WOODLAND PARK ZOO

WILDLIFE CONSERVATION IN THE FIELD

Saving Nature Together

MISSION

Woodland Park Zoo saves animals and their habitats through conservation leadership and engaging experiences, inspiring people to learn, care and act.

VISION

Woodland Park Zoo envisions a world where people protect animals and conserve their habitats in order to create a sustainable future. As a leading conservation zoo, we empower people, in our region and around the world, to create this future, in ways big and small.

CONTENTS

WHY WILDLIFE CONSERVATION?

At Woodland Park Zoo, we believe that animals and habitats have intrinsic value, and that their existence enriches our lives. We also realize that animals and plants are essential for human well-being in a more direct sense – they create and maintain a livable world by providing critical services such as cleaning air and water, mitigating floods and droughts, and helping to stabilize ecosystems. Given the trends of increasing human populations and rapidly depleting natural resources, people must focus on how to live sustainably.

Especially relevant to Woodland Park Zoo is the realization that creating a sustainable world requires that people conserve animals by slowing the unnaturally high rate of species extinctions caused by human activity. We believe that the zoo's field conservation programs can both make a difference "on the ground" and inspire our zoo audiences to make the important conservation choices that will be required to meet the most pressing challenge of our times – creating a healthy, sustainable world for people and all species.

Zoos, with their huge audiences, are well positioned to serve as important cultural institutions for addressing society's required shift to more sustainable living. While there are many ways for Woodland Park Zoo to participate in this effort, our animal focus allows us to build on our strengths to: 1) teach ecological literacy, including systems thinking and about the fundamental role that animal biodiversity plays in a sustainable world; 2) empower guests by illustrating how their behaviors and actions link directly to wildlife conservation and ecological health; and 3) aim our animal-focused field projects sharply at both preventing extinctions and improving sustainable management in "living landscapes." Living landscapes are regions that support both the needs of people and a rich assemblage of animal and plant species, ensuring sustainable healthy ecosystems for all.

The Woodland Park Zoo's field conservation program supports activities that directly contribute to the long-term survival of species in natural ecosystems and habitats. Field conservation at WPZ is a collaborative effort of staff, board members, supporters, and project partners. Reaching outside the zoo, we also work to establish beneficial ties with other conservation organizations, other AZA-accredited zoos, and with Seattle's academic and business communities. In 2015, the zoo invested approximately $1.6 million on 43 field projects.

FIELD CONSERVATION AT WOODLAND PARK ZOO

- We carry out animal-focused projects that engage the public's interest, contribute toward species conservation, and leverage landscape-level benefits for biodiversity conservation, ecological health, and sustainability.
- We integrate the zoo's strategic plan with our field projects, especially pertaining to animal collection, education activities, veterinary services, communications efforts, and fundraising. We seek opportunities that bring together departments and resources, so as to increase the zoo's ability to affect on-the-ground conservation and inspire our guests toward conservation action.
- We use conservation science and cultural understanding to identify projects and field sites.

Woodland Park Zoo with it's 1.2+ million annual guests is well positioned to serve as an important cultural institution for addressing wildlife's role in sustainable living.

- We recognize that wildlife conservation ultimately is about people, and long-term solutions will for example depend upon education, global health, poverty alleviation, and sustainable living practices. Therefore, whenever advantageous, we include in our work education and community-based approaches that address wildlife and human needs.
- We recognize that for our projects to be successful they must possess well-conceived goals, efficient work plans, measurable outcomes, prudent budgets, and meaningful evaluations.
- We partner with like-minded organizations, academic institutions, government agencies, and Seattle businesses to achieve conservation solutions that would not be possible by acting independently.
- We favor long-term, place-based programs that directly improve conservation and demonstrate connections between wildlife and sustainability.

OUR PRIORITY REGIONS

Woodland Park Zoo supports field conservation projects in the Pacific Northwest and around the world. Our three priority areas are: Africa, Asia-Pacific, and the Pacific Northwest. Each year, we also award approximately 20 small grants for projects both inside and outside of these priority areas. As of 2015, the majority of our field budget goes geographically to Asia-Pacific and the Pacific Northwest, with less investment in Africa.

All of our projects build on WPZ's proven history of incorporating habitat and species conservation, research, education, capacity building and community support.

WHAT WE DO

WPZ's field conservation work is realized through three programs: Living Northwest; Partners for Wildlife; and the Wildlife Survival Fund. These programs share a similar goal of saving animals and their habitats by leveraging animal-focused projects for species conservation and landscape-level biodiversity conservation, ecological health and sustainability. In 2015, WPZ is supporting 43 projects with a total investment of about $1.6 million. These projects vary greatly in the level of WPZ involvement and in the percentage of the total project support provided by WPZ -- from a high level of investment in the Tree Kangaroo Conservation Program, WPZ-Panthera Malayan Tiger Partnership and Northwest carnivore science and species recovery projects, to smaller awards for Wildlife Survival Fund projects. Our primary focus is understandably on the projects with higher WPZ investments.

All of our projects build on WPZ's proven history of incorporating habitat and species conservation, research, education, capacity building and community support. We seek projects that provide innovative solutions to difficult wildlife conservation issues (e.g., developing wildlife-friendly livelihoods through conservation commerce and resolving human-wildlife conflict). In addition to projects with site-specific conservation impacts, we aim to create a portfolio of projects that provide hope for a sustainable future and inspire conservation action by our zoo visitors, project supporters, and others who experience our work.

PARTNERS FOR WILDLIFE

Creating "Living Landscapes" for Wildlife and People

In 2003, Woodland Park Zoo initiated the Partners for Wildlife program, recognizing that long-term support and investment are critical for achieving lasting conservation results in key ecosystems and communities around the world. Projects are carried out by WPZ and its partner organizations working throughout Africa, Central Asia, and Asia Pacific. These projects take a comprehensive approach to conservation by incorporating habitat and species conservation, research, education, capacity building, and local community support. To that end, WPZ is committed to: 1) making a multi-year commitment to these projects; 2) taking an active role with our partners in project planning and evaluation; 3) fostering communication among the partners; and 4) sharing lessons learned from the program with the broader conservation community.

Each of the projects feature an endangered species "flagship" or "ambassador" that is typically represented in WPZ's animal collection, so that our animal care staff, educators and docents can effectively discuss our field work with zoo guests. In addition, the projects aim to have landscape-level results; for example, enabling biodiversity conservation beyond the target species or building strong community support and institutional capacity for wildlife protection and sustainable living. The Partners for Wildlife program puts a strong emphasis on people to highlight that integrating human communities is necessary for successful wildlife conservation and long-term global health and sustainability.

LIVING LANDSCAPES

As we move forward, projects will be reframed more clearly around the concept of "living landscapes." Living landscapes are regional land mosaics of human-dominated areas and protected natural areas within which the projects work, fostering sustainability for both people and wildlife. It is becoming increasingly clear that protected areas are not sufficient to support worldwide species conservation. It is also clear that the ecological services provided by healthy natural communities are important for healthy human communities. By better integrating wild lands with human-dominated regions, both wildlife and people prosper.

