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Packed together in dense breeding colonies, these social seabirds of the northern oceans communicate in all sorts of ways



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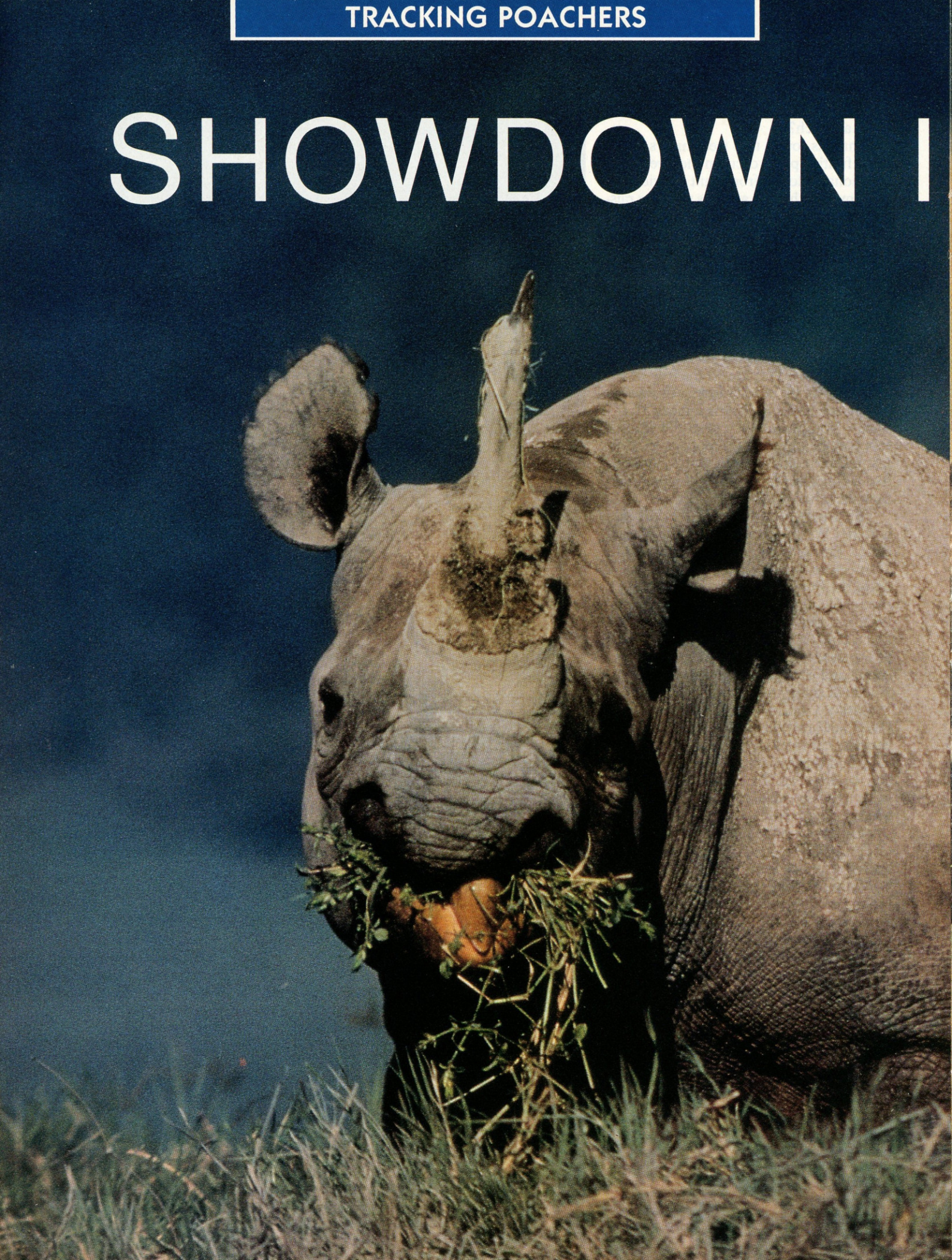
COVER: An Atlantic puffin in Scotland's Outer Hebrides brims with sand eels in this portrait by Frans Lanting. For more on puffins and the many ways they communicate, see page 12. **BACK COVER:** Camouflaged from predators, a katydid in Borneo merges with tree bark in this symphony of greens also photographed by Lanting (Minden Pictures).

