over an Australian extinction shows that we still don’t accept that global warming is a problem for now.**” *Nature* 534(7608): p.437. 10.1038/534437a.

Watson, J. E. M., D. B. Segan and F. R.A. (2016). Optimal protection of the world’s threatened birds, mammals and amphibians. Protected Areas: Are They Safeguarding Biodiversity?L. N. Joppa, J. E. M. Bailie and **J. G. Robinson**, Wiley-Blackwell: 66-80.

Watson, J. E. M., E. S. Darling, O. Venter, M. Maron, **J. Walston**, H. P. Possingham, N. Dudley, M. Hockings, M. Barnes and T. M. Brooks (2016). “**Bolder science needed now for protected areas.**” *Conservation Biology* 30(2): 243–248. 10.1111/cobi.12645.

Watson, J. E. M., K. R. Jones, R. A. Fuller, M. D. Marco, D. B. Segan, S. H. M. Butchart, J. R. Allan, E.

McDonald-Madden and O. Venter (2016). “**Persistent Disparities between Recent Rates of Habitat Conversion and Protection and Implications for Future Global Conservation Targets.**” *Conservation Letters* 9(6): 413–421. 10.1111/conl.12295.

Watson, James E. M., Danielle F. Shanahan, M. Di Marco, J. Allan, William F. Laurance, **Eric W. Sanderson**, B. Mackey and O. Venter (2016). “**Catastrophic Declines in Wilderness Areas Undermine Global Environment Targets.**” *Current Biology* 26(21): 2929–2934. 10.1016/j.cub.2016.08.049.

Weiser, E. L., R. B. Lanctot, S. C. Brown, J. A. Alves, P. F. Battley, **R. Bentzen**, J. Bêty, M. A. Bishop, M. Boldenow, L. Bollache, B. Casler, M. Christie, J. T. Coleman, J. R. Conklin, W. B. English, H. R. Gates, O. Gilg, M.-A. Giroux, K. Gosbell, C. Hassell, J. Helmericks, A. Johnson, B. Katrínardóttir, K. Koivula, E. Kwon, J.-F. Lamarre, J. Lang, D. B. Lank, N. Lecomte, J. Liebezeit, V. Loverti, L. McKinnon, C. Minton, D. Mizrahi, E. Nol, V.-M. Pakanen, J. Perz, R. Porter, J. Rausch, J. Reneerkens, N. Rönkä, S. Saalfeld, N. Senner, B. Sittler, P. A. Smith, K. Sowl, A. Taylor, D. H. Ward, S. Yezerinac and B. K. Sandercock (2016). “**Effects of geolocators on hatching success, return rates, breeding movements, and change in body mass in 16 species of Arctic-breeding shorebirds.**” *Movement Ecology* 4(1): 1-19. 10.1186/s40462-016-0077-6.

Wells, S., G. C. Ray, K. M. Gjerde, A. T. White, **N. Muthiga**, J. E. Bezaury Creel, B. D. Causey, J. McCormick-Ray, R. Salm, S. Gubbay, G. Kelleher and J. Reti (2016). “**Building the future of MPAs—lessons from history.**” *Aquatic Conservation: Marine and Freshwater Ecosystems* 26(S2):

101-125. 10.1002/aqc.2680. Wheeler, C. E., P. A. Omeja, **C. A. Chapman**, M. Glipin, C. Tumwesigye and S. L. Lewis (2016). “**Carbon sequestration and biodiversity following 18 years of active tropical forest restoration.**” *Forest Ecology and Management* 373: 44-55. 10.1016/j.foreco.2016.04.025.

Whitmore, N. (2016). “**Harnessing local ecological knowledge for conservation decision making via Wisdom of Crowds: the case of the Manus green tree snail Papustyla pulcherrima.**” *Oryx* 50: 684-692. 10.1017/s0030605315000526.

Whitmore, N., J. Lamaris, W. Takendu, D. Charles, T. Chuwek, B. Mohe, L. Kanau and S. Pe-eu (2016). “**The context and potential sustainability of traditional terrestrial periodic tambu areas: insights from Manus Island, Papua New Guinea.**” *Pacific Conservation Biology* 22(2): 151-158. <http://dx.doi.org/10.1071/PC15036>.