ASIA PACIFIC

Muraviovka Park: Cranes of Asia – *Far East Russia*
Budo Hornbill Conservation & Education Center – *Thailand*
Hutan Asian Elephant Conservation Project – *Malaysia*
Gunung Palung Orangutan Conservation Project – *Indonesia*
Woodland Park Zoo's Tree Kangaroo Conservation Program – *Papua New Guinea*
Woodland Park Zoo–Panthera Malayan Tiger Partnership – *Malaysia*

CENTRAL ASIA

Woodland Park Zoo & Snow Leopard Trust's Kyrgyzstan Snow Leopard Program – *Kyrgyzstan*

AFRICA

Mbeli Bai Gorilla Study – *Republic of Congo*
Tarangire Elephant Project – *Tanzania*

Tarangire Elephant Project

Partner Organization: Wildlife Conservation Society

Conservation Associate: Charles Foley, Ph.D. – Director; Lara Foley – Program Manager

Landscape: Elephants (and other wildlife species) disperse widely throughout the Tarangire ecosystem in Tanzania (approx. 5 million acres) but only 8% of that (the 617,000 acre Tarangire National Park) land is protected; what remains is largely human-dominated, with Maasai pastoralists to the east and south and agriculturalists to the north and west. Because dispersal areas are on village lands, there is little or no official conservation status protecting the area, making it extremely vulnerable to land use change and habitat loss. Access to dispersal areas outside the National Park is critical; the vegetation within the National Park has very low levels of phosphorus and cannot support lactating females of large ungulates. If the elephants and other migratory wildlife were restricted to the National Park, the health of the ecosystem would be severely affected.

Program Description: The elephants of Tarangire National Park are under increasing threat from poaching for ivory and loss of critical habitat outside the National Park. Other migratory species, such as wildebeest and zebra, are also under increasing threat from bushmeat poaching and loss of habitat.

The Tarangire elephant project began in 1993 as Dr. Charles Foley's doctoral study on the effects of poaching on the social system of the African elephant. Since the inception of the project, now the second-longest running elephant research project in Africa, more than 1,000 elephants have been individually identified, forming one of the largest elephant identification databases in Africa. The primary focus of Dr. Foley's work is on identifying and protecting wildlife migration corridors and dispersal areas outside the wildlife parks where the animals live. 2005 saw the project establish the first conservation easement in the Simanjiro Plains, creating a zone exclusively for livestock grazing and wildlife migration. In 2010, the project co-authored Tanzania's National Elephant Management Plan, and continues to play a key role in implementing the Plan's strategic objectives on Corridor Conservation, Human-Elephant Conflict, Research and Monitoring, and Cross-border Conservation. Plans for 2015 include connecting Tarangire National Park with the current conservation easements in the Simanjiro, creating a rapid response anti-poaching team, and increasing training for 15 core Village Game Scouts, allowing them to expand their data collection activities.

While the critical objective of this project is to protect the elephant population of Tarangire National Park, the benefits will also extend to local communities, wildlife habitat, and other migratory wildlife species in the Tarangire ecosystem. The various land protection models aim to help local communities derive financial benefits to offset the large costs of living with wildlife, in addition to safeguarding important dry-season communal grazing land to protect their traditional pastoral lifestyle. Protecting wildlife corridors secures habitat not only for elephants, but also for the other migratory species in Tarangire, namely zebra, wildebeest, and buffalo. These populations have decreased dramatically in the past 15 years due to habitat loss and illegal hunting.

Goals:

- To protect key wildlife habitat outside Tarangire National Park for the migratory wildlife (elephant, zebra, and wildebeest).
- To decrease poaching for bushmeat (primarily zebra, wildebeest, impala, gazelle, giraffe) and, more recently, elephant ivory.

Mbeli Bai Gorilla Study

Partner Organization: Wildlife Conservation Society

Conservation Associate: Thomas Breuer, Ph.D. – Principal Investigator and Director of Nouabale-Ndoki National Park; Marie Manguette – Site Manager

Landscape: Mbeli Bai is a 79 acre swampy forest clearing within Nouabale-Ndoki National Park (NNNP) in the northern part of the Republic of Congo. Together with neighboring National Parks of Lobeke (Cameroon) and Dzanga-Ndoki (Central African Republic) it forms a protected landscape known as the Sangha Tri-National complex, which was designated a World Heritage Site in 2012.

Program Description: Western lowland gorilla populations have undergone a dramatic decline in recent years due to threats including commercial hunting for bushmeat, loss of habitat through increased logging activities and new oil palm and mineral extractive industries, and diseases such as Ebola hemorrhagic fever. As a result the species has been reclassified as critically endangered by the IUCN.

The Mbeli Bai Study was established in 1995 with the goal of providing much needed long-term information on the population dynamics and demography of western gorillas. The data collected is vital for scientists to assess the gorillas' vulnerability to threats, predict their ability to recover from decline, and formulate effective conservation strategies. The study monitors over 430 individual gorillas, as well as other species such as forest elephants, sitatungas, forest buffalo, and 46 plant species. The project also works to ensure long-term protection of gorillas and other large mammals through capacity building of Congolese assistants, conservation education, and habitat and wildlife protection. Because of the permanent presence of researchers, previously high elephant poaching levels at the study site have fallen to zero.

Goals:

- Continue to use information gained through long-term monitoring of gorillas and other large mammals to recommend conservation strategies and other measures that help to promote the conservation of western gorillas and their habitat in the Sangha Tri-National complex.
- Improve capacity building and training of national research staff and conservation educators, as well as transfer knowledge to other educators by holding regular meetings with educators from other projects and with teachers of the local schools.
- Expand the site-based conservation education program, Club Ebobo, with local communities and internationally through educational ecotourism.
- Protect wildlife and habitat through researcher presence and regular contact with park authorities.
- Ensure workers vaccination and health treatment to limit disease transmission.

PARTNERS FOR WILDLIFE: **CENTRAL ASIA**

Woodland Park Zoo & Snow Leopard Trust's Kyrgyzstan Snow Leopard Program

Partner Organization: Snow Leopard Trust

Conservation Associates: Kubanych Jumbai, Kyrgyzstan Program Director (Snow Leopard Trust); Jennifer Snell Rullman, Assistant Director of Conservation (Snow Leopard Trust); Fred Koontz, WPZ Vice President of Field Conservation

Landscape: Located in Central Asia, the former Soviet Republic of Kyrgyzstan ranks 5th in the world for snow leopard populations (200-400 cats) and 4th in amount of habitat. With over 75% of the country overlapping snow leopard range, it serves as an important link between northern snow leopard populations in Russia, Mongolia, and Kazakhstan and those to the west and south. In 2014, the government of Kyrgyzstan designated a 3 million acre region in the Tian Shan Mountains to the east as a priority landscape under the Global Snow Leopard Ecosystem Protection Program (GSLEP). Known as the Sarychat Landscape, this area is recognized as one of the top 20 landscapes in the world necessary to secure the global survival of the species. At the core of the Sarychat Landscape, the Sarychat-Ertash Nature Reserve and surrounding buffer zones are considered a 'living laboratory' within which Woodland Park Zoo and the Snow Leopard Trust are able to test and pilot programs and methods applicable to the entire landscape.

Program Description: Illegal poaching has historically been rampant throughout Kyrgyzstan, affecting not only snow leopards, but other key species such as ibex and argali. Another fast-growing threat within the region is mining, which contributes to habitat degradation and fragmentation. The Snow Leopard Trust was founded in 1981 by the late Woodland Park Zoo staff member Helen Freeman as a direct response to these threats. In the late 1990s, the Trust was one of the first conservation organizations to pioneer community-based conservation, in which the economic and social needs of the community are addressed as part of conservation solutions. The flagship community-based conservation program, Snow Leopard Enterprises, was founded in 1998 and has since grown to become the largest snow leopard conservation initiative in Mongolia. The program has a direct link to biodiversity conservation, directly addressing threats to snow leopards by alleviating poaching, increasing livelihoods of local communities living in snow leopard habitat, incorporating regional land-use planning, and developing sustainable partnerships with local governments. In 2003, the Trust took a leadership role in bringing together representatives from across the cat's 12-nation range to write the Snow Leopard Survival Strategy (SLSS), a guiding strategy for snow leopard conservation across Central Asia, and continues to collaborate with its sister organization, Snow Leopard Network, to update the document to reflect current and emerging threats. In 2008 the Trust took a major step towards advancing scientific knowledge of snow leopard behavior and ecology by co-launching the first-ever long-term study of the cats with Snow Leopard Conservation Foundation and Panthera.

