

Cincinnati Zoo & Botanical Garden

WILDLIFE Explorer

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Special Feature:

A FIGHT for SURVIVAL

The Current State of
Rhino Conservation

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A FIGHT for SURVIVAL

The Current State
of Rhino
Conservation

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Bad-tempered, belligerent, cantankerous – these are all words that have been used to label the character of a rhinoceros. Admittedly, their massive size, formidable horns and “stand-offish” behavior may reinforce this portrayal. Yet the true character of a rhinoceros is that of a survivor.

They are defiant representatives of a diverse evolutionary past, fighting to survive a modern day slaughter caused by a misplaced admiration of their horn.

The five living species, two of which occur in Africa (black and white) and three in Asia (Indian, Javan, and Sumatran) are reminiscent of their prehistoric ancestors. The hairy Sumatran rhino (*Dicerorhinus sumatrensis*) is thought to be a direct descendent of the woolly rhino (*Coelodonta antiquitatis*) which survived throughout Europe and Asia until as recent as 10,000 years ago.

The ancient origin of rhinos can be traced back 40 to 50 million years. The fossil record indicates that rhinos once lived throughout North America, Africa, Europe and Asia and occupied diverse ecological niches. For example, an extinct rhino, *Paraceratherium*, the largest land mammal that ever lived, browsed the canopy of trees much like a modern giraffe.

The surviving relatives of this ancient group of animals represent a 50 million year evolutionary legacy. This is a heritage that is today threatened with extinction. Based upon 2001 estimates provided by the International Rhino Foundation (IRF) there are only 18,700 rhinos remaining (wild and captive populations combined) and of that number 12,450 are white rhinos (*Ceratotherium simum*).

The most devastating story may be that of the black rhino (*Diceros bicornis*). During the later half of the 20th century the population of black rhinos in Africa decreased from an estimated 65,000 individuals in 1970 to only 2,300 by 1993. This

The most endangered mammal on Earth, the Sumatran rhino, has seen its population decline by more than fifty percent in the last 15 years.



Disappearing Act

Today, all five rhino species are threatened with extinction. Their future depends upon strengthening our commitment to conservation - together we can make a difference!

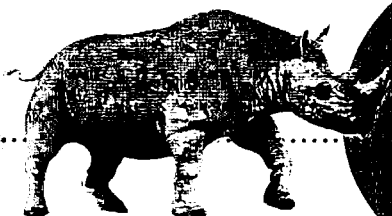
Historic Distribution

Current Distribution

BLACK RHINO

Diceros bicornis

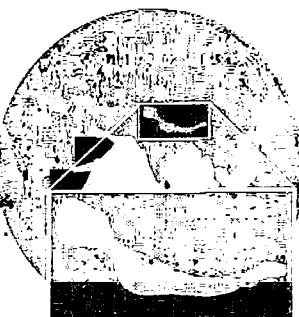
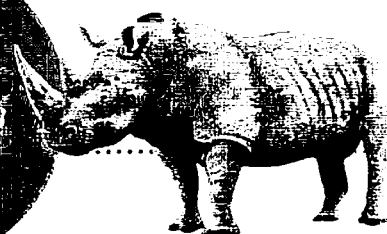
Population: 3,100



WHITE RHINO

Ceratotherium simum

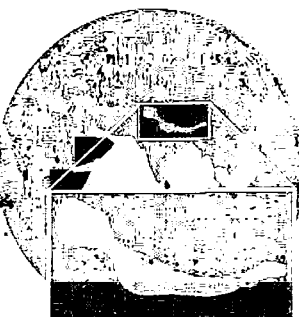
Population: 11,670



INDIAN RHINO

Rhinoceros unicornis

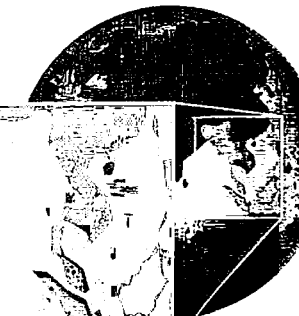
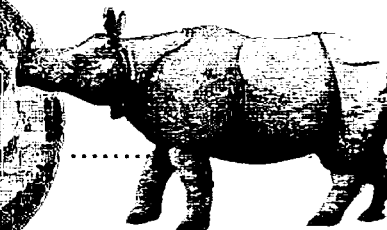
Population: 2,400