Wilcox, T. M., K. S. McKelvey, M. K. Young, A. J. Sepulveda, **B. B. Shepard**, S. F. Jane, A. R. Whiteley, W. H. Lowe and M. K. Schwartz (2016). “**Understanding environmental DNA detection probabilities: A case study using a stream-dwelling char Salvelinus fontinalis.**” *Biological Conservation* 194: 209-216. 10.1016/j.biocon.2015.12.023.

Wilder-Schook, M., **D. M. Powell** and W. Zimmerman (2016). Wild Equid Captive Breeding and Management. Wild Equids: Ecology, Management, and Conservation J. I. Ransom and P. Kaczensky. Baltimore, Maryland, Johns Hopkins University Press: 149-166.

Wilkie, D. S., M. Wieland, H. Boulet, S. Le Bel, N. van Vliet, D.

Cornelis, V. BriacWarnon, R. Nasi and J. E. Fa (2016). “**Eating and conserving bushmeat in Africa.**” *African Journal of Ecology* 54(4): 402-414. 10.1111/aje.12392.

Willcox, D., **S. Visal** and **S. P. Mahood** (2016). “**The Conservation Status of Otters In Prek Toal Core Area, Tonle Sap Lake, Cambodia.**” *IUCN/SCC Otter Specialist Group Bulletin* 33(1): 18-31.

Winarni, N. L., D. R. Kurniasari, D. Hartiningtias, **M. Nusalawo** and N. Sakuntaladewi (2016). “**Phenology, Climate, and Adaptation: How Does Dipterocarps Respond to Climate?**” *Indonesian Journal of Forestry Research* 3(2): 129-141. 10.20886/ijfr.2016.3.2.129-141.

Xiao, W., L. Feng, P. Mou, **D. G. Miquelle**, M. Hebblewhite, J. F. Goldberg, H. S. Robinson, X. Zhao, B. Zhou, T. Wang and J. Ge (2016). “**Estimating abundance and density of Amur tigers along the Sino-Russian border.**” *Integrative Zoology* 11(4): 322–332. 10.1111/1749-4877.12210.

Yorio, P., J. O. Branco, J. Lenzi, G. Luna-Jorquera and C. Zavalaga (2016). “**Distribution and Trends in Kelp Gull (Larus dominicanus) Coastal Breeding Populations in South America.**” *Waterbirds* 39(sp1): 114-135. 10.1675/063.039.sp103.

Yuliana, E., A. Fahrudin, M. Boer, M. M. Kamal and **S. T. Pardede** (2016). “**The effectiveness of the zoning system in the management of reef fisheries in the marine protected area of Karimunjawa National Park, Indonesia.**” *AACL Bioflux* 9(3): 483-497. **Zahler, P.** (2016). Linear Infrastructure and Snow Leopard Conservation. *Snow Leopards*. T. McCarthy and D. Mallon, Academic Press.

Zahler, P. (2016). Resource Extraction: Introduction. *Snow Leopards*. T. McCarthy and D. Mallon, Academic Press.

Zahler, P. (2016). Synthesis. *Snow Leopards*. T. McCarthy and D. Mallon, Academic Press.

Zahler, P. and **R. Paley** (2016). Building Community Governance Structures and Institutions for Snow Leopard Conservation. *Snow Leopards*. T. McCarthy and D. Mallon, Academic Press.

Zahler, P., W. D., P. M. and J. C. Carter (2016). The role of conservation in promoting stability and security in at-risk communities. Governance, Natural Resources, and Post-Conflict Peacebuilding C. Bruch, C. Muffett and S. Nichols. Geneva, Switzerland, United Nations Environment Programme.

Zapata-Rios, G. and L. C. Branch (2016). “**Altered activity patterns and reduced abundance of native mammals in sites with feral dogs in the high Andes.**” *Biological Conservation* 193: 9-16. 10.1016/j.biocon.2015.10.016.

Zerbini, A. N., **H. Rosenbaum, M. Mendez**, F. Sucunza, A. Andriolo, **G. Harris**, P. J. Clapham, M. Sironi, M. Uhart and A. F. Ajo (2016). *Tracking southern right whales through the southwest Atlantic: An update on movements, migratory routes and feeding grounds.* International Whaling Commission, June 2016.