The Snow Leopard Trust began with a budget of just under $2,000 and a few dedicated volunteers, but now has more than 50 staff worldwide and an annual budget of over $1.5 million. The Trust supports field offices in China, India, Mongolia, Kyrgyzstan, and Pakistan, accounting for more than 80% of the world's snow leopards and snow leopard habitat, and supports conservation in the remaining seven range countries by providing technical consulting and partnering with the Snow Leopard Network to manage small grants for global research and conservation.

Goals:

- Increase understanding of snow leopard ecology, behavior and habitat requirements.
- Expand understanding of ongoing and emerging threats to snow leopard survival inside the Sarychat Landscape.
- Develop and maintain strategies to measurably reduce threats, with support for sustainable livelihood of local villagers.
- Increase awareness and tolerance towards snow leopards and snow leopard conservation.
- Increase professionalism and support integrity of conservation leaders in Kyrgyzstan.

Muraviovka Park: Cranes of Asia

Partner Organizations: Muraviovka Park for Sustainable Land Use; International Crane Foundation

Conservation Associate: Sergei Smirenski, Ph.D. – President, Muraviovka Park for Sustainable Land Use

Landscape: Muraviovka Park is located in the Amur River Basin of Russia, on the border with China. Its territory, and the adjacent agricultural lands belonging to co-ops, overlap in major part with a governmental protected area, the 60,000 acre "Muraviovka Regional Wildlife Refuge." The park itself covers 16,000 acres of wetland and cropland, which provide critical habitat for more than 500 species of plant, and 200 species of birds, 20 of which are rare or endangered – most notably the six species of cranes which use the area for nesting and raising their young. The wetlands have been designated as a Ramsar site – a resource of global significance.

Program Description: The rare and endangered cranes that nest and raise their young in this region face many threats, including the negative impacts of human activities including intentionally set wildfires, poaching and legal spring hunting, illegal wetland reclamation, and water pollution that damages populations of the endangered species and also people's health. Muraviovka Park was established in 1994 to protect one of the few remaining undisturbed wetlands in the region. The land is leased from the local government until the year 2058 and is the first nongovernmental protected area in Russia. This pioneering initiative has been unique from the beginning for its inclusion of local, national, and international communities in its conservation efforts. The Park includes agricultural cropland buffers and a community outreach/education program designed to improve local livelihoods and the quality of life for people. Since its first years, the Park has disseminated its innovative approaches to conservation and environmental education to other regions of the Russian Far East, as well as to neighboring countries in Northeast Asia (China, Republic of Korea, and Japan).

Goals:

- Understand the effects that climate, hydrology, and human activities have on cranes and their environment.
- Develop efficient approaches for protection and management of cranes and their natural habitats, especially from the effects of wildfires.
- Establish a Breeding Center and develop captive populations of cranes and waterfowl for environmental education and restoration of wild populations.
- Assist development of resource centers for wildlife tourism and outdoor education in the Amur Region.
- Increase the involvement of local and international communities in the Park's activities.
- Make the Park as economically self-sufficient as possible, with major operational support coming from the Park's activities and from the local government and communities

Budo Hornbill Conservation and Education Center

Partner Organization: Hornbill Research Foundation

Conservation Associate: Vijak Chimchome, Ph.D. - Department of Forest Biology, Faculty of Forestry, Kasetsart University

Landscape: The Hornbill Research Foundation focuses work on two areas in Southern Thailand: 1) Budo Mountain, a part of the Budo-Sungai Padi National Park (Budo) and surrounding communities; and 2) parts of the Hala-Bala Wildlife Sanctuary (Hala) and the Bang Lang National Park (Bang Lang), including surrounding communities.

Budo is part of the Sankala Khiri Mountain Range that serves as a natural border between Thailand and Malaysia. The area is covered in lowland tropical rainforest and human-disturbed forest mixed with fruit orchards and rubber plantations. It is an important area for hornbill breeding and nesting. Hala and Bang Lang are major stopover sites on the hornbills' migration to Malaysia during the non-breeding season.

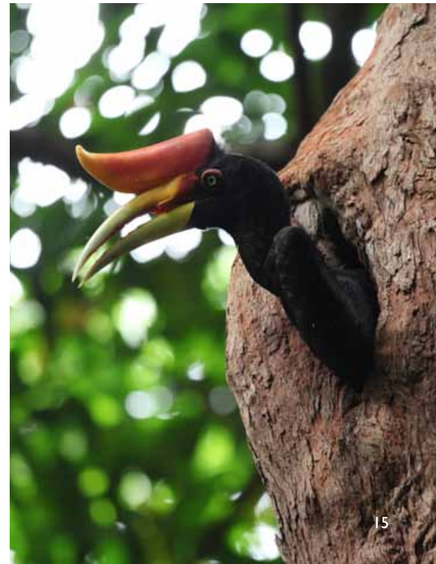
The area was once mostly inhabited by guerrillas; therefore, few people could get in to admire the natural beauty of the virgin jungle. It was only with the establishment of the Pacho Waterfall Park (later known as Budo-Sungai Padi National Park) in 1974 by the Royal Forest Department that the situation changed. The park occupies an area of 72,648 acres and extends into parts of Narathiwat, Yala and Pattani Provinces.

Program Description: Hornbills are the builders of rain forests, consuming a variety of fruit and then dispersing the seeds throughout the forest. Because of the important ecological niche they occupy, hornbills are considered a keystone species. As forests are cleared for agricultural use and illegal logging, these magnificent birds are increasingly under threat. Prior to 1994, poaching of hornbill chicks for the illegal pet trade was very common in Budo-Sungai Padi National Park (BSNP). Poaching has declined to low levels due to the work of the Hornbill Research Foundation and their involvement with local villagers, particularly ex-poachers and ex-illegal loggers, in research and education activities.

The Budo Hornbill Conservation and Education Center gathers researchers, teachers, students, and interested others in order to study the needs of the birds and their habitat, guide educators with curriculum on how to teach about hornbill and forest ecology, and to teach students about the actions they can take to save hornbills and their habitat. The program also instills local awareness of the economic value of hornbills by employing local villagers as field assistants, part-time educators and guides, including monitoring a stable population of hornbills by minimizing any habitat disturbance and protecting nest cavities and food resources. Unfortunately, due to continued political unrest, it has been difficult to have research and education programs running fully.

Goals:

- Increase public awareness and participation in hornbill conservation through public education work, including education camps, a mobile education unit and the work of local field assistants in research projects.
- Transfer full responsibility for hornbill conservation and management to local communities, including capacity for self-sufficiency through regulated eco-tourism and resource use.
- Increase hornbill populations and reduce their risks of extinction.



Hutan: Supporting Bornean Elephants and Hornbill Conservation Activities in Kinabatangan, Sabah, Malaysia

Partner Organization: Hutan

Conservation Associates: Marc Ancrenaz, DVM - Hutan Scientific Director

Years Supported: 8

Landscape: Hutan's primary area of focus is the Lower Kinabatangan floodplain in eastern Sabah, a state on the Malaysian island of Borneo. This area is covered with approximately 123,552 acres of forests and 1.2 million acres of agro-industrial landscape, largely dominated by oil palm plantations. Hutan conducts training on wildlife monitoring and biodiversity assessment in the interior of Sabah on land totaling more than 3.7 million acres of forests and 741,316 acres of agricultural lands. Hutan is also helping to design a proper land-use plan for elephants in the 494,210 acre Gunung Rare Forest reserve.