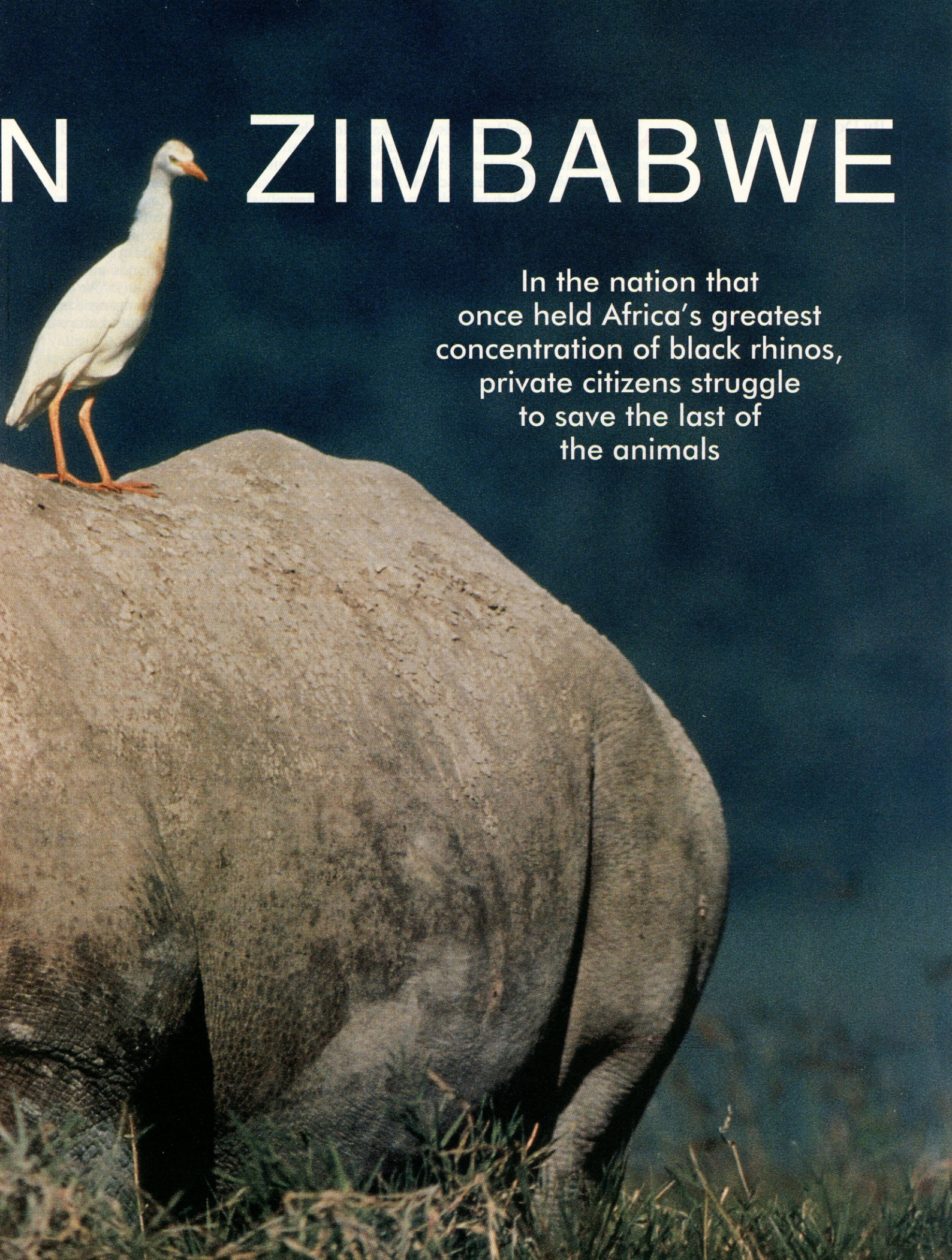
HEINHARD KUNKEL; CONTENTS (TOP TO BOTTOM): FRANS LANTING (2); FRED BAVENDAM

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TRACKING POACHERS

SHOWDOWN I





N ZIMBABWE

In the nation that
once held Africa's greatest
concentration of black rhinos,
private citizens struggle
to save the last of
the animals

BLACK RHINO

By Donna Rosenthal

SUNRISE HAS JUST TOUCHED this remote corner of southeastern Zimbabwe. Shouldering his rifle, Kenneth Manyangadze expertly searches for rhino spoor in the bush of the Save Valley Wildlife Conservancy. He spots a torn spider web. Then he picks up trampled mopane leaves and sniffs them. They're fresh.