Q&A

Carlos Durigan

As a child growing up in Brazil's São Paulo State, Carlos Durigan saw firsthand the destruction of the local forests from agricultural expansion. Now as Country Director for the [WCS Brazil](#) program, Carlos is helping lead efforts to sustainably conserve natural resources in Amazonia and the Pantanal for the wildlife and people living there.

Where did you grow up?

I was born and grew up in a small city called Jaboticabal in Brazil's São Paulo State. This is a region where colonization was based on expansion of coffee plantations that brought a lot of migrant families to work on those plantations. My grandparents came from Italy, as did many other families. Unfortunately, this expansion of coffee and other crops like sugar cane and oranges has promoted deforestation and environmental degradation. I grew up during this very hard period and was witness to the processes that destroyed huge areas of the Atlantic Forest and Cerrado Biomes in the region.

Were you always drawn to wild places?

There were many small farmers in my family growing up, so we had a strong relationship with nature. With my parents and uncles, my brothers, cousins and I learned to love the wild outdoors, and since my childhood, my dream was to work and study nature-related issues.

Where did you complete your studies?

I studied in public schools from elementary to high school and decided to go to college to study geography in the Universidade Estadual Paulista – UNESP, Rio Claro Campus. I started my graduate studies in 1985 and finished in 1990. This period was super important for me, to generate a foundation in biogeography, landscape disciplines and human dimensions. Then I decided to improve my scientific foundations and went to do a post-graduate degree in Ecology in Manaus, Amazonas State, at the National Institute for Amazonian Research (INPA). This experience in the Amazon region was so important to me and made it possible to engage in a myriad of activities, related to environmental research and practical conservation issues, with multidisciplinary



teams and in very close relationship with local Amazonian communities, indigenous and non-indigenous groups.

As an ecologist and geographer by training, why have you chosen to work in the field of conservation?

Since I was child, I have had a strong desire to work with nature and wildlife issues. Initially, I remember these feelings moving me in many directions, from the wish to have animals and plants at home, and going fishing or listening to stories from my father and uncles about hunting or nature adventures. Then with time and more knowledge, I was able to turn my attention to conservation issues, especially when I was a teenager and I started to notice and worry about these things. Then I decided to engage myself and focus my energy in conservation action, and to go to Amazonia. When I was finally able to move to the region and get involved with projects aimed at conserving the Amazon, it was a dream come true.

How did you come to WCS?

Before working for WCS, I was director and researcher at Fundação Vitória Amazônica, an influential environmental NGO based in Manaus/ Amazonas State. For many years, I was involved in efforts to consolidate Protected Areas in the Rio Negro River Basin. Years ago, I started engaging with WCS in Brazil in hopes of building a partnership between the two organizations, especially to develop research and biodiversity monitoring programs that could serve as a knowledge base for management. As time went by, my relationship with my colleagues in WCS Brazil grew, and I soon got to know other WCS leaders, especially Julie Kunen, Michael Goulding and John Robinson. After discussion with FVA

ABOVE

In 2016, WCS Brazil Country Director Carlos Durigan was named a Regional Councillor for Meso and South America by the International Union for Conservation of Nature (IUCN).

RIGHT

With the Amazon Waters Initiative, Carlos and his conservation partners are promoting a vision of the Amazon Basin that recognizes its importance as the world's greatest and most diverse freshwater system.

colleagues, I decided to accept an invitation to join WCS, first as Director of the Amazon Program in Brazil in 2013 and then, in 2014, it was a big honor to accept the invitation to become the Country Director of WCS Brazil.

Do you continue to collaborate with your previous colleagues?

From my two decades in conservation, I have learned that it is impossible to work alone in this field, as individuals or as institutions. So when I decided to join WCS, I did so with the commitment to maintain the strong ties with my former institution and other partners.

What are our biggest conservation challenges?

We are living in a crucial era, when all impacts of human society are reaching an impressive scale, stemming from poorly planned development and our need to consume the planet's resources. The vertiginous growth of the human population, its consumption, and our society's focus on economic growth without considering sustainability are the root causes of the conservation challenges we face in this century. They promote all the losses of wild places and species extinctions and drive the big changes we are facing in regards to climate change.

What can we do about this?

