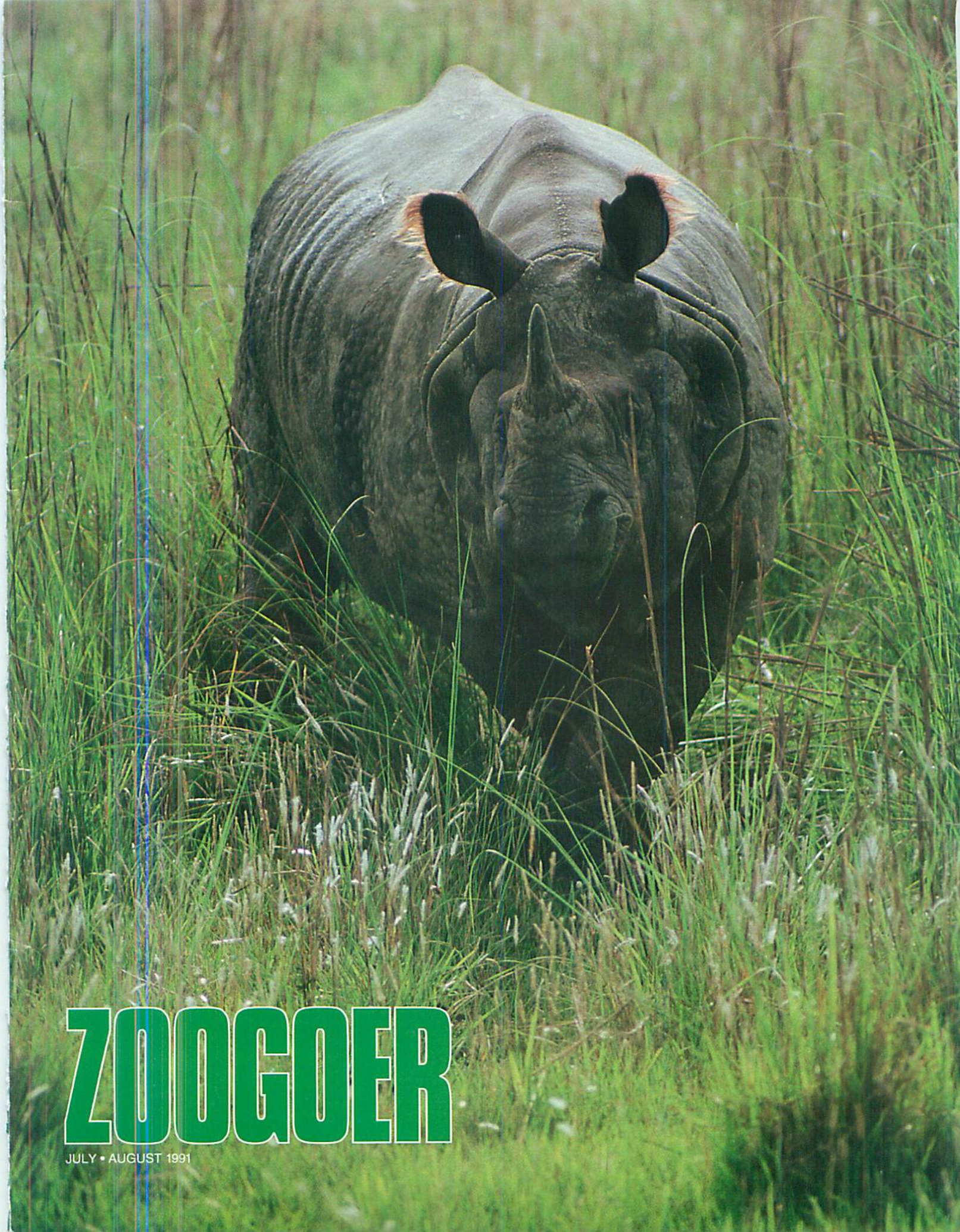

ZOOGOER

JULY • AUGUST 1991

ZOOGOER

VOLUME 20 • NUMBER 4 • JULY • AUGUST 1991

Rhinoceros-shaped zun *vessel. Bronze; late Shang dynasty (circa 1050 B.C.); China (B60 B1+). Courtesy of The Avery Brundage Collection, Asian Art Museum of San Francisco.*

FEATURES

DEPARTMENTS

Friends of the National Zoo

is a nonprofit organization of individuals, families, and organizations who are interested in helping to maintain the status of the National Zoological Park as one of the world's great zoos, to foster its use for education, research, and recreation, to increase and improve its facilities and collections, and to advance the welfare of its animals.

