WildCare Institute

Saint Louis Zoo
Many Centers, One Goal.

The WildCare Institute is dedicated to creating a sustainable future for wildlife and for people around the world.
WildCare Institute

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A Remarkable Journey From an Urban Park, Down the Stream, Around the World

The Saint Louis Zoo has been involved in saving endangered species and their habitats around the world for decades and with much success. For example, we have hatched and reared over 46 endangered Micronesian kingfishers since 1986. Since 1974, 38 cheetah cubs have been born at our Zoo. In 2000, we performed the first successful artificial insemination of a piping guan, and in 2004 we sent 13,000 Puerto Rican crested toad tadpoles back to their native homeland to ponds that were specifically constructed for their recovery.

However, it was with the 2004 establishment of the Zoo’s WildCare Institute that we began to devote our efforts to specific conservation programs globally and in our own backyard. The WildCare Institute takes a holistic—but focused—approach to troubled ecosystems. Rather than try to do too much in too many places, we are more deeply involved in a dozen critical initiatives.

By extending our reach beyond the Zoo’s fence to places like the forests of Madagascar, the foothills of Armenia, the vast tracts of the Sahara desert or the streams of Missouri, the WildCare Institute ensures that our work at home is intimately connected to conservation in the wild.

We also understand that the very future of many of the animals both in our care and in the world can only be guaranteed through dedicated research and conservation, and through collaboration with a range of institutions. In fact, a hallmark of our WildCare Institute is our desire to work with others in places where animals are threatened by shrinking habitats, poaching and disease. Our conservation teams include recognized experts from a range of organizations. Over the past 10 years, more than 180 zoos, universities, governmental and non-governmental organizations have been our partners.

Knowledge Transfer Helps Animals in the Wild

The WildCare Institute also relies on the expertise of its Zoo veterinarians, researchers, scientists and animal division curators, managers and keepers: By studying the health, reproduction, nutrition and behavior of Zoo animals, our scientists can better help the animals in the care of our conservation centers, where we study range size, seasonal activity patterns, habitat preferences and demography. With our partners, we also conduct censuses of animal populations, investigate the causes of a decline of a species within its range and initiate long-term protection plans.

This report offers many success stories that give us hope for the future, but we realize science alone cannot save a species. That’s why we work shoulder-to-shoulder with local people to help promote a spirit of cooperation and self-sufficiency. We realize that conservation is also about improving their lives so that they
see the benefits of sustainable practices. We work to identify solutions that meet their needs to feed themselves and their families in ways that still leave room for wildlife. These involve professional and technological training, educational workshops, and professional development opportunities. Culturally sensitive programs that offer opportunities for improvement encourage those who live daily with wildlife to become engaged in conservation.

**Only Together Can We Save Animals**

The Institute’s accomplishments highlighted in this report are only the most important of many. In 2012 alone, we announced some major milestones—from the first reintroduction of an endangered species in the state of Missouri to approval for the creation of a nature reserve in Niger that will be the largest in Africa.

However, while all this sounds encouraging, we continue to lose the battle as humans destroy wild populations and their habitats at an ever increasing rate. Take amphibians alone—they play an important role in the global ecosystems as indicators of environmental health and contributors to human health. They watched the dinosaurs come and go, but today, almost half of all amphibian species are themselves threatened with extinction. Addressing this crisis represents the greatest species conservation challenge in the history of humanity. But they are not alone. The International Union for Conservation of Nature (IUCN) recently released its Red List of the world’s most threatened plants and animals. They range from macaques to water buffaloes with habitats stretching from Madagascar to Spain to Canada. According to IUCN, of 63,837 species assessed, 19,817 are threatened with extinction, including 41 percent of all amphibians, 33 percent of reef building corals, 25 percent of mammals, 13 percent of birds, and 30 percent of conifers.

This report shows you what we are doing. What you can do to help is to offer support for our WildCare Institute and other conservation organizations so that together we can make a difference. It really isn’t up to zoos or conservation organizations alone to preserve the wealth of animals on our Earth. It’s up to all of us. The cumulative effect of individual actions can result in great changes—all of us, working together can arrest and even turn back the tide of extinction.

That’s our mission. We all must do everything we can to preserve life on Earth. It is our sacred obligation to ourselves, to one another, to our children and their children.

Thank you for your interest in the WildCare Institute and in the future of saving wildlife and wild places.

Sincerely,

Jeffrey P. Bonner, Ph.D.
Dana Brown President & CEO

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**Saint Louis Zoo**

Eric Miller, DVM, Dipl, ACAM, Director, WildCare Institute
Senior Vice President, Director of Zoological Operations
Saint Louis Zoo

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Dr. Eric Miller, DVM, is Senior Vice President and Director of Zoological Operations at the Saint Louis Zoo. He is also Director of the Zoo’s WildCare Institute and current chair of the Madagascar Fauna and Flora Group. Dr. Miller earned his undergraduate and veterinary degrees from Ohio State University and in 1981 came to the Saint Louis Zoo, where he worked on his residency through a joint Zoo and University of Missouri-Columbia program. He has served as President of American College of Zoological Medicine (ACZM), and the American Association of Zoo Veterinarians (AAZV), and in 2003, received their Dolensek Award for “exceptional contributions to the conservation, care and understanding of zoo and free-ranging wildlife.” He has served on the Board of the Association Zoos and Aquariums (AZA). He has authored or co-authored more than 60 scientific articles and textbook chapters, and with Dr. Murray Fowler, has served as co-Editor of the 4th, 5th, 6th and 7th editions of “Zoo and Wild Animal Medicine.”
The Story Behind the Saint Louis Zoo’s WildCare Institute

The Saint Louis Zoo has supported conservation for decades through a range of projects across the globe and in its own backyard. The Zoo has been very active in captive conservation—leading the nation with the greatest number of active Association of Zoos and Aquariums (AZA) Species Survival Plans (SSPs). SSPs are long-term programs for conservation breeding, habitat preservation, field conservation, reintroduction and supportive research for threatened and endangered species.

For many years, the Zoo has also sent its experts to support field programs across the globe, and in 1997, it launched the Field Research for Conservation Program. In 2002, the Zoo established a companion field conservation program to support non-research conservation initiatives involving education, training and provision of supplies.

Strategic Analysis Led to Focused Approach

However, in 2003, the Zoo began to strategically address its approach to conservation of wildlife and wild places. The goal was to take a holistic approach to saving animals in specific areas where our impact could be greatest and our progress could be easily monitored.

After a year of planning, the Zoo formally launched the WildCare Institute to focus on wildlife management and recovery, conservation science and support of human populations that coexist with wildlife in about a dozen conservation hotspots, or centers, around the globe and in Missouri. The new approach was the result of this planning exercise, which included all Zoo curators, veterinarians and researchers; they were charged with identifying areas of particular conservation need—areas where staff expertise could be used most efficiently and effectively.

Having Zoo staff select the focus for each of the conservation centers meant that each director and his or her staff are most passionate about each center’s mission. The Institute’s creation resulted in support for saving both charismatic species, zebras, cheetahs, and less charismatic species—American burying beetles and Near Eastern vipers. This approach also kept our conservation activities closely connected to the Saint Louis Zoo and its operations, reducing the chance that the Institute would become an independent organization that did not reflect the Zoo’s overall mission.

That mission is to conserve animals and their habitats through animal management, research, recreation, and educational programs that encourage the support and enrich the experience of the public.

The WildCare Institute initially included 12 centers. Many of the original centers remain active. Others have been replaced because our work was completed; for example, we completed our conservation and community assistance goals in the Bosawas Region of Nicaragua. Still other centers have been added as new opportunities have arisen—in 2004, we added a center in Punta San Juan, Peru, to work with others in conserving the habitat of Humboldt penguins and other wildlife there. In 2011, we added a Missouri-based center dedicated to conserving pollinators. Today, the WildCare Institute has 12 centers.

Smaller Initiatives Save Snails, Birds, Frogs

Over the years, the WildCare Institute has supported several smaller initiatives to establish connections with ongoing Saint Louis Zoo activities. Described in more detail later in this report, these include African and Asian elephant conservation programs; support for chimpanzee, orangutan and Asian elephant conservation; and in the worldwide crisis related to vanishing amphibian species, financial backing for captive breeding activities to create assurance colonies of amphibian species in Quito, Ecuador. Other projects include support for the conservation of Marianas Island birds, partula snails in the South Pacific and okapis in the Congo.

Approaching its 10-year anniversary, the Saint Louis Zoo’s WildCare Institute has built a strong reputation not only as a highly effective conservation organization but as a collaborative institution that uses its funds to leverage support from other sources.

WildCare Institute partners have included more than 180 entities ranging from other zoos to universities to non-governmental and government agencies. The Institute effectively involves other zoos that wish to commit smaller amounts to projects by giving them identifiable roles in these projects. Partner institutions know their funds are part of a larger approach to conservation and that their contributions are more likely to have a significant impact than any they pursued independently.
The Search for Support

The challenge for all conservation organizations is finding sufficient funding. Sustained by a $16 million endowment from the Saint Louis Zoo Association and annual revenue from the Mary Ann Lee Conservation Carousel, the WildCare Institute is also privately funded by grants, partnering corporations and wildlife enthusiasts from around the world. The funding earmarked for the WildCare Institute does not include staff salaries and benefits, which the Zoo accounts for in its total labor costs. We continuously seek new funding sources—from foundation grants to corporate contributions and from individuals interested in supporting successful field conservation work accomplished by a proven, results-oriented organization.

