

ENDANGERED SPECIES

Technical Bulletin Reprint

Wildland Management Center
School of Natural Resources
The University of Michigan



From the Brookfield Zoo

Birth Boosts Captive Rhino Population

Chicago's Brookfield Zoo announced the birth of a black rhinoceros on January 18. The birth of this endangered species is significant to American zoos that have been working in a cooperative effort to improve management of the species and to breed more rhinos.

The rhino calf, which weighs approximately 60 pounds, is the first offspring of the father, six-year-old Embu, and the second offspring of the mother, 14-year-old Brook. The newborn brings the total number of black rhinos at Brookfield Zoo to four.

This marks the fourth black rhino birth at Brookfield Zoo in its 50-year history. Brookfield Zoo's rhino, Mary, gave birth in 1944 to the nation's first black rhino born in captivity. Mary, who holds the longevity record for black rhinos in captivity, died at age 47 in 1980.

The mortality rate of newborn rhinos in captivity is high. Of the 23 calves born in the United States during the past five years, 12 have died. Today the black rhino population in the U.S. totals 65; the world population in captivity is approximately 140.

A native of Africa, the black rhinoceros has been decimated in the wild. The greatest threat to its survival is poaching, primarily due to the rhino horn trade, which has destroyed 70 per cent of the world population since 1970.

In the 1970's, North Yemen, an area bordering Saudi Arabia, consumed 40 per cent of the world rhino trade for the purpose of mak-

ing dagger handles. The daggers are presented to young Yemen men as a symbol of manhood. Also, the horn is mistakenly believed to have medicinal and aphrodisiac qualities by many Eastern cultures.

In an effort to help propagate this species, Brookfield Zoo is participating with other zoos in the black rhino Species Survival Plan (SSP) of the American Association of Zoological Parks and Aquariums. According to Edward J. Maruska, AAZPA Coordinator of Black Rhinoceros and director of the Cincinnati Zoo, "...there has

been an appreciable loss of black rhino in the Zambia and Kenya area in the last few years. I had an opportunity to visit the Luangwa Valley with a number of zoo colleagues in June, 1979, and at that time the Luangwa Valley had a stable population of some 4,000 black rhinos. In the five years since that trip," states Maruska, "the population in that area is down to a low of about 1,000 animals." The ultimate goal of the SSP is to reintroduce endangered species like the black rhino to their natural habitat in the wild.



Brookfield Zoo's newest resident, Shima, a black rhinoceros, seems a bit unsteady as she takes her first steps. Shima was born January 18 in the Pachyderm House and is the zoo's fourth black rhino birth.

Louisville Zoo Adds New Twist to Embryo Transfers

by Todd Buchta

Hopes for restoring endangered species are brighter with the successful birth of a Grant's zebra from a domestic quarterhorse at the Louisville Zoo in Kentucky.

The birth of Equuleus, a male named after the "little horse" constellation next to Pegasus, was the result of the first-ever equine embryo transplant from an exotic to a domestic species. Similar exotic-to-domestic transfers have been done in bovine species, specifically with embryos of the Asian gaur.

The embryo transfer was confirmed as a success on May 17, 1984 when Equuleus ("E.Q." for short) was delivered by Dr. Scott Bennett of Equine Service, a Kentucky clinic. Dr. Bennett and Dr. William Foster, Louisville Zoo veterinarian who assisted in Equuleus' birth, originally teamed up in May 1983 to transfer the embryo from a zebra mare to Kelly, the domestic quarterhorse who carried Equuleus to term.

The successful embryo transfer and birth has worldwide implications for conservation, according to the Zoo. Drs. Foster and Bennett theorize that if their procedures work for the relatively common Grant's zebra, the same procedure may be used with embryos of threatened and endangered equine species. Such species include Przewalski's horse and Grevy's zebra. Cape and Hartmann's zebras, both subspecies of Mountain zebras, are also imperiled.