ZooGoer [ISSN 0163-416X] is published six times a year by Friends of the National Zoo to promote its aims and programs, and to provide information about FONZ activities to its members, volunteers, and others interested in the purposes of FONZ. The nonmember subscription rate is $12 a year. Third class mailing permit no. 6282.

The National Zoological Park is located in the 3000 block of Connecticut Avenue, N.W., Washington, D.C. 20008, 202-673-4717. Weather permitting, the Zoo is open every day except Christmas. Hours: From October 16 to April 14, grounds are open from 8:00 a.m. to 6:00 p.m.; buildings, 9:00 a.m. to 4:30 p.m. From April 15 to October 15, grounds are open from 8:00 a.m. to 8:00 p.m.; buildings, 8:00 a.m. to 6:00 p.m.
Director: Michael H. Robinson.

Membership in FONZ entitles you and your family to many benefits: publications, discount privileges, and invitations to special programs and activities to make your zoogoing more enjoyable and educational. To join, write FONZ Membership, National Zoological Park, Washington, D.C. 20008, or call 202-673-4960.

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Cover: *Greater one-horned rhinoceros.* (Lori Price)

Christy Bowe Photography

From Cats to Rhinos

Fabulous! Spectacular! Sensational! That's how people are describing FONZ's eighth annual National ZooFari—Feline Fantasia. And it was. From the first strains of Handel to Martha Reeves's last rocking chorus of "Dancing in the Streets," ZooFari offered a kaleidoscope of fun. Nearly 2,000 guests wined and dined on the specialties of 74 area restaurants; took chances in Fishing Cat Ponds, Sweepstakes, and the Silent Auction; met a hawk and a boa; and thrilled at a cheetah silhouette of lights coursing down Lion/Tiger Hill.

The numbers are also in, and they too are fantastic. Generous underwriting from the Purina Big Cat Survival Fund and the Coca-Cola Company, and contributions from hundreds of individuals, restaurants, corporations, and volunteers helped FONZ achieve another ZooFari record. This wild party to save the wild raised more than $165,000 in net proceeds for cat conservation and BioPark programs at the Zoo, funds sorely needed as Zoo scientists struggle to save endangered species like cheetahs, Sumatran tigers, and Asian lions. To all who came and contributed, thank you.

In this "Year of the Cats," however, we can't forget the other endangered species that need our help, and this September the Zoo and FONZ, with local sponsor WASH-FM, will host The Rhino Walk. Washington, D.C., is the last stop on Kenyan environmentalist Michael Werikhe's six-month-long walk across North America to raise awareness of and funds for rhino conservation. We plan a week-long series of events, from walks and a run to lectures and seminars to focus attention on the plight of the world's five species of rhinoceros.

More about rhinos and details of the events can be found in later pages of the magazine. The Rhino Walk truly offers something for everyone and your participation will make a real difference in the fate of rhinos, helping to preserve these ancient animals for future generations. I hope you will join us to make The Rhino Walk as successful for rhino conservation as ZooFari was for cat conservation.

Sincerely,

Clinton A. Fields
Executive Director

RHINOS

ON THE HORNS OF THEIR DILEMMA

RHINOS

Rhinoceros horns are wondrous things—as long as five feet, as heavy as 12 pounds, and worth more than their weight in gold. Rhino horn sells for up to $60,000 a pound in Yemen, where it is fashioned into handles for the ceremonial daggers worn by men, and in East Asian countries, where the powdered horn is a key ingredient of traditional medicines for fever, headaches, and heart disease. (Curiously, it is not widely coveted by Asians as an aphrodisiac, as is widely believed in the West—that seems to be our myth.)

"People think they need the stuff in the Orient, particularly China, so it's like a narcotic. Think of it as heroin," says Michael Sutton of the World Wildlife Fund (WWF). "Full-time armed guards follow rhinos in East Africa, but with that kind of price it's worth risking your life." Despite the risks, poachers kill so many rhinos that four of the five rhino species are endangered and the fifth is threatened.

Native to Africa and tropical Asia, modern rhinos are relicts of the Tertiary period (from about 60 to 2 million years ago), the age of giant plant-eating mammals, or megaherbivores. The only other living megaherbivores are elephants and hippopotamuses, which face equally precarious futures. The rhinos' closest living relatives are the other perissodactyls, or "odd-toed ungulates," the tapirs and horses.

Rhinoceros means "nose-horned," and all rhinos have one or two horns on the ends of their long snouts. The three Asian species of rhino—greater one-horned, Javan, and Sumatran—bear short, stubby horns; huge folds in their thick skin make them appear to be wearing suits of armor. The two African species—the black and white—have long, tapered horns and relatively smooth skin.

