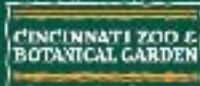




CREW ReView



Lindner Center for Conservation and Research of Endangered Wildlife • Cincinnati Zoo & Botanical Garden

Fall 2006

A World of Difference



Roth's Remarks



Dr. Terri L. Roth
VP of Conservation,
Science, Living
Collections and
Director of CREW

The people of Cincinnati are well aware that their Zoo & Botanical Garden truly is a city treasure, but few are cognizant of its worldwide impact. CREW's research and conservation efforts extend far beyond the tri-state area touching the lives of people, communities, plants and animals in South America, SE Asia, Africa and North America. Most zoos and botanical gardens care for and display animals and plants from all

over the world, and with that privilege comes the responsibility to take action to ensure the future of those species. The Cincinnati Zoo & Botanical Garden takes this responsibility seriously, and through CREW's efforts, is clearly "walking the walk" and not just "talking the talk".

In today's world where we like to believe everyone has been informed about the extinction crisis, habitat loss and global warming, it is not uncommon to be asked, why should "Joe Smith" of Any Town, USA care about saving the Sumatran rhino? My answer to that question is that people need to be thinking beyond, "what is directly affecting me, right

here and right now?" We have a moral obligation to care for the amazing life that shares this planet with us and it is within our power, and ours alone, to do so. However, we need to act now, we need to act together and we need to persevere to make sure it happens.

In this edition of the CREW Review, several of our international efforts are highlighted, projects that link back directly to our collection of plants and animals. The people of Cincinnati can be proud that their Zoo & Botanical Garden is not only involved, but in many ways, leading the charge to help save species across the globe.



Signature Project Updates

Signature Projects comprise a five-pronged approach to conservation that includes: Research, Education, Propagation, Visitor Experience and In Situ Protection. Below, each Signature Project update highlights one of these five components.

Cheers for the Cheetah (Cheetah Signature Project – Visitor Experience Component)

The wonderful thing about trying to engage people with animals is that the animals are perfectly capable of doing so themselves. Our task is simply to provide the appropriate venue and environment for the animals to exhibit their own amazing and unique characteristics, and our visitors are quickly won over and become avid fans. This past summer, we developed just such an opportunity for our cheetahs. As part of our Cheetah Signature Project, we now offer special cheetah encounters at the Zoo's Mast Farm facility where guests can watch a cheetah run at top speed. Given the space a cheetah needs to perform this natural and impressive behavior, it typically is not possible to see cheetahs run in zoos. However, as a part of our current capital campaign, we have plans to build an exhibit that will allow us to run cheetahs for all of our Zoo visitors in the future. Until then, the special encounter at the Mast Farm provides a venue for people to witness this awe-inspiring natural behavior of the cheetah. Our hope is that such an experience will instill a deep respect for the species and desire to help us protect wild cheetahs.

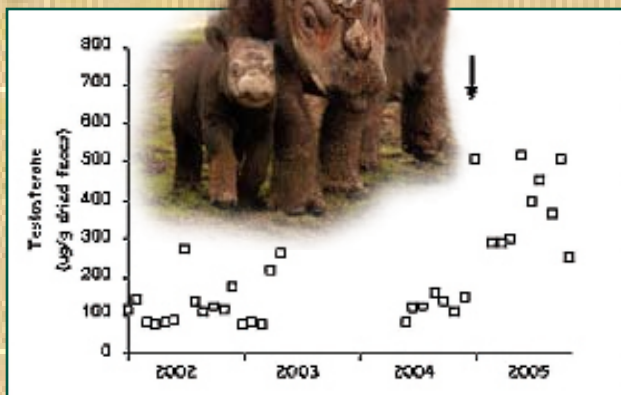


photo by Dave Jenike

Cheetah in flight at the Zoo's Mast Farm

When Do Baby Rhinos Grow Up? (Rhino Signature Project – Research Component)

One of the most basic but important tools for managing zoo animals is information on the reproductive status and condition of all individuals in the collection. Such data are useful in making recommendations regarding animal breeding and transfers. For the Sumatran rhinoceros, no information is available on the onset of puberty and reproduction. It is believed that male and female Sumatran rhinos reach maturity at 6-7 and 4-5 years of age, respectively. However, captive animals are afforded greater nutritional quality and intake and decreased risk of disease versus their wild counterparts. These factors provide optimal physiological conditions



Longitudinal fecal testosterone profile of male Sumatran rhino Andalas. Note the arrow showing the rise in testosterone starting in 2005

for growth and the likelihood of earlier onset of puberty. Sumatran rhino calves Andalas (male) and Suci (female) are providing CREW researchers the ability to unravel the developmental milestones associated with puberty in this species. Fecal hormone analyses combined with measurements of body weight are two of the tools being used by CREW scientists to monitor puberty. In addition, ultrasound examinations commenced in the spring of 2006 to watch for early ovarian follicle development in Suci. While it is still too early for puberty in Suci, data indicate Andalas is progressing towards maturity. Testosterone concentrations rose in 2005, when Andalas was 4 years of age. These scientific results have been useful in developing the recent recommendation to transfer Andalas from the LA Zoo to the Sumatran Rhino Sanctuary in Indonesia to breed with two new, young females acquired from the wild last year.

Returning Endangered Plants to their “Old Kentucky Home”

The diminutive white flowers of the endangered Cumberland sandwort (*Arenaria cumberlandensis*) are so obscure that you might not even notice them if you were hiking past the moist sandstone rock-shelters of Daniel Boone National Forest in southeastern Kentucky where they are growing. To CREW scientists and their collaborators, however, they bring reason to celebrate.

These plants were grown using tissue culture in the CREW Plant Research Division as part of the Endangered Plant Propagation Program (EPPP). In September of 2005, 77 acclimated plants representing seven genotypes of the Cumberland sandwort were sent to the U.S. Forest Service for an experimental out-planting in the National Forest. This species occurs only where the correct combination of shade, high moisture, cool temperatures, and high humidity provide appropriate habitat. Therefore, the sites were carefully selected by field scientists for their suitability and the plants closely monitored. After one month, scientists recorded a survival rate of 68%. These numbers could have been higher but a batch was planted in an unseen seasonal seep, resulting in their demise. Lessons learned from this out-planting will aid in the success of subsequent work.

When revisited early this summer, 36 plants had not only survived the winter but were thriving. The fact that many of the introduced plants have flowered demonstrates the potential for using tissue cultured plants to augment populations of endangered plants in their native habitats.



Monitoring
Cumberland
Sandworts



Cumberland Sandwort

Acting Wild and Rockin' for Rhinos



Two events hosted by the CZBG over the Summer had Cincinnati ‘Rockin’ and ‘Acting Wild’ for rhinos. Because the CZBG has been a leader in rhino conservation and research, we horned in on the idea of hosting a benefit concert and Act Wild weekend to save these highly endangered species. The goal for both events was to raise funds for rhino conservation and increase the awareness of the major challenges faced in protecting wild rhino populations. All proceeds benefited the North American Save the Rhino Campaign. First, an Act Wild for Rhinos weekend was held on zoo grounds on July 29 & 30. Visitors took part in family activities, animal demonstrations, keeper encounters and a letter writing campaign to help save rhinos. Second, a benefit concert ‘Rockin for Rhinos’ was held at Rhinos Bar and Grille in Eastgate on August 9. The crowd rocked out to live music performed by Raven Moon and the evening ended with a rhinorific raffle of donated items. The two events raised a total of \$7,500 and were a rockin’ success for all rhinos!

Rhino mascot greeting visitors at the Act Wild for Rhinos weekend