Our main challenge is to encourage better decisions that reduce our human footprint, increase society's awareness and willingness to reduce consumption, develop ways to restore ecosystem health, and finally make it possible for human beings to co-exist with biodiversity. It is important to consider that countries are not isolated geopolitical islands, that nature does not share our political borders, and that it is critically important for us to work across country boundaries, developing both regional and global collaborations.

What projects are you focused on that you are most excited about?

I'm engaged with my colleagues and friends in continuing our efforts to consolidate protected areas and establish participatory conservation programs in two of the wildest biomes on Earth: Amazonia and the Pantanal. Both are hugely important for biodiversity and the people at the regional (cross-country) scale; both require us to act at the regional scale; and both require us to construct regional collaborations. In Amazonia, through the Amazon Waters Initiative, we are promoting a vision of the Amazon Basin in which the region is valued not just for its tropical forests and importance for carbon storage and

biodiversity, but also for its role as the world's greatest and most diverse freshwater system. For the Pantanal, we are promoting sustainability in livestock production, mainly working to improve ranching practices, increasing their economic returns while reducing their impacts on wildlife and natural landscapes.

What can people do from outside the conservation world to help nature and wildlife?

We are living in a world where people are becoming more separated from nature. As a society, we are assuming a way of life which is more aggressive and larger-scale in terms of natural resource use, waste generation, and impact on biodiversity. I think it is crucial that people start reconnecting with nature and reducing their consumption. To accomplish this, we need a collective and collaborative movement. It's no longer possible to believe that individual interests outweigh the collective interests. So we need people to develop and strengthen their sense of sharing and their engagement in common causes. I believe we already have many such initiatives underway, but we need to scale these efforts up and find ways to quickly reduce our impacts on nature and biodiversity before we cross a crucial tipping point.

“Countries aren't isolated geopolitical islands and nature does not share our political borders, so it's critical to work across national boundaries.”



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Olivia Ramos
Discovery Guide Coordinator

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Conservation Education Fellows



ABOVE The leopard (*Panthera pardus*), though widely recognized and ubiquitous across Africa, is still poorly understood. In Tanzania, where this image was taken, WCS studies leopards in the Southern Highlands, the Udzungwa Mountains, and across the north of the country.

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Kitty Dolan, Sara Gonzalez,
Danielle Hessel, Vanessa Jones,
Douglas Mase, Kathleen McMahon,
Michelle Medina, Keri Nugent,
Phillip Reiser, Sabrina Squillari,
Gerard Stark, Mike Wrubel
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Avril Armstrong, Brent Atkinson,
Omara Aviles, Adele Barone
Musano, Taryn Beasty,
Joseph Borsellino, Anthony
Buffill, Mary Bynon, Cari Camizzi,
Kelly Bedoya, Veronica Schmidt,
Katherine D'Andrea, Lauren
DelGrosso, Linda Edge, Juliet
Elkins, David Fernandez, Carlos
Flores, Mary Gentile, Dara Girsch,
Bonnie Glover, Amy Golden, Mary

ABOVE
This male mandrill (*Mandrillus sphinx*), considered to be the world's most colorful mammal, was photographed at the Congo Gorilla Forest at WCS's Bronx Zoo. WCS works to save these spectacular primates in Central Africa, where they are classified as Vulnerable by IUCN.

Gremler, Elisa Hedin, Rebecca Huth,
Kaitlyn Keys, Sara Koplisch, Matthew
Lebron, Melissa Liggio, Jennifer
Loveless, Kelly Marcoux, Caitlin
Mason, Joanne McGillicuddy,
Alisha Mendez, Elizabeth Mills,
Douglas Morea, Joseph Nappi,
Carolyn Nathan, Kristin Nielsen,
Keri Nugent, Brianna Ogas, Sarah
Reitmayer, Daphne Revie, Taylor
Ritz, Jessica Ruvolo, Chris Salemi,
Cristiano Silva, Leah Simoncek,
Monika Stroeber, Heather Tassler,
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Gigi Giacomara, Nancy Gonzalez,
Natalia Hook, Susan Leiter,
Alana O'Sullivan, Jeremy Sanders,
Brian Tierney, Timothy Mohl
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Amanda Hackett, Shannon Kenney,
Michael McCue, Gabrielle Rosato,
Leela Samaroo, Aniko Totha,
Lisa Walker
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Avi Shuter, Kelvin Alvarez, Andrew
Kathriner, Samuel Bozeman
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Butterfly Garden

