

THE VANISHING RAIN FOREST

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Destruction in the tropics threatens haven of genetic riches

DISAPPEAR FROM THE "Once you remove a tropical forest, it won't come back for 200 years. There are reserves you'll never get back. They'll go extinct."

Tropical forests "are really the most complex of all the ecosystems and hold half of all forms of life," Lankester says. Tropical rain forests, the most vulnerable of the forests, make up about 7 percent of the land's surface but contain two-fifths of all plants and animals.

At the current rate of deforestation, rain forests will be completely gone by 2020, says deforestation expert Jay Savage. "If there's an acceleration in the destruction, most will be gone by 2000, 1 year from now."

These destruction comes not just from a poor farmer chopping down a patch of forest, but from an explosive birth rate that produced 85 million new humans last year, from not enough food; not enough wood for fuel; and a demand for exotic foods, mahogany and other hardwoods, cheap beef, paper, housing, shipping cartons for TVs and VCRs.

"We're beginning to get into the situation of almost irreversible destruction," says Lankester. "It's huge, colossal... a cause for global concern." In 1980, the magnitude of deforestation came into sharp focus when the United Nations analyzed satellite pictures, coupled with ground reports, and came up with "a fairly good idea of the total rate of destruction," Lankester says.

Scientists also say about 20 percent of all plants and animals will disappear with the forests by 2020. "That could be a million species," Lankester says. "We haven't the slightest idea of danger to our own species because we're losing them."

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THE GREENHOUSE EFFECT AND RISING S. FLORIDA SEAS

Florida's east coast is disappearing, and some scientists fear that the destruction of tropical forests "The earth's atmosphere is collecting gases that are reducing the ozone layer, letting more cancer-causing light reach earth, while at the same time, trapping heat radiating from the ground."

Scientists call this the greenhouse effect. Many scientists say the greenhouse effect is warming the earth, melting polar caps and causing sea level rise.

A study by Donald de Sylva at the Rosenstiel School of Marine and Atmospheric Science on Virginia Key says impacts of the greenhouse effect and rising seas on South Florida would be drying coral reefs, starvation of estuaries and loss of fisheries.

"Deforestation is adding to the problem," says George Woodwell, director of the Woods Hole Research Center in Massachusetts. Forests store three times the amount of carbon dioxide contained in the atmosphere.

Predictions made a few years ago estimated that sea level rise anywhere from two to 12 feet by 2100, and possibly up to 20 feet after that. Thus studies show a rise of 100,000 years ago.

A three- to six-foot rise by 2100



Sea level rise projections for Florida's east coast. The map shows the coastline in 1986 and projected coastlines for 2100. Key areas include the Everglades, mangroves, sand dunes, and the Atlantic coast.



More than 90 percent of all 200 primates, such as this howler monkey in Costa Rica, are in tropical forests. One of three is in serious danger...

service (of the USDA) considers green plants above pollinators and part of the world heritage. Bob Knight, USDA Subtropical Horticultural Research Center, Miami.

Tropical rain forests sink up rain and release it gradually, both into the earth and the atmosphere. This spatial action prevents flooding and erosion, projects downstream agriculture and water supplies.

When huge areas of tropical rain forests have been cut in Mexico, Panama and Brazil, less rain is falling. Much of the concern about deforestation of the Amazon is that the climate could be altered for the rain forest. Some scientists say deforestation is contributing to the global warming called the greenhouse effect.

Tropical forests also enrich the earth with the storehouse of

an 80 percent reduction from Central America. The massive marine turtles and laguna are under tremendous hunting pressure there, while the scientific green mangrove is endangered.

Central America is the land bridge that joins North and South America and so binds the plants and animals from both continents.

"Central America is geographically small, so the loss of 20,000 acres in Costa Rica is more important in the total than the same loss in the United States," says James Carr, American Rain Forest Research Institute.

Costa Rica is losing a percent of its remaining forest every year, about 125,000 acres. Costa Rica has 1,000 kinds of plants, compared with 3,500 in Florida. 277 mammals, compared with our 95, 215 reptiles to our 90. Costa Rica has 523 species of birds to our 430.

On Costa Rica's endangered species list are eagles, the mountain lion, ocelot and jaguar; tapir and manatee, howler monkey, marabou, scarlet macaw and more.

Rain forests have a bewildering array of plant and animal species often restricted to small but distinct ecological niches. Because so many new species are being discovered every year, estimates of the species that exist vary greatly, as do predictions about extinction. By the year 2,000, scientists say as many as 10,000 to 50,000 species could disappear.

As habitats shrink, rare plants and animals are more vulnerable to capture and hunting, says Glenn Winley of the World Wildlife Fund.

The harpy eagle in Costa Rica has been hunted into virtual extinction, though one was seen near Coronado National Park a couple of years ago, says ornithologist Gary Stiles. The endangered jaguar "doesn't have a chance," says ecologist Chris Vaughan, who has set up the first wildlife management

NATIONAL CONFERENCE BEGINS TODAY

Scientists from around the world gather in Washington, D.C., today for a four-day conference on the destruction of tropical forests and conservation of species.

The National Forum on Biodiversity is sponsored by the Smithsonian Institution and the National Academy of Sciences. Keynote speakers include Harvard professor Edward O. Wilson and Stephen Jay Gould, and Stanford University author Paul Erlich.

Wednesday from 8 to 10 p.m., participants in 45 cities, including Miami, will get a chance to question conference panelists during a live satellite telecast to the United States and Canada. The program will be shown free at Guinness Concert Hall, University of Miami. Audience members can phone in questions.

EXPERTS ON THE RISING SEAS will discuss implications for South Florida at 1:30 p.m.

Monday, Rosenstiel School of Marine and Atmospheric Science auditorium, Virginia Key. Jim Tusa from the Environmental Protection Agency, Robert Dean from the Department of Natural Resources and others will discuss coastal development, erosion and related issues.

SEPT. 23 AND 26, the Environmental Protection Institute in Washington is sponsoring a citizens' conference on tropical forests, emphasizing the role of the World Bank. On Sept. 30, participants, who will be divided as endangered animals, will stage an "all species parade."

THE UNIVERSITY OF MIAMI and the Tropical Audubon Society are sponsoring a conference on rain forests Oct. 24, 25 at the UMI campus. On Oct. 24, Norman Myers, British ecologist, will give a public lecture at UMI. On Oct. 26, he will speak at Fairchild Tropical Garden.