Gingerly, he continues to pick his way through the bush. He kneels down and checks the parched soil, spots the three-toed hoof print of a black rhinoceros. He moves on, then stops suddenly and motions the two armed men behind him to crouch. Hidden in the tangled bush is a massive, armor-skinned rhino browsing on twigs. The men look relieved. They had feared that poachers had found this 2-ton female.



KENNETH MANYANGADZE, (above, on right) chief scout for the Save Valley Wildlife Conservancy, joins two of his staff in examining photographs used to identify the 51 black rhinoceroses they guard. Save, in Zimbabwe, is Africa's largest private wildlife refuge, covering 3,200 square kilometers (1,235 sq. mi.). The black rhino, down to fewer than 2,500 animals, is among the most endangered mammals in Africa.

Suddenly, sensing the men's presence, the black rhino raises her head and snorts. She cautiously sniffs the dry air, peering through eyes that see poorly.

Without making a sound, the three men sidle downwind to avoid her keen sense of smell and hearing. Their guns are meant not for rhinos but for the ruthless poachers who have slaughtered more than 90 percent of her species. Manyangadze knows poachers. He knows they'll shoot anyone who gets in their way. In the past, they gunned down two of his antipoaching scouts right in front of him.

At 38, Manyangadze is scarred by the savagery of the rhino war. He's been ambushed by poachers, bitten by a crocodile and gored by rhinos. His one remaining eye has seen too many mutilated rhinos, their horns hacked off and their bullet-riddled carcasses left for jackals and vultures.

This quiet, solid man has been on the front lines of the rhino war since 1977, tracking poachers and trying to stop the slaughter of one of Africa's most endangered species. Some of his scouts call him Rhino Man. He works 12 hours a day, seven days a week guarding rhinos and supervising 150 antipoaching scouts. "We've been losing this war," says Manyangadze gravely. "This is the last minute before extinction."

Africa is home to two rhino species—the white rhino, a grasslands grazer, and the black rhino, a shrub browser. The white rhino is the larger of the two, weighing up to 2,200 kilograms (4,840 lbs.), half again the black's top weight. For many years, the white was the rarer species. In 1920, the southern subspecies numbered only 60 animals, but protection in South Africa has brought the southern white rhino to more than 7,000 animals in the wild. In 1960, the northern subspecies fell below 1,000 animals and by 1984 reached a low of 16. Today, the northern white rhino population hovers at about 30 animals.

The vagaries of politics and national borders have kept the black rhino from receiving the protection afforded the white species. About 100,000 black rhinos roamed the savannas of sub-Saharan Africa in 1960. Wildlife experts estimate that fewer than 2,500 are left today, all in Zimbabwe, South Africa, Tanzania, Cameron, Swaziland, Namibia and Kenya. Recently, two black rhinos were released in Malawi.

The poachers seek the animals' horns, which average about 50 centimeters (20 in.) long in adult black rhinos. The horns sell on illegal markets for up to $2,000 a kilogram ($900 a pound) according to experts at the Natal Parks Board.

For more than 2,000 years, powdered rhino horn has been used as a folk remedy in China to treat ailments ranging from high fevers to convulsions to failing vision. Horns also have been smuggled into North Yemen and used as handles for jambiyyas, costly curved daggers that symbolize masculine power. The dagger trade peaked during the late 1980s, when the Middle Eastern nation was overflowing with oil money, and drove much of the rhino slaughter that occurred then. But a drop in oil profits and a crackdown on trade by the North Yemeni government has reduced the market for rhino-horn daggers.

The onus for continued slaughter is on Asia.