Rhino horns do have a biological distinction; unlike the horns of other hooved mammals, rhino horns contain no bone and instead are made entirely of keratin, the major protein in hooves, nails, skin, and hair. This gives rhinos the unique ability to grow new horns if they are knocked off. Male rhinos use their horns primarily in fights over territories and females, and regularly sharpen their horns against trees or rocks.

ROBIN MEADOWS

Rarest of the Rare

The Javan rhino is the most endangered of the five species. These one-horned rhinos once browsed in rainforests along coastal plains and river valleys from eastern India to Indonesia, and as recently as 150 years ago were common enough to be considered agricultural pests. But their decline since then has been rapid, as poachers took their toll and people logged and cleared forests for farmland, leaving little habitat for the rhinos.

Today, Javan rhino populations totaling 12 to 15 animals remain in and around Vietnam, but the bulk of the rhinos—about 50—are confined to the Udjong Kulon Reserve in western Java. The park population has been legally protected since 1931, but poachers continue to kill rhinos there and the size of the population hasn't grown much. Moreover, like all animals living in small groups, they are vulnerable to being wiped out by disease, natural catastrophe, or loss of genetic diversity due to inbreeding, although work on greater one-horned rhinos suggests the last may be the least of the threats.

The greater one-horned rhino population in Nepal's Royal Chitwan National Park fell from at least 1,000 animals in 1950 to a low of about 70 in 1962. Since then, it has grown to nearly 400 animals and its genetic variation approaches the highest recorded for wild mammals, according to Eric Dinerstein of the World Wildlife Fund and Gary McCracken of the University of Tennessee. The researchers attribute this high variability in part to the fact that greater one-horned rhinos were relatively widespread and abundant as recently as 40 years ago. Likewise, the Javan rhino was far more common and widespread before the long years of conflict in southeast Asia that began with the French-Indochina War in 1946.

Rhinos at the National Zoo

Twenty-six rhinos have lumbered their way around the National Zoo from 1893, when the first and only Sumatran rhino to live at the Zoo arrived, to the present. The Zoo has hosted Sumatran, black, white, and greater one-horned rhinos in the past, and has been the site of four rhino births.

Half of the Zoo's rhinos have been black rhinos, and three of the four rhino births at the Zoo resulted from one prolific pair of them. Tony and Thelma arrived in 1961, and these two black rhinos produced the first baby rhino at the Zoo, named Dillon, in 1967. Tony and Thelma went on to have two more offspring in 1970 and 1978.

The first white rhinos arrived at the Zoo in 1956, and were named Bill and Lucy after then-director of the Zoo Bill Mann and his wife. They were also the first white rhinos to come to the United States. Bill and Lucy spent 16 years at the Zoo, and then they were loaned to the San Diego Wild Animal Park for breeding.

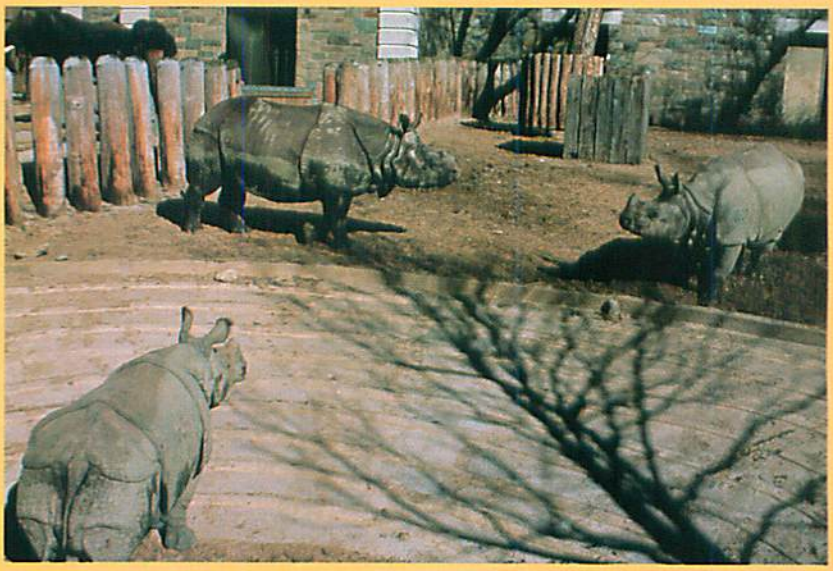
The first greater one-horned rhinos at the Zoo lived long lives. Gunda arrived in 1939 and enchanted crowds at the Zoo for 20 years. In 1960, shortly after Gunda passed away, the Government of India donated a three-year-old greater one-horned rhino named Tarun to the Zoo.