For more information or to assist with the progress and success of the Saint Louis Zoo's WildCare Institute, please contact:

(314) 646-4691
donation@stlzoo.org

Or you can give online by visiting: stlzoo.org/donate
Some of the Institute’s Top Achievements

Center for American Burying Beetle Conservation
» In 2012, this center and its partners became the first to reintroduce an endangered species in Missouri. Hundreds of Saint Louis Zoo-bred burying beetles were reintroduced in June to locations across the 4,040-acre Wah’ Kon-Tah Prairie in Southwest Missouri. The American burying beetle was the nation’s first insect species ever to be designated as endangered.

» Offspring from this colony have not only provided nearly 2,500 beetles for two reintroduction projects, but have also provided starter colonies for three other institutions. In addition, this center’s record-keeping on this colony’s success has been integral to several research projects investigating the biology of this endangered species.

Center for Avian Health in the Galápagos Islands
» In 2012, this center published 12 scientific papers (bringing the total number of published papers to 71) and five book chapters (with a total of eight chapters) on its work in Galápagos. Many of these published articles reported findings that are helping the Galápagos National Park craft management policy.

» This assessment is only one of many center research projects and educational initiatives on native wildlife ecology and management in an urban park.

Ron Goellner Center for Hellbender Conservation
» In 2012, this center and its partners released 50 endangered Ozark hellbenders into the wild—the Ozark rivers that are the native habitat for this salamander.

» This augmentation marked the third in four years and followed an even more exciting milestone: In November 2011, the center announced the first-ever captive breeding of Ozark hellbenders. The Zoo is home to 75 percent of the world’s Ozark hellbenders.

Center for Cheetah Conservation in Africa
» This center has focused on developing an effective cheetah census technique, reducing livestock conflict, conserving cheetahs outside protected areas, resolving veterinary and health issues and providing education programs related to cheetah conservation in East and southern Africa.

» To address the desire for healthcare as a benefit of living with carnivores, the Ruaha Carnivore Project (RCP) in Tanzania has equipped a healthcare clinic in Kitisi village, in the heart of the rural pastoralist area. The RCP worked with the village and local government to build the clinic, and with Tanzanian medical authorities to ensure it had all the equipment it needed to establish a rural clinic, including examination couches, hospital beds, a microscope, fetal heart rate monitors and much more.

Center for Conservation in Forest Park
» In 2012, this center launched a program that brought students from an inner-city school to the park to document box turtle movements and their health status in urban and rural areas in and around St. Louis. Previous studies conducted across the globe show that turtles are being threatened by vehicles, habitat loss and disease.

Scientists return Ozark hellbenders to their native habitat.
Center for Conservation in the Horn of Africa

» This center and its partners have supported community-based coalitions and actively established a variety of conservation, research and education programs, striking a lasting balance between the needs of community members and the imperiled existence of several rare species in Kenya, Ethiopia, Eritrea and Djibouti.

» This center and its international partners in 2007 created the Grevy’s Zebra Trust—now well-known as the world’s only conservation organization devoted entirely to preserving this endangered species, its habitat and the livelihoods of people living in range communities.

Center for Conservation of the Horned Guan (Pavon) in Mexico

» The leading U.S. organization dedicated to the conservation of this species and its habitat, this center is working to save the horned guan through habitat management, the development of environmental education programming, studies based on life histories and captive management.

» The Saint Louis Zoo is the only U.S. zoo to exhibit the highly endangered horned guan (or pavon), which lives in isolated populations in the high montane pine and oak forests of southeastern Mexico and Guatemala.

Center for Conservation of the Humboldt Penguin in Punta San Juan, Peru

» This center worked with its partners in the summer of 2012 to complete Punta San Juan’s third sustainable guano harvest since 2001—protecting the threatened Humboldt penguin in Peru, where some of the world’s most fertile guano (bird excrement) fields provide substrate for nesting burrows.

» Since 2004, this center and its partners have also conducted an annual comprehensive penguin census of the entire Peruvian coast—a critical step toward species management and recovery, and they have also entered into a memorandum of understanding that secured Punta San Juan as a protected area. Punta San Juan and 32 other important penguin breeding sites were incorporated into Peru’s Protected Areas System in 2009.

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Center for Conservation in Madagascar

» This center works under the auspices of the Madagascar Fauna and Flora Group (MFG), which has built a robust research program in Betampona Natural Reserve. Research there has exposed the extraordinary number of plant and animal species that inhabit Betampona and has included science that has led to a greater appreciation of Betampona’s importance. The permanent presence of researchers in the forest has proven to be a deterrent to illegal poaching and logging activities that plagued other parks over the past few years.

» Madagascar was starting to make some progress when a 2009 political coup sank the country into even deeper levels of poverty and environmental degradation. The WildCare Institute’s commitment to building critically important individual...
and institutional capacity to conserve biodiversity is found in its support for Malagasy graduate students’ pursuit of Masters and Ph.D. degrees and for advanced training in conservation medicine. The Institute also supported the construction of a conservation training center that hosts university classes and workshops in subjects ranging from composting to amphibian disease detection.

**Center for Native Pollinator Conservation**

» Newly established in 2011, this center has been awarded an $86,000 grant from the American Association of Museums for its P.A.U.S.E.: Pollinators/Art/Urban Agriculture/Society/and the Environment project. This joint project involves both the National Museums of Kenya in Nairobi and the Tohono Chul Park in Tucson, Arizona. Teams of youth age 17 to 22 from each of the cities will develop projects focused on urban gardening, native pollinators, artistic creation as habitats, and the use of outreach tools. Native pollinators and community gardening will be the platform for exploring cultural identities through food, artistic design, a definition of community, and the youth’s relationship with their communities.

» This center designed and published the Missouri Bee Identification Guide with its partner, the Missouri Department of Conservation, and helped organize and launch the International Union for Conservation of Nature Species Survival Commission Bumble bee Specialist Group. This center also pursues a range of outreach and educational initiatives related to building gardens in public areas and promoting the protection of pollinators.

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**Saharan Wildlife Recovery Center**

» This center joined the zoo community in establishing Sahara Conservation Fund (SCF), the only NGO devoted exclusively to conserving Saharan wildlife. In partnership with SCF, it has raised funds for and participated in such ventures as wildlife surveys in Mali, Algeria and Niger; repatriation of addax and scimitar-horned oryx to Tunisia; carnivore studies in Niger; the establishment of Africa’s largest protected area; the development of a breeding center for Saharan red-necked ostrich in Niger; and the planning of a future major reintroduction of scimitar-horned oryx in Chad’s Ouadi Rimé/Ouadi Achim Game Reserve.

» In 2012, this center expanded its geographic reach and the scope of its conservation mission from mountain vipers of the Near East to a much larger region that now includes all wildlife of Cyprus, Turkey, Israel, Lebanon, Syria, Jordan, The Arabian Peninsula, Iraq, Iran, Azerbaijan, Armenia and the Republic of Georgia.

**Center for Conservation in Western Asia**

» This center played an important role in the establishment of two protected areas in Armenia to help ensure the survival of mountain vipers. The center’s studies of Armenian vipers contributed to a 2009 Armenian government decision to declare two new protected areas—Arevik National Park and Zangezur Sanctuary.

**Release of Zoo-born addax into Tunisia’s Djebil National Park.**

Center Director Jeff Ettling takes blood samples from a viper for a health assessment.
Lemurs
Mountain vipers
Cheetahs
Saharan Wildlife
Grevy's Zebras
African Elephants
Asian Elephants
Orangutans
Birds
Partula Snail
Lemurs
Grevy's Zebras
African Elephants
Cheetahs
Chimpanzees, Gorillas and Okapis
Saharan Wildlife
In 2012, the Center for American Burying Beetle Conservation and its partners became the first to reintroduce an endangered species in Missouri. In June 2012, hundreds of Zoo-bred burying beetles were placed in locations across the 4,040-acre Wah’ Kon-Tah Prairie in Southwest Missouri. The American burying beetle was the nation’s first insect species ever to be designated as endangered.

The reintroduction site in St. Clair and Cedar counties is jointly owned and managed by the Missouri Department of Conservation and The Nature Conservancy. In addition, for the June reintroduction, a special designation was sought from U.S. Fish and Wildlife, which has authority over the nearly 7,000 captive beetles the Zoo has bred since 2005.

Last Seen in mid-1970s in Missouri

Once found in 35 states, by 1989 the only known population was in Rhode Island. Since its listing as an endangered species, field surveys have discovered populations in six other states. Four of these states—Arkansas, Kansas, Nebraska and Oklahoma—share portions of their borders with Missouri. All four of these states have found beetles in habitats with similar soil to several of Missouri’s natural divisions, such as prairies, savannas and Mississippi lowlands. With adequate research...
on what has caused this animal’s loss, this species may thrive again in Missouri.

The beetle was last seen in Missouri in the mid-1970s, and for the last decade, the Saint Louis Zoo—and now the WildCare Institute Center—have worked with other conservation organizations to search for existing American burying beetles. In addition to breeding captive beetles, the center’s genetic work is providing a basis for other reintroductions and breeding programs. And our educational initiatives have helped spread the word about the need to save this beetle.

**The Great Undertakers**

The American burying beetle is named for its practice of burying its food—carrion. Pairs bury the carrion cooperatively. The female beetle lays her eggs near the preserved carcass. Within four days, the eggs hatch into larvae. Both parents feed their offspring by eating some of the dead flesh and regurgitating it into the larvae’s mouths. This goes on for about six to 12 days, until the larvae begin their next stage of development: pupation. After 45 to 60 days, the new generation of beetles emerges from beneath the soil.

“Our contribution to breeding this beetle and returning it to parts of its former range is the beginning of our recovery of this beautiful insect,” says Saint Louis Zoo Zoological Manager for Invertebrates Bob Merz. Merz is also Director of this center.