This embryo transfer method could dramatically speed up the restoration of an endangered zebra species. The donor mother would no longer have to carry the embryo for the whole 11-month gestation period, passing that task on to surrogate mothers like Kelly. Donors could also produce embryos more rapidly since female zebras will cycle again after an embryo is flushed for transplant.

The Louisville Zoo's embryo transfer program has slowed during the winter months, as zebras do not ovulate during the cold season. However, Dr. Foster is scheduling four to five transfers in the coming months. All will be with Grant's zebras; Foster wants to ensure that the technique is perfected before it is actually used with an endangered species.

Equuleus is becoming important for more than the circumstances of his birth, however.

A very normal and healthy zebra, E.Q. has been on display with Kelly, who readily adopted her strangely-colored son. E.Q. has attracted much visitor interest to the neighboring zebra exhibits as well as himself.

Most remarkable, says Dina DeVaughn of the Zoo's staff, is E.Q.'s effect on children. DeVaughn explained that the Zoo's educational signs explaining the embryo transfer have somehow "clicked" especially well with children. "Time after time, we've heard kids contradict their parents," DeVaughn said, as the children explained to confused adults that embryo transfers are not the same as cross-breeding.

Equuleus may soon be more than a teacher. Dr. Foster added that E.Q. will soon head to Kentucky's Spendthrift Farms, known for producing Kentucky Derby winners, to be trained as a stud. E.Q. has been chosen for this training because he is so easy to handle — possibly because he has been "spoiled rotten" with all the attention he's gotten, says Foster. This makes him likely to become a successful stud, which is especially important because sperm produced involuntarily by wild zebras (through electro-ejaculation) has less ideal characteristics.



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Equuleus and quarterhorse mother graze under the eyes of visitors at the Louisville Zoo.

Photo by Paul Schuhmann/The Courier-Journal & The Louisville Times

Illegal Striped Bass Commerce Target of Fish and Wildlife Service Investigation

On January 16, after 2 years of under cover investigation, Federal and State wildlife agents served arrest and search warrants and filed charges against approximately 130 people for illegal commerce in fish and wildlife, including declining Chesapeake Bay striped bass.

Robert Jantzen, director of the U.S. Fish and Wildlife Service, said the action involved Service special agents and State conservation officers from Pennsylvania, North Carolina, Delaware, New York, Maryland, and Virginia. It capped two separate investigations that began in Pennsylvania and North Carolina, respectively, and ultimately spread to Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York, Virginia, and the District of Columbia.

"The arrests," Jantzen said, "are tangible demonstrations of the Department's commitment to enforce the laws protecting threatened fish and wildlife resources. Secretary Clark and the Administration, place the highest priority on vigorous enforcement of these laws."

During the investigations, Federal and State agents uncovered a significant illegal market for striped bass from both the Chesapeake Bay and inland waters of North Carolina. The Chesapeake Bay fish included large fish important to reproduction of the bay's striped bass, which are also known as rockfish. The investigations also revealed evidence of many violations involving illegal taking and sale of deer, waterfowl, hawks, eagles, small game species, and song birds.

Jantzen noted that the illegal harvest of large striped bass has been documented at a time when Atlantic coastal States have been trying to reduce the catch of this important commercial and recreational fish.

"Striped bass stocks in the Chesapeake Bay and elsewhere along the Atlantic coast have been declining for more than a decade,"

Jantzen said. "We believe that illegal harvest of these important spawning fish has contributed to that decline."

The Pennsylvania investigation began in the fall of 1982 after information indicated the existence of increasing illegal activity in several species of wildlife. The Service and the Pennsylvania Game Commission established an undercover operation in southeastern Pennsylvania, involving State and Federal officers. Early in 1983, the Service and the North Carolina Wildlife Resources Commission set up an independent undercover operation in North Carolina.