In 1963, the Zoo received a female greater one-horned rhino named Deepali, a potential mate for the male Tarun, and her calf Rajkumari. They were flown from India to the States by the U.S. Air Force because commercial airlines couldn't carry 4,000-pound animals. Deepali never mated with Tarun, but her daughter Rajkumari lived at the Zoo for 17 years, mated with Tarun, and gave birth in 1974 to Patrick, who can currently be seen at the Metro Toronto Zoo.

Three greater one-horned rhinos live at the Zoo right now. A 10-year-old male rhino named Pandu, who has been nicknamed "Sport" by his keepers, came to the Zoo from the San Diego Wild Animal Park in 1985. The two females, five-year-old Mechi and four-year-old Kali, were given to the Zoo by His Majesty's Government of Nepal in 1987.

Sport mated with Mechi on April 1, and with Kali on April 13 of this year, but no rhino pregnancies have been confirmed yet. Greater one-horned rhino pregnancies last more than a year, so if Mechi or Kali became pregnant from their encounters with Sport, the newcomers would arrive in late summer or early fall of 1992.

—Melissa Blouin

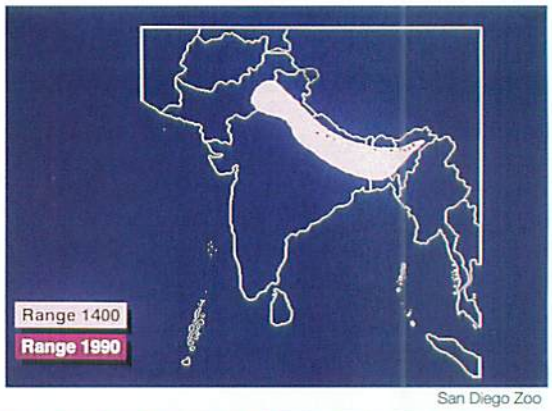


"Sport," Mechi, and Kali in the Zoo's rhino yard. (Jessie Cohen/NZP Graphics)

GREATER ONE-HORNED RHINO

The greater one-horned rhino (*Rhinoceros unicornis*) inhabits marshy areas and grassy flood plains, using its mobile hooked lip to tear at long grasses and leaves, and tucking the lip away to nibble on short grass. These rhinos stand about six feet tall and weigh up to 4,400 pounds.

Greater one-horned rhinos share communal water and wallowing holes with other rhinos. They wallow from the middle of the day until late afternoon in groups of up to nine rhinos. However, both male and female greater one-horned rhinos defend their own grazing territories, which can cover about seven square miles of grassy land.



San Diego Zoo

Lori Price

Saving the Javan rhino will not be easy, however. Two conservation strategies are being used successfully for other rhinos: keeping them in several well-protected reserves, and breeding them in zoos or propagation centers. A zoo breeding program for the species has been proposed by the International Union for the Conservation of Nature and Natural Resources (IUCN). But with so few Javan rhinos there is a great controversy over removing them from the wild. "It's a question of allocating resources. Should the effort be in zoo breeding or in protecting and translocating the Javan rhino to other areas offering suitable habitat?" asks Dinerstein.

Ultimately, the success of either strategy will depend on whether any habitat still exists for the Javan rhino. "The key first step in saving this rhino is securing land and protecting the remnant populations in Vietnam and Indonesia," says Dinerstein.

Two-horned and Hairy

Little different from its ancestors of 40 million years ago, the small two-horned Sumatran rhino has sparse reddish hair and tufted ears. These shy, solitary rhinos browse on rainforest leaves, twigs, and fruit, and come together only for breeding. Like the Javan rhino, the Sumatran rhino once ranged from eastern India to Indonesia. But, while there are only about 50 Javan rhinos left, as many as 900 Sumatran rhinos survive, largely because their highland rainforest habitat has suffered less from development than the lowland forests inhabited by Javan rhinos.

However, higher elevation rainforests are now being rapidly logged and cleared for agriculture and housing in Sumatra and Malaysia, where most of the remaining Sumatran rhinos live. Development both destroys and fragments habitat, dividing the rhinos into isolated populations that

are difficult to protect. Malaysia's estimated 160 Sumatran rhinos are divided into 20 populations. The situation in Sumatra is marginally better because, in addition to several small rhino populations, the island has two relatively sizable populations of up to 200 and 500 animals. Unfortunately, the wildlife protection staff lacks the manpower to protect even these larger populations, let alone the many small pockets of Sumatran rhinos.