Why does this insect’s fate matter? In recycling decomposing components back into the environment, this beetle is a necessary part of our ecosystem. “Insects, like this, are often the proverbial ‘canary in the coal mine,’ providing warning to us of something harmful because of their sensitivity to environmental changes,” Merz adds. “With adequate research on what has caused this animal to become lost, we hope this species will thrive in Missouri once again.”
This center and its partners developed the first-ever avian health program in the Galápagos Islands. The year, 2012, marked progress for the center in not only saving some of the world’s rarest and most fascinating species but also in helping to save captive birds, since lessons learned on these islands can be used with birds in the care of conservation organizations. In addition to supporting several studies on the health of these unique birds, center staff is training Ecuadorian scientists and rangers to recognize and test for diseases.

In contrast to the high number of bird extinctions in other island ecosystems, the avian populations in Galápagos have not been devastated by introduced avian diseases. In fact, not one endemic bird species has gone extinct. However, the cumulative effect of human population, tourism and the introduction of new forms of disease pose a universal threat to the islands’ remarkable wildlife.
Establishing Early Warning System

“A small number of Galápagos species are on the brink of extinction. One cause may be that the sheltered Pacific environment that ‘protects’ these birds also makes them immunologically naïve and vulnerable to introduced pathogens,” says Dr. Patty Parker, Center Director and the Des Lee Professor in Zoological Studies at University of Missouri-St. Louis (UMSL). “Our center and our partners recognize this risk and have established an early warning system based on long-term disease monitoring of Galápagos birds to prevent the spread of avian diseases similar to those that have devastated the bird populations of Hawaii and other Pacific island systems. Unfortunately, we have found some dangerous pathogens and are studying their arrival and transmission in hopes of being able to eliminate them and prevent further arrivals.”

The Saint Louis Zoo has sponsored a veterinary scientist in residence at the Charles Darwin Station in Galápagos, conducting field and laboratory research with colleagues there. In addition, 20 UMSL graduate degrees have been awarded to students who spend summers on the islands conducting genetic and health studies on a variety of avian species (see sidebar on this page).

Natives of Ecuador at Center

Leading these efforts is Dr. Parker, who is the first scientist to hold an endowed professorship established to merge the research interests of the university with those of the Saint Louis Zoo. Dr. Parker brings a wealth of invaluable knowledge and experience to her role as a mentor to some of the best and brightest graduate students worldwide.

Many student participants and collaborators are native to Ecuador. “The seeds for the future are being sown today with the active engagement of those with a vested interest in the long-term sustainability of conservation in the Galápagos,” says Dr. Parker, who adds that the Galápagos Islands are particularly important in that they are iconic for the scientific study of nature and are among the most remarkable oceanic ecosystems in the world.

The area’s isolated location, volcanic activity and tropical currents have combined to create an environment that has often been described as a living museum and nature’s own laboratory. The area is home to a highly concentrated selection of unique species that can be found nowhere else. The distinctiveness of Galápagos wildlife contributed to Charles Darwin’s formulation of the theory of evolution by natural selection.

Student Projects Are Varied

Current student projects include:

1. understanding the threats associated with the introduction of exotic pathogens such as avian malaria (a primary cause of Hawaiian bird extinctions) and avipox virus on endemic birds and working to minimize these threats;

2. determining infectious and parasitic agents in domestic poultry, as these birds pose an increasingly important threat at the “wildlife-domestic animal interface” in Galápagos;

3. using a number of native bird species and their naturally occurring parasites to understand the circumstances under which parasites move from one individual to another, or from one species to another.

Also, center staff members work closely with the Galápagos National Park and the Charles Darwin Foundation to continue monitoring efforts, to establish policy to discourage arrivals of new diseases, and to conduct studies measuring the effectiveness of park management practices. The ability to monitor parasites and diseases, such as avian pox, will provide the ability to detect, prepare for and ward off the debilitating effects of contagion.
This center is focused on developing an effective cheetah census technique, reducing livestock conflict, conserving cheetahs outside protected areas, resolving veterinary and health issues, and providing education programs relating to cheetah conservation in East and southern Africa.

The world’s fastest land animal, the sleek and long-legged cheetah is losing its race for survival. Historically, cheetahs ranged widely throughout Africa and Asia dating back to the Great Ice Age. Today, fewer than 12,000 cheetahs inhabit a broad section of Africa, including areas of North Africa, the Sahel and the eastern and southern parts of the continent. Over the past 50 years, cheetahs have become extinct in at least 13 countries. Their two remaining strongholds are in Kenya and Tanzania in East Africa and Namibia and Botswana in southern Africa.

“Although the cheetah faces different problems throughout its range of various geographic areas, loss of habitat, ranchers killing animals, poaching and competition with large predators are primary factors behind its decline,” says Saint Louis Zoo Center for Cheetah Conservation in Africa Project partner, Maurus Msuha, Ph.D., a local Tanzanian whose doctoral program was partially funded by this center, is surveying Masai elders near Tarangire National Park to learn about their attitudes toward the cheetah and its impact on their cattle.
Curator of Carnivores and Center Director Steve Bircher. “Added to this is the fact that cheetahs are difficult to breed in captivity. The global cheetah population’s lack of genetic diversity makes it more susceptible to ecological and environmental changes and disease threats.”

Expanding Census, Monitoring
To combat these factors, the center has expanded its census and monitoring efforts to include all 35 carnivore species in Tanzania and is teaming up with researchers and project managers in Kenya, Botswana, Namibia, and South Africa to promote conservation through research, awareness and community participation in these range countries.

The center continues to support the Global Cheetah Action Plan & Global Cheetah Forum in South Africa, through its participation in workshops and educational programs aimed at people living near cheetahs.

The center will also continue to participate in the Association of Zoos and Aquariums’ Cheetah Species Survival Plan (SSP), created to manage a genetically healthy population of cheetahs in North America. This genetic reserve of cheetahs may provide insurance for wild populations in the future.

Breeding Cheetahs is Challenging
Since 1974, the Saint Louis Zoo has been a leader in cheetah research and captive breeding. One project, a cheetah mate choice study, was designed to test whether female cheetahs can determine relatedness of males by investigating the male’s urine scents and ultimately select the best genetic partner. What began as an interest in discovering what makes these animals so selective in mating has now become an international cooperative effort to link captive breeding programs with research and protection in cheetah range countries.

The Zoo’s cheetah conservation center has already successfully produced 38 captive-bred offspring, but much more research is needed to create similar successes for threatened cheetahs in the wild.

“We will continue to educate the public about cheetah conservation, to support sound scientific research and to develop programs in Africa so that the cheetah’s race will be one of survival, not extinction,” says Bircher.

Dr. Sarah Durant, Tanzania Carnivore Project Research Scientist, and a research assistant are placing an infrared-triggered game camera in Serengeti National Park to capture photos of cheetahs and other carnivores for census and monitoring purposes.

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In 2012, the Center for Conservation in Forest Park launched a program that brought students from an inner-city school to the park to document box turtle movements and their health status in urban and rural areas in and around St. Louis. Previous studies conducted across the globe show that turtles are being threatened by vehicles, habitat loss and disease.

To learn about nature, area students explore Forest Park’s Kennedy Woods, which is filled with native plants and trees.

This assessment is only one of many center research projects and educational initiatives on native wildlife ecology and management in an urban park. The center conducts these projects in cooperation with Forest Park Forever, the St. Louis Department of Parks and other St. Louis-based educational and cultural institutions.

The Zoo’s “Observing Nature Project” involved bringing a native owl to a city school classroom, where students sketched it.
The 1,371-acre Forest Park in the center of St. Louis, where the Saint Louis Zoo is located, is home to more than 200 bird species and an astonishing array of mammals. In the park's Kennedy Woods prairie and savanna, native plants predating the arrival of western settlers have once again taken hold: wild white indigo, yellow crownbeard and Ohio horse mint, among scores of others. These reintroduced plants present a clear welcome to a host of new birds and butterflies.

**Educating Youth**

“One of the most important goals of our conservation projects is to use all the natural wonder of Forest Park to develop empathy in children toward wildlife and wild places,” says Alice Seyfried, Fred Saigh Curator of the Emerson Children’s Zoo and Director of the Zoo’s WildCare Institute Center for Conservation in Forest Park. “Our center has a strong track record for addressing challenges to local ecosystems and for educating youth. We also know from earlier studies that conservation-minded adults are likely to have spent time in nature as children and that playing in nature has a profound effect on childhood development. With this educational work and research, we support our own promise to make the places where we live better for living things.”

For example, in the fall of 2010, the center offered students from Cole Elementary School in St. Louis a multi-faceted program that used Forest Park for the study of native wildlife and for conservation education. Center staff brought a range of animals from snakes to an owl into the classroom for conservation discussions and art projects. Students visited the Saint Louis Art Museum to view nature-oriented paintings and decorative arts and reflect what they had seen in their own art. Students enjoyed nature excursions in Forest Park, where they observed and sketched the local habitat. This program brought together art and science and in a way that helped students develop their observation and critical thinking skills, while gaining an awareness of their local environment.

**Eradicating Invasive Plant Species**

Another example involved both park improvement and research in a 2008 survey of pollinator populations in the park’s restored prairies. About 90 percent of all flowering plants need the help of animals to move pollen from flower to flower for the production of fruits and seeds. Armed with digital cameras, guidebooks and field journals, area students, serving as citizen scientists, gathered information about the diversity and abundance of pollinators and about invertebrate populations and colonization. They used this data to improve and modify park habitat.

