

# ENDANGERED SPECIES

## Technical Bulletin Reprint

Wildland Management Center  
The University of Michigan



From the Wildland Management Center

## Michigan to Sponsor Second International Conference on Conservation Biology

It is now commonly argued that the earth's wealth of genetic resources is being reduced at an unprecedented rate. Information on minimum viable population size, endemism, rarity, community stability, and other elements of conservation biology are needed if our genetic heritage is to be conserved and managed in an enlightened manner.

In response to this critical need for up-to-date information, the Center for Strategic Wildland Management Studies will sponsor the Second International Conference on Conservation Biology, to be held May 5-8, 1985 at the University of Michigan, Ann Arbor. This conference will provide an opportunity for conservation biologists to share current information with each other and with managers and decision makers. It will also create a forum for the discussion of priorities for research and management, and allow an evaluation of the degree to which the potential contributions of conservation biology are being realized. Among the crucial issues on which the conference will focus are:

- genetic aspects of design and management of nature reserves
- the minimum viable population size concept
- the implications of endemism in the tropics
- the causes of rarity and extinction
- the impacts of disease, agriculture and rare events on nature reserves

- the function and management of artificial disturbance
- the worldwide status of shallow marine habitats, cave faunas, tropical forests, Mediterranean systems, fresh water habitats, and arid grazing lands.

Opportunities will be provided for scientists to interact and share ideas with each other and with conference attendees from the conservation community. In addition, selected papers will be edited and integrated into a publishable book which has the potential for a much broader and longer lasting impact.

The 1985 conference coordinator, Dr. Michael Soule, was one of the coordinators of the highly successful 1978 International Conference on Conservation Biology. Along with B.A. Wilcox, he edited the publication which was based on papers presented at the conference: **Conservation Biology: an Evolutionary-Ecological Perspective** (Sinauer Associates, 1980). This book has become a primary reference for scientists, managers and students of conservation biology, and is frequently cited in the scientific and management literature.

The Center for Strategic Wildland Management Studies in the University of Michigan School of Natural Resources is uniquely qualified and equipped to organize and host such an event. The Center has been integrally involved with the growth and management of protected area systems

throughout the world and has several active lines of research devoted to the relationship and importance of both marine and terrestrial protected areas to the conservation of biological diversity. The University of Michigan's reputation as a center for research excellence and the School of Natural Resources' international focus will provide a suitable context for this conference. Assisting with the planning of this conference are the following people who comprise the Organizing Committee:

William Conway . . . . . New York  
Zoological Society  
Paul Ehrlich . Stanford University  
Lynn Greenwalt . . . . . National  
Wildlife Federation  
David Hales . . . . . University of  
Michigan  
Thomas Lovejoy . World Wildlife  
Fund  
Peter Raven . Missouri Botanical  
Garden  
Daniel Simberloff . Florida State  
University  
Michael Soule . . . . . University of  
Michigan (Convener)  
John Terborgh . . . . . Princeton  
University

If you are interested in learning more about our project, please contact the Center for Strategic Wildland Management Studies at the School of Natural Resources, University of Michigan, Ann Arbor, Michigan, 48109 (313 763-1312).

# Improved Farming Practices Help Wintering Birds in Mexico

by  
**Jane Lamlein**  
Smithsonian Institution

Dr. James Lynch, an ecologist at the Smithsonian Environmental Research Center, is conducting a research study on migratory bird conservation in Quintana Roo, a Mexican state in the Yucatan Peninsula. Quintana Roo has a rapidly growing population whose practice of slash-and-burn agriculture is destroying the native vegetation. The Maya Indians fell and burn trees to plant food crops or to raise cattle. It is estimated that an average Mayan family requires 10 acres per year to grow its food. Since the soil in this region is very thin, it loses its fertility after the second year of cultivation and the farmers abandon the land and move on to clear more forest. This type of agricultural practice results in a landscape of patches of farmland and regenerating forest of varying ages.

Many passerine birds (e.g. flycatchers, thrushes, vireos, warblers, orioles, grosbeaks, and buntings) that breed in temperate North America fly great distances in the fall to overwinter primarily in southern Mexico, Central America and the Caribbean Islands. Over the past 20 years, North American scientists have observed drastic reductions in breeding populations of long-distance migrants, especially passerines. The destruction of critical habitat in tropical overwintering areas may account for these reductions. Fortunately not all migratory birds require undisturbed vegetation or the future of these species would be very grim.

Dr. Lynch is gathering detailed data on the habitat requirements of as many migratory species as possible, and is cooperating with Mexican scientists who are developing and testing economically viable alternatives to slash-and-burn agriculture. The most efficient scheme of reducing forest

destruction is to increase the productivity of farm plots and to reduce the frequency of plot rotation. Within the past 2 1/2 years local Mayan farmers have tested a new system which has increased the annual per-acre yield of corn from less than 200 lbs. to nearly a ton! This was accomplished by using fertilizers, biodegradable insecticides, and drip irrigation on permanent plots. Smaller, more productive plots should yield an annual income 5 to 10 times as great as the slash-and-burn technique while reducing the rate of forest destruction by 80 to 90%.

