

## Study: Nearly 60 Everglades rare plants are endangered

Researchers spent 10 years scouring Everglades National Park in search of endangered plants and looking for patterns to help understand what threatens them.



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Of more than 760 plants in Everglades National Park, an exhaustive new 10-year study identifies nearly 60 that are critically imperiled.

Poaching remains the biggest threat to most plants, particularly rare orchids and ferns that top the list of species presumed extinct. But in the 25 years since the last study was last done, another threat has emerged for coastal plants: rising seas triggered by climate change.



George Gann, left, with Keith Bradley, right, pictured in 2007 searching for plants south of Lake Okeechobee. Gann spent 10 years documenting rare plants in Everglades National Park to produce a study park botanists say they can use as a blueprint to help manage threatened plants. Peter Andrew Bosch Miami Herald Staff

“We now have a snapshot of how things are going,” explained park botanist Jimi Sadle, who said the study is intended to serve as a “blueprint” for managing the park’s resources.

George Gann, chief conservation strategist for the Institute for Regional Conservation, completed the study and builds on his earlier research that found one in four plants native to South Florida is now extinct or endangered. Only one rare plant in the park is on the Endangered Species List, a lack of protection Gann hopes the new research will help correct.

Unlike past studies that simply counted rare plants, Gann sought to identify habitats to give park managers a better shot at saving plants.

“Patterns pop out and can really show why we really need to pay attention to these parts of the park and these habitats,” said Gann, who presented his findings Monday night at Fairchild Tropical Botanic Garden in Coral Gables.

Among the important findings: some plants moved up to critically imperiled while others moved to safer spots — his research led to 30 ranking changes for various species. Orchids remain the most imperiled plants, followed by ferns. More rare plants are found in the park’s interior than on its coast. And while most of the damage to plants occurred long ago, invasive species continue to spread through the park and pose a major threat.

Researchers also found hardwood hammocks contain more than half — 56 percent — of the park’s rarest plants, while pine rocklands come in second, providing habitat for 27 percent of imperiled plants.

The study started in 2003 when the park service enlisted Gann to look at the park’s 30 rarest plants over five years. Most existed on Long Pine Key, so Gann intended to focus his research there. But when the park hired a botanist, the work expanded. Taylor Slough was added, as well as some hardwood hammocks.

Eventually, research on the effects of sea rise were added, identifying 21 imperiled plants.

Gann also found disturbing patterns driving down populations of imperiled plants were repeated among more numerous species, indicating threats weren’t limited to rare plants.

While the study focused on the park, Gann said research is intended to shed light on management of habitats throughout South Florida and the importance of preserving what remains outside the park's boundaries.

For example, he discovered that the Richmond pine rockland tract near Zoo Miami, home to a future Walmart and plans for a Disney-style amusement park, contains 55 species not in Everglades National Park.

"That's a huge number," he said, adding it represents a population found nowhere else and should be preserved.

Other findings were more surprising. Only one tree in the park, a princewood, was found to be threatened. More research needs to be done to understand why, Gann said.

The study also gave researchers a chance to look at overlooked and hard-to-reach areas of the vast park, including western mangrove fringes.

Gann hopes the research raises the profile of rare plants so that land managers and environmentalists pay the same attention to air plants, ferns and other disappearing species that they devote to water flows and wildlife.

"As human beings, we've done a lot of damage to the native flora that we might not realize," he said. "Maybe we should do something about that ... and think about what that means for stewardship."