The center followed this study with a 2009 collaborative program to eradicate honeysuckle, using a group of five goats to remove invasive honeysuckle bushes crowding out the native plants that provide food and cover for local wildlife. This experiment sent a strong conservation message to the St. Louis community about the critical need to reinstate native vegetation. Future center wildlife conservation projects will continue to focus on issues pertinent to native wildlife ecology and management in an urban park. The center will also continue to work to develop empathy in youth and adults toward animals and nature through a variety of methods, including hands-on activities that involve science, art and history.
During the summer of 2012, fifty endangered Ozark hellbenders were released into the wild. These juveniles were from a 2007 egg clutch that was collected in the wild and hatched at the Missouri Department of Conservation’s Shepherd of the Hills Hatchery. At three months of age, they were transferred to the Saint Louis Zoo so that they could be head-started for release. This augmentation marked the third time the center and conservation department have released hellbenders into Ozark rivers over the past four years. And this major achievement followed another even more exciting milestone: In November 2011, the center announced the first-ever captive breeding of Ozark hellbenders.

Due to the drastic decline of hellbender populations, captive propagation efforts became a priority to ensure long-term recovery. Rivers in south-central Missouri and adjacent Arkansas once supported up to 8,000 Ozark hellbenders. Today, fewer than 500 exist in Missouri streams—so few that the amphibian was added to the federal endangered species list in October 2011.

Also known as the “snot otter” and “old lasagna sides,” the adult hellbender is one of the largest species of salamanders in North America reaching lengths of 20 inches. With skin that is brown with black splotches, the Ozark hellbender has a flattened head and body that moves easily through water and can squeeze under rocks on the bottom of streams.

Three-week-old Ozark hellbender larvae are from the world’s first captive breeding of this salamander.
A Canary in a Coal Mine
Requiring cool, clean moving water, the Ozark hellbender is an important barometer of the overall health of that ecosystem—an aquatic “canary in a coal mine.”

“Prominent folds of skin on the hellbender’s body and legs absorb oxygen directly from the water—as well as hormones, heavy metals and pesticides,” says Center Director Jeff Ettling, Saint Louis Zoo Curator of Herpetology and Aquatics. “If there is something in the water that is causing the hellbender population to decline, it can also be affecting the people who call the area home.” Other factors contributing to hellbender decline include habitat alteration and destruction, diseases, illegal collection for the pet trade and predation.

Efforts Took A Decade
Captive propagation efforts for the hellbender started at the Saint Louis Zoo’s Charles H. Hoessle Herpetarium in 2002 where there is a fully-functioning, indoor 32-foot-long man-made Missouri stream that simulates the water and weather conditions of a natural Ozark river. The Zoo has recently constructed two outdoor 40-foot long streams for maintaining two additional breeding groups of Ozark hellbenders. In addition, the center also has two climate controlled rooms in the basement of the Herpetarium for head-starting hellbenders for future release.

“The Saint Louis Zoo has had an ongoing interest in hellbenders for 40 years,” says Ettling. “Who better to help than the Zoo with its history of successful captive breeding of amphibians and involvement in local, as well as international conservation? The Hellbender Conservation Center’s establishment of a successful breeding program for hellbenders will help ensure the future for this unique amphibian. The place to save the hellbender, like all wildlife, is in its native habitat.”

Outdoor streams and the life support facility are home to two populations of Ozark hellbenders.

Saint Louis Zoo Honored for Hellbender Work
At the awards ceremony during its 2012 annual meeting, the Association of Zoos and Aquariums (AZA) announced that the Saint Louis Zoo was selected for two of the AZA’s three coveted awards recognizing top conservation initiatives.

AZA’s most historic award, the 2012 Edward H. Bean Award, went to the Zoo for its “Propagation, Head-start and Conservation Program for the Ozark Hellbender.” The Edward H. Bean Award recognizes a truly significant captive propagation effort that clearly enhances the conservation of the species.

The Edward H. Bean award not only honors the Zoo’s captive breeding efforts but also underscores the importance of an initiative that moves us toward a better understanding of the overall health of the aquatic ecosystem of streams and rivers here in Missouri.

In addition, in 2010, this center received the Missouri Department of Conservation (MDC) Outstanding Collaborator of the Year Award in recognition of the Zoo’s Herpetarium staff, veterinary and life support departments as key players in conservation efforts for hellbenders.
In recent years, the countries in the Horn of Africa have endured enormous hardships from drought, famine and political turmoil, and outside assistance is often needed to nurture and grow their fledgling conservation efforts. The Center for Conservation in the Horn of Africa is playing a key role in sustaining critically endangered wild species and habitats found in this unique region.

By supporting community-based coalitions and actively establishing a variety of conservation, research and education programs, this center is striking a lasting balance between the needs of community members and the imperiled existence of several rare species in Kenya, Ethiopia, Eritrea and Djibouti. The largest of all wild equids, the Grevy’s zebra is considered endangered across its range, with less than 150 in Ethiopia and, perhaps 2,500 in northern Kenya.

With less than a half of a percent of the Grevy’s zebra range falling within official national parks and protected areas, this species’ survival depends heavily upon the attitudes and engagement of people in community areas.

Center Director and Zoo Curator of Mammals, Martha Fischer (right), and Grevy’s Zebra Trust Director, Belinda Mackey, work together in northern Kenya to place a tracking collar on a Grevy’s zebra. These tracking collars are providing vital data on Grevy’s zebra movements.
Engaging Communities

Toward this end, this center supports the Grevy’s Zebra Trust, an independent wildlife conservation organization established to address the urgent need to conserve Grevy’s zebra in the community rangelands of Kenya and Ethiopia. The Grevy’s Zebra Trust is working holistically to secure critical resources and safeguard this species from extinction across its range by engaging communities in the protection and monitoring of Grevy’s zebra.

This center also supports the Northern Rangelands Trust, a community-led initiative that forms a true union of Kenyan communities through field conservation and education programs. Residents of one of the 18 Northern Rangelands Trust communities, Kalama, have already stepped forward to manage their land to develop a sustainable, self-sufficient conservation strategy for their community. Cooperative multi-community habitat restoration programs, coupled with community-led grazing plans, are proving to be successful within the communities, re-establishing important wildlife-friendly areas and historical migratory corridors for all of the wildlife species in the region.

Conserving an Ethiopian Treasure

The mountain nyala is a critically endangered species endemic to Ethiopia. Little is known of this species, and research and education projects through MELCA Ethiopia and Bale Beauty Nature Club, two emerging conservation organizations in Ethiopia, will help lay a foundation for a conservation plan to ensure a future for this incredible species, a true Ethiopian treasure. Conservation programs for other rare and endemic species, such as the hirola, a critically endangered Kenyan antelope, and the Ethiopian wolf, the world’s most endangered canid, are also receiving support from this center.

As the Center for Conservation in the Horn of Africa pursues its goals, vital and long-lasting partnerships are being established. The WildCare Institute’s Center for Conservation in the Horn of Africa unites with an impressive array of international partners in its efforts to conserve the wildlife of this region.

In recent years, the land available to the mountain nyala in the highlands of southeastern Ethiopia has become more and more restricted because of human encroachment, agriculture and sport hunting. This center is supporting research, education and conservation programs to preserve this endangered species in the Bale Mountains National Park, Ethiopia.

Saint Louis Zoo Wins Award for Work in Africa

At the awards ceremony during its 2012 annual meeting, the Association of Zoos and Aquariums (AZA) announced that the Saint Louis Zoo was selected for two of the AZA’s three coveted awards recognizing top conservation initiatives.

AZA President and CEO Jim Maddy recognized the Saint Louis Zoo as a leader in wildlife conservation—both at home and abroad. The 2012 International Conservation Award went to the “Grevy’s Zebra Trust and AZA: A Model of Collaborative Endangered Species Conservation Program.” The International Conservation Award recognizes exceptional efforts toward habitat preservation, species restoration and support of biodiversity in the wild.

This award recognizes decades of work by Curator of Mammals, Ungulates and Elephants, Martha Fischer, Director of this center, which supports the Grevy’s Zebra Trust and other partners involved with the Trust.

“Nkai (Samburu God) has given us that heart of taking care of wildlife and people are supporting us to do this. Let’s come together, work together and be united.”

~Rikapo Lentiyoo, Grevy’s Zebra Trust Regional Coordinator for Laisamis
The Horned Guan Conservation Center is serving as the leading U.S. organization dedicated to the conservation of this species and its habitat. The center is working to save the horned guan through habitat management, the development of environmental education programming, life histories studies, captive management, and active involvement in two international committees dedicated to the conservation of the horned guan and its habitat. The Saint Louis Zoo is the only U.S. zoo to ever exhibit the highly endangered horned guan (or pavon), which lives in isolated populations in the high montane pine and oak forests of southeastern Mexico and Guatemala. By the early 1930s logging, coffee farming, and hunting had greatly reduced its numbers. Today, only 1,000-2,000 birds exist in the wild.

“The role the guan plays in the regeneration of montane forests and its basic ecological requirements are not well understood but are of paramount importance when developing a recovery plan for any species,” says the Zoo’s Curator of Birds and Center Director Michael Macek. “Even basic biological data is still required for this species, due to its small/disjunct populations and remote distribution. We are currently supporting the collection of data in both Mexico and Guatemala.”

Identifying Threats
Since 2002, Michael Macek has served as a member on the Cracid Specialist Group of the International Union for Conservation of Nature (IUCN).
This sub-group of the world’s oldest and largest global environmental network focuses its efforts on the conservation of cracids—the horned guan is a member of this most threatened family of neo-tropical birds.

In 2002, the Cracid Specialist Group hosted the first Population and Habitat Viability Assessment (PHVA) of the Horned Guan. This assessment identified the threats faced by the horned guan and evaluated the likelihood that this bird will persist over a given time period into the future. The plan then identified necessary research and data collection, assessed different vulnerabilities of the plan, and identified and prioritized various action plan items.

**Focusing on Education, Ecotourism**

One action plan item was the establishment of the International Committee for the Conservation of the Horned Guan and its habitat. This committee, of which the center is a member, primarily includes the key stakeholders in Mexico and Guatemala. The committee meets on a bi-annual basis to discuss advances in horned guan conservation and review action plan items. The establishment of this committee provides for the continued re-assessment of action plan items and helps maintain a momentum that is often lost 10 years after a PHVA.