JAVAN RHINO

Rhinoceros sondaicus

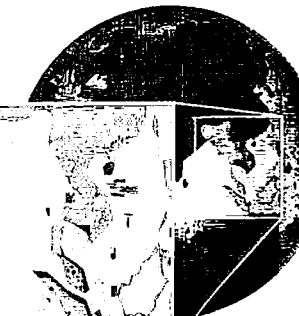
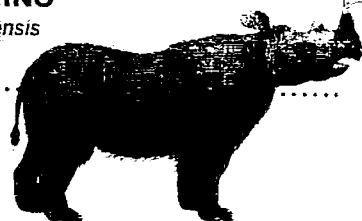
Population: 60



SUMATRAN RHINO

Dicerorhinus sumatrensis

Population: 300



drastic decline resulted from the demand for rhino horn believed to have medicinal value in traditional Asian medicine. Additionally, rhino horn dagger handles were seen as a symbol of status in certain cultures.

The most endangered mammal on Earth, the Sumatran rhino, has seen its population decline by more than fifty percent in the last 15 years. Today an estimated 300 survive in the wild. While the historic birth of Andalas, the first Sumatran rhino bred and born in captivity in over 100 years has created a spark of hope, conservationists recently were shocked to learn of the complete loss of the largest captive population of Sumatran rhinos at the Sungai Dusun reserve in Peninsula Malaysia. (See "Catastrophe at Sungai Dusun," page 7).

The crisis for rhinos only gets worse when you add in the situation confronting the Javan rhino (*Rhinoceros sondaicus*). There are an estimated 60 individuals left in the wild that are concentrated in two locations, one in Vietnam and the other in Indonesia. The need for aggressive protection cannot be over stated. The very real threat that poaching and disease could wipe out one or both of these isolated populations is ever present.

While the future for Sumatran and Javan rhinos may seem bleak, it is the dogged, rhino-like determination of conservationists such as Dr. Terri Roth, the Zoo's Vice President for Animal Science, and Dr. Tom Foose, Program Director of the International Rhino Foundation, that truly provide hope for the future of all rhinos. They would both be quick to point out that while the crisis is real, there are rhino success stories that can help provide a road map for progress.



Occurrence
Unconfirmed

Population estimates from International Rhino Foundation (IRF)
Rhino Illustrations by Marcus Jackson