Zimbabwe was long home to Africa's largest concentration of black rhinos—about 3,000 as recently as the early 1980s. During the previous decade, poaching sprees were rampant in Kenya, Tanzania, Zambia and Mozambique. Then, in 1982, after they had virtually annihilated Zambia's rhino herds, poachers began streaming over the unpatrolled Zambezi River into Zimbabwe. Armed with Russian AK-47 machine guns and German assault rifles, the poachers turned the rhino-rich Zambezi Valley into a killing ground, bringing the total number of black rhinos in Zimbabwe to fewer than 315 today.

The Zimbabwe government started fighting back as soon as the slaughter began. In 1984, the Department of National Parks and Wildlife Management launched Operation Stronghold, a military-style, shoot-to-kill campaign against rhino poachers. The government's man on the ground was Manyangadze, who led game scouts trained for antiguerrilla warfare. The scouts killed about 178 poachers, arrested hundreds more and confiscated hundreds of guns and horns.

Still, the poachers, mostly unemployed Zambians, continued stealing across the Zambezi River. Despite generous foreign donations, Manyangadze's men didn't have enough rifles, radios, riverboats or helicopters to combat the invasion. In the remote bush, where poachers outnumbered game scouts, Manyangadze risked his life for 340 Zimbabwe dollars (then worth about US $80) a month. His scouts received only 230 Zimbabwean dollars a month. Meanwhile, the poachers, sometimes operating under the surreptious protection of profiteering Zambian government officials, made hundreds of U.S. dollars for each pair of 9-kilogram (20-lb.) horns they brought to dealers. With Zimbabwe's cash-starved government unable to afford the equipment and training vital to saving rhinos, Operation Stronghold ended as a failure.

Alarmed, the government realized it had to move remaining rhinos to safe havens as far as possible from the Zambezi Valley. Again, officials called on Manyangadze to help in translocating the animals. He and his men tracked some of the remaining rhinos, and national parks veterinarians darted them with powerful tranquilizers from a helicopter. The anesthetized rhinos were crated and trucked to special intensive-protection zones and heavily guarded private conservancies. "These well-protected places are the last hope of our black rhino," says Manyangadze.

With the national parks severely underfunded and the future of the rhino seemingly tied to private lands, Manyangadze quit the parks system in 1988. He now guards black rhinos at Africa's largest private wildlife refuge, the 3,200-square-kilometer (1,235-sq.-mi.) Save Valley Wildlife Conservancy. "I followed my friends, the rhinos here," says Manyangadze, the conservancy's chief scout since 1992.

He picks up a book from the seat of his Land Rover. Like a proud father, he flips through the photos of 51 black rhinos whose fate he tends. "We all moved together from the Zambezi Valley here," he says. When he reaches one photo, he pauses. "I named this rhino after my best friend, Agrippa Nhamo. He was shot in the head by a poacher we were tracking—he died right in front of me. I really want to see the rhino live. If we lose the rhino, then Nhamo and my other scouts would have died for nothing."

Manyangadze also carries photos of his wife and five young children, who live about 600 kilometers (375 mi.) away. He has only enough money and time to visit them every four months. "I miss them so much," he says. "But I can't leave the rhino, not now."

Most days, he drives the Land Rover around the conservancy and then goes on foot to search for rhinos. He can recognize each individual by matching the photos in



SHANGAANS LIVING near the Save Conservancy crowd around a village water pump built with revenue from the tourist trade. Tourist money funneled through the rural district council also has built a grinding mill and a school for 600 children. Council member Philip Chigumeta says, "To us, rhino are worth a lot more alive than dead."

