tude, Wu says, was a factor in his decision last year to return to the United States and join the University of Texas at Houston Health Science Center.

Lee recognizes the problem. "Especially for those who are doing well, we have to give them more resources, more assistants," he says. But he doesn't have a free hand. Salary scales have to be vetted by the president's office, which hasn't wanted Academia Sinica to get too far ahead of the national universities. And the academy's charter does not permit a career path for engineers and technicians, making it hard to retain good support personnel.

Lee says he is making gradual progress in addressing these issues. He recently won authority to appoint locally hired scientists to the higher paying "distinguished fellow" positions originally intended to lure researchers back from overseas. He also hopes to create an English-language Ph.D. program. The program would generate a ready supply of graduate students for larger research teams, while English instruction would enlarge the talent pool by attracting students from around the world. Lee hopes to win final government approval in time to enroll the first class next summer.

Such challenges are likely to fill the remaining 4 years of Lee's self-imposed 10-year tenure. In the past, academy presidents were appointed for life, but characteristically, Lee is changing the charter to limit a president to two 5-year terms. "I'll definitely be the youngest retiring Academia Sinica president," he says. "But I don't want to be one [of those scientists] who becomes a stumbling block in the path of the younger generation."

–DENNIS NORMILE

ECOLOGY

Everglades Restoration Plan Hits Rough Waters

An 11th-hour proposal to boost water flow into the Everglades has a Native American tribe—and some scientists—up in arms

MICCOSUKEE RESERVATION, CENTRAL EVERGLADES—Zigzagging by airboat through a maze of saw grass, Ron Jones spies a scene of ecological carnage. He cuts the propeller's engine to drift in for a closer look. A teardrop-shaped island, once covered with gumbo-limbo and other hardwoods, is a tangle of rotting snags. Battered by years of high waters, this and other tree islands in the central Everglades have become shadows of their former selves. That's bad news, says Jones, a wetlands ecologist at Florida International University in Miami, as the islands are havens for several endangered species, including snail kites, snakes, and panthers.

If tree islands are like canaries in a coal mine, gauging the vitality of the Everglades, then these canaries are drowning. The culprit is the biggest water engineering project in U.S. history: a network of levees, pumps, and canals built since 1948 to protect cities from flooding and to ensure that central Florida's sugarcane farmers get enough water for irrigation. Now the same agency that installed the plumbing, the U.S. Army Corps of Engineers, wants to rip much of it out and restore the so-called River of Grass to something resembling its natural state. After years of bickering over how to carry out the unprecedented project, the Clinton Administration last month sent to Congress a proposal to spend $7.8 billion over 20 years on a Comprehensive Everglades Restoration Plan.

Threatening to derail the plan, however, are concerns over funding and the science driving the massive project. One issue now complicating an already difficult congressional debate over the plan is an 11th-hour proposal to allow 20% more water—245,000 acre-feet—to flow into Everglades National Park (ENP) each year to nourish the park's ailing marshes and provide better habitat for wading birds and fish. Some scientists have pushed hard for this extra water. "In many years, the park is absolutely bone dry and the River of Grass dries up," says Stuart Pimm, an ecologist at Columbia University. "If you don't have any water, you don't have any water birds."

But the extra water may come at a cost to the central Everglades, which will have to bear the increased flow. A few years ago, scientists who helped draft the plan had mulled delivering this extra water to ENP. But they vetoed the idea because the ecological trade-off seemed too costly. "We didn't solve the problem of how we would get that extra water to the park without damaging the central Everglades" and its fragile tree islands, says John Ogden, an ecologist with the South Florida Water Management District (SFWMD), which is paying half the tab for the restoration and spearheading the state's Everglades research effort.

Sinking ship? Some scientists worry that more water means more trouble for tree islands such as this one in the central Everglades.

