



CANDACE BARBOT / Herald Staff

COMEBACK: Mike Ross, in background, observes signs

Nature triumphs against the odds

Experts had predicted the worst

By **CYRIL T. ZANESKI**

Herald Staff Writer

Hurricane Andrew bulldozed South Florida's most treasured natural areas. Plowing a 30-mile-wide path, the storm toppled centuries-old coral heads, flattened more than 70,000 acres of mangrove forests, shredded venerable hardwoods in tropical hammocks and pushed Dade's already imperiled pinelands to the brink of oblivion.

"Everything was broken, knocked down, leafless," recalled **Suzanne Koptur**, a scientist at Florida International University. "It just looked so awful out there, I thought everything would die."

But the ecosystem has come roaring back.

In the national parks, the recovery seems miraculous. The invasions of exotic plants and vines that many feared has never happened. The ferocious onslaught of exotic plants in Dade's hammocks and pinelands seems to have been beaten back by the county's natural areas management team.

"When I look at the South Florida landscape now, I'm reminded of Mark Twain's



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SECOND OF 8 PARTS

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Nature makes surprising co

Hurricane fueled dramatic changes in South Florida

NATURE, FROM 1A

Famous quote: "The reports of my death have been greatly exaggerated," said Bill Platt, an ecologist at Louisiana State University and a member of a federal research team that evaluated hurricane damage.

"In hindsight, we probably started out asking the wrong question," Platt said. "Instead of asking whether these natural systems would survive, we should have been looking at how they'd survive."

"These species have had many thousands of years of evolution in hurricanes. If they couldn't survive, they wouldn't be here." Consider what happened at ground zero, Biscayne National Park.

Andrew roared ashore here, turning a forest of 30-foot mangrove trees into 10,000 acres of splintered wood. Ecologists worried here in the aftermath of the storm that the red mangrove trees — whose dramatic, arched roots provide a vital nursery for marine animals and trap sediments that would otherwise cloud the bay's crystal waters — might take decades to return.

"With the storm surge and the high winds, 85 to 90 percent of big trees died," Platt said. "People were lamenting the loss of those red mangroves, but they weren't looking at the seedlings."

"All the seedlings were underwater when the storm came through. And now those babies are 15 to 20 feet tall."

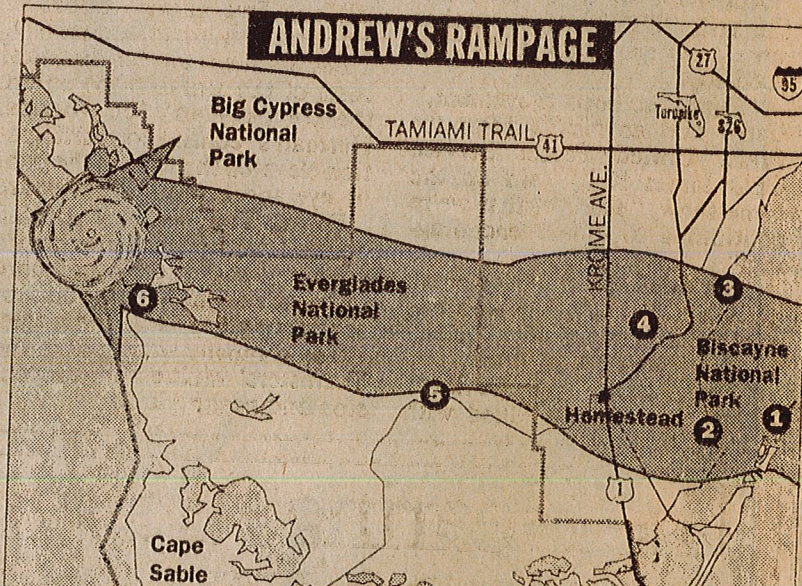
short-lived decline

The much-feared decline of fisheries and water quality brought on by mangrove destruction also proved to be short-lived. Federal biologists said marine life seemed fully recovered within a year of the storm.

Though the storm pushed and coral reefs to the park's borders, fringed corals and sponges and seaweeds through sea grass beds, the underwater park today looks remarkably healthy.



NATURE'S WAY: Pines downed by Andrew in Everglades National Park may have been a blessing, m



the young trees are as tall as those we had before the storm.

"But the pines are just one of 20 species in the pine rocklands. The understory is healthy."

The storm helped dramatically improve one of South Florida's most popular parks: Bill Baggs Cape Florida State Recreation Area at the southern tip of Key Biscayne. A \$3.3 million effort by state, county and federal agencies is restoring native plants to a 485-acre park that had been almost completely covered by towering Australian pines — an exotic pest plant — for 50 years.

"The storm created an opportunity for restoration by leveling most of those Australian pines," said Gary Milano, Dade's environmental resources

Shark River Slough were broken or sheared off at their tops. As homely as those areas looked, it was nature's way of weeding out the old so young, stronger trees and shrubs could flourish. "The small plants in the understory benefited from the open canopy and flourished," Koptur said. The invasion of exotic plants that many ecologists had feared in the immediate wake of the storm has not occurred in the national parks.

"The hammocks," she said, "recovered amazingly well."

Urban parks not as lucky

That was not the case in the urban parks where the small plants that flourish are usually exotic vines and shrubs capable of overwhelming native trees. In South Dade, nature's recovery has come with a lot of intensive care.