Camel Rides

Wildlife Ambassador Center

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Martyna Abbatello
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Bille, John Scarola, Luke Foremski,
Gilbert Geehern, Melanie Lumba,
Tyrone Nickens, Luke Torres,
Roxana Watts, Samantha Boben
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Gina DeCesare
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Guillermo Guzman, John King
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Maria Estrada, Roberto Figueroa,
Felix Garcia, Gilbert Green,
Josefina Grullon, Marilyn
Hernandez, Angela Limardo,
Marc Livingston, Eugene
Maidenford, Vanessa Martin,
Hector Martinez, Marian Martinez,
Ocaly Mendoza, Miguel Monclova,
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Garfield McEachron, William

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Dive Program and Animal
Husbandry Volunteer Coordinator*



ABOVE
A beautiful, but highly toxic, poison
dart frog (family *Dendrobatidae*)
photographed on the “Idetidad
Madidi” expedition. Bolivia’s Madidi
National Park is considered to be
the most biodiverse in the world.

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Ajua Ampadu
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Alison Clausen
Director, Madagascar & Western Indian Ocean Region
Emma Stokes
Director, Central Africa & Gulf of Guinea Region
Paul Elkan
Director, Sudano-Sabel Region

ABOVE

The research team for Identidad Madidi—the two year scientific expedition through Bolivia's most biodiverse park—is made up of scientists from Bolivia's Ministry of the Environment and Water, the Bolivian National Park Service, the Vice Ministry of Science and Technology, Madidi National Park, the Bolivian Biodiversity Network, WCS, the Institute of Ecology, Bolivian National Herbarium, Bolivian Faunal Collection and Armonia with funding from the Gordon and Betty Moore Foundation and WCS.

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WCS works in the mountainous region of Central Asia to monitor and protect wildlife species such as the Bukharan markhor (*Capra falconeri heptneri*), a wild goat species that is also a denizen of the Bronx Zoo's Wild Asia Monorail exhibit.

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ABOVE

Catherine Rossillon from WCS's Brussels office (left) and Sue Lieberman, VP for International Policy, were part of the WCS delegation attending the IUCN World Conservation Congress held in Hawaii in September. This important international event helps set the policy agenda for government and non-government organizations.