Have Horn, Will Travel

The greater one-horned rhino has the most positive prognosis of the three Asian species. Greater one-horned rhinos inhabit open, marshy areas in river basins. Five hundred years ago, this flood plain habitat covered a 1,500 mile swath along the Himalayan foothills in India, Nepal, and neighboring countries. But much of this habitat has been cleared for agriculture and most of the estimated 1,500 greater one-horned rhinos alive today are in reserves.

Two of these reserves have sizable rhino populations: India's Kaziranga National Park, with about 1,100 animals, and Nepal's Royal Chitwan National Park, with nearly 400. But poachers and flooding threaten the Kaziranga population. The park often floods during the summer monsoon season, forcing rhinos to leave the park to reach higher ground. Outside the park, they are easy prey for poachers who are quick to take advantage of the rhinos' plight.

The Chitwan population is better protected, in part because fewer people live around this park. These rhinos have also been studied almost continuously since 1973, first by ecologist Andrew Laurie, and later by Dinerstein, former co-leader of the Smithsonian-Nepal Ecology Project. This population is growing so steadily that Chitwan rhinos are now being reintroduced to other reserves in the species' former range.

Dinerstein has helped translocate 38 greater one-horned rhinos from Chitwan to Nepal's Royal Bardia National Park, an area where rhinos lived 200 years ago. This reintroduced population is doing well: Five calves have been born so far. Dinerstein has also helped translocate four rhinos from Chitwan to northern India's Dudhwa National Park. India has several other areas where rhinos once lived that, if protected, could be restocked with greater one-horned rhinos.

Rhino Success Story

Restocking former rhino habitat with rhinos from a well-populated reserve has worked so well in the case of Africa's southern white rhino that the IUCN has taken this population off its endangered species list.

Considered extinct in 1892, a few rhinos were discovered five years later in Natal Province's Umfolozi River valley, which was then declared a preserve by the government of South Africa. Numbering perhaps 200 in the 1920s, when effective protection was implemented in the Umfolozi Reserve, by the mid-1960s the population had grown to about 2,000. Southern white rhinos were then reintroduced to other well-protected reserves and a group was also sent to the Zoological Society of London's Whipsnade Park for zoo breeding. Today, more than 4,600 southern white rhinos live in reserves and many exist in zoos around the world. Although the IUCN no longer lists them as endangered, "the white rhino is a threatened species because its population is still below 10,000, which is a threshold for threat now being recognized by the IUCN," says Thomas Foose of the IUCN Captive Breeding Specialist Group (CBSG).

In contrast to the southern white rhino, the northern population, once ranging over parts of Zaire, the Sudan, Uganda, and the Central African Republic, is in desperate

SUMATRAN RHINO

The Sumatran rhinoceros (*Dicerorhinus sumatrensis*) has the distinction of being the only hairy rhino, with a reddish coat and tufts of hair in its ears. This hair makes scientists believe that the Sumatran is the most primitive rhino, differing little from its ancestors of 40 million years ago. It is also the smallest rhino, growing to at most five feet tall and weighing no more than 1,800 pounds. This two-horned rhino lives in densely wooded mountains and browses on rainforest leaves, twigs, and fruit.

San Diego Zoo


Alain Compost

shape. Almost from the population's discovery in 1907, it suffered from massive, uncontrolled hunting and poaching. Today, Zaire's Garamba National Park holds the last wild population, and poaching had reduced it from 1,300 in 1963 to 15 in 1984. The population has since grown to 28 animals because Zaire has taken extensive measures to control poaching—including hiring and training 180 well-paid armed guards—but the northern white rhino's future remains uncertain.

Black Gold

Africa's black rhino has also declined steadily since the 1880s and is at present the species suffering most heavily from organized poaching for horn used for dagger handles. The fewer than 4,000 black rhinos in the wild are in critical danger of being extirpated. Indeed, rhino expert Malcolm Penny in a recent book wrote, "Today the range of the black rhinoceros is contracting so fast that it would be better recorded in a daily newspaper rather than a book, which takes time to get into print." Poachers kill more black rhinos than southern white rhinos because black rhinos live in countries with less money and political will to devote to their protection.

In Zimbabwe, which boasts the largest black rhino population at up to 2,000 animals, poachers take advantage of the confusion caused by fighting near the border with Zambia to slip into reserves and kill rhinos. Zimbabwe retaliates by staffing its reserves with armed guards who shoot trespassers, but even this drastic measure fails to deter poachers. Now the country is moving rhinos from border areas to safer places in the interior.