Dade's natural areas managers have used a \$5.4 million state

- 3 Rips open hardwood canopy at Matheson Hammock.
- 4 Ravages Dade's pine rocklands. About 90 percent of the pines died because of storm or beetle infestation that followed.
- 5 Snaps a third of the mature trees at Long Pine Key, shears the tops of hardwoods in the hammocks in Shark River Slough.
- 6 Bowls over mangrove forests. About 15,000 acres seem unlikely to recover.

Sources: National Park Service, National Biological Service, Dade County Natural Areas Management.

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CLEMENTE JANDAYAN / Herald Staff

hurricane recovery grant to battle exotic weeds that flourished in the sunlight after the storm destroyed old canopies. Five years of fighting the exotics with herbicides and chain saws seems to be paying off in the hardest-hit hammocks: Matheson, Castellow and Snapper Creek preserve.

"There's no doubt we're going to come out of this with healthier natural areas," said biologist Joe Maguire, the county's natural areas supervisor. "Nature has definitely recovered a lot better than people have."

The pinelands recovery

Some of the most dramatic recoveries are under way in the pinelands. Dade officials planted about 100,000 pine seedlings to begin replacing large, old trees killed by the storm and an invasion of pine beetles that followed. In addition, county officials are preparing to implement a new plan for regular fires in the pine forests. The burns clear off invading plants and keep the fire-resistant pines healthy.

"The pinelands are doing bet-

ter than anyone could have hoped five years ago," said Rick Vasquez of the county's Division of Forestry. "They may not look good yet because the large pines are dead. It'll take 30 years until

because of the type of storm that came ashore: relatively dry and fast-moving, causing very little beach erosion. And because it passed in a few hours, the storm didn't shove massive amounts of saltwater inland.

Andrew, nonetheless, did manage to reshape part of the South Florida peninsula — the mangrove forests on the southwest side of Everglades National Park.

About 15,000 acres of mangroves plowed by the storm north of Highland Beach on the west side of the park seem unlikely to ever recover, said federal ecologist Thomas Smith III. The storm apparently moved massive amounts of sand and mud into the mangrove areas, creating an

THE IMPACT



At 6 tonight on NBC 6 look for weather anchor Roland Steadham's report on Hurricane Andrew's lasting impact on South Florida in terms

of building codes, insurance, and people's attitudes toward hurricanes.

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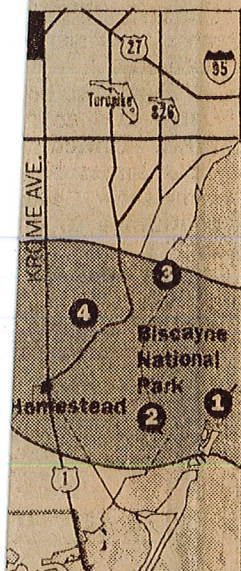
Surprising comeback

in South Florida's ecosystem



TIM CHAPMAN / Herald Staff

Everglades National Park may have been a blessing, making room for younger trees.



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"But the pines are just one of 20 species in the pine rocklands. The understory is healthy."

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oxygen-deprived condition in the soils that keeps mangrove seedlings from taking root.

"The idea that mangroves are adapted to being whacked by hurricanes and so they can spring right back is certainly not true," Smith said.

Tom Armentano, a biologist at Everglades, said that the region may just have to get used to seeing smaller, less full forest canopies overall.

"The tall, lush mangrove forests we were used to here were possible only during a period of few hurricanes," Armentano said. "The forest you get when you're getting regular storms are generally much less impressive. But that's natural. That's nature's way."

THE SERIES

SUNDAY: While most of South Florida has rebounded after Hurricane Andrew, South Dade still suffers. Coupled with the loss of Homestead Air Force Base and struggles of the agriculture industry, Andrew altered the character of a once-stable community.

TODAY: Immediately after the storm, teams of shocked ecologists surveyed snapped trunks of towering pines, bowled-over mangrove forests and defoliated hardwoods, and pronounced an environmental catastrophe. They were wrong.

TUESDAY: Whatever happened to . . . The Herald revisits instant celebrities created by the storm. Their tales reflect strength and resilience, but scars, too. Most have profoundly different attitudes and values.

WEDNESDAY: Some children of the storm have not recovered. Some show symptoms of post-traumatic stress disorder — nightmares, trouble concentrating in school. The long-term prognosis for those children: Psychologists don't know.

THURSDAY: The neighbors of Coral Woods have worked hard to bury Andrew. There's not much talk of Andrew. But in many minds, the storm lives. The Herald revisits one block that we have followed since the storm.

FRIDAY: Hurricane Andrew was not the worst storm that nature could hurl at South Florida. For all of its destructive fury, Andrew was relatively well behaved. Could we handle a big, wet, lumbering hurricane?

SATURDAY: The property insurance landscape has changed dramatically — and, consumers say, for the worse. Options are fewer, rates are steeper, deductibles are higher, coverage is slimmer.

NEXT SUNDAY: Dade County building officials promised to crack down on shoddy construction after Hurricane Andrew. Instead, they find themselves embroiled in a major scandal.

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County Natural Areas

TE JANDAYAN / Herald Staff

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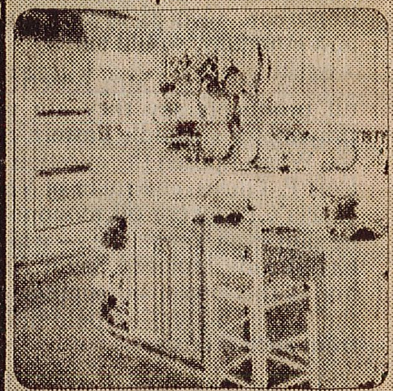
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