In 2007, the center joined the Cloud Forest Ambassadors Program, established by its partner, Africam Safari Zoo in Puebla, Mexico. The Cloud Forest Ambassadors membership includes zoos from around the world. This consortium of zoos promotes at an international level the conservation needs of the horned guan, generates funds to be used in the *in-situ* conservation efforts of the horned guan and its habitat, and strives to improve captive breeding via *ex-situ* research.

The center is currently focusing its efforts in working with partners to initiate local education programs to strengthen community conservation participation. These programs coupled with enforcement action will help reduce the threats caused by illegal timber removal, cattle grazing and hunting.

The sustainable management of organic coffee plantations and the formation of additional reserves offer potential for eco-tourism, providing alternative economic opportunities for local communities.
The center worked with its partners in the summer of 2012 to complete Punta San Juan’s third sustainable guano harvest since 2001. The threatened Humboldt penguin is found only along the rugged Pacific coast of Peru and Chile, where some of the world’s most fertile guano (bird excrement) fields provide a soft substrate for penguin nesting burrows. Punta San Juan sustainable harvest protocols have reduced the direct harvest impact from a 10 percent penguin population loss to zero. Since 2004, the center and its partners have also conducted an annual comprehensive penguin census of the entire Peruvian coast—a critical step toward species management and recovery. The conservation coalition also entered into a memorandum of understanding that secured Punta San Juan until it and 32 other important penguin breeding sites were incorporated into Peru’s Protected Areas System in 2009.

The Saint Louis Zoo has been home to Humboldt penguins since 1977. In 2003, the Zoo’s Penguin and Puffin Coast habitat opened, providing a new home for Humboldt penguins. The Zoo’s penguins are part of a North American population that is genetically and demographically managed by the Humboldt penguin species survival plan. Through this plan, the Zoo has worked closely with many other institutions to ensure the breeding of a healthy and genetically diverse captive population of Humboldt penguins.

Declining Population
However, the center’s goal is to secure the future of the Humboldt penguin in Punta San Juan—home to almost half of the entire Peruvian Humboldt penguin population. There, the continental shelf comes very close to the coastline creating an upwelling...
of cold nutrient rich water—conditions that provide a fertile environment for the anchoveta, the primary food source of the penguin and many other sea birds and marine mammals.

“In the wild, the Humboldt penguin faces an uncertain future brought about by increasing human disturbance, underwater natural gas pipelines that emit toxic seepage into the water, recurring El Nino Southern Oscillations and vulnerability to non-native predators,” says Saint Louis Zoo Curator of Birds Michael Macek, who is also Center Director. “Disruption of the fragile ecological balance of Humboldt penguins’ region is another large threat to the species. Peru’s largely unregulated fishing industry not only removes the Humboldts’ food supply, but also places them at risk of entanglement in fishing nets.”

Estimates show the total combined population of birds in Peru and along the coast of Chile is at only 40,000 Humboldt penguins—a tiny percentage of the population first discovered in the 19th century along the same coastline.

**Striving to Improve Fisheries Management**

The center is striving to secure the funding necessary to maintain permanent trained personnel to continue the collection of biological data and protect Punta San Juan. Center support also goes toward improving Peruvian fisheries management and increasing local awareness of marine conservation issues.

An educator from WildCare Institute partner ACOREMA works to educate students about conservation in Pisco, Peru.

By forging a bond between the staffs of North American zoos, Peruvian partners, government and non-governmental organizations, the center has taken the first steps in forming a true conservation coalition.

Mandi Nordin, Saint Louis Zoo keeper, works with a Humboldt penguin chick during a health assessment in Punta San Juan, Peru.

Michael Macek, Saint Louis Zoo Bird Curator and Center Director, and WildCare Institute partner Michael Adkesson, DVM, Brookfield Zoo, examine an adult Humboldt penguin in Punta San Juan, Peru.
Madagascar, the fourth largest island in the world, is a conservation hotspot due to the island’s levels of endemism—the ecological state of being unique to a defined geographic location—and in the number of plant and animal species threatened with extinction. Although rich in biodiversity, Madagascar has been historically recognized as among the world’s poorest and least developed countries. The challenge facing conservationists is the dual need to increase the Malagasy people’s standard of living, while decreasing factors that contribute to environmental degradation and loss of biodiversity.

This center works under the umbrella of the Madagascar Fauna and Flora Group (MFG). While MFG’s international headquarters is at the Saint Louis Zoo, its in-country office is located in Tamatave, where the program manager and a staff of over 40 Malagasy work to conserve Madagascar’s biodiversity.

Christian Rambeloson, Manager of MFG Ecoagriculture Program, demonstrates alternative soil management and planting practices to local villagers.
Building Madagascar’s Capacity

The MFG manages Parc Ivoloina, a 692-acre conservation facility that encompasses a small zoo, tree nursery, agriculture demonstration area and Ivoloina’s Conservation Training Center (ICTC). Largely funded through the WildCare Institute, ICTC includes a meeting room, laboratory, dormitory and refectory. It was built because Tamatave’s political and education leaders identified it as a priority for educating conservation practitioners. Tamatave University signed a memorandum of understanding with the MFG and now includes ICTC’s lab and field site into class curricula. Their graduate students, under the tutelage of the MFG’s Ecoagriculture Advisor Dr. Christof den Biggelaar, use the ICTC to do research on such topics as alternative farming methods that, if successful, are critical to reducing slash and burn farming practices. In addition to building institutional capacity, the WildCare Institute supports the professional development of individuals. Veterinary student Fidy Rasambainarivo received an internship for advanced training in exotic animal medicine at the Saint Louis Zoo, and Lala Randriatavy’s Ph.D. program is funded through the WildCare Institute.

Supporting Conservation Research

Forty kilometers west of Ivoloina is Betampona Natural Reserve, a nearly 5,570-acre lowland rainforest where the MFG has served as research partner to its governing agency for over 20 years. The MFG has taken a holistic approach to addressing conservation problems by building an integrated and multidisciplinary program that focuses on four strategies: research, education, capacity building and conservation action. Our WildCare Institute has made significant contributions to the MFG’s conservation objectives. We have supported lemur research projects on feeding ecology and on how different environmental features affect habitat use by lemur species and health surveys. An amphibian survey that revealed Betampona harbored an exceptionally high number of species (76) for its size was funded through the WildCare Institute. Our partnership with Dr. Wasit Wulamu, remote sensing expert from Saint Louis University, has produced a GIS database that integrates floral and faunal data with satellite images to analyze the spatio-temporal dynamics of Betampona. This powerful tool will significantly advance science-based conservation planning.

After collecting biological samples and radio-collaring an indri, veterinarian Fidy Rasambainarivo monitors the individual animal as it awakens from anesthesia; conservation medicine is one component of the MFG’s research program in Betampona Natural Reserve.

At right, standing, is Lala Randriatavy, whose Ph.D. research focused on evaluating four methods of manually removing guava from Betampona Natural Reserve. Guava is among the world’s worst invasive plant species and unchecked, will out-compete many of the reserve’s endemic plants and ultimately lead to the local extinction of some animal and plant species.
Newly established in 2011, this center has been awarded an $86,000 grant from the American Alliance of Museums for its P.A.U.S.E.: Pollinators/Art/Urban Agriculture/Society/and the Environment project. This joint project involves both the National Museums of Kenya in Nairobi and the Tohono Chul Park in Tucson, Arizona. Teams of youth age 17 to 22 from each city will develop projects focused on urban gardening, native pollinators, artistic creation as habitats, and the use of outreach tools from traditional to cutting edge. Native pollinators and community gardening will be the platform for exploring cultural identities through food, artistic design, the definition of community, and youth’s relationship with their communities.

In 2012, the center also worked with the Missouri Department of Transportation (MoDOT) and the Xerces Society for Invertebrate Conservation to design a pollinator garden at the Missouri State Fair held in August in Sedalia, MO, to promote the importance of pollinators, especially bees, to the future of the state’s agriculture and environment.

“The creating a garden at the state fair demonstrated the critical importance of pollinators and of cultivating the kinds of plants that attract pollinators,” says Center Director Ed Spevak, Curator of Invertebrates at the Saint Louis Zoo. “The garden also demonstrates our commitment in working with MoDOT and the Xerces Society to develop...
future pollinator roadsides along Missouri’s roads to help reduce mowing costs and increase pollination for nearby crops. The roadside gardens will also help motorists better understand the importance of protecting pollinators and what they can do to help.”

**Reaching Out to Community**

Spevak has long worked with community garden groups to educate individuals about native bees and develop best bee practices to ensure optimal fruit and vegetable production, while working to save bees and other pollinators.

In 2008, the Saint Louis Zoo and the University of Illinois at Urbana-Champaign, produced the first comprehensive bumble bee guide for Illinois and Missouri. The Zoo has conducted bee surveys within the St. Louis area to examine bee diversity and abundance and to identify possible areas of conservation concern.

Nationally, the Zoo also organized and hosted, with the Xerces Society, University of Illinois, and the USDA-ARS Bee Research Laboratory, a Species Conservation Strategy Workshop for North American Bumble Bees. Experts from across North America, Europe and Japan representing universities, government agencies, and conservation organizations, met to develop a comprehensive conservation and research action plan for North American bumble bees to help direct the conservation and research efforts of the center and the work of other organizations dedicated to bumble bee conservation.

**Organizing Network of Researchers**

Internationally, the Zoo’s new pollinator center helped establish and organize the International Union for Conservation of Nature (IUCN) Species Survival Commission Bumble Bee Specialist Group. This group is organizing a worldwide network of bumble bee researchers who will examine all 250 species of bumble bees to establish their conservation status.