The investigations revealed that "oversized" striped bass (larger than legal size limits) were being taken from Maryland and Virginia waters of the Chesapeake Bay and its tributaries and sold to fish markets and buyers in Philadelphia, New York, Maryland, Virginia, and the District of Columbia. To document the illegal activity, agents posing as fish dealers purchased some 6,700 pounds of oversized striped bass measuring between 35 and 45 inches and weighing 30 to 50 pounds each. Virginia law permits the taking of no more than two striped bass over 40 inches per day, while Maryland law at the time allowed the taking of only one striper more than 32 inches for personal use, except during a closed spring season. Sellers often filleted the large fish to disguise their illegal size. Whole fish sold for about \$3 a pound and fillets for about \$3.25. In addition to the striped bass, salmon and trout from Lake Erie were illegally sold to agents during the investigation.

The investigations also revealed extensive taking and illegal interstate commerce in "landlocked" striped bass from reservoirs and other inland waters of North Carolina. More than 4,500 pounds of striped bass were sold to officers there.

Among those implicated in the

two striped bass investigations are commercial fishermen, fish retailers, transport companies, and large wholesale fish companies.

Agents also obtained evidence of illegal trafficking in waterfowl, birds of prey, and other wildlife. In Pennsylvania alone, subjects sold more than 275 deer and 1,800 pounds of cut and wrapped venison to undercover agents. A majority of the animals were taken illegally—at night, during closed seasons, and without licenses. Venison from Pennsylvania also was illegally sold in Connecticut, Massachusetts, and New York. In Delaware and Pennsylvania, an ongoing illegal market in birds for food, mounting, and plumage was discovered. Wildlife agents were sold over 500 Canada and snow geese and numerous other protected birds including wood ducks, mallards, old squaws, gadwalls, several species of hawks, ospreys, woodpeckers, great blue herons, owls, and song birds. Parts from two bald and two golden eagles were also bought and sold.

Officials of the Service and State wildlife agencies said much of the fish and wildlife purchased during the investigations was promptly frozen and later distributed to public institutions and charitable organizations.

The taking of oversized striped bass from the Chesapeake Bay is of particular concern to Federal and State wildlife agencies because the Chesapeake Bay was historically the major spawning and nursery grounds for striped bass that migrate along the Atlantic Coast and support commercial and recreational fisheries from North Carolina to Maine.

Reported commercial landings of striped bass along the Atlantic Coast declined from a record high of 14.7 million pounds in 1973 to a record low of 1.7 million pounds in 1983. While part of the decline in the 1983 landings was the result of regulations imposed to protect the

Investigation continued. . .

fish from overharvest, experts say the reduced catch indicates the severely depleted status of striped bass stocks.

Most of the decade-long decline in the striped bass can be attributed to a decline in the number of young fish produced in the tributaries of the Chesapeake Bay. The causes of the decline are not fully understood, although studies have implicated both environmental contaminants and excessive fishing mortality. The declines are estimated to have cost the Northeast over 7,000 jobs and \$220 million in economic revenue in 1980, the most recent year for which figures are available.

As a result of the decline, the Atlantic States Marine Fisheries Commission, representing 11 States, has been working to reduce the striped bass catch by 55 percent. On January 1 of this year, Maryland imposed a moratorium on striped bass fishing in all its waters.

Subjects in the investigations are being charged under a number of State and Federal wildlife laws. Among these is the Lacey Act that, among other things, makes it a violation of Federal law to transport in interstate or foreign commerce fish or wildlife taken in violation of State, Federal, tribal, or foreign law. Penalties are up to \$20,000 and 5 years' imprisonment. Waterfowl, hawks, eagles, song birds and other migratory bird species are Federally protected from illegal taking and commercial sale under the Migratory Bird Treaty Act, which carries maximum penalties of up to \$2,000 and 2 years' imprisonment for felony sale or taking with intent to sell. Bald and golden eagles are also protected under the Eagle Protection Act, with penalties of \$5,000 and 1 year imprisonment for first offenses and higher penalties for subsequent offenses.

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