Program Description: An estimated 1,500 to 2,000 elephants live on the island of Borneo. While these elephants are fully protected under the 1997 Sabah Wildlife Enactment, they remain threatened due to habitat reduction, degradation, and fragmentation from commercial timber production and oil palm plantations. In addition, the oil palm plantations are often adjacent to wildlife habitat and as such are frequently raided by elephants; planters respond by shooting or poisoning the elephants or by erecting electric fences or digging trenches, further fragmenting wildlife habitat and sometimes resulting in elephant injury or death.

Research activities by Hutan support the creation and management of protected areas - such as the Lower Kinabatangan Wildlife Sanctuary - and the development of sound statewide wildlife conservation policies. Hutan also works in commercial timber production forests that harbor high levels of biodiversity, in order to design wildlife conservation plans that are required for sustainable forest management certification. They also engage with the oil palm industry to produce recommendations that better accommodate the needs of large species like orangutans and elephants in agro-industrial landscapes.

Hornbills in Hutan

Eight species of hornbill occur along the Kinabatangan River in varying densities. Recent surveys show that most species are slowly declining due to a lack of large trees and natural nest cavities. Hutan's hornbill conservation project aims to better understand the breeding ecology of hornbills in the area, monitor population trends, design and monitor nest boxes, create a network of conservation partners, raise awareness in the community, and develop a long-term conservation strategy.

Goals:

- Identify and secure elephant migration corridors to enhance proper gene flow and reduce human-elephant conflicts.
- Involve local communities in the management of their natural resources and in the conservation of their wildlife resources through intense capacity building and awareness campaigns.
- Monitor tourism activities and develop responsible tourism guidelines for elephant viewing.
- Enhance the awareness, capabilities and commitment of politicians, land decision makers, conservation professionals, and other relevant stakeholders in order to achieve efficient and collaborative wildlife conservation strategies and better land-use planning in Sabah.

Gunung Palung Orangutan Conservation Program

Partner Organization: Gunung Palung Orangutan Conservation Program

Conservation Associate: Cheryl Knott, Ph.D. – Executive Director; Cassie Freund – Program Director

Landscape: The 222,000 acre Gunung Palung National Park (GPNP), is located in West Kalimantan, in Indonesian Borneo. The Gunung Palung Orangutan Conservation Program (GPOCP) works primarily in the 9 million acre region surrounding the park, known as the Gunung Palung Biodiversity Landscape Area. GPNP is home to an estimated 2,500 individuals of the endangered Orangutan subspecies Pongo pygmaeus wurmbii, making up at least 14% of the remaining Bornean Orangutan population.

Program Description: Orangutan populations across Borneo and Sumatra are estimated to have declined by well over 50% during the last 60 years. The decline is predicted to continue at this rate due to seven main threats: human population pressure, changes in land-use patterns, forest fires, mining, poor law enforcement, deforestation due to logging and oil palm agriculture, and poaching/illegal trafficking.

Established in 1999 by Dr. Cheryl Knott of Boston University, GPOCP's primary mission is to conserve orangutan populations and forest habitat in and around GPNP. Recognizing that most threats to orangutan survival are human induced, GPOCP strives to develop a human community that is aware and motivated to conserve and protect the orangutans, their habitat and the biodiversity within this rainforest.

GPOCP began with a series of environmental education programs for school children and has since evolved into a landscape level conservation organization, working towards the protection of the park and surrounding ecological areas as a whole. Its approach consists of four main strategies: 1) forest protection; 2) monitor and investigate wildlife crime; 3) sustainable alternative livelihoods; and 4) environmental education and conservation awareness. GPOCP also plays an active role in national and international forums where orangutan conservation strategies are discussed and policies formulated.

Goals:

- Protect remnant forest areas around GPNP by facilitating communities to obtain legally recognized, sustainable forest management rights under the Customary Forest Initiative.
- Promote sustainable economic alternatives to environmentally destructive livelihood practices with communities surrounding GPNP.
- Increase public awareness, now and for the future, about biodiversity conservation and environmental topics, community forest management and livelihood issues.
- Reduce the number of orangutans poached, illegally held as pets, or harmed by human-orangutan conflict by investigating orangutan and other wildlife/forest crimes, and facilitating rescue or confiscation.

Woodland Park Zoo's Tree Kangaroo Conservation Program

Conservation Associate: Lisa Dabek, Ph.D. – Director; Mikal Nolan – Program Manager

Landscape: The work of the Tree Kangaroo Conservation Program (TKCP) is focused on the northern Huon Peninsula of Papua New Guinea (PNG). In 2009 the PNG government officially approved the YUS Conservation Area, which takes its name from the Yopno, Uruwa, and Som river systems. This designation marks the first use of Papua New Guinea's highest level of protection for forests and wildlife, which prohibits any form of resource extraction, including commercial mining and logging. The protected area encompasses individual clan-owned parcels that have been pledged towards conservation, as well as buffer areas of mixed use, covering 187,000 acres in and around the YUS Local Level Government jurisdiction. The protected area extends from sea level to 4,000-meter mountain ranges.

Program Description: TKCP is Woodland Park Zoo's signature international long-term field conservation program. Its mission is to foster wildlife and habitat conservation and support local community livelihoods in PNG through global partnerships, land protection, and scientific research. Director Dr. Lisa Dabek began the program in 1996 as a conservation research study to determine the status of the endangered Matschie's tree kangaroo on the Huon Peninsula in PNG. The team immediately identified wildlife habitat protection to be a primary objective, with the endemic and culturally important tree kangaroo as an ideal flagship species. Given that the indigenous people own and control over 90% of the land in PNG, the team recognized that long-term habitat protection required conservation awareness and commitment among local landowners. In response, they developed a community-based strategy in which indigenous landowners and community members participate in scientific research, land mapping, education, health, and conservation outreach activities. Since the 2009 recognition of the YUS Conservation Area, TKCP has focused on building local capacity so that indigenous communities can take on long-term, sustainable management of the land.

Today, the TKCP program supports ecological monitoring, awareness-raising workshops, community land-use planning, tree kangaroo research, and projects in livelihoods, health and education for communities that have contributed to the YUS Conservation Area. In addition, the program is supporting ongoing conservation work, including GIS mapping, management planning, and capacity building.

Goals:

- Build capacity of YUS Conservation Area Rangers to conduct patrols, ecological monitoring, and conduct awareness building in communities. (Supported by WPZ's Partners for Wildlife in 2015).
- Facilitate monitoring of the YUS CA and promote collaborative scientific research to inform management.
- Increase community livelihoods through sustainable coffee and cocoa, and improved access to markets in collaboration with Seattle's Caffe Vita and others.
- Improve local access to education in YUS by providing training scholarships for YUS teachers.
- Promote local access to health services and encourage healthy behaviors through the 'Healthy Village, Healthy Forest' initiative.
- Continue tree kangaroo ecological research.