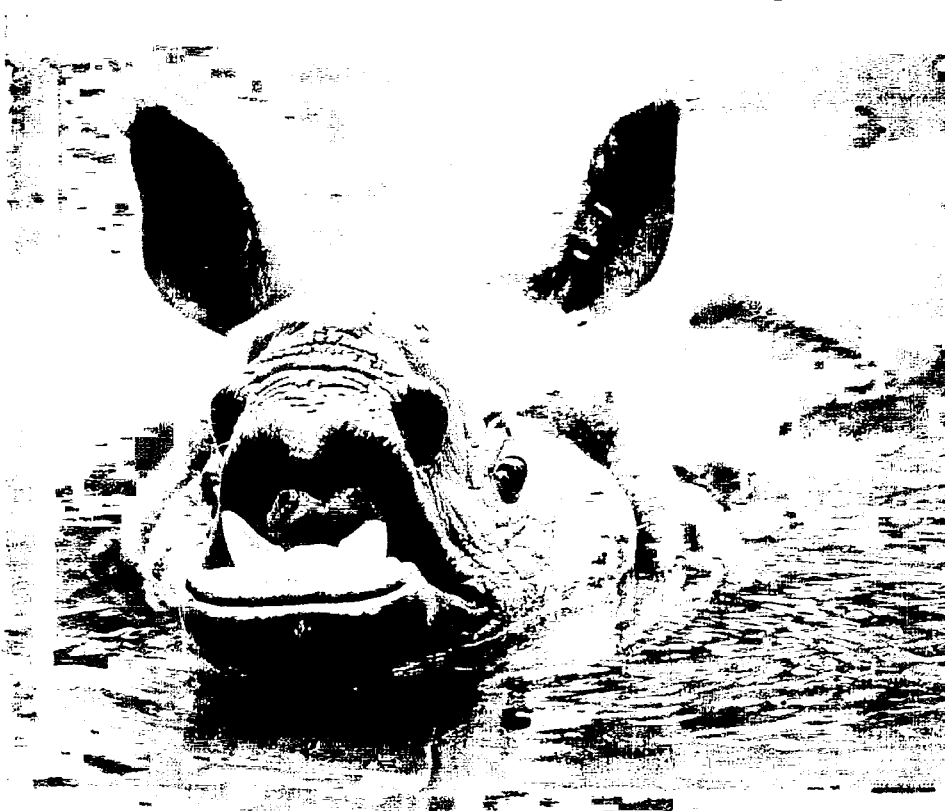
Terri K

In June, 2002 the African Rhino Specialist Group of IUCN's Species Survival Commission reported that the total population of the two African species of rhinoceros continue to increase. African countries have helped the black rhino population increase from an estimated 2,704 in 1999 to 3,100 in 2001. A similar increase for white rhinos from an estimated 10,405 in 1999 to 11,670 in 2001 was highlighted.

The recovery of the white rhino may provide the best evidence that rhinos can bounce back from the brink of extinction. Currently the largest population of the five rhino species, white rhinos were at historic lows earlier in the twentieth century. Their recovery was thanks to the actions of conservationists in South Africa. It resulted from years of increased protection and translocation to areas within their former range. The Indian rhinos' recent recovery parallels that of its African cousin. Currently there are over 2,400 Indian rhinos surviving.

At the Cincinnati Zoo & Botanical Garden we understand the important role zoos must play in conserving the habitats and wild relatives of species we have in our care. In 2001 the Cincinnati Zoo adopted a comprehensive five-year action plan that will direct our contribution to rhino conservation. It includes scientific research that may one day help effectively manage captive and wild populations of Indian and Sumatran rhinos, partnerships with the dedicated colleagues and organizations in rhino range countries and conservation education programs

The recovery of the Indian rhino has paralleled its African cousins. There are now over 2,400 Indian rhinos surviving.



Catastrophe at Sungai Dusun

Adapted from "Catastrophe at Sungai Dusun" as appeared on www.rhinos-irf.org, by Dr. Tom Foose.

Conservation organizations prefer to announce successes and achievements. At other times, there are needs for notification of crises that require action and support. But sometimes, there are also significant setbacks to report.

From April through November of 2003, and particularly the last two weeks of that period, a major catastrophe occurred at the Sumatran Rhino Conservation Center at Sungai Dusun in Peninsular Malaysia.

In April, an adult female rhino "Rima" died, most likely from tetanus. This loss was most unfortunate because Rima was a known breeder. She had been captured pregnant in the mid 1980s but most of her pregnancy occurred while she was in captivity. She died the day after what was most likely a successful breeding.

But the worst was yet to occur. From October 28 to November 16, five other animals died: the sole male Ara (who appeared to be reproductively healthy) and four females Minah (who was the youngest and had recently resumed normal reproductive cycles), Panjang, Seputih, and Mas Merah. Thus the largest population of Sumatran rhinos in captivity had been annihilated.

The cause of this tragedy is not yet verified but is probably either a very virulent and infectious disease or an environmental toxin. Sungai Dusun has maintained healthy Sumatran rhinos for over 15 years without

(Continued on page 8)



Terri Roth

any similar incidents. Moreover, these deaths decimated the population despite the heroic efforts of the Center's Curator and Veterinarian Dr. Mohd Aidi, assisted by a team of veterinarians led by Dr. Vellayan from the National Zoo in Malaysia. Also consulting long distance were Dr. Robin Radcliffe of Fossil Rim Wildlife Center and Dr. Terri Roth from the Cincinnati Zoo & Botanical Garden. Providing overall coordination of these efforts has been Mohd Khan, Chair of the IUCN/SSC Asian Rhino Specialist Group and of the Malaysian Rhino Foundation.