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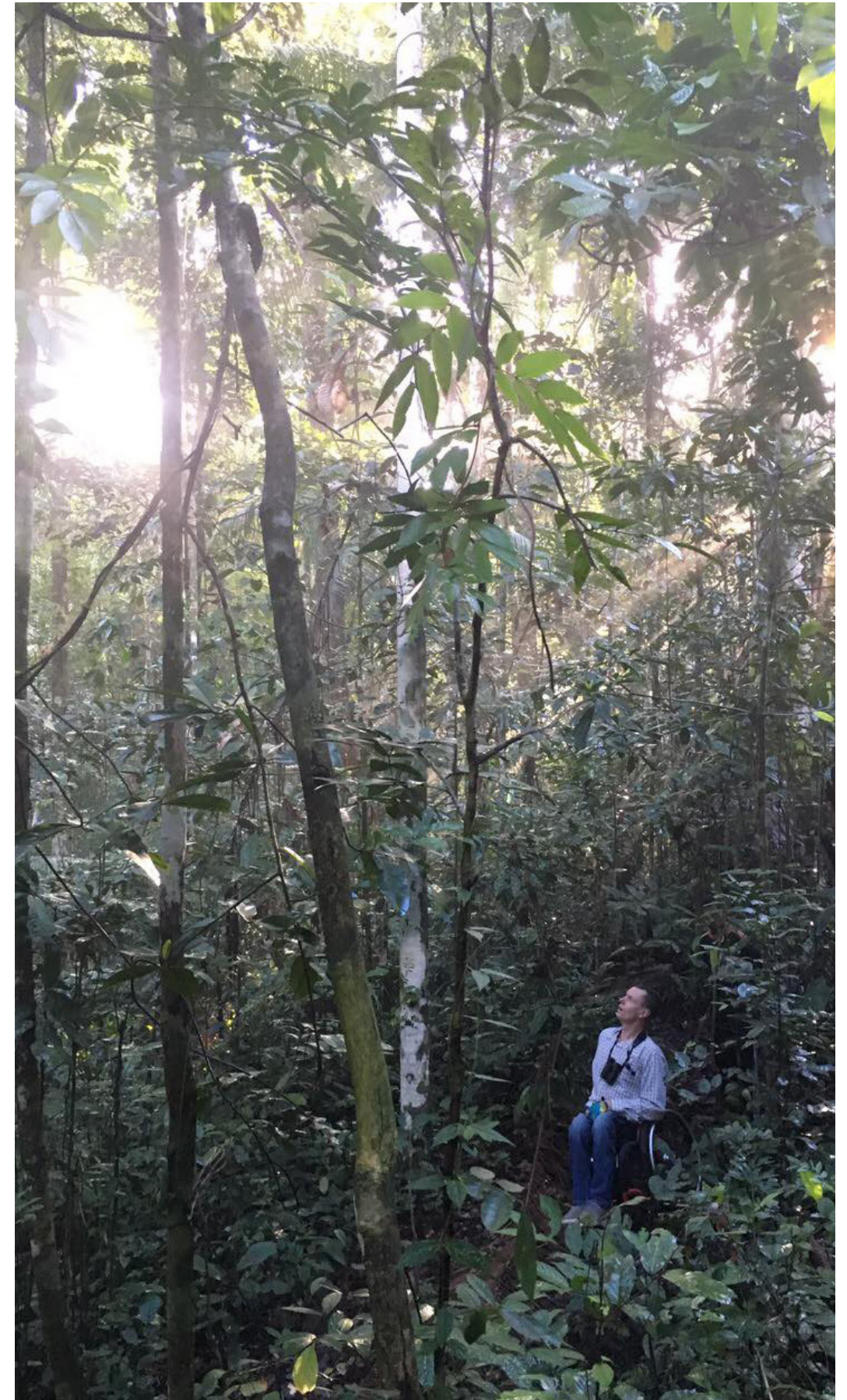
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RIGHT

Colin Poole, WCS Regional Director for the Greater Mekong, takes a busman's holiday to go birding on Halmahera, the largest of the Maluku Islands in Indonesia.



WCS STAFF



LEFT
Wildlife rangers surveying a map before going out on patrol in Mongolia. WCS works with protected areas staff to protect species such as saiga, snow leopards, and Mongolian gazelles from growing development pressures.

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WCS BY THE NUMBERS

1

Little blue penguin hatched at the Bronx Zoo—a first in the history of the zoo

1

Sand tiger shark nursery discovered in Great South Bay, Long Island

2

Number of illegally caught whale sharks rescued and released by Indonesian government agencies, supported by the WCS's Wildlife Crimes Unit (WCU)

3

Number of "Critically Endangered" Chinese alligator hatchlings reported seen in Dongtan Wetland Park in China signaling a success for the species and for ongoing reintroduction efforts.

4

Large whale species detected by "Melville," the acoustic buoy off Long Island's Montauk Point (North Atlantic right, fin, humpback, and sei whales)

7

Number of potentially new species discovered by researchers on the Identidad Madidi expedition in Bolivia's Madidi National Park.

8

Species of pangolin uplisted to Appendix I (a listing that forbids all international trade) at the CITES meeting in South Africa.

8

Genetically pure American bison from Ft. Peck, Montana arrived at Bronx Zoo for breeding for future reintroduction

17

New England cottontail rabbits born at the Queens Zoo released into the wild as part of collaborative head start program

17

Endangered Chinese big-headed turtles hatched at Prospect Park Zoo—5 hatched in 2016. Prospect Park Zoo was the first accredited zoo to successfully breed this species.

75

Number of students—most of them WCS staff—working toward their master's degree in the Advanced Inquiry Program (AIP).

77

Percentage of Grauer's gorillas population lost in last two decades due to poaching

87

Number of historic "Pablo-Allard" herd bison relocated from Elk Island National Park in Canada to their ancestral home on the Blackfeet Reservation in Montana, a project facilitated by WCS.

105

Total weight in tons of elephant ivory destroyed in Kenya in Africa's largest ever ivory burn.