Woodland Park Zoo & Panthera's Malayan Tiger Conservation Project

Partner Organizations: Panthera, Rimba and Pemantau-Hijau

Conservation Associates: Fred Koontz, Ph.D., WPZ Vice President of Field Conservation, Dr. Joseph Smith (Panthera) and Dr. Reuben Clements (Rimba)

Landscape: The project's study area encompasses 250,000 acres in the northeastern part of Taman Negara National Park and the selectively logged forests of the Kenyir Wildlife Corridor, both set within the 3.7-million-acre Greater Taman Negara Region. The park is one of the oldest rainforests on earth, and home for 2,400 flowering plants; 380 birds; 122 amphibians and reptiles; and 120 mammals, including the Malayan tiger. The Greater Taman Negara Region is one of only 40 remaining landscapes in the world with a breeding population of wild tigers.

Program Description: Woodland Park Zoo and Panthera, a global wild cat conservation organization, established a ten-year, $1 million partnership in 2012 to enhance tiger conservation in Peninsular Malaysia as part of Panthera's Tigers Forever Program. In collaboration with local, on-the-ground partners in Malaysia, and in concert with Malaysia's National Tiger Action Plan and the country's Department of Wildlife and National Parks (DWNP), ("Perhilitan" in Malay), the Woodland Park Zoo-Panthera Malayan Tiger Conservation Partnership conserves critically endangered tigers and the forests these iconic big cats call home by identifying tiger breeding populations (tiger "hotspots") and mitigating threats, including poaching and habitat fragmentation. Rimba ("Jungle" in Malay) and Pemantau-Hijau ("Green Monitor" in Malay), two Malaysian non-profits, oversee the project's long-term tiger ecology and population survey research as well as species protection efforts, including training rangers in the latest anti-poaching patrol strategies and effective law enforcement techniques to pull the Malayan tiger back from the brink of extinction.

Our partnership has assembled a solid, innovative network of conservation professionals, including scientists and law enforcement specialists. We provide financial and technical support to Rimba and Pemantau-Hijau, which share expertise and collaborate with DWNP, state government officials, other conservation organizations, and indigenous communities.

Since 2012, we have helped support five tiger conservation training workshops with the help of experts from Panthera, the Malaysian Conservation Alliance for Tigers, and the Wildlife Conservation Society. These capacity-building exercises have: 1) trained more than 50 park rangers and managers on field data collection methods; 2) improved anti-poaching patrols; and 3) improved communication among state and federal government agency personnel and local, non-profit wildlife biologists.

In 2014, Rimba assisted DWNP in setting up nearly 200 camera traps throughout the research site's grid to obtain baseline information on the status of tigers and other threatened species living there, including leopards, clouded leopards, sambar deer, Malayan tapirs, and Asian elephants. In addition, Pemantau-Hijau monitored human activity at access points into the project area to enhance the effectiveness of DWNP's anti-poaching efforts.

Goals:

- Expand tiger monitoring in our project area, focusing especially on known tiger hotspots.
- Increase data gathering relevant to DWNP's law enforcement actions.
- Conduct training workshops on camera trapping methods for park biologists and rangers.
- Assist DWNP with a planned reintroduction project for sambar deer, an important tiger prey species discovered in 2014 to be in low numbers in our project area.

LIVING NORTHWEST

Linking Animal Conservation, Health and Sustainability in our Bioregion

Woodland Park Zoo is located in the Pacific Northwest, a Pacific Rim bioregion with a national and global reputation for its scenic beauty and relative wildness. The zoo, for more than two decades has offered its animal expertise to Washington State for efforts to recover endangered species, most notably for the Western pond turtle.

While the geographic reach of the Living Northwest program is the "Pacific Northwest" (defined here as Oregon, Idaho, Washington and British Columbia), our primary focus area is Washington State. Over the next several years, we anticipate continuing current animal recovery projects and will be reframing them to more clearly highlight conservation issues connected to long-term ecosystem health and regional sustainability. For example, the reason Silverspot butterflies are endangered is because invasive grasses and scotch broom plants have reduced the butterflies' native food source of early blue violets. Our golden eagle field work, carried out by James Watson of the Washington Department of Fish and Wildlife and our raptor keepers, focuses on the reproductive effects of lead pollution (from ingested gun shot); it's a project that makes an excellent entry point for discussion by our educators of the need to better regulate lead and other toxins in the environment.

The Living Northwest program:

- Assists with the conservation of endangered and iconic Pacific Northwest animals.
- Highlights key issues that connect wildlife conservation and ecological health to regional sustainability (e.g. the need for increased land preservation and connectivity, reduced toxins, and control of invasive species), so that the projects can serve as an entry point for broader discussions between our audiences and zoo educators.
- Serves to more clearly associate WPZ field conservation, education and animal management staff with local wildlife and sustainability efforts.
- Increases WPZ's conservation leadership in our regional community.
- Catalyzes partnerships between WPZ and other regional organizations, businesses and government agencies.

Current Living Northwest programs include:

Woodland Park Zoo's Northwest Carnivore Project

Butterflies of the Northwest: Oregon Silverspot Butterfly

Migratory Barn Swallow Tracking Project

Northwest Amphibian Recovery Project: Oregon spotted frogs

Raptor Ecology of the Shrub-Steppe

Western Pond Turtle Recovery Project

Western Wildlife Outreach

Wild Wise: Coexisting with Carnivores

Citizen Science Amphibian Monitoring

Evergreen Carbon Capture Program

Woodland Park Zoo's Northwest Carnivore Program

Partner Organizations: US Forest Service Pacific Northwest Research Station, Washington Department of Fish and Wildlife, Conservation Northwest, Seattle University

Conservation Associate: Robert Long, Ph.D., Woodland Park Zoo Senior Conservation Fellow

Program Description: Through this project WPZ seeks to expand our wildlife science and conservation focus to include regional mammalian carnivores (e.g. wolves, coyotes, skunks, raccoons, otters, fishers, martens, wolverines, cougars, black and grizzly bears). These wide-ranging, charismatic species provide excellent opportunities for discussing ecological connectivity, climate change adaptation, human-wildlife conflict resolution, and other priorities for regional conservation and environmental sustainability. In 2015, the focus will be on: 1) Continuing to develop and test protocols for monitoring wolverines across the North Cascades Ecosystem; 2) expanding our recently initiated Northwest Camera Trap Network that is helping to knit together disparate remote camera projects and facilitate large-scale and long-term data sharing and analysis: 3) launching a new study in collaboration with University of Washington's School of Environmental and Forest Sciences that will focus on the relationships among and habitat use by carnivores existing within the urban-wildland matrix east of Seattle; and 4) continuing to assess the current needs and priorities for conservation-focused carnivore research in the Pacific Northwest.

Goals:

- Monitor wolverines in the North Cascades ecosystem of Washington State to detect range expansions and local extinctions.
- Launch a Northwest camera trap network to help facilitate meta-analyses across larger regions.
- Contribute to the reintroduction of fishers in the Cascades.
- Assess capacity and priorities for WPZ carnivore field conservation projects.

> " The Pacific Northwest is one of the few remaining ecosystems in the contiguous United States capable of supporting all of it's native carnivores—understanding what these species require to survive and thrive will be critical for their persistence and for the overall health of the system."
>
> - Robert Long

Oregon Silverspot Butterfly Captive Rearing Program

Partner Organizations: Oregon Zoo, US Fish and Wildlife Service, The Nature Conservancy, Xerxes Society

Conservation Associate: Erin Sullivan, Woodland Park Zoo Collection Manager

Program Description: The Oregon silverspot butterfly was once found on coastal grasslands along the Pacific Ocean from northern California to southern Washington. Forest succession, invasive weeds and grasses, pesticides, climate change, and land development have greatly reduced butterfly habitat, and by 1980 the butterfly had vanished from 11 localities and was declared a federally threatened species. Today, the butterfly is found at only four sites in Oregon and one site in California.