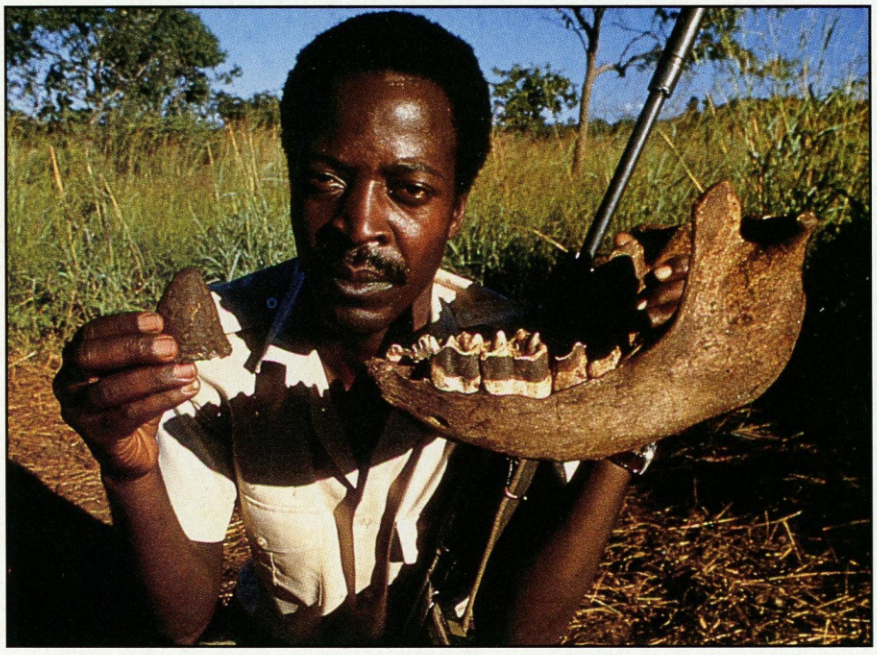
ROBERT FRIED (2); PAGES 28-29, REINHARD KUNKEL

his book with the distinctive notches cut into the animals' ears by veterinarians as a means for identification. He also checks his scouts' daily rhino reports, which are entered into a computer data base.

"We've learned we can't save the rhino only through our guns," says Manyangadze. "The answer is also through the hearts of the people." This means showing the desperately poor Shangaan and Shona people living outside the conservancy's electric fences that rhinos can mean revenue. "The Shangaans have always lived with animals," says Manyangadze, who speaks four African languages in addition to English. "They taught me their old saying, 'A land without animals is a dead land.'"

The cooperation of local people is critical to rhino survival. Poachers have to get in and out of the conservancy quickly, because Manyagadze's scouts usually detect them within about four hours. To find the rhinos fast, poachers often go to local people for advice on the animals' whereabouts.

Manyangadze is working closely with Boniface Shumba, the conservancy's liaison with the Shangaans. The two men use an innovative incentive system to outsmart the poachers. "Each Shangaan knows that if a poacher offers him money for information on the rhino, we'll pay him 10 times more for turning the poacher in," explains Shumba. "So far, we're beating poachers with the same weapon—money."



AFTER A SHOOTOUT with poachers in Zimbabwe's Mana National Park, game scouts recovered this jaw and small horn from a poached black rhino. African rhinos carry two horns on their snouts, a long front one and a lesser back one. Since horn sells for hundreds of dollars per pound, even a small horn can be valuable to poachers.

Manyangadze and other conservancy staff also are teaching the Shangaan about a valuable new creature in their midst—tourists. The conservancy is stocked with black rhinos, elephants, Cape buffalo, giraffes, zebras, kudu, impalas, leopards and cheetahs. The Shangaans see that the animals mean money from specialized safaris and associated jobs. Already, tourist money funneled through the rural district council has built domestic water wells, a grinding mill and a school for 600 barefoot kids. As council member Philip Chigumeta puts it, "To us, rhino are worth a lot more alive than dead."

Last year, the conservancy began fitting rhinos with radio collars that can send signals about 30 kilometers (20 mi.). Manyangadze's detector can locate each collared rhino's specific frequency. "If we discover footprints showing poachers have sneaked onto the conservancy, the detector can tell which rhino are in the danger area," he explains.

Unfortunately, only six conservancy rhinos have collars, and the collaring project has stopped temporarily. "If a rhino doesn't have a collar, we track it by looking for its spoor—like footprints, urine marks, droppings," Manyangadze explains, crouching near some dung encountered during a trek in the bush. "See? It's fresh. A rhino was browsing in these bushes last night." He gathers a rhino fecal sample for Julie Garnier, a French veterinarian, who will test it for hormones to determine if the rhino is pregnant or in breeding condition.

"More pregnant rhino are our big hope," says Garnier, an expert in black rhino fertility. She lives near Manyangadze on the conservancy, where she is conducting a three-year research project for the Zoological Society of London. Together, she and Manyangadze often track rhinos in the dense bush, trying to give nature a hand and rhinos a future. Recently, he gave Garnier a hand and a future, too, helping her escape a charging rhino. "Kenneth climbed up a tree and pulled me up just in time," says Garnier. "Quick tree-climbing is the key skill for working with rhino."