143

Number of individual tigers identified in Huai Kha Khaeng and Thung Yai Naresuan World Heritage Site from 2005-2012 after the Thai Government, working with WCS, established an intensive patrol system in 2006 to curb poaching.

245

Number of protected areas around the world that WCS has assisted in establishing.

Approximately 500

Number of right whales remaining in the North Atlantic Ocean

1,000

Number of additional Kihansi spray toads sent by Bronx Zoo back to native habitat in Tanzania as part of reintroduction program.

More than 1,000

Juvenile hawksbill sea turtles estimated to be inhabiting the seascape of Glover's Reef Atoll in Belize.

1,200

Number of wild birds sampled in 2016 to help monitor avian influenza in Mongolia

1,231

Number of families in India receiving compensation from the government after WCS India's WildSeve assisted them in reporting a wildlife conflict incident.

3,704

Total WCS staff globally

4,700

Miles traveled to reach nesting grounds by dunlin—a migratory shorebird being tracked by WCS and Russian conservationists in collaborative effort to protect species

78,564

New Guinness World Record for largest display of origami elephants at the Bronx Zoo, set by WCS's 96 Elephants campaign

100,081

Petition signatures delivered to the Nigerian Embassy in Washington, D.C. to stop the Nigerian superhighway.

1.2 million

interactions with zoo and aquarium visitors by our 300 adult volunteers and 600 youth Discovery Guides at all five New York City park facilities

4,314,718

Total number of visitors to WCS's Bronx Zoo, New York Aquarium, Central Park Zoo, Queens Zoo, and Prospect Park Zoo (FY 2016)

\$15,052,728

Money raised to date by Congo Gorilla Forest exhibit entry fees for conservation programs in Africa

Animal Census

(JULY 1, 2015– JUNE 30, 2016)

Facility/Class	Species (On-site and in-on-loan)	Births	Specimens (On-site and in-on-loan)
BRONX ZOO			
Mammals	172	203	1,492
Birds	301	304	1,895
Reptiles	161	15	626
Amphibians	40	619	2,540
Invertebrates	36	0	1,193 ¹
Fish	70	4	999
TOTAL	780	1,145	8,745
CENTRAL PARK ZOO			
Mammals	29	0	907
Birds	93	112	393
Reptiles	28	5	86
Amphibians	8	0	11
Invertebrates	1	0	28
Fish	4	0	62
TOTAL	163	117	1,487
QUEENS ZOO			
Mammals	34	34	105
Birds	49	46	258
Reptiles	11	0	61
Amphibians	1	2,000	38
Invertebrates	1	0	25
Fish	5	0	11
TOTAL	101	2,080	498
PROSPECT PARK ZOO			
Mammals	42	34	156
Birds	54	20	189
Reptiles	31	4	114
Amphibians	14	0	40
Invertebrates	3	0	141
Fish	32	0	224
TOTAL	176	58	864
NEW YORK AQUARIUM			
Mammals	6	0	12
Birds	1	1	22
Reptiles	8	0	15
Amphibians	1	0	4
Invertebrates	110	0	548
Fish	208	224	1,944
TOTAL	334	225	2,545
GRAND TOTAL (ALL FACILITIES)	1265²	3,625	14,139

¹Invertebrate numbers do not include approximately 58,000 Madagascar hissing cockroaches.
²Numbers adjusted for species held at multiple parks.



PAPER

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In order to help WCS avoid future administrative costs, we suggest that the following paragraph be added to any restrictions imposed on a bequest: “If at some future time, in the judgment of the Wildlife Conservation Society, it is no longer practical to use the income and/or principal of this bequest for the purposes intended, WCS may use the income and/or principal for whatever purposes it deems necessary that is most closely in accord with the intent described herein.”

If you wish to discuss the language of your bequest and other planned giving options, please contact the Office of Planned Giving at 718- 220-6894.

For Information on how you can support the Wildlife Conservation Society, please call our Global Resources Division at 718-220-5090. A copy of this annual report may be obtained by writing to the Chair of the Board, Wildlife Conservation Society, 2300 Southern Boulevard, Bronx, New York 10460. In addition, a copy of the WCS's annual filing with the Charities Bureau of the Office of the New York State Attorney General may be obtained by writing to the Charities Bureau, New York State Attorney General's Office, 3rd Floor, 120 Broadway, New York, New York 10271.

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