

# ENDANGERED SPECIES

## Technical Bulletin Reprint

Wildland Management Center  
School of Natural Resources  
The University of Michigan

### Effort to Save a Species: Brief Cheer, Then Gloom

by Kerry Gruson

MIAMI, Oct. 6 — A last-ditch attempt to save the dusky seaside sparrow from extinction has achieved a measure of success in a third generation of cross-breeding, although a director of the project says it is now aimed mostly at educating the public.

Two tiny hatchlings, the size of a shelled peanut, have survived their first two months, the most critical, in a specially designed compound at a zoological park in Walt Disney World, outside Orlando.

The chicks, 87.5 percent dusky, are the result of an unusual experiment in back breeding the two remaining pure duskies on earth, both males, with a different subspecies, the Scott seaside sparrow, the dusky's closest relative. It is an attempt to keep the gene pool alive, even if diluted, for the dusky, a drab, one-ounce bird, six inches in length, distinguishable from other sparrows only by its darker plumage.

The scientists had been using three pure duskies, but one died of old age last month. Charles L. Cook, zoo curator and one of two coordinators of the efforts to save the dusky, said the experiment would continue even though the death had deflated his earlier optimism. "By attempting to save this bird we are putting the symbolic brakes on," he said. "The extinction of the duskies represents a loss which is taking place everywhere. We are trying to sound a warning that we are destroying our environment."

#### One Species a Day

Scientists estimate that man is responsible for the disappearance of at least one species a day, or 400 times the natural rate of extinction.

The gradual extinction of the

duskies began in the early 1960's when the swampy marshland on Merritt Island, the duskies' prime habitat, was flooded to destroy the mosquitoes plaguing the development of the Kennedy Space Center. The high waters also destroyed the small songbirds' nests.

Then the Federal Government, urged on by conservationists, spent over \$2 million to buy 6,250 acres along the St. John's River to protect the only other known dusky habitat. Draining these marshes for highway construction left the land vulnerable to fires. They ravaged the area, while a request for a tractor to plow fire lanes sat on a Washington official's desk.

In late 1979, when the Fish and Wildlife Service approved the capture of the remaining duskies, only six from what were once almost 2,000 could be found along the river. Five were caught, all males, and three have since died of old age.

The cross-breeding experiment began in Gainesville under the aegis of the Florida State Museum. The effort there eventually yielded a half dusky, a quarter dusky and a three-quarters dusky. Mr. Cook points out that the layman cannot distinguish a 50 percent dusky-Scott mix from a purebred dusky and that even the experts usually fail with a 75 percent hybrid.

But the Federal Government, citing strictures in the Endangered Species Act, refused to allow the program to continue. Only after the Florida Audubon Society persuaded Disney World to harbor the experiment last year did the Government relent.

The two newest chicks, born at Disney World this year, are the first survivors of the 87.5 percent generation. Their father was one of the two pure duskies still alive.

*Please turn to Reprint page 3*



One of the last dusky seaside sparrows.

Walt Disney Productions

# Exotic Cats as Teachers: A Bold Approach to Attitude Change

by Cathryn Hilker

The old story about the farmer who got the attention of his mule by hitting him over the head with a board may seem a little out of place in a zoo education program, but the story makes the point that learning can only take place after the teacher has the full attention of the pupil, mule or human. This concept of "attention getting" is applied in Cincinnati, both at the Zoo and in area classrooms, through a program where several exotic cats are taken into schools to educate young people about the animal's endangered status and promote positive attitudes about the natural world and the creatures who share it.

Because of media impact, magazines and T.V. specials, a growing number of young people are aware of basic conservation issues. Words

almost unheard of 20 years ago are easily recognized today. Students can correctly identify the meaning of words such as "endangered" or "habitat loss." Unfortunately, correctly identifying a word does not mean that a person "feels", "believes" or "acts" in any particular way.

At the Cincinnati Zoo, we began a program which we felt would cause "feelings" that would ultimately lead to "actions". We began using a few carefully selected cats who would be ambassadors of goodwill and "attitude formers" to actively speak, in their own behalf, for the cause of conservation. We chose a Cheetah, a North American Mountain Lion, Tiger, Lynx, Serval, Clouded Leopard and, most important, a domestic cat. The latter serves as a bridge between the world children understand and the wild world of the cat.

Our role as educators with the cats is three-fold.