The idea's sudden resurrection has sparked a rebellion among a few erstwhile restoration backers whose support is deemed vital to the plan's political acceptance. Leading the charge is the Miccosukee Indian Tribe, a major player in Everglades politics. The Miccosukee say they use tree islands for hunting and for ceremonies. At a Senate hearing last week, a tribe lawyer accused the federal government of giving the central Everglades "second-class status" and thereby jeopardizing the restoration.

For years, the Everglades—which stretches from Lake Okeechobee to the Florida Keys—has been edging toward ecological collapse. Fragmentation of the wetland has parched some areas and flooded others, disrupting seasonal water flow. Invasive Brazilian pepper and melaluca have supplanted native plants, while agricultural runoff has diminished water quality. Wildlife are swooning Since the turn of the century, populations of wading birds such as wood storks, herons, and egrets have plummeted 90%.

Alleviating the Everglades's ecological ills is only one of several goals of the federal-state Everglades plan, known as the "restudy." It calls for the removal of 400 kilometers of dikes and levees over 20 years and the construction of new filtering marshes, canals, and underground reservoirs. That would allow water to flow more naturally through the central Everglades and into the park. To compensate for the increased flow through the park, the plan would shore up flood controls and fun-

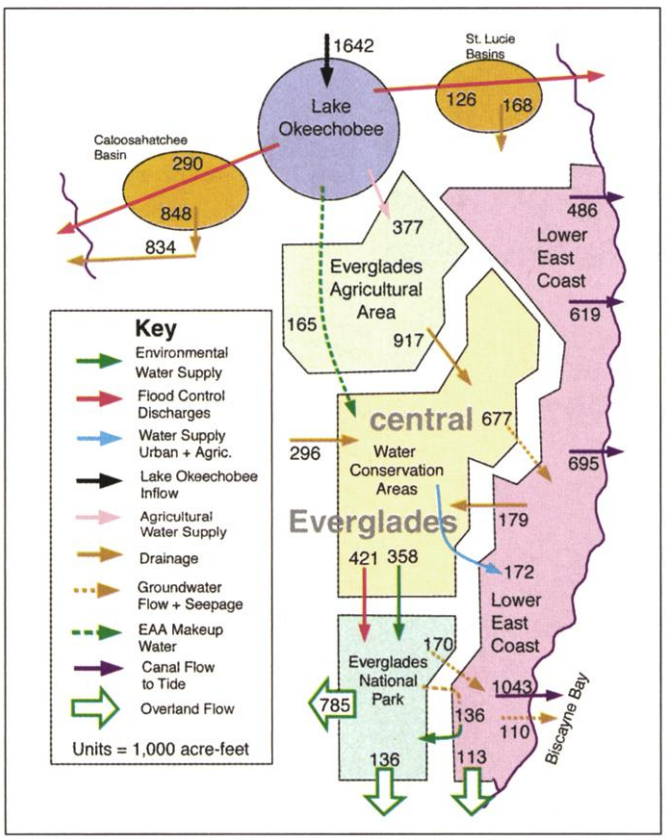
nel more water to South Florida's booming cities and surrounding farms. Although essentially an overhaul of the existing flood control system, most conservationists have rallied behind it. "It's our last hope to rescue the nation's most endangered ecosystem," says Stuart Strahl, executive director of Audubon of Florida.

But the new wrinkle—a proposal by the Army Corps to provide even more water to the ENP—has upset the delicate consensus among the stakeholders and threatens to undermine support for the restudy in Congress. At the heart of the dispute is how to heal the park without degrading the central Everglades to the north. For decades, the central Everglades has been treated as little more than a holding pen for water diverted from the agricultural fields and South Florida's East Coast cities. It's divided by levees into five pools, together nearly the size of Rhode Island, from which water is shunted south into the park. The plan would tear down many of the levees while increasing flow through the central Everglades.

Nobody has objected more loudly to that idea than the Miccosukee, whose 100,000-hectare land holdings in the central Everglades include a large swath of remnant saw grass marshes, wet prairies, and tree islands, as well as a housing expansion and a $50 million casino that opened last summer. In a lawsuit and in congressional testimony last week, the tribe asserts that the extra water would result in continued flooding and destruction of their property. The Miccosukee also contend that the additional water, which will come from urban runoff, will pollute their marshes. They adamantly oppose any more water being figured into the restoration. "We're willing to kill the restudy if we have to," says Gene Duncan, the tribe's water resources manager. "We cannot allow the central part of the Everglades to be sacrificed to the park."