Kenya, with 400 to 500 black rhinos, is infiltrated by poachers from Ethiopia and Somalia, two of the poorest countries in the world. "You can see the temptation to a subsistence farmer scratching out a living," says Sutton of the WWF. In an attempt to save its rhinos, Kenya established 11 reserves in 1984, and these populations appear to be stable despite continued poaching. If Kenya's black rhino population reaches about 700, the estimated capacity of the existing reserves, the country plans to restock parts of the species' former range.

To help conserve rhino habitat, the WWF supports local government efforts to protect reserves and parks. The WWF also tries to persuade the people who live near rhinos to stop showing poachers where to find them. "Outsiders have a hard time finding rhinos on their own and we are trying to get to the villagers first and make them conservationists. We hire them as village game scouts and they tell us—not the poachers—where the rhinos are," says Sutton. "It's very effective."

Kenyan Michael Werikhe has taken the tactic of educating people about the need for preserving rhinos, and his "Rhino Walks" have covered thousands of miles and raised more than a million dollars for the cause (see box, "Rhino Man").

Zoos are also helping to save rhinos. Zoos around the world have established breeding programs for all rhino species except the highly endangered Javan rhino. This requires a high degree of cooperation to maximize the genetic variability of zoo-born rhino calves, and often involves moving rhinos from zoo to zoo so unrelated animals can mate.

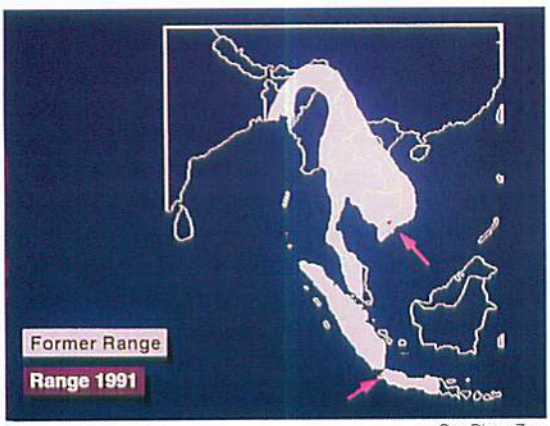
The Sumatran rhino breeding program began in 1984, and today there are 23 rhinos in the world's zoos. The program is focusing on capturing more of these elusive forest-dwellers to develop a large enough zoo population to maintain genetic diversity.

continued on page 13

JAVAN RHINO

Alain Compost

The most endangered rhino is the Javan rhino. Only about 60 to 65 Javan rhinos (*Rhinoceros sondaicus*) exist today, and the only confirmed areas where they still roam are the Udjong Kulon Reserve in Java and a few remote places in Vietnam. This rhino reaches up to six feet in height and can weigh over 3,000 pounds. Javan rhino males have one small horn, and the females have none. Their skin folds at the joints, giving this species an armored appearance. The animal's prehensile lip allows it to dine on small trees by grasping the trunk and pulling the sapling down until it can reach the top leaves. The Javan rhino lives in hilly, forested areas where it can munch on a variety of trees and shrubs.

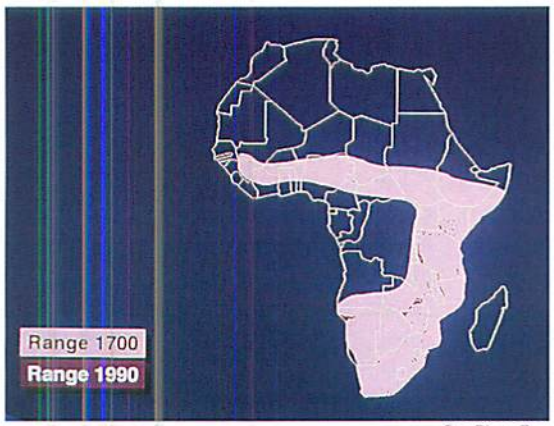


San Diego Zoo

BLACK RHINO

Africa's black rhino (*Diceros bicornis*) is not black, but it may have got its name after explorers saw it wallowing in black-colored mud. Rhinos don't sweat, so they wallow in muddy water to keep cool. The mud coating provides additional benefits for the rhinos by protecting them from insects and preventing sunburn.

The black rhino has two curved horns and a prehensile upper lip that it uses to tear leaves off trees and rip up clumps of grass. It browses along the edges of wooded areas from the rainforests of western Africa to the savannas of eastern and southern Africa, eating leaves, fruits, and grasses. The black rhino can grow to be six feet tall and weigh up to 3,000 pounds.



