

There were Never so Few...

In the next two or three months, Emi is expected to produce her calf, an event that will be the most significant zoo birth in more than a century and the most outstanding conservation achievement in the history of the Cincinnati Zoo. The only record of a Sumatran rhino successfully breeding and producing a calf in captivity dates back 112 years to 1889 in the Calcutta Zoo. The potential significance of the coming event for a species on the very brink of extinction is profound and could lead the way in rescuing the species from an otherwise almost certain fate of extinction.

by DR. THOMAS J. FOOSE, PROGRAM DIRECTOR,
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The Sumatran rhinoceros is considered the most endangered of all rhino species, and one of the most endangered mammalian species on earth. In the last 10 years, more than 60% of the Sumatran rhino population has been lost. The primary cause of its demise is the

demand for its horn that is believed by Asian cultures to contain medicinal properties. Today, an estimated population of about 300 animals are thought to exist in isolated pockets of Malaysia and Indonesia.

Spearheaded by the Asian Rhino Specialist Group (ARSG) and International Rhino Foundation (IRF), efforts to protect this venerable species in its home range have been underway since the late 1970s. However, the continued loss of animals in the wild led to the decision in 1984 to initiate a captive breeding program. This program was established as a collaborative effort among Malaysians, Indonesians and Americans with four U.S. zoos becoming involved (Bronx Zoo, Cincinnati Zoo, Los Angeles Zoo and the San Diego Zoo). Unfortunately, to-date, this program has failed to produce any offspring, and the captive population has dwindled from 40 to just 15 animals. With so few animals left in the wild, it is absolutely essential to this species' survival that the captive breeding program achieve success.

.. The challenges faced by animal managers trying to breed the Sumatran rhino in captivity have been numerous. Initial struggles included determining appropriate diets for maintaining animal health. Furthermore, when animal pairs were introduced for breeding, aggressive interactions often resulted, placing both animals at risk of serious physical injury. Eventually, there was just one male Sumatran rhinoceros remaining in the United States. This animal "Ipuh" is on loan from the Indonesian Government to the Cincinnati Zoo. Following the recommendations of the American Zoo and Aquarium Association's Sumatran Rhino Species Survival Plan, the Los Angeles and Bronx Zoos moved their female rhinos to Cincinnati where one final all-out effort to breed the species was launched.





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Dr. Terri Roth, Director of the Cincinnati Zoo's Center for Research of Endangered Wildlife (CREW), used ultrasound and hormone monitoring technology to learn about the reproductive cycle of the female Sumatran rhino. This knowledge and technology were then incorporated into the breeding program. This program has resulted in 23 matings between Ipuh and Emi with no injuries to either animal. Following the second successful mating in 1997, Emi became pregnant, and the Zoo announced this pregnancy when the embryo was 29 days old. Unfortunately, this pregnancy was lost less than two weeks later. Emi has experienced pregnancy loss four

additional times with all losses occurring within the first three months of gestation.

After much consultation at two international workshops attended by scientists and animal managers concerned about breeding this species, it was decided that the time had come to intervene. When Emi became pregnant for the sixth time, Dr. Roth prescribed a daily dose of oral progesterone (a hormone essential to pregnancy) starting on the 16th day of pregnancy. This sixth pregnancy has now progressed to the 15th month. Although not much is known about the gestation in this species, it is believed Emi has between one and three months to go, and conservationists worldwide are

Two Sumatran rhinos come nose to nose in the Sungai Dusun reserve in Malaysia. Normally solitary, Sumatran rhinos usually come together only to breed.

getting hopeful that, this time, she will carry the pregnancy to term. If successful, the event will become known among zoos as the most significant birth in more than a century and, hopefully, will be the turning point for the Sumatran rhino captive breeding program.