These activities reflect the collaborative research and education programs that are the focus for this center as it works to expand public knowledge about the importance of conserving bees and other pollinators and their habitats.
On March 6, 2012, Niger’s Council of Ministers decreed the establishment of the Termit & Tin Toumna National Nature Reserve. At 37,450 square miles (roughly the size of Indiana), this reserve is now Africa’s largest. This decree resulted from years of joint effort by the Saint Louis Zoo, Sahara Conservation Fund, the Republic of Niger, the Convention on Migratory Species, and other partners. The last viable wild population of addax antelope has moved one step closer to protection.

The Sahara and its fringe of arid grasslands (the Sahel) are home to species exquisitely adapted to life in this desert environment. Yet this African region has been overlooked and under-funded for conservation action. The silent crisis of extinction in the Sahara has already claimed one antelope: scimitar-horned oryx, once numbering in the tens of thousands, are now found only in captivity.

An alarming number of species are following in the fading footprints of this oryx, including the addax, dama gazelles, striped hyena and Barbary sheep. Desert cheetahs cling tenuously to survival. Even Saharan red-necked ostrich, the largest birds on the planet, have vanished across 95 percent of their range.
Raising Conservation Awareness

While habitat loss and disturbance contribute to the decline of species, the introduction of automatic weapons and four-wheel-drive vehicles to North Africa during World War II led to decades of unsustainable hunting practices without a management plan to make hunting sustainable. In many places in the Sahara today, habitat and the will to restore wildlife are not in short supply. The animals, however, are.

Fortunately, zoos and others maintain breeding populations of numerous Sahelo-Saharan species in human care. The Saint Louis Zoo’s Saharan Wildlife Recovery Center looks for ways to connect this effort to meaningful conservation action within the 14 range states that are touched by the three million square miles of the Sahara.

In places like the Termit/Tin Toumma region of Niger, where a significant assemblage of these species still exists, the center focuses on raising awareness about the unique opportunity to save so many Sahelo-Saharan species in one place, and on supporting the necessary field work to document their presence and abundance and provide critical data on their ecology to help develop a management plan to ensure their future.

The recent creation of the Termit & Tin Toumma National Nature and Cultural Reserve benefits addax and more. A host of species share this region, including fennec, pale, and Rüppell’s fox; Nubian and Sudan bustards; desert cheetah, sand cat and African wildcat; golden jackal and striped hyena; Barbary sheep and dama gazelles.

Focusing on Returning Animals to Wild

In areas where local extinction has already occurred, the center focuses on the possibility of returning animals in human care to the wild. In 2007, it helped to organize the return of scimitar-horned oryx and addax from U.S. and European zoos to fenced reserves in Tunisia. In Niger, the center helps support an ostrich ranch with genetically pure Saharan ostrich in hopes of one day releasing birds back to the wild. This site not only supports ostrich production but raises local awareness about their plight to build support for their return. In Chad, it is providing assistance with the planning process to reintroduce scimitar-horned oryx to the Ouadi Rimé/Ouadi Achim Game Reserve.

A spectacular Saharan sandscape.
The Center for Near East Mountain Viper Conservation was a leading force in helping to establish two protected areas in Armenia to help ensure the survival of mountain vipers. The center’s studies of Armenian vipers contributed to the Armenian government’s 2009 decision to declare two new protected areas—Arevik National Park and Zangezur Sanctuary. Then, in 2012, our center expanded its geographic reach and the scope of its conservation mission. It is now the WildCare Center for Conservation in Western Asia.

As the biological crossroads between Europe and Asia, Western Asia is home to a unique assemblage of species found nowhere else. Since 2004, the Zoo’s WildCare Institute has focused its efforts on the Armenian viper, with its fragmented distribution in Armenia, eastern Turkey, Azerbaijan, northwestern Iraq and northeastern Iran. These areas have experienced an 88 percent decline in viper population numbers over the last 20 years.

The new center is building on the WildCare Institute’s Armenian viper program by working to conserve other mountain vipers, reptiles, amphibians, birds and mammals native to Western Asia.

Leading Mountain Viper Conservation Efforts

Over the past decade, the Zoo’s studies of captive vipers have already provided useful information on reproduction and behavior. The center’s research team is using radio-telemetry to study the spatial ecology of mountain vipers.
and habitat preferences of Armenian vipers. In addition, genetic analyses are being used to study population structure to see if gene flow has been affected by human alterations to the landscape. As a result of these and other studies, the boundaries of Armenia’s Khosrov Forest State Reserve have been enlarged, and the center’s data was used as the basis for establishing Zangezur Sanctuary and Arevik National Park. Plus, the research protocols developed for the Armenian viper will be used to study other mountain vipers in the future.

While the new center will continue to combine ecological field studies and taxonomic investigations, it now covers a much larger region—including Cyprus, Turkey, Israel, Lebanon, Syria, Jordan, the Arabian Peninsula, Iraq, Iran, Azerbaijan, Armenia and Republic of Georgia.

“Three of the 34 biodiversity hotspots designated by Conservation International occur in Western Asia,” says Center Director and Curator of Herpetology and Aquatics Jeff Ettling. The three—the Mediterranean Basin, Caucasus and Irano-Anatolian Hotspots—harbor a large percentage of the world’s plant and animal biodiversity, many of which are endemic to these regions.

“The greatest threats to biodiversity in Western Asia are overgrazing, mining, agricultural development, poaching and overharvesting of timber for fuel wood,” says Ettling. “Our ultimate goal is to create a sustainable future for both the biodiversity and people inhabiting the region.”

**Building Community buy-in**

The new center will continue to work with local communities to help them understand the need to protect wildlife. “Educational programs and materials will involve local communities in Armenia and eventually other countries in the region, and emerging partnerships will help us develop alternative, non-disruptive ways to make use of natural resources,” Ettling adds. “Although we can collect the data needed to develop a conservation strategy for a species, the success of a conservation program ultimately depends on ‘buy-in’ and support from the people who live with the wildlife.”

“We'll be working hard to get that support.”

*Center Director Jeff Ettling (left) and Levon Aghasyan of the National Academy of Sciences, Armenia, record data on the geographic location and habitat of the Armenian viper.*

*Jeff Ettling radio tracks Armenian vipers in Shikahogh State Reserve in southern Armenia.*
The WildCare Institute Also Supports

**Ecuadorian Amphibians**
With the world’s amphibian populations in drastic decline the Saint Louis Zoo’s WildCare Institute made a decision to support Luis Coloma, Ph.D., and his ongoing conservation and sustainability of Ecuadorian amphibians. With the development of Dr. Coloma’s Centro Jambatu de Investigación y Conservación de Anfibios/Fundación Otonga, the Saint Louis Zoo is continuing to offer yearly support. Centro Jambatu is a great example of scientific research, captive breeding and strong collaborative effort ensuring species survival. Due to the factors affecting wild amphibian populations today, these assurance colonies become the last hope for many unique amphibian species.

**The Marianas Avifauna Conservation (MAC) Project**
The goal of this coalition of zoos, government organizations and universities is to proactively protect island birds and other species from the fate of the Micronesian kingfisher and Guam rail, now extinct in the wild because of the introduction on Guam of an aggressive predator—the brown tree snake. The MAC Project works to conserve threatened birds by relocating them to other islands within the Marianas and by establishing captive breeding protocols. Since 1994, staff members from participating Association of Zoos and Aquariums (AZA) institutions, including the Saint Louis Zoo, have worked in the Commonwealth of the Northern Marianas Islands collecting birds on the islands and relocating them to safer areas (snake-free islands). In the past year, the Saint Louis Zoo’s staff collected 24 golden white-eyes on the island of Saipan and relocated them to the uninhabited island of Sarigan. An additional 12 rufous fantails and 12 golden white-eyes were sent to AZA zoos for captive breeding. The project has reported success in recent years with evidence that bridled white-eyes are breeding in their new location.

**Chimpanzees and Gorillas Conservation**
The Northern Republic of Congo has long been considered a stronghold for the conservation of chimpanzees and western lowland gorillas; however, these apes reside in a rapidly changing landscape. Most ape populations in this region are likely to experience alterations in their habitat, the pressures of commercial bushmeat hunting, and/or the emergence of disease. Ensuring their long-term survival requires immediate conservation activities to effectively address these threats. The Goualougo Triangle Ape Project (GTAP) was formed by Dr. Crickette Sanz, Washington University in St. Louis, and Dr. David Morgan, Wildlife Conservation Society, with the mission to protect chimpanzees and gorillas by applying conservation research, enhancing protection of their habitats and strengthening local capacity to implement conservation programs. GTAP has made progress towards these goals over the years, but perhaps its most significant achievement occurred in January.
2012, when the President of the Republic of Congo made a major and lasting step towards the conservation and protection of biodiversity in his country. Through Presidential decree, he extended the borders of the Nouabalé-Ndoki National Park to grant protected status to the Goualougo Triangle. In the meeting summary from President Sassou’s council of ministers, the minutes specifically mention the chimpanzee population and unique opportunities to study behavior. But GTAP’s conservation mission also extends to increasing the survival prospects of apes residing in logging concessions outside of the park’s boundaries. To that end, GTAP has developed a unique collaboration with the local logging company to formulate and promote sustainable forest management via forest policy reforms. GTAP survey teams maintain a research and monitoring presence in the concession to assess ape density and distribution patterns in response to timber harvesting and associated activities.

**Projects to Save Elephants in the Wild**

The WildCare Institute’s support for elephant conservation focuses on preservation of Asian and African elephants in human care and in the wild. For decades, the Saint Louis Zoo has had a strong commitment to ex situ conservation, propagation and research of Asian elephants. Since 2004, the WildCare Institute, in close cooperation with its partners, has also supported in situ conservation and welfare initiatives to secure viable wild populations of Asian and African elephants.