Now she's racing the clock, trying to get rhinos to reproduce faster than they're killed. "Black rhino are not a conservation issue—they're a conservation emergency," she says. "And no one has the rhino more at heart than Kenneth. Without him and his scouts, the rhino would be like open bank vaults."

Rhino conservationists also are trying to protect the animals by emptying the vault through dehorning. Under this program,

started in 1991, scouts working with a parks veterinarian saw off the horns of anaesthetized rhinos. "Some armchair conservationists criticize dehorning, but they don't know the bush," says Garnier. "All that matters is they survive and breed. Rhino are better without their horns than dead. We hope once the poachers know all our rhino have been dehorned, they'll stop killing them."

With dehorning and constant surveillance, rhino poaching has declined. Some scouts report seeing tracks of poaching gangs that have circled hornless rhinos and then left them unharmed. However, dehorning is raising some complex issues. In the early days of dehorning, poachers operating outside the conservancies shot dehorned rhinos, perhaps so they wouldn't have to waste time tracking them again. Some people argue that removing horns may not help, since poachers know even a stub is worth money. Dehorning is also costly, about $1,400 an animal, and must be repeated at least every two years, because horns grow back at roughly 3 inches a year.

Signatories to the Convention on International Trade in Endangered Species (CITES), a treaty uniting nations that seek cooperatively to protect wildlife used in commerce, banned the rhino-horn trade in 1977. But the ban has neither stopped the slaughter nor kept the price of horn from skyrocketing. Some rhino conservationists speculate that if the black rhino were extinct, horn would zoom in value in China and Taiwan, a possible impetus for the persistence of the killing.

Many leading Zimbabwean, Namibian and South African wildlife officials oppose the trade ban on the premise that if horn were readily available, demand for the product might drop, yielding a reduction in poaching. Glenn Tatham, chief warden of Zimbabwe's national parks, supports lifting the international ban on the sale of rhino horn, selling cut-off horns and using the money to pay for rhino protection. Zimbabwe's former Minister of Environment Herbert Murerwa put it bluntly: "We want to trade—legally and now."

These officials find allies even among African environmental groups. "Since the CITES ban on selling rhino horn has failed to stop the traders, the survival of rhino lies in legalizing trade in rhino horn," says Zambezi Society chairman Dick Pitman. "It will undercut the black market and reduce poaching. The money from selling horns could pay to protect the remaining black rhino and go to rural communities, placing a value on wildlife and encouraging conservation."

The idea of resurrecting the rhino-horn trade angers some non-African members of the international wildlife-protection community, who question if it would drive the price low enough to put poachers out of business. The next CITES meeting, to be held in Zimbabwe in 1997, promises to raise some heated arguments on this question.

But given the past slaughter, the black rhinos of the Save Valley Wildlife Conservancy are having a breather. No rhinos have been poached at Save since 1992. This year, Shangaan villagers will build another grinding mill from tourist dollars, and two safari lodges will open in the area.

As he drives through the unspoiled bushveld, Manyangadze stops the Land Rover. He points to a 3,000-year-old baobab tree where a baboon is leaping like a trapeze artist. From somewhere in the distance come the sounds of the timeless bush orchestra—elephants trumpeting and the drum beats of ancient Shangaan rhythms. "I love this land," he says softly. "I hope I'll be able to tell my children that we didn't lose this war." ❑

Shortly after she finished this article, San Francisco freelancer Donna Rosenthal took off for French Polynesia. Her two-week voyage on a freighter traced Mark Twain and Paul Gauguin's travels through the Marquesas Islands.



TOM STODDART (KATZ/WOODFIN CAMP) (2); PAGES 32-33 AND 36-37, REINHARD KUNKEL (2)

ZIMBABWE GAME SCOUTS killed these poachers in a shootout in Mana National Park in the mid-1980s. When the rhino slaughter began in Zimbabwe in the early 1980s, the government launched Operation Stronghold, a shoot-to-kill campaign against poachers. Scouts killed about 178 of them, arrested hundreds more and confiscated hundreds of guns.