Dr. Lynch and SI ecologist Dennis Whigham are working with Mexican biologists to compare the effects on migratory birds of these intensive agricultural practices vs. the traditional methods. It is hoped that these new methods will decrease the rate of forest destruction, thereby protecting significant areas of habitat needed by migratory species.



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A forum for information  
exchange on  
endangered species from

The Wildland Management Center  
School of Natural Resources  
The University of Michigan  
Ann Arbor, Michigan 48109  
(313) 763-1312

David F. Hales ..... Director  
Richard Block ..... Editor

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## Vandals Damage Endangered Round-leaf Birch Seedlings

The Department of the Interior is cooperating in a State and Federal investigation of the destruction of endangered Virginia round-leaf birch tree seedlings.

Vandals dug up and removed, uprooted, or cut off at ground level all but 5 of 30 healthy, 2-year-old seedlings in Sugar Grove, Virginia, on the property of a landowner who has been cooperating with biologists in the protection and recovery program for the endangered trees. The damage was discovered May 17 during routine monitoring on the site in south-west Virginia by biologists.

"The loss of these young seedlings is a serious blow to the recovery of the wild round-leaf birch in Virginia," Interior Secretary Clark said "This kind of senseless vandalism is very disheartening. The Department of the Interior will cooperate fully with the Commonwealth of

Virginia in the effort to find the people responsible for the vandalism."

The "taking" of endangered or threatened plants is prohibited on Federal lands by the U.S. Endangered Species Act. In addition, the Virginia Endangered Plant and Insect Species Act prohibits the taking of all endangered and threatened native species in the wild without a permit. If the trees were taken across State lines or involved in interstate commerce, a violation of the Endangered Species Act or the Federal Lacey Act could also be involved. Federal officials are therefore working closely in the investigation with Virginia officials and private conservation organizations.

A reward of \$500 is being offered by Defenders of Wildlife for information leading to the arrest and

# Ash Meadows to Become Newest National Refuge

In June the Department of the Interior announced that a unique desert wetland that straddles the Nevada-California border, Ash Meadows, will become the 422nd refuge in the national system.

The first portion of this newest National Wildlife Refuge -- an 11,173-acre tract currently owned by The Nature Conservancy, a private conservation organization -- has been purchased for \$5 million by the U.S. Fish and Wildlife Service with an appropriation approved by Congress in 1983. Consideration is being given to withdrawals from Federal public domain land to supplement this first acquisition.

The new refuge, about 90 miles northwest of Las Vegas, Nevada, will serve as secure habitat for 26 plants and animals found nowhere else in the world. Several of these unique species have already been given Federal protection as endangered species.

"Desert cases like Ash Meadows are so rare in the southwestern United States that addition of this property to the National Wildlife Refuge System represents a noteworthy accomplishment," said Interior Secretary Clark. "The rarity of the habitat is exceeded only by the uniqueness of the animals and plants it supports."

"Once again, The Nature Conservancy, through its ability to move quickly to acquire and hold properties such as Ash Meadows until the Federal Government could receive them, has provided the key to this successful acquisition. The Nevada Congressional delegation, led by Senator Paul Laxalt, has also been instrumental in assuring the success of this project."

Creation of Ash Meadows National Wildlife Refuge will ensure protection of the variety of unique animal and plant species that inhabit this spring-fed wetland basin barely 40 miles from parched Death Valley National Monument. The area had been slated for development as a residential community before it was purchased by The Nature Conservancy and held

for later purchase by the Federal Government.

Four Federally-listed endangered species -- the Ash Meadows speckled dace, the Ash Meadows Amargosa pupfish, the Devils Hole pupfish, and the Warm Springs pupfish -- are found on the property. Seven rare plants and one insect that are currently proposed for "endangered" status are also found at Ash Meadows. In addition, a number of other species

whose status is precarious enough to possibly merit future listing as "endangered" are included in the property.

Management of Ash Meadows National Wildlife Refuge by the Fish and Wildlife Service awaits formal transfer of ownership of the property and development of a management plan that could include restoration of local marshes for use by waterfowl.

## Wolf Sanctuary Program Focuses on Mexican and Red Wolves

The Wild Candid Survival and Research Center, popularly known as the Wolf Sanctuary of St. Louis, was founded 12 years ago by Marlin Perkins, host of the television series "Wild Kingdom." Over the years, the center has provided large, isolated breeding enclosures for two federally funded projects to preserve the Mexican wolf and red wolf, both endangered forms. The sanctuary provides optimal conditions for breeding and raising recovery

animals, with as little human interference as possible. The center also sponsors educational and informational programs, research, and public involvement in the many issues affecting the wild wolf and its natural habitat.

If you would like more information on the Mexican or red wolf recovery programs and how you might participate, contact the Wolf Sanctuary, P.O. Box 760, Eureka, Missouri 63025.