In 1999, the U.S. Fish & Wildlife Service revised its silverspot recovery plan and started a captive rearing and release program in partnership with the Oregon Zoo and Lewis and Clark College. Woodland Park Zoo joined the program two years later. As part of the program, silverspots from Mount Hebo and Rock Creek are brought to WPZ and Oregon zoo and induced to lay eggs in a laboratory. These butterflies are captured near the end of their life cycle, having already bred and laid eggs in the field before being brought to either zoo. In the lab, the eggs hatch and the young larvae are placed in specially designed containers, and then put in a refrigerator for winter diapause. After this period of dormancy, the larvae feed on western blue violet leaves and pupate shortly thereafter. At this point they are large enough for return to the wild where they will emerge as adults and reproduce in the wild.

Concurrently, the Nature Conservancy is working in collaboration with the U.S. Forest Service to restore native butterfly habitat through small, controlled forest fires, with the goal of re-establishing early blue violets, the main larval food source for silverspots.

Goals:

- Encourage females to lay eggs.
- Facilitate high survival of larvae during diapause (target of 1,600 larvae).
- Raise larvae that will result in pupae that will be released back into the wild (goal of over 1,000 healthy animals released).
- Allow zoo teens and staff to experience field work and attend meetings relevant to the project.

Declines in North American Barn Swallow Populations

Partner Organization: Environment Canada

Conservation Associates: Keith Hobson, Ph.D.

Program Description: Environment Canada established this research program in 2009 to investigate the potential causes of declines in aerial insectivorous songbird populations, especially swallows, across North America. Part of this research involves establishing patterns of migratory connectivity between breeding grounds and wintering grounds. Researchers used light-level geolocators, which measure and store levels of sunlight at specified recording intervals, to calculate the birds' approximate latitudes and longitudes at given points of the year. In addition, stable-isotope analysis of feathers were used to link birds to the location where the feather was grown based upon predictable natural gradients in these isotopes in nature. These methods led to the discovery that there is a strong migratory divide in North America, with eastern birds travelling to South America and western birds being much shorter-distance migrants, wintering in Central America.

Since beginning the project, Dr. Hobson has connected with the ongoing work at the Woodland Park Zoo that monitors breeding success and establishes a mark-recapture program for barn swallows. This investigation, led by WPZ keeper Gretchen Albrecht, paved the way for the establishment of a partner research site west of the Rockies. In addition, the long-term dataset allowed the immediate establishment of survivorship analyses and the investigation of weather and climate influences on breeding success and survivorship throughout the annual cycle.

Goals:

- Continue the mark-recapture program at WPZ, including mistnetting, monitoring, and banding of individual birds.
- Continue stable isotope sampling of feathers from the WPZ barn swallow population as a proxy for wintering location and habitat use.
- Revisit the long-term mark-recapture database from WPZ to query it for evidence of wintering ground effects.
- Publish geolocator findings and disseminate this information to the broader public.

Western Pond Turtle Recovery Project

Partner Organizations: Washington Department of Fish and Wildlife, Oregon Zoo, Washington State University

Conservation Associates: Jennifer Pramuk, Ph.D., Woodland Park Zoo Curator; Gretchen Kaufman, DVM, Assistant Director for Global Health Education and Training – Washington State University

Program Description: In 1990 the Western pond turtle was on the verge of extinction throughout its range in Washington, with only about 150 turtles left in the wild. In response, the Western Pond Turtle Recovery Project was formed and zoo staff began headstarting newly hatched turtles gathered from wild sites. These turtles are reared at the Oregon and Woodland Park Zoos and then released back into the wild when they are large enough to escape predation from bullfrogs and other small predators, one of the main threats to their survival.

In 1999, a state recovery plan was written that calls for establishing seven self-sustaining populations greater than 200 individuals. To date, this reintroduction effort has been a measurable success with the current population estimated at approximately 800 turtles. In 2013, subcutaneous ulcerative shell disease (SCUD) was identified as an emerging threat to our state's western pond turtles. Currently, project partners are focusing resources toward helping to understand the etiology of this disease, which can cause mortality and reduced fecundity, especially in adult females, the most critical component to the continued survival of the population.

Goals:

- Continue to improve nutrition by investigating a way to have hatchlings accept commercial, nutritionally complete turtle pellets rather than live, whole prey, such as earthworms.
- Hold a Husbandry Working Group meeting with project partners at WPZ.
- Install a PureWater filter that will remove 99% of chlorine and other potentially harmful additives from the water used to fill the turtles' tubs.
- Build an area outside SW Holding that will allow us to acclimate the headstarted turtles at least three weeks prior to release. This also will allow for exposure of the turtles to natural sunlight.

Raptor Ecology of the Shrub-Steppe

Partner Organization: Washington Department of Fish & Wildlife

Conservation Associate: Jim Watson – Wildlife Research Scientist

Program Description: Agricultural conversion resulting in loss and degradation of shrub-steppe habitat in Washington's Columbia Basin has reduced nesting sites and prey availability for raptors including ferruginous hawks and golden eagles. Other serious threats include lead contamination, illegal poaching, collisions with wind turbines, and electrocution.

Raptor Ecology of the Shrub-steppe's mission is to cooperatively investigate the ecology of declining shrub-steppe raptors, to promote the conservation of their populations and habitats regionally and range-wide, and to educate the public regarding shrub-steppe conservation. The project was initiated unofficially in 1999, when the WPZ raptor staff joined forces with wildlife research scientist Jim Watson and the Washington Department of Fish and Wildlife (WDFW) to investigate migratory movements of ferruginous hawks from Washington. The ambitious initiation of the project included deployment of 26 transmitters on migrant hawks and creation of a website to disseminate regular migratory information to the public. The program was officially named in 2003 and ferruginous hawk research was a staple focus of cooperative efforts from 2003 – 05, which included WPZ participation in statewide nesting surveys, installation of nesting web cams for live internet feeds at hawk nests to study food habits and behavior, and installation of nest platforms at the Hanford National Monument to reduce blow-down of hawk nests. In 2005 the project's focus shifted to include an emphasis on golden eagle ecology. WPZ assisted with field observations of eagles and capture of adult eagles for blood sampling and lead analysis. From 2011 through 2014, WPZ field staff conducted observations of ferruginous hawks and Swainson's hawks interacting with wind turbines at study sites in north-central Oregon as part of a larger investigation of Buteo movements and range use associated with wind turbines. In 2015, there is continued collection of location and behavior data, continued investigations into the effects of windpower on golden eagles, and continued documentation and identification of sources of lead contaminants impacting eagles.

Goals:

- Provide field and financial support for golden eagle blood collection, offal pile lead assessment, adult and juvenile telemetry, and wind turbine interactions.
- Conduct lab analysis of eagle blood and prey tissue samples to determine blood lead levels and signatures of stable isotopes.
- Provide financial support to hire climber to capture nestlings for telemetry.

Northwest Amphibian Recovery Project: Oregon Spotted Frogs

Partner Organizations: Oregon Zoo, Northwest Trek, Washington Department of Fish and Wildlife

Conservation Associate: Jennifer Pramuk, Ph.D., Woodland Park Zoo Curator

Program Description: Once common from northeastern California to southwestern British Columbia, the Oregon spotted frog is currently classified as endangered in Washington State and was recently listed as federally threatened by the U.S. Fish and Wildlife Service. These amphibians are emblematic of a healthy prairie wetland biome, an important part of Puget Sound ecosystem health. Unfortunately, this habitat is one of the most endangered in North America, as it is regularly drained for agricultural or commercial development. Other threats to the frogs include invasive species such as the North American bullfrog.