**Asian Elephant Support**

The endangered Asian elephant once numbered in the hundreds of thousands throughout most of Asia, but today as few as 35,000 remain in the wild. Loss of habitat to the growing human population and the increasing commercial demand for forest-derived products have tragically reduced the range for this species and increased the incidence of human-elephant conflict to an alarming level.

The Zoo involves other AZA institutions, elephant care organizations and concerned private donors in supporting the efforts of the International Elephant Foundation; this foundation links dedicated conservationists at zoos with those in the field and fosters partnerships to provide long-term support to wildlife programs around the world. Since 2004, WildCare Institute has provided nearly $225,000 to Asian elephant conservation in situ, supporting projects in Sumatra, Sri Lanka, Myanmar and Cambodia.

**African Elephant Support**

The African elephant is a vulnerable species that is at risk of further decline outside of protected areas where it continues to suffer from anthropogenic degradation of its habitat, competition for resources with domestic livestock, human-elephant conflict and poaching. The long-term survival of elephants in Kenya is inextricably linked to the support of local communities that share the land with this species. Involving local communities in the ongoing work to protect and monitor elephants and raising awareness of the benefits of elephant conservation are critical prerequisites for success.

WildCare Institute joins with other AZA institutions and donors to support the Northern Rangelands Trust (NRT), a community-led organization in Kenya of 19 existing or emerging community conservancies covering an estimated 16,000 km². Since 2004, WildCare Institute has provided $670,000 to NRT’s community conservation efforts. With these partnerships and the expansion of land devoted to conservation in northern Kenya, migratory corridors are being re-established and migratory species, like the African elephant, are greatly benefiting.
Marine Conservation
The WildCare Institute has become a founding member of the International Consortium for Marine Conservation, an initiative led by the Mote Marine Laboratory in Sarasota, Florida. Mote is an independent, nonprofit organization with seven centers for marine research, the public Mote Aquarium and an Education Division specializing in public programs for all ages. Mote Marine Laboratory has been a leader in marine research since it was founded in 1955. Today, the organization incorporates public outreach as a key part of its mission, which focuses on developing science-based solutions for addressing marine conservation challenges.

The Consortium’s approach is holistic and includes: 1) building collaborative, interdisciplinary teams; 2) supporting studies to determine perceptions and values of the people involved, 3) communicating in a culturally sensitive manner to all stakeholders in a conservation issue, 4) providing educational opportunities and capacity building, 5) seeking community-based solutions, and 6) where appropriate, promoting policy changes. There may also be opportunities for the WildCare Institute and Mote Laboratories to cooperate on freshwater issues facing wildlife in Missouri rivers.

Okapi Conservation
The Saint Louis Zoo is a participant in the Association of Zoos and Aquariums' AZA Species Survival Plan (SSP) for okapi and has supported ex situ and in situ conservation of okapi for 20 years.

The Saint Louis Zoo’s WildCare Institute, in close cooperation with Gilman International Conservation and White Oak Conservation Center, the AZA Okapi SSP and many AZA partner institutions, supports the in situ okapi conservation efforts in the Democratic Republic of Congo. Since 1992, the Saint Louis Zoo and WildCare Institute have provided $165,000 to okapi conservation in situ. The okapi or “forest giraffe” was first described by scientists in 1901. Even today, the okapi largely remains a mystery to the outside world.

The Okapi Conservation Project was initiated in 1987 to secure a protected area for okapi in the wild, while preserving the biological and cultural dynamics of the Ituri Forest. This program is dedicated to protecting and preserving the flagship species of the Ituri forest in the Democratic Republic of the Congo, promoting the okapi as an ambassador representing the incredible diversity of species found in the Okapi Wildlife Reserve, where forest elephants, chimpanzees, antelopes, birds and thousands of plant species thrive.

In 1992, the Okapi Wildlife Reserve was given official protected status creating a reserve in a portion of the Ituri rainforest, one of the most biologically diverse places on earth. This project provides support for training and equipping wildlife guards, community assistance (clean water, medical services, school supplies, etc.) to the people living next to the reserve, conservation education for people and care for a managed breeding and research group of okapi in the reserve.

Orangutan Conservation
Hutan is a grassroots nonprofit organization working to build innovative approaches to conserve orangutan and other wildlife populations in the forests of Sabah. In 1998, Hutan set up the Kinabatangan Orangutan Conservation Programme (KOCP) with the Lower Kinabatangan community and the Sabah Wildlife Department. Hutan-KOCP’s highest priority was intensive training to help local staff conduct high quality research and conservation activities. Hutan-KOCP’s 40-person, highly skilled team is from the native Kinabatangan community.

In the past 15 years, Hutan-KOCP successes have included discoveries on the ecology of the orangutan and other wildlife
species; wildlife population assessments; monitoring and support for creation and management of protected areas (e.g., the Lower Kinabatangan Wildlife Sanctuary); and development of sound state-wide wildlife conservation policies. Hutan is also working in commercial timber production forests with high orangutan densities to establish the wildlife conservation plans that are required for sustainable forest management certification. In the Kinabatangan floodplain, Hutan-KOCP actively participates in efforts to recreate a forest corridor along the river by developing a systematic conservation planning framework; engaging private stakeholders (e.g., oil palm plantations); and directly involving local communities in the protection and management of wildlife and habitat through the Honorary Wildlife Warden scheme and a community-based forest restoration program.

Partula Snail Project
The WildCare Institute has been involved in Partula snail conservation for many years. Nine species of Partula snails were once common on the South Pacific island of Tahiti. Sadly, three of the them are now extinct. A fourth species, *Partula nodosa*, is thought to be extinct in the wild and only survives in captivity. When the French Polynesian government allowed the importation of African land snails as a food source, it indirectly spelled doom for many Partula species. When the African land snails began eating local crops, yet another predatory snail was brought to the island to control it. But the predator snails ate the Partula snails instead of the African snail. By 1987, many species of Partula snails had gone extinct on Tahiti and nearby Moorea. Fortunately, a limited number of Partula snails survive in zoos. A number of zoos, including the Saint Louis Zoo, are breeding them with the goal of returning them to the wild. These zoos also support a field researcher who is monitoring wild populations of both Partula snails and the introduced snails that have caused their demise. This field work will help us determine the locations where the snails can be safely returned to their native islands.

Polar Bears International (PBI)
Concerned with the rising threats to polar bears in the wild, the WildCare Institute forged a partnership with this non-profit organization that is dedicated to worldwide conservation of the polar bear and its habitat. PBI’s leaders believe that zoos play an important role in this initiative because the more people who have an opportunity to see polar bears and understand their plight, the more likely we are to alter our warming path to save them. PBI supports the global Polar Bear Project, which is helping scientists pinpoint areas where polar bears might survive as sea ice diminishes due to climate change. The PBI Polar Bear Sustainability Alliance has developed a set of contingency plans to assist management authorities in a rapidly warming Arctic, and the Saint Louis Zoo has been actively involved with PBI in providing education programs to inspire, inform and empower people to make a difference by reducing carbon emissions that contribute to climate change.

Finally, as the Arctic melts, more polar bear mothers are choosing to den on land, possibly sensing that the sea ice is too unstable. Understanding their denning behavior is critically important. The WildCare Institute is supporting a maternal den study conducted by PBI scientists on the Alaska North Slope to document such behavior as when bear mothers and cubs typically emerge from their dens; how long the families remain at the den site before heading to the sea ice to hunt seals; and how sensitive they are to disturbances.

Study results will help wildlife managers and governing authorities develop plans to better protect and preserve polar bears for future generations.
Partners

A truly unique international collaboration has been formed that brings an unprecedented level of conservation. Below are the current partners for each of the 12 centers.

Center for American Burying Beetle Conservation
U.S. Fish and Wildlife Service
The Missouri Department of Conservation
The Nature Conservancy
Roger Williams Park Zoo
U.S. Army (Fort Chaffee, AR)
United States Forest Service
Missouri Department of Transportation

Center for Avian Health in the Galapagos Islands
Des Lee Professorship in Zoological Studies at the University of Missouri-St. Louis
Charles Darwin Research Station
Galápagos National Parks
Genetics, Pathology, Epidemiology Laboratory of Galápagos
The Zoological Society of London

Center for Cheetah Conservation in Africa
International Union for Conservation of Nature/Conservation Breeding Specialist Group Global
Cheetah Forum

Cheetah Conservation Fund, Namibia
Zoological Society of London
Tanzania Wildlife Research Institute
Tanzania National Parks Association
Cheetah Conservation Botswana
Action for Cheetahs in Kenya
Kenya Wildlife Service
Wildlife Conservation Society

Center for Conservation in Forest Park
Academy of Science
Forest Park Forever
Missouri Department of Conservation
Saint Louis Art Museum
St. Louis Department of Parks

Ron Goellner Center for Hellbender Conservation
U.S. Fish and Wildlife Service
Missouri Department of Conservation
Arkansas Game and Fish Commission
Missouri University of Science and Technology
Missouri State University
University of Missouri-Columbia

Center for Conservation in the Horn of Africa
Albuquerque Zoo
Amersfoot Zoo
Amsterdam Zoo
Basel Zoo
Brevard Zoo
Busch Gardens-Tampa
Calgary Zoo
Chester Zoo
Cheyenne Mountain Zoo
Chicago Zoological Society/Brookfield Zoo
Cincinnati Zoo
Cleveland Metroparks Zoo
Columbus Zoo
Dallas Zoo
Denver Zoo
Detroit Zoo
Disney’s Animal Kingdom
Edinburgh Zoo
Fresno Chaffee Zoo
Houston Zoo
Jackson Zoo
Jacksonville Zoo
John Ball Zoo
Kansas City Zoo
Knoxville Zoo
Leipzig Zoo
Lincoln Park Zoo
Lisbon Zoo
Living Desert
Los Angeles Zoo
Marwell Zoo
Minnesota Zoo
Mulhouse Zoo
Oklahoma City Zoo
Oregon Wildlife Foundation
Oregon Zoo