## Vandals

*Continued from Reprint page 2.*

conviction of those responsible for the vandalism. Anyone having information should contact H.S. Miller, Jr., at the Virginia Department of Agriculture and Consumer Services in Roanoke at 703-362-1606 or the Senior Resident Agent, U.S. Fish and Wildlife Service in Richmond at 804-771-2481.

The Virginia round-leaf birch was the first tree placed on the U.S. Endangered Species List. The tree has been regarded as probably extinct since 1914 until it was rediscovered in 1975 in Smyth County, Virginia. Since its redis-

covery, the single remaining population of trees had gradually declined from 40 to only 12 trees in 1984. In efforts to halt the decline and encourage natural regeneration of the birch, suitable areas on public and private land were cleared of competing trees and shrubs. The work proved successful, as evidenced by the healthy seedlings that had become well established. Other recovery efforts were started this spring, but the seedlings from the only remaining wild population offered the greatest hope for the future.

## Future Meetings

October 16-20, 1984. The US-USSR Conference on Biological Conservation will be held at the New York Botanical Garden and the New York Zoological Society, Bronx, New York. This conference will permit scientists of the USA and USSR to assess previous and current research on conservation and lead to collaboration on future issues. For further information write: Thomas Elias, Director, Rancho Santa Ana Botanic Garden, 1500 N. College Ave., Claremont, CA 91711.

# Fish and Wildlife Reference Service: Recovery Plans

The Fish and Wildlife Reference Service is a research collection and information dissemination operation of the Division of Federal Aid of the U.S. Fish and Wildlife Service. Formerly operated by the Denver Public Library, the Reference Service is now operated by the Informatics General Corporation in Rockville, Maryland. Persons interested in subscribing to the *Fish and Wildlife Reference Service Newsletter* (free) can be added to the mailing by writing or calling the Fish and Wildlife Reference Service at:

1776 E. Jefferson Street  
Suite 407S  
Rockville, MD 20852  
(800) 582-3421  
(301) 468-1737 (in Maryland)

The following endangered species recovery plans were listed in the most recent newsletter. They are available in microfiche or paper copy through the Reference Service for a reasonable fee.

**Sonoran Topminnow (Gila and Yaqui) Recovery Plan.** Prepared by Salley E. Stefferaud for the U.S. Fish and Wildlife Service. March, 1984. 73 pp./1 mf/. MIN 80-8440011.

**Mopa Dace Recovery Plan.** Prepared by the U.S. Fish and Wildlife Service. February, 1983. 38 pp./1 mf/. MIN 80-8440001.

**Bayou Darter Recovery Plan.** Prepared by the U.S. Fish and Wildlife Service. September, 1983. 41 pp./1 mf/. MIN 80-8440003.

**Spottin Chub Recovery Plan.** Prepared by the U.S. Fish and Wildlife Service. September, 1983. 49 pp./1 mf/. MIN 80-8440004.

**San Joaquin Kit Fox Recovery Plan.** Prepared by the U.S. Fish and Wildlife Service. September, 1983. 90 pp./1 mf/. MIN 80-8480001.

**Hawaiian Dark-Rumped Petrel & Newell's Manx Shearwater Recovery Plan.** Prepared by the U.S. Fish and Wildlife Service. April, 1983. 60 pp./1 mf/. MIN 80-8480007.

**Slackwater Darter Recovery Plan.** Prepared by Herbert Boschung for the U.S. Fish and Wildlife Service. March, 1984. 51 pp./1 mf/. MIN 80-8440044.

**Northern States Bald Eagle Recovery Plan.** Prepared by the U.S. Fish and Wildlife Service. July, 1983. 124 pp./2 mf/. MIN 80-8480004.

**Mountain Golden Heather Recovery Plan.** Prepared by the U.S. Department of Agriculture with revision by the U.S. Department of the Interior. September, 1983. 29 pp./1 mf/. MIN 80-8480010.

**California Brown Pelican Recovery Plan.** Prepared by the U.S. Fish and Wildlife Service. February, 1983. 185 pp./1 mf/. MIN 80-8480002.

**Attwater's Prairie Chicken Recovery Plan.** Prepared by the U.S. Fish and Wildlife Service. December, 1983. 53 pp./1 mf/. MIN 80-8480011.

**Puerto Rican Whip-poor-will Recovery Plan.** Prepared by Carlos A. Diaz for the U.S. Fish and Wildlife Service. April, 1984. 20 pp./1 mf/. MIN 80-8480088.

**Red Hills Salamander Recovery Plan.** Prepared by the U.S. Fish and Wildlife Service. 23 pp./1 mf/. MIN 80-8480008.

**Hunched Arrowhead Recovery Plan.** Prepared by the U.S. Fish and Wildlife Service. 23 pp./1 mf/. MIN 80-8480009.

**Chapman's Rhododendron Recovery Plan.** Prepared by the U.S. Fish and Wildlife Service. September, 1983. 45 pp./1 mf/. MIN 80-8480003.

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## Thank you!

We have been receiving information on courses and programs on endangered species from many readers.

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