In 2009, Woodland Park Zoo, along with partners at Oregon Zoo, Northwest Trek, Washington Department of Fish and Wildlife (WDFW), the Cedar Creek Correctional Center, and Ft. Lewis Fish and Wildlife Program, came together to help save these amphibians. State biologist partners remove egg masses from the wild and deliver them to partner institutions where they are raised through metamorphosis. Once the froglets have reached a healthy size that is less prone to predation from the introduced American bullfrog, they are reintroduced into federally protected habitat that has been identified by the WDFW as being relatively free of bullfrogs. WDFW biologists and other partners monitor populations of Oregon spotted frogs in several sites in the state, including WPZ's release site at Joint Base Lewis McChord.

Goals:

- Rear a high percentage of healthy Oregon spotted frogs for release (over 70%).
- Experiment with a "false bottom" design to test if it has merit for increasing water quality and reducing labor for 2015.
- Partner with WPZ's Animal Health Department on screening a subset of frogs for amphibian chytrid fungus prior to release.
- Adapt to the changing conservation status for the Oregon spotted frog from state Endangered to federally Threatened (also listed as IUCN Vulnerable). Implications for future involvement in the state recovery of this species are unknown.

Western Wildlife Outreach

Partner Organization: Yakima Basin Environmental Education Program

Conservation Associates: Lorna Smith, Executive Director, WWO

Program Description: The mission of Western Wildlife Outreach (WWO) is to promote an accurate understanding of Washington and Idaho's large carnivore heritage through education and community outreach. Formerly known as the Grizzly Bear Outreach Project, WWO was founded by bear expert and filmmaker Chris Morgan in 2002 as a pilot project in Okanogan County (the northeastern portion of the Grizzly Bear Recovery Zone). In 2010, WWO received funding from the U.S. Fish and Wildlife Service to expand their work to include wolves and grizzly bears in the Selkirk Mountain Ecosystem, and in 2011, the program expanded to include cougar and black bear outreach and education, for a total of four large carnivore species. Today the program covers all of Washington State and part of NE Idaho.

In 2013, WWO formed a successful partnership with Woodland Park Zoo, the Yakima Basin Environmental Education Program, and the Washington Department of Fish and Wildlife (WDFW) to initiate a pilot project based on coexisting with carnivores in schools throughout the Yakima Basin. The program is called Project WOLFF (Wildlife Observational Learning and Fieldwork Fundamentals). Also in 2013, WWO assumed responsibility for managing, deploying and staffing the NW Bear Education Trailer. The trailer travels to various fairs and outdoor events around the Northwest, exposing thousands of visitors to information on how to coexist with bears and other large carnivores as well as the ecology and biology of bears. The trailer is also used as part of outreach to schools. Due to unanticipated cut-backs in agency funding at the State-level and a change in timing for receipt of funds at the federal level, WWO is taking a conservative approach in 2015, focusing on core activities with an emphasis on gray wolf and grizzly bear recovery.

Goals:

- Continue to deploy the Northwest Bear Education Trailer.
- Develop and deploy brochure, flyers and portable stand-up display for libraries/community centers on grizzly bear recovery efforts in the North Cascades ecosystem.
- Revise "Living with Livestock and Wolves" video.

Wild Wise: Coexisting with Carnivores

Conservation Associate: Katie Remine, WPZ School and Community Engagement Supervisor; Kelly Frazee, School Programs and Educator Professional Development Coordinator

Program Description: Piloted in 2012, Wild Wise: Coexisting with Carnivores engages seven classes of 6th grade students (approximately 200 students) at Issaquah Middle School annually in science investigations on large carnivores (bears, cougars, and wolves) in their community. This program is facilitated by Woodland Park Zoo, in partnership with Western Wildlife Outreach and Issaquah Middle School Life Science teachers. Through experiences at Woodland Park Zoo as well as in their classrooms, students gain the background necessary to develop their own research questions on carnivores in their community. The findings of the students' investigations contribute to answering the following questions about urgent human-carnivore coexistence issues facing their community:

1. How are carnivores using resources in our community to meet their needs?

2. How can we as humans meet our needs while allowing carnivores to meet their needs as well?

Goals:

- Middle school students develop science inquiry skills.
- Students engage in community-based science investigations about native large carnivores and their roles in ecosystems.
- Community members increase actions which foster a peaceful coexistence with local carnivores.

Citizen Science Amphibian Monitoring

Partner Organizations: Washington Department of Fish and Wildlife, Point Defiance Zoo & Aquarium, Northwest Trek

Conservation Associate: Jenny Mears, WPZ Community Engagement Coordinator

Program Description: Since 2012, Woodland Park Zoo has offered an Amphibian Monitoring citizen science program to connect local residents looking for a way to contribute to amphibian conservation with wildlife managers seeking to understand how Washington's populations of amphibians—frogs, toads, salamanders, and newts—are doing. Working in partnership with Northwest Trek, Point Defiance Zoo & Aquarium, and Washington Department of Fish & Wildlife (WDFW), participants are trained in a WDFW protocol as well as in identification of the egg masses of eight different amphibian species. One of the species volunteers monitor for is the endangered Oregon spotted frog, a Pacific Northwest species that Woodland Park Zoo is captive headstarting to ensure its survival in the wild.

The program has been very popular, with high participation each year it has been offered. The 2015 season is in progress with over 60 citizen scientists who have formed 15 teams to monitor approximately 17 sites in King and Snohomish County. Participants include ZooCorps teens, National Parks staff, Woodland Park Zoo staff and volunteers, and Snohomish County Public Works staff. In 2014, the program received a WDFW ALEA Volunteer Cooperative Grant, which provided funding for each team to receive their own kit of monitoring equipment, including GPS units, hip waders, aquascopes, and cameras. Also, Katie Remine, School & Community Engagement Supervisor from Woodland Park Zoo, and Chris Anderson, WDFW Biologist, presented on this project to a group of 60 participants at the inaugural conference of the Citizen Science Association in February 2015 in San Jose, California. The presentation was titled "Partnering for amphibian monitoring: Involving zoo audiences in collecting data on local wildlife" and illustrated the collaborative advantages of zoo and agency partnerships to engage citizens in regional wildlife monitoring.

Goals:

1. Capture data on amphibian species occurrence across local landscape and habitat types to provide for long-term trend analysis.

2. Participants demonstrate increased:

    - appreciation for local amphibians
    - awareness of the problems facing amphibians in our region
    - appreciation for local habitats for amphibians (e.g. wetlands)
    - engagement in stewardship and conservation