Despite these setbacks, many of the Sumatran rhino conservationists believe we must persevere to develop a viable program of captive propagation as a supplement and back-up to the primary program of protecting the species in the wild against ever increasing odds. Hence, the program at the Cincinnati Zoo and at the Sumatran Rhino Sanctuary in Way Kambas National Park will continue. For now, the conservation program for Sumatran rhino in Peninsular Malaysia (where perhaps 75 rhino survive in the wild) will concentrate on supporting Rhino Protection Units (RPU's), the teams that patrol the forests to deter poaching and protect wild rhinos.

The Cincinnati Zoo & Botanical Garden is proud to partner with the International Rhino Foundation and it's mission to support and operate rhino conservation and research programs both in nature and in captivity, with particular emphasis on intensive management and protection.



www.rhinos-irf.org

designed to not only raise awareness but also to provide participants with the tools necessary to take appropriate action.

During the past three years there have been significant achievements that have provided a spark of hope for the Sumatran rhino. Researchers under the leadership of Dr. Terri Roth at the Zoo's Center for Conservation and Research of Endangered Wildlife (CREW) have made landmark break-throughs in our understanding of Sumatran rhino reproduction and management, which led to the birth of Andalas in 2001—an achievement that will hopefully be repeated when Emi, the female that successfully gave birth and raised Andalas, produces her second calf sometime in the summer of 2004 (see "Preparing for Emi's Unprecedented Encore Performance," page 9).

Unfortunately, the deaths of six Sumatran rhinos at Sungai Dusun occurred right as real progress was being made. Even in the shadow of this tragedy work must continue. The exchange of experience and expertise between colleagues in Malaysia, Indonesia and the United States must continue. Additionally the support of anti-poaching teams known as Rhino Protection Units (RPU's), has proven to be one of the most effective strategies to deter poaching and protect wild Sumatran rhinos in Peninsular Malaysia, Sabah, and Indonesia. The Zoo has funded one RPU each of the last three years.

The Zoo's rhino conservation efforts are not exclusive to the Sumatran rhino. To help ensure a genetically healthy and self-sustaining population of captive Indian rhinos, CREW scientists are developing a transcervical artificial insemination (AI) procedure in this species (see CREW article, page 16). Furthermore, CREW recently

The population of white rhinos has recovered to about 11,670.



Preparing for Emi's Unprecedented Encore Performance

completed an immunology study on African black rhinos in an effort to begin identifying potential causes of their heightened susceptibility to unusual diseases.

Five species of rhinos have endured much to witness the dawn of a new century. The future of these defiant survivors depends upon our commitment to leave the world biologically richer than we found it. Through our conservation programs, the Cincinnati Zoo & Botanical Garden is dedicated to saving a world for our children in which wild rhinos roam.

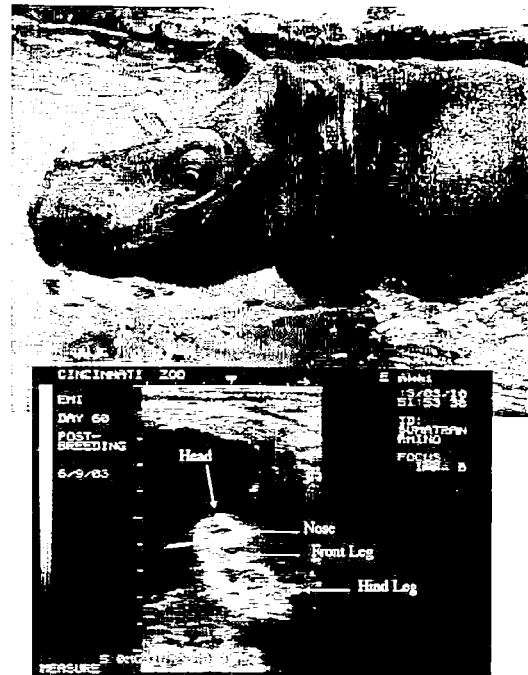
So the next time you are at the Zoo, take the opportunity to visit our Sumatran rhinos. Ipuh and pregnant Emi, Jimmy and Chitwan, our pair of Indian rhinos, and our black rhinos, Julie and Marshall. Being able to see three of the five species of rhino is an opportunity that attracts international visitors to the Zoo. Take pride in knowing you are part of the international effort to ensure the future of rhinos in the wild.