San Diego Zoo

Dusty Wissmath/African Wildlife Foundation

Rhino Man

Michael Werikhe of Kenya is walking some 1,500 miles through North America this spring and summer to raise awareness of the rhinos' plight and to raise contributions for conserving them. He started his series of discontinuous walks in Tampa, Florida, on April 13 and finishes in Washington, D.C., from September 6 to 12, visiting about 30 zoos and aquariums along the way. (See Notes & News for more on FONZ's role in the Washington leg of the Rhino Walk.)

Werikhe, 34, has loved nature since childhood, when he brought home all kinds of animals including lizards, monkeys, and birds. He devoted himself to learning about animals at school and volunteered at the Nairobi National Museum's Snake Park in his spare time.

After graduating, Werikhe worked with animals, but quit his "wildlife" jobs because they exploited animals: The game department wanted him to sort elephant tusks and rhino horns that were to be auctioned (the Kenyan government sold tusks and horns until the 1977 hunting ban); his snake-collecting job turned out to be for an exporter, and many of the snakes died in transit. Disillusioned, he opted for work in an Associated Vehicle Assemblers factory.

His desire to help wildlife remained as strong as ever, and in 1982 Werikhe walked 300 miles from Mombasa to Nairobi to raise funds for the black rhino, which he felt represented all of Kenya's threatened animals. In 1985, he walked more than 1,250 miles in East Africa and raised $54,000 for rhino conservation. In 1988, he took his message to western Europe, where he walked 1,800 miles and raised $1 million for rhino projects and efforts to curb trade in rhino horn. Werikhe's walk through North America is sponsored by the American Association of Zoological Parks and Aquariums (AAZPA) and the Discovery Channel.

Duncan Willets, Cameraplix

The goal is to raise two to three million dollars. Three quarters of the funds will go to rhino conservation in Africa, and one quarter will aid rhinos in the AAZPA Species Survival Plans.

Known as "Rhino Man," Werikhe was on the United Nations Environmental Program's 1989 Global 500 honor roll and was awarded the 1990 Goldman Environmental Prize for outstanding environmental achievement in Africa.

—Robin Meadows

Horns and Humans

Rhino horn has been in demand for more than 1,000 years by various people, including Africans, Europeans, Arabs, Chinese, and Indians. Although all rhino species face the threat of extinction in the wild, many people still covet their horns as status symbols, powerful medicines, and aphrodisiacs.

Only a few African tribes use rhino horns; they have mostly helped export them to different countries. In Kenya, one tribe shaped the horn into a club, while another used the horn as a mallet to flatten animal skins. The Zulus of South Africa still use the horn for many purposes. A man may carry a piece of rhino horn in his pocket as a good luck charm. A sip of water boiled with rhino horn may help cure coughs, chest pains, and snakebites.

Hindus, Muslims, Buddhists, and Christians once used rhino horn cups for detecting poisons. They believed that a poisonous liquid poured into the cup would either bubble up or be rendered harmless by the special properties of the horn. Some scientists think that the cups may have succeeded occasionally in detecting strong alkaloid poisons, which would have reacted on contact with the keratin in the rhino horn.

Europe's affair with rhino horns began in the 19th century, when the tops of riding crops, walking sticks, and door handles were made from the exotic material. The rhino horn demand in Europe peaked in the 1920s, when hand grips for rifles and pistols and interior panels of limousines were made. The desire for rhino horn products declined during the Depression, and never recovered its former fever pitch.

In Yemen, a country on the southwestern tip of the Arabian Peninsula, rich nobles have coveted rhino horn hilts for ceremonial daggers, known as *jambias*, for centuries. Today, rhino horn daggers still convey the high status of the owner. As the wealth of most Yemenis increased in the 1960s and 70s, so did the demand for rhino horn. Yemen imported three tons of rhino horns per year in the early 70s, which translated to about 1,000 dead rhinos a year. A ban on rhino horn imports in 1982 only resulted in high-priced bribes to get the horns through customs.

In 1986, an economic slump and international pressure contributed to the fall of rhino horn imports in Yemen to only 1,100 pounds of horn for that year. At the beginning of 1987, Yemeni ministers took steps to strengthen their rhino horn import ban by punishing those who sold horns and encouraging the use of water buffalo horn for hilts. Today, only about 330 pounds of rhino horn per year make it across the Yemeni border.

The flow of rhino horn products in China has not slowed yet, however. The Chinese have used rhino horns traditionally for ornamental, magical, and medicinal purposes. As far back as 600 A.D., Chinese aristocrats would present a carved rhino horn cup to the emperor each year on his birthday. These cups can be seen today in museums around the world. The Chinese also made rhino horn buttons, belt buckles, hair pins, combs, paperweights, and talismans.