1. We stage educational talks in the Zoo's amphitheater four days a week during the summer months where we illustrate "natural behavior". When we speak about the jumping ability of a cougar, that is exactly what the audience sees.
2. At our specially constructed Zoo facility with a large play yard, we again illustrate natural behavior with our cats running free. This program is called "Close Encounters." Visitors experience the speed of a cheetah or a cougar climbing a tree first hand.
3. Our third phase starts with the school year. Our cats have visited over 100 schools in the last two years. We speak to relatively small groups (between 100 and 300 students) to keep the program as personal as possible.

As I mentioned earlier, the cats are "attitude formers". First, it is important to examine what determines a person's attitude.

Attitude is easily demonstrated by showing the picture of a spider to a general audience. There are few people who will not have some reaction — reactions which range from "get that

away from me" to "what a neat spider". Identification of the picture as a spider is comparable to an audience knowing the meaning of the word "endangered". The reaction is what is important for it reflects a person's "attitude".

How a child sees an animal, what he feels about the animal, what he believes and how he reacts will dictate his attitude. Our cats form positive attitudes by exposing students and adults, probably for the first time in their lives, to a wild animal which becomes personal to them. Studies have shown that early exposure to animals, with interpretation, causes positive attitudes. Our own study indicated that the positive conservation attitudes of students increased after experiencing our program.

The Cincinnati Zoo's efforts in bringing their great cats out as educators makes a personal, visual impact on the public. 155,000 Zoo visitors personally saw these cats just this summer. They heard a cheetah purr and saw a cougar jump. Our school program reached 24,000 students in our first year and 32,000 this past 1984-85 school year.

Advertisers have long understood the importance of attitude formation in promoting a product. The product we must promote is conservation. Zoos are viewed as the ark for preserving endangered species. The endangered species themselves may be the force necessary to get the ark safely ashore.

In 1983, Stephen Kellert, associate professor in the School of Forestry and Environmental Studies at Yale University, wrote a paper entitled, *Children's Attitudes, Knowledge and Behavior Toward Animals*. In this paper he states that the "very limited knowledge of animals among children who reported learning about animals in schools and visiting Zoos was particularly discouraging. Despite the widespread nature of these activities, they appear to have little lasting impact. Most Zoological Parks continue to fail in attempts to go beyond superficial entertainment to instilling a greater appreciation and knowledge of

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A forum for information  
exchange on  
endangered species from

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## Exotic Cats continued

animals". The Cincinnati Zoo is trying to correct that failure.

The cats make our talk personal. The children we see have a personal stake in conservation issues we raise because they see the animal, not behind bars, not over a moat, not on a TV screen, but in person. The child who goes home with black grease marks on his or her face, like the cheetah, is eager to tell his parents it helps cut down sun glare. He becomes an ambassador for the cat he has encountered.

What are our results? Children who stop me in a super market or on the Zoo grounds and ask, "How are the cats? They came to our school," children who literally drag parents up the hill to our exercise area and proudly point to our cheetah and say, "That's Angel". Children who have not seen our cats for as long as a year have answered questions I have asked at earlier talks, showing an extremely high percentage of recall. Three eleven-year old boys who saw our cats at the exercise yard went back to their schools and personally organized and raised the money to

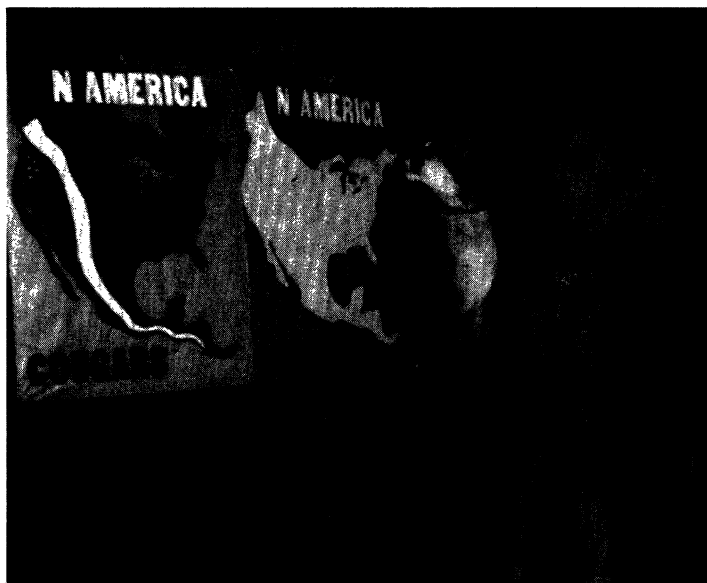
share their experiences with their friends. That's what it is all about — attitude formation. They have seen and heard, and now they care.