Phoenix Zoo
Reid Park Zoo Teens Program
Riverbanks Zoo
Sacramento Zoo
Safari West
Saint Louis Zoo
San Antonio Zoo
San Diego Zoo Global
Sedgwick County Zoo
Smithsonian National Zoo
Stuttgart Zoo
Tampa’s Lowry Park
Toronto Zoo
Utah’s Hogle Zoo
White Oak Conservation Center
Woodland Park Zoo
Zoo Atlanta
Zoo Landau
Zoological Society of London

Universities
Addis Ababa University
Oxford University
Princeton University
Purdue University
University of Oslo
University of Wyoming

Zoo Organizations
AAZK (National) and at Brookfield, California Desert, Cincinnati, Denver, Lion Country, Los Angeles, Oklahoma City, Rocky Mountain, St. Louis, San Diego zoos, and Zoo Atlanta.
AZA
AZA Antelope & Giraffe TAG
AZA Conservation Endowment Fund
AZA Equid TAG
AZA Grevy's Zebra SSP
AZA Somali Wild Ass SSP
Dutch Zoo Helps!
EAZA Equid TAG
EAZA Grevy’s Zebra EEP
EAZA Somali Wild Ass EEP
WAZA

Other Partners
Africa Wildlife Foundation
Bale Beauty Nature Club
Canyon Colorado Equid Sanctuary - William Gruenerwald
Chicago Board of Trade Conservation Fund
Communities of northern Kenya
Communities of southern Ethiopia
Denver Explorers
Disney Worldwide Conservation Fund
Earthwatch Institute
Eritrea Wildlife Department
Ethiopian Wildlife Conservation Authority
Ethiopian Wolf Conservation Program
Fauna and Flora International
Frankfurt Zoological Society
Globe Foundation
Grevy’s Zebra Trust
Gilman International Conservation
Holistic Management International
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International Livestock Research Institute Nairobi
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Kalama Community Wildlife Conservancy
Kenya Wildlife Service
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Liz Claiborne-Art Ortenberg Foundation
Madaras Gallery
MELCA-Ethiopia
Mpala Research Center
Nasuulu Community Conservancy
Northern Rangelands Trust
Office Nationale du Tourisme Djibouti
Ol Pejeta Conservancy
Safaricom Foundation
School Supplies for Kenyan Kids
Sea World/Busch Gardens Conservation Fund
The Nature Conservancy
Tusk Trust
Wildlife Conservation Society
West Gate Conservancy
WildCODE
WildCRU
Wildlife Conservation Network
Wildlife Trust

Center for Conservation of the Horned Guan (Pavon) in Mexico

IUCN: The Cracid Specialist Group
Association of Zoos and Aquariums (AZA) Galliformes
Taxon Advisory Group
The Nature Conservancy
BirdLife International
Instituto de Ecologia Fundacion Natura
The International Committee for the Conservation of the Horned Guan and its Habitat
The Cloud Forest Ambassadors Program

Center for Conservation of the Humboldt Penguin in Punta San Juan, Peru

The Brookfield Zoo
The Philadelphia Zoo
AZA Humboldt Penguin SSP
AZA Penguin Taxon Advisory Group
Colchester Zoo, Britain
Woodland Park Zoo
Sedgwick County Zoo
Centro Para La Sostenibilidad Ambiental
Harewood Bird Garden, Britain
Acquario di Cattolica, Italy
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Center for Conservation in Madagascar

University of Missouri-St. Louis
Missouri Botanical Gardens
Madagascar Fauna Group
Omaha’s Henry Doorly Zoo
University of Antananarivo
University of Tamatave
Washington University in St. Louis
Ivoloina Zoo
University of Missouri-Columbia (Veterinary College and Animal Nutrition Department)

Saharan Wildlife Recovery Center

AAZK-Dallas Zoo
AAZK-Kansas City Zoo
Abilene Zoo
Addax & Oryx Foundation
Al Ain Wildlife Park & Resort
AZA Conservation Endowment Fund
AZA Ratite Advisory Group
AZA Antelope & Giraffe Advisory Group
Bamberger Ranch Preserve
Berlin Zoo
Beyond Motion Productions
Brevard Zoo
Bronx Zoo
Brookfield Zoo
Buffalo Zoo
Calgary Zoo
Chester Zoo
Cincinnati Zoo

The Xerces Society for Invertebrate Conservation
Missouri Department of Transportation
Museum of Natural History, London
University of Illinois at Urbana-Champaign, Department of Entomology
Missouri State Beekeepers Association
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Missouri Vertebrate Garden
Pollinator Partnership
North American Pollinator Protection Campaign
IUCN SSC Bumble Bee Specialist Group
Gateway Greening
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Convention on Migratory Species
Dachser Logistiks
Disney's Animal Kingdom
Dublin Zoo
Emirates’ Center for Wildlife Propagation
Erie Zoo
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Fonds Français pour l’Environnement Mondial
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Fresno Chaffee Zoo
Gilman International Conservation
Houston Family
Houston Zoo
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John Ball Zoo
Kansas City Zoo
Kolmarden Zoo
La Fondation Internationale pour la Gestion de la Faune
Le Pal Zoo
Lisbon Zoo
Living Desert
Longleat Safari Park
Los Angeles Zoo
Marwell Wildlife
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Mulhouse Zoo
Nashville Zoo
North Carolina Zoo
Nurnberg Zoo
Oklahoma City Zoo
Oregon Zoo
Peace River Wildlife Refuge
Philadelphia Zoo
Plzen Zoo
Republic of Tunisia
Rolling Hills Wildlife Adventure
Sacramento Zoo
Safari Enterprises
Safari West
Sahara Conservation Fund
Saint Louis AAZK
Saint Louis Zoo Docents
San Antonio Zoo
San Diego Zoo Global
Sedgwick County Zoo
Smithsonian National Zoological Park
Steadfast Engineering
Stuttgart Zoo
The Living Desert
The Wilds
WAZA
West Midlands Safari Park
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Mrs. Anita Siegmund
Ms. Nancy R. Suslfield

Center for Conservation in Western Asia
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Scientific Center of Zoology and Hydroecology,
National Academy of Sciences – Republic of Armenia
The Russian Academy of Sciences
Having been the Saint Louis Zoo’s Travel Committee Chair for 14 years, followed by years as an Emerson Children’s Zoo volunteer, and after many trips to Africa and Asia, I am acutely aware of the urgent needs of wildlife, conservation and endangered habitats worldwide. I couldn’t be more supportive of the WildCare Institute and its mission!”

—Sue Dexter, one of the first private donors to the WildCare Institute upon its creation in 2004. She is an advocate for the work of the Center for Conservation in the Horn of Africa.
We love visiting the Saint Louis Zoo and seeing many of the animals who are threatened or endangered in the wild. Having visited Africa and Madagascar on Zoo trips, we have seen the great need for conservation of their natural habitats. We support the WildCare Institute for its efforts throughout the world to conserve the animals’ habitats by working with local people and governments. By teaching them to co-exist with wildlife, the local people can also preserve their culture.

—Ann and Mike Case, WildCare Institute donors, who have supported our conservation efforts with cheetahs, Armenian vipers and in Forest Park. Additionally, they conserved an animal figure on the Mary Ann Lee Conservation Carousel, which provides ongoing annual support for the WildCare Institute.
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Akron Zoological Park
AAZK - Bay Area Chapter
AAZK - Tulsa Chapter
Akon Zoo
Alabama Wildlands Adventures
Allwetterzoo Munster
American Association of Zookeepers - Greater Philadelphia
Arkansas Natural Heritage Commission
Art for Animals Foundation
AZA Conservation Endowment Fund
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Denver Zoological Foundation, Inc.
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Dickerson Park Zoo
Disney Worldwide Conservation Fund
Duke Lemur Center
Erie Zoological Society
Forest Park Forever
Fresno Chaffee Zoo
Friends of the Capron Park Zoo, Inc.
Galapagos National Park
Galveston Chapter of the AAZK
Gilman International Conservation Fund
Globe Foundation
Greater Los Angeles Zoo Association
GROUNDSPRING.org
The Harewood House Limited Trust of the Harewood Bird Garden
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Kansas City Herpetological Society
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Lemur Conservation Foundation
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The Living Desert
The Living Rainforest
Maryland Zoological Society, Inc.
Milwaukee County Zoo
Missouri Botanical Garden
Missouri Department of Conservation
Mozilla Foundation
Naples Zoo
The Nature Conservancy Network for Good

Northern Lights Chapter of AAZK
Oklahoma City Zoo AAZK
Oklahoma Zoological Society
The Philadelphia Zoo
The Phoenix Zoo
Reid Park Zoo Teen Volunteers
Rocky Mountain AAZK
Sacramento Zoological Society
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San Francisco Zoological Society
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Shepreth Wildlife Park
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Together we have the chance to make a lasting investment in the preservation of some of the most unique wildlife found on the planet.

Become a champion for the wild through the WildCare Institute. There are few other places where your investment can touch the lives of wildlife around the world so directly – and so cost effectively.

For more information on contributing to the work of the Saint Louis Zoo WildCare Institute, please contact our Development Office at 314-646-4691.
The Grevy's zebra has undergone a catastrophic decline in numbers and range over the past 30 years and now only occurs in northern Kenya and southern Ethiopia. The Grevy's Zebra Trust is playing a key role in global conservation by serving as a conservation champion for one of the world's most endangered large mammals.