Rhino horn has historically been used for medical purposes in China as well as for detecting poison. The 16th-century pharmacist Li Shih Chen stated that the main ailments treatable with rhino horn included snakebites, hallucinations, typhoid, headaches, carbuncles, boils, fever, vomiting, food poisoning, and "devil possession." Li Shih Chen's 50-volume pharmacology work contains the classic text on preparation and use of the rhino horn, and many pharmacists still use his text when they prescribe it today. Although rhino horn tablets are available, most people want to see the pharmacist shave the rhino horn to ensure that they are getting the real thing.

Chinese pharmacists currently prescribe rhino horn primarily to reduce fever, and three researchers at the Chinese University at Hong Kong have shown that rhino horn does lower fever in rats. The same research revealed that saiga antelope horn and water buffalo horn also reduce fever in the animals, but the scientists suggest that further studies are needed to determine the effects of the different horns on humans.

Contrary to popular belief, the Chinese do not use rhino horn as an aphrodisiac, but a few Indians do. Because of the high price of rhino horn, Indian dealers can sell more abroad than they do locally, so use of the horn in India has become rare. Indian pharmacists grind the rhino horn into a powder and mix it with herbs to increase its powers. The customer takes it home and mixes the rhino powder with honey, cream, or butter and then swallows the mixture twice a day.

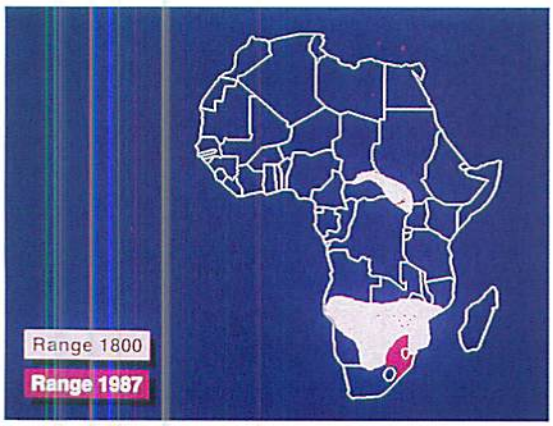
Conservation groups now realize that in order to stop poaching, they must reduce the demand for rhino horn that drives the price up to astronomical heights. Groups like the World Wildlife Fund are trying to persuade Taiwan, Thailand, South Korea, and China to follow the example of Yemen by curbing their rhino product markets and penalizing trade in rhino horns. If conservation efforts succeed, the rhinos may survive well into the 21st century, horns and all.

—Melissa Blouin

Jambia *with rhino horn hilt.* (Esmond Bradley Martin/WWF)

WHITE RHINO

Zoological Society of Philadelphia



San Diego Zoo

The white rhinoceros (*Ceratotherium simum*) gets its name from the Afrikaans word wijde, which means "wide" and refers to the rhino's lips. The rhinos' wide, square lips help them munch on short grass on the African plains. These two-horned rhinos also sport the longest horns of any rhino, with one recorded at six and a half feet long. White rhinos can weigh in at a hefty 4,800 pounds and stand up to six feet tall, making them the largest of the rhinos.

White rhinos use a wide range of noises to communicate with one another. When two rhinos meet in the wild, they greet one another with a panting sound, almost like a cough. Courting males make high-pitched wailing noises. Juveniles squeal and whine when they lose sight of their mothers. The dominant males defend their territory with a low growl that escalates into a bellow, and trespassers answer with high-pitched growls and shrieks.

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Zoos initiated the other three rhino breeding programs in 1982. One hundred greater one-horned rhinos live in zoos in Europe and the U.S., including the National Zoo's breeding-age male and two young females. These rhinos breed well in zoos: The 22 greater one-horned rhinos imported to the U.S. since 1982 have resulted in more than 17 calves. There are 150 black rhinos in zoo breeding programs in North America, Europe, Japan, and Australia, and several hundred white rhinos participate in breeding programs in Australia and North America. In fact, the North American population of white rhinos has reached the zoos' capacity of 120 animals.

Besides being bred in zoos, African rhinos also reside on Texas ranches, where the habitat resembles that of their native Africa. Four Texas ranches have a total of about a dozen rhinos, and black rhinos have bred on two of the ranches while white rhinos have bred on one. "These lands are owned by wealthy ranchers who are concerned with wildlife," says Foose of the IUCN CBSG. "It's more than just a caprice. I think ranches will eventually be very positive for rhinos. We're trying to develop a program that would involve translocating 40 black rhinos from Zimbabwe to the U.S. and Australia, as well as providing significant support for conservation in the wild." ✤

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