Rhino preservation has been one of the Cincinnati Zoo and Botanical Garden's primary conservation concerns with the Sumatran rhino receiving the most attention. Not only have rhinos been one of the primary taxa studied by CREW scientists at the Zoo, but the Zoo's Conservation Fund has helped the IRF support the Sungai Dusun Sumatran Rhino Conservation Center in Malaysia. Additionally, the Cincinnati Zoo has provided keeper assistance to the reserve and has shared

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all of its scientific knowledge regarding animal health and reproduction with animal managers in Malaysia and Indonesia. Says Roth, "We realize that this single birth will not save the species from extinction and that global conservation efforts are absolutely essential for preserving the Sumatran rhinoceros, but if successful, this birth will be the spark of hope that we all so desperately need."

Protection of the Sumatran rhino in the wild is a formidable challenge. Not only is the animal secretive and elusive, but their tropical forest habitat renders it more difficult to protect them. The task is becoming even more challenging as human populations expand while the political and economic condition deteriorates in the countries where the

Sumatran rhino still survives—Indonesia and Malaysia.

The goal of conserving species in the wild is sometimes so difficult or uncertain that additional methods are needed. The conservation strategy for the Sumatran rhino is diversified and is comprised of three main components: (1) protection of rhinos in the wild from poachers by anti-poaching teams known as Rhino Protection Units (RPUs); (2) propagation of rhinos in captivity; and (3) a combination of the two in the form of very large managed breeding centers, known as sanctuaries, in the rhino's native habitat, where more space and natural conditions, especially diet, can be provided. The Cincinnati Zoo is involved and contributing to all three components.

The standard method for poaching Sumatran rhino is with snares, traps, or sometimes pits that are placed along the trails that the rhinos use through the forest. The RPU's main job is to patrol the forests and destroy or confiscate the snares and traps. Each RPU consists of four to five rangers who have much experience and training in tropical forest work. In areas where RPUs have been operating since 1995, there have been almost no rhinos lost to poachers.

While there are about 40 Sumatran RPUs operating in southeast Asia, at

A group of uniformed rangers make up a Rhino Patrol Unit (RPU) that patrols the tropical forests and destroys or confiscates the snares and traps set by poachers.



photo courtesy of Tom Fosse



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While there are about 40 Sumatran RPUs operating in southeast Asia, at least twice as many are needed. As the amount of encroachment and exploitation of rhinos and their habitats intensifies, the job of the RPUs has become even more difficult.

least twice as many are needed. As the amount of encroachment and exploitation of rhinos and their habitats intensifies, the job of the RPUs has become even more difficult. Recently, for example, a rhino was lost to poachers in Bukit Barisan Selatan National Park in Sumatra even though the area was being intensely patrolled by RPUs. Just a week after the RPUs had passed the area, poachers placed a snare along a rhino trail. A week later, the RPUs discovered a rhino, still alive and struggling, in a snare. There was a desperate and valiant effort to rescue the rhino which was deep within the forest. By the time field conservationists and

veterinarians could get to the site to assist the RPUs, the young male rhino had died from a combination of suffocation, dehydration and stress.

There are currently RPUs operating in all of the main areas where the Sumatran rhino still survives: four major National Parks in Sumatra, Indonesia; four Parks and Reserves in Peninsula Malaysia; and two Reserves in Sabah on the island of Borneo. The RPU programs have been developed, supported and coordinated by the International Rhino Foundation in partnership with the Wildlife Departments in Indonesia and Malaysia and other non-governmental organ-

These poachers were caught by a Rhino Patrol Unit. There is still demand for rhino horn because of its perceived medicinal properties by Asian cultures.

izations like the Cincinnati Zoo and Botanical Garden, the Asian Rhino Specialist Group, World Wildlife Fund, the Wildlife Conservation Society and SOS-Rhino. The Rhinoceros and Tiger Conservation Fund of the U.S. Fish and Wildlife Service has also been a critical supporter and partner in the RPU program.

There is a global and urgent campaign in progress to prevent the extinction of the Sumatran rhino. It is probably the most endangered large mammal on our planet. With only about 300 left in the wild, many individuals and institutions, including the Cincinnati Zoo, are valiantly trying to keep humanity from extinguishing this magnificent animal. 🌿