For more information, or to support rhino conservation, visit our website at www.cincinnati-zoo.org. 🌿

Emi, the critically endangered female Sumatran rhino is expecting her second calf this summer. Known internationally as the mother of the first Sumatran rhino to be bred and born in captivity in 112 years, Emi currently is more than eight months into a new pregnancy. Emi's first calf, Andalas, thrived under her attentive care and was transferred to the Los Angeles Zoo in the summer of 2003 to make room for an expected sibling.

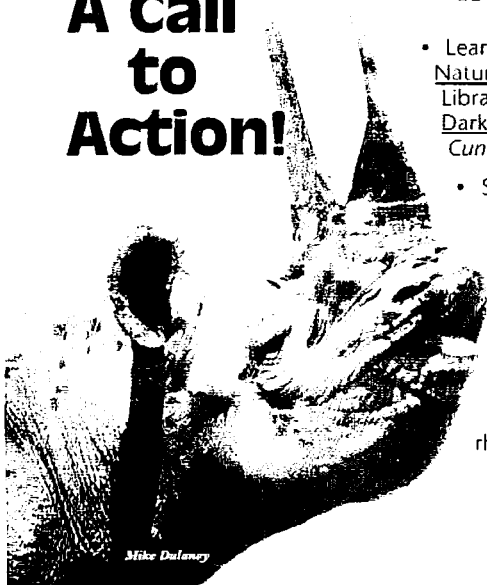
The success story of Andalas exemplifies the power of science in endangered species conservation efforts. It was through research (ultrasound and endocrine monitoring) that the birth of a Sumatran rhino calf in captivity became a reality. These same scientific tools were used in producing the current pregnancy, about which we are all optimistic. Emi has a history of early pregnancy loss during the first three months of gestation and was prescribed a daily dose of oral progesterone during the previous successful pregnancy. This time, Emi is carrying the pregnancy on her own and is more than half-way through her 16-month gestation.

With the birth of Andalas in 2001, the Cincinnati Zoo & Botanical Garden provided a spark of hope for the future of this species. In light of the recent tragedy at the Sungai Dusun Reserve in Malaysia, this second pregnancy is that much more important. An encore performance by Emi in producing a second calf will make her the only Sumatran rhino in history to produce two offspring in captivity. More importantly, it is absolutely essential both for the continued progress of the captive breeding program and, ultimately, for the survival of the species.



Ultrasound image of Emi's pregnancy at day 60

A Call to Action!



What YOU Can Do to Help Rhino Conservation

- Learn more about rhinos. Read Rhinos: Natural History and Conservation (Worldlife Library Series) by Steve Toon, et al, or Horn of Darkness: Rhinos on the Edge by Carol Cunningham and Joel Berger.
- Spread the word about the rhino crisis. Tell a friend, your children or politicians.
- Buy a rhino painting, a unique gift with a meaningful message. All proceeds benefit rhino conservation. (See pg. 20)
- Take part in our Rhino Encounter behind-the-scenes program here at the Zoo (See pg. 13). All proceeds benefit rhino conservation.

Help your Cincinnati Zoo & Botanical Garden save rhinos from extinction by supporting one or more ongoing rhino conservation projects.

- Anti-poaching Rhino Protection Units
- Sumatran Rhino Captive Breeding Program
- Indian Rhino Assisted Reproduction Project
- Rhinoceros Gene Banking Project
- Rhinoceros Education Kit

To make a donation towards rhino conservation, visit www.cincinnati-zoo.org, or call (513) 559-7716.