Some scientists are siding with the Miccosukee—not to defend the tribe's gambling interests, but to support its contention that a central Everglades brimming with water will aggravate the plight of tree islands. "The tribe has legitimate concerns," says Lorraine Hisler, a U.S. Fish and Wildlife Service biologist who studies tree islands. She also thinks that the urban runoff would pollute the marshes. The bottom line, says Bradley Hartman, environmental services director for the Florida Game and Fish Commission, is that "if you have to jam an extra 245,000 acre-feet of water through the system, that would result in higher waters and more damage to the tree islands." Others disagree, arguing that with the levees gone, water won't get stacked up in the central Everglades.

But it would be bad news if tree islands truly are in danger, as their ecological stock is clearly on the rise. Hisler and others have identified tree islands—rock or peat mounds that comprise about 8% of the Everglades—as keystone habitat that nurtures more plant and animal life than any other habitat in the central Everglades. Tree islands provide the only refuge for land animals in the central Everglades and provide crucial roosting grounds for endangered snail kites, wood storks, and other wading birds. According to a recent SFWMD report, "tree islands may provide the best and surest measure of the overall health of the Everglades." To protect this fragile habitat, state biologists are about to initiate a major restoration effort to shore up the most degraded islands in the central Everglades. The extra water flow could wipe out this effort, says SFWMD avian ecologist Dale Galwik.



Going with the flow. By restoring a more natural flow to the complex Everglades watershed, scientists hope to boost the volume of water wending through the park without drowning tree islands in so-called water conservation areas to the north. The schematic estimates major water sources—amounting to more than 100,000 acre-feet—over an average year.

While acknowledging the ecological importance of tree islands, ENP officials say the extra water is necessary to heal the park's ailing marshes. The Army Corps proposal translates to boosting water flow from 70% to 90% of historical levels, which park superintendent Dick Ring says would allow key habitats such as marl prairies to rebound. Without that 20% increase in flow, animals that rely on the prairies, such as the endangered Cape Sable seaside sparrow, and their predators would not recover. Critics, meanwhile, contend that ENP is ignoring findings suggesting that severe soil erosion in the central Everglades over the last half-century lowers the threshold for ecological harm from the extra water. "It would be too deep for too long if you put this water in there," says hydrologist Thomas MacVicar, a consultant to the Florida Department of Agriculture.

Army Corps officials say the extra water is not a fait accompli. Although the proposal is part of the Administration's request for initial funding for the restudy, set to begin next year, the Corps will put the kibosh on the extra flow if a feasibility study over the next 4 years shows that it can't be pumped into the park without harming the central Everglades. "We made a commitment to consider, not deliver, the water," says Stu Applebaum, ecosystem restoration chief for the Army Corps in Jacksonville.

Although the restoration plan won strong bipartisan support in Congress when it was unveiled last fall—even after the extra water provision was tacked onto the plan—it's now hitting some unexpected rapids. In a hearing before the Senate Committee on Environment and Public Works last week, panel member George Voinovich (R–OH) argued that the restudy "was rushed to this Congress for its consideration." His feelings are echoed by powerful colleagues on the House side. "We need to make sure that everything we do is based on good science," says Representative Ralph Regula (R–OH), chair of the House Appropriations Committee. "I'm not sure that's the case."

Congressional staffers say their committees plan to apply pressure on the Army Corps and the state of Florida to justify the science behind the plan and its decisions about which ecological trade-offs to make. It will be a challenge for ecologists to avert the fate of the Everglades over the last 50 years, predicts SFWMD ecologist Fred Sklar, in which "we save one area and destroy another."

—KEITH KLOOR

Keith Kloor is a freelance writer in New York City.