Children, wildlife and habitat preservation are tied to one another by education, awareness, and finally — attitude. How today's children "think", "feel" and "act" as tomorrow's adults will determine the future of our wild world.

As Baba Dioum said, "In the end, we will conserve only what we love, we will love only what we understand, we will understand only what we are taught."

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Cathryn Hilker is the coordinator of the Frisch's education program and the Wildlife Theatre sponsored by RC Cola at the Cincinnati Zoo.



Habitat loss becomes personal to students when they encounter the animal affected.

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## Dusky continued

Two other "87.5 percenters" died immediately after hatching over the summer, prompting a decision to risk more direct interference with the duskies' reproductive cycle. Zookeepers will henceforth check the eggs while the female is still incubating. Infertile eggs will be removed after 10 days instead of waiting the normal 14 to see if a chick hatches. Thus, the time it takes the bird to start nesting after laying infertile eggs will be cut. Second, on the theory that the presence of the fledgling contributed to the two deaths, the two survivors have been moved to their own quarters even though little is known about the importance of the family unit.

The duskies' Disney World home, individual 8-by-10-foot cages planted with clumps of native cordgrass, is shielded from the public to minimize distractions. The 11-acre Discovery Island Zoo is set in a 450-acre natural

lake. The zoo houses some 100 bird and six mammalian species, mostly rare.

### 'Everything' Went Wrong

Only one of the six hatchlings born on the island in 1984 survived, a 75 percent dusky male. "Everything that could go wrong did go wrong," says Herbert W. Kale 2d, state vice president for research of the Audubon Society, who is the other coordinator of the save-the-dusky experiment.

The pure dusky that died last month had been the most prolific breeder and was the father of five of the six hatchlings in 1984. Because the duskies are over 10 years old, aged for the species, their fertility rate is low. Of the two remaining, one has not fertilized any eggs.

In June, for the first time the mates of all three pure duskies, including a Gainesville-born 75 percent female, were brooding. An effort earlier this year to stimulate the pure duskies' breeding fervor has had limited suc-

cess. Zoo caretakers played a tape of the bird's mating song in the wild. And the overhead sprinkler system was used to trick the birds into believing the rainy season, and thus the breeding season, had started.

As Thomas Webber of the Florida State Museum, who worked as a graduate student on the first efforts to crossbreed the dusky, puts it: "In this situation we are really still learning, and when you learn you make mistakes. Only here we can't afford to make any mistakes."

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# Resources

The *Audubon Wildlife Report* 1985, the first in a series of annual publications, is a 650 page field guide to government natural resource agencies. The report explores programs as well as agencies, with comprehensive accounts of the endangered species program, inland fisheries management, federal aid for wildlife, animal damage control, and others. It is intended to aid serious conservationists, congressional staff, natural resource agency personnel, wildlife biologists, and upper-level students. Each year a new edition will be published updating and expanding the coverage. To order, send \$16.50 to: Wildlife Report, National Audubon Society, 950 Third Ave., New York, N.Y. 10022.

March 3-6, 1986. Call for papers: *Prescribed Burning in the Midwest: State of the Art*. Papers are being sought on fire science and application relevant to the Midwest, Lake States, Northeast and Canada. For information, write: Al Simard, Program Chairperson, North Central Experiment Sta., 1407 S. Harrison Rd., E. Lansing, MI 48823.

## Endangered Species Poster

The National Zoo has recently produced a new poster featuring endangered species being propagated at the Zoo. Animals depicted are: golden lion tamarin, white-naped crane, giant panda, orangutan, Himalayan pheasant,

Pere David's deer, bongo, maned wolf, and clouded leopard. The poster is available from the Merchandising Office, Friends of the National Zoo, Washington, D.C. 10008 (tel. 673-4957). The posters are \$5.00 each or 5 for \$20.00. Profits from sales of the poster go to the Friends of the Na-

tional Zoo's basic funding that supports NZP research, conservation and education programs.

Resource information provided by Jane Villa-Lobos, Smithsonian Institute.

## Thank You!

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## Readers

The *Reprint* staff would like to thank you for the strong response to renewal notices. The total number of subscribers has been slowly climbing over the past months, and for this we are grateful; however, the mountain of fiscal self-sufficiency still looms ahead. Names of individuals and organizations that you feel would like to receive the *Bulletin* would be gladly received here.

On another subject, the *Reprint* is always on the prowl for news items and stories suitable for the outside section. Please feel free to submit materials at any time. Once again, thank you for your support of this publication.

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