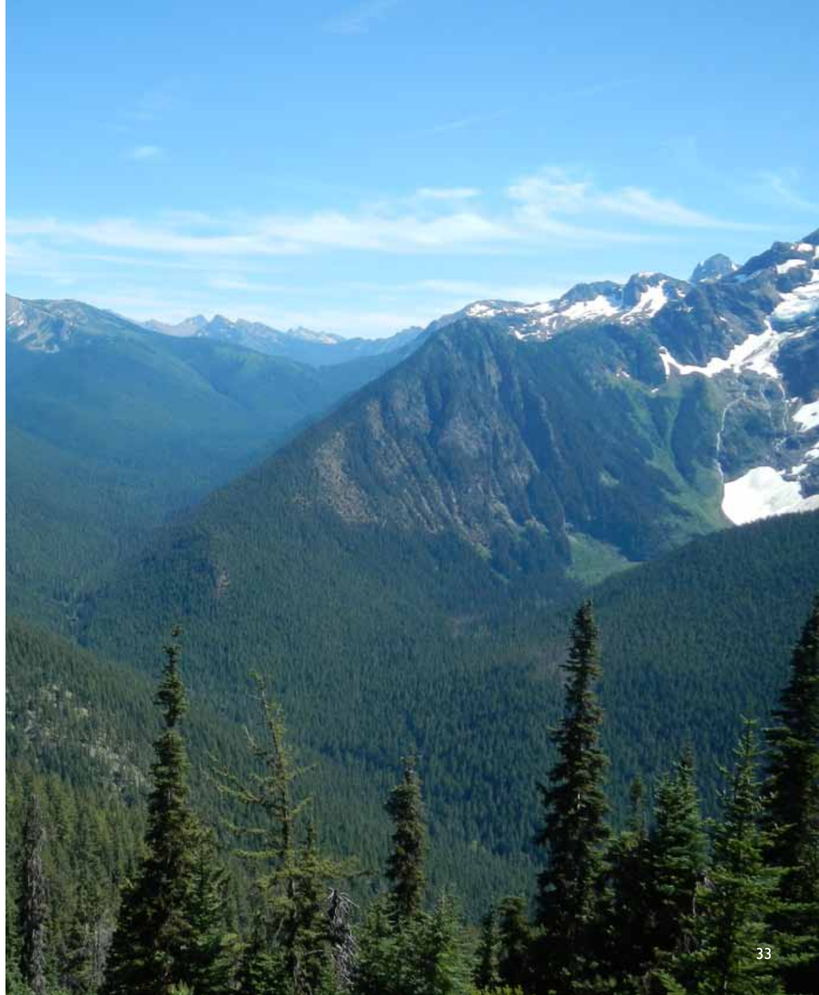
Forterra's Evergreen Carbon Capture Program

Partner Organization: Forterra

Conservation Associate: Eli Weiss, WPZ Youth Programs Supervisor; Lindsay Fromme, Forterra Policy Project Manager

Program Description: Evergreen Carbon Capture provides companies, organizations and individuals the opportunity to take responsibility for their carbon footprint and contribute to local tree planting efforts. The trees that are planted will sequester tons of carbon over their 100-year lifetime, helping to mitigate carbon impacts on the climate and improving our local communities through healthy and forested open spaces.

In 2014 WPZ purchased 133 trees through the ECC program, which offset 667 tons of carbon, approximately 17% of our total carbon footprint. This year we increased our engagement in the ECC program as 30 teens from the Seattle Youth Climate Action Plan, which is a new ZooCorps project, planted our trees along the Burke Gilman Trail in North Seattle.



WILDLIFE SURVIVAL FUND

Investing in Endangered Species Before It's Too Late

Of the 62,000 species of vertebrate animals, scientists estimate that about 20% are at risk of extinction before the end of the century. This loss of species diversity is unprecedented and in almost all cases human caused. Woodland Park Zoo is addressing the species extinction crisis through four primary methods:

1. Education
2. Conservation breeding
3. Sustainable zoo practices
4. Field conservation

In addition to programs supported through Living Northwest and Partners for Wildlife, we support field conservation projects on endangered species by awarding grants through our Wildlife Survival Fund.

The Wildlife Survival Fund provides grants to field projects and initiatives recommended by WPZ curators and the Association of Zoos & Aquariums Species Survival Programs (SSP), or selected through a competitive proposal process. In all cases, projects selected have species represented in, or have a programmatic link to the zoo's collection.

Woodland Park Zoo supports field conservation projects on endangered species by awarding grants through the Wildlife Survival Fund program.

A Captive Breeding and Husbandry Research Center for the Amphibians of Andasibe, Madagascar

Amphibian Ark Seed Grant

Asian Elephant Support

AZA Ape Tag Conservation Initiative

AZA Butterfly Conservation Initiative

Bat Conservation International

Colobus Conservation Ltd.

Egyptian Tortoise Conservation Program

Flamingo Research and Conservation in Southern South America

Giraffe Conservation Foundation

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

International Elephant Foundation

IUCN/SSC Tapir Specialist Group

The Komodo Dragon SSP

Maned Wolf Conservation Program – Lobos da Canastra

MYCAT

Partula Snail Recovery and Reintroduction Project

Red Panda Network

Ruaha Carnivore Project

Sahara Conservation Fund's (SCF) Saharan Red-Necked Ostrich Recovery Program in Niger

Steller's Sea Eagle Survey and Tracking Project

Turtle Survival Alliance

Visayan Warty Pig Conservation Programme - Philippines Biodiversity Conservation Foundation, Inc.

Wildlife SOS: Sloth Bear Drone Project

WILDLIFE SURVIVAL FUND SPOTLIGHTS

A Captive Breeding and Husbandry Research Center for the Amphibians of Andasibe, Madagascar

The island of Madagascar is home to nearly 300 species of frogs, all but two of which are endemic. Alarmingly, nearly one quarter of Madagascar's described frog species are threatened with extinction. Mitsinjo is based in Andasibe, the frog capital of the land. They have developed the country's first biosecurity captive breeding facility, where they manage a survival assurance colony of the critically endangered locally endemic Golden Mantella (Mantella aurantiaca).

Giraffe Conservation Foundation

WPZ supports the first long-term ecological monitoring effort on the desert-dwelling Angolan giraffe in northwestern Namibia. This project will be the first ever long-term ecological monitoring project of giraffe in Africa. Collecting, collating and disseminating information will be useful locally and internationally for government, NGOs, communal conservancies and other interested partners to help with the conservation and management of Angolan giraffe. This research will be used as a baseline for the development of the National Giraffe Conservation Strategy for Namibia, and should provide the basis for the first formal IUCN Red List assessment of Angolan giraffe.

Malaysian Conservation Alliance for Tigers (MYCAT)

MYCAT's Cat Walks were designed for urban dwellers who felt helpless and frustrated with news of the forest being drained of its wildlife by illegal hunters.

Walks take place along jungle routes that are quiet and secluded, and so, preferred by poachers. Many of those who hunt in the Sungai Yu corridor are thought to be opportunistic.

The idea is that if poachers know they are being watched, they will be deterred from poaching. The Cat Walks have made a difference, every time trekkers encounter suspicious activities, they make a report to the Wildlife Crime Hotline.

Ruaha Carnivore Project

The mission of the Ruaha Carnivore Project is to improve the conservation status of large carnivores in Tanzania's globally important Ruaha landscape. The primary target for the project is monitoring and conservation of the assemblage of large carnivores, including the lion (Panthera leo), cheetah (Acinonyx jubatus), African wild dog (Lycaon pictus), spotted hyena (Crocuta crocuta) and leopard (Panthera pardus). The overall objective of the project is to lessen the intensity of human-carnivore conflict around Tanzania's Ruaha National Park by reducing the costs and improving the benefits associated with large carnivore presence.

SAVING NATURE TOGETHER!

Woodland Park Zoo's wildlife conservation work is only possible because of our dedicated team of staff, members, volunteers, partnering organizations and project associates. Please consider supporting our efforts to prevent species extinctions and to build a healthy, sustainable world for people and wildlife. For more information on ways to help, email **conservation@zoo.org.**

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Page 16: Hutan

Page 17: Tim Laman, Gunung Palung Orangutan Conservation Program

Page 18: Tree Kangaroo Conservation Program

Page 19: Ryan Hawk

Page 20: Panthera

Page 21: MYCAT, Fred Koontz, Ph.D.

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Page 24: Chris Morgan

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Page 32: Woodland Park Zoo

Page 33: Robert Long, Ph.D.

Page 36: Giraffe Conservation Foundation.

Page 39: Devin Edmonds