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Lake Okeechobee The Comeback Kid

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LAKE OKEECHOBEE - Like a heavyweight boxer with a cast-iron chin, Lake Okeechobee was pummeled with a triple-header of hurricanes in 2004 and 2005 that pushed the lake to the verge of ecological collapse.

ERNST PETERS | LEDGER PHOTOS

IN THE PAST YEAR meadows of native vegetation in Lake Okeechobee's littoral zone - like this spikerush - have started to thrive again. Apple snails, which feed in spikerush habitat, are coming back, perhaps leading to the return of snail kites that were once abundant.

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Hurricanes Frances and Jeanne delivered right-handed haymakers only three weeks apart in September 2004, surging ashore near Port St. Lucie and swirling counterclockwise into the north end of the lake.

Thirteen months later, Hurricane Wilma swept up from the Gulf of Mexico with a roundhouse left hook, roiling the south end and leaving the entire lake a flooded water wilderness with few signs of life.

'Every morning when I came to work, I expected to see fish floating all over the lake,' said Mary Ann Martin, owner of Roland Martin's Marina and Resort in Clewiston. 'The fishery survived, and I was just so thankful it didn't collapse. If the fishery had

collapsed, you could have said it was a total disaster.'

There were no frogs, no insects, not even a dragonfly. Fifty thousand acres of native plants supporting the ecosystem were either ripped up or drowned out as the lake rose almost 6 feet in 90 days after the one-two punch of Frances and Jeanne.

But Lake Okeechobee, the second-largest natural lake in the continental U.S. behind Lake Michigan, withstood the turmoil and began staging a remarkable recovery in 2008 after devastating extremes of flood and drought over the past four years.

Survival has been Okeechobee's signature trademark, Mother Nature repeatedly finding a way to rebuild the complex ecosystem despite fluctuating cycles of high water and record drought.

'I don't know how this lake keeps coming back when it's knocked down,' Martin said. 'Every time when you thought this lake was on its death bed, it has come back with a vengeance. It's absolutely as gorgeous as I've seen it. The water even has a tannic color to it. It's that beautiful orangey, ice-tea color.'

Down for an eight-count, the ecosystem is replenishing itself, starting over after plunging from 17 feet above sea level in November 2005 to an all-time low of 8.82 feet in July 2007.

Lake Okeechobee's recovery centers around a new water regulation schedule more conducive to its ecological health, the rebirth of native vegetation like eel grass and spikerush, and plans to clean phosphorus-rich water before it pollutes the 730-square-mile lake.

On July 1, the U.S. Army Corps of Engineers agreed to manage the lake's depth from 12 1/2 to 15 1/2 feet above sea level. Keeping the lake in that 3-foot range represents a significant change from the 15 1/2 to 17 1/2 target in place since 1978.

Native eel grass, shrimp grass, peppergrass, bulrushes and spikerush, the foundation of plant communities that support the ecosystem, are growing back and flourishing as the water level rises.

Stormwater treatment areas are being built north of the lake to buffer pollution, and the proposed purchase of U.S. Sugar lands next year could exponentially expand off-lake storage to filter water before it enters the lake.

The turnaround is extraordinary, considering the three hurricanes destroyed entire shorelines of vegetation and left behind an open lake the color of a Yoo-hoo soda pop, an environmental ghost town with dead vegetation piled along its shorelines.

'We were right at the brink of where the system could get and have any type of natural recovery on its own,' said Don Fox, the top fisheries biologist on the lake for the Florida Fish and Wildlife Conservation Commission.

While the recovery is promising, Lake Okeechobee will always be subject to tropical storm systems in South Florida.

The lake also was on the rebound after the severe drought in 2001, but three years of progress were erased when Frances, Jeanne and Wilma swept through. And Tropical Storm Fay

interrupted the latest recovery in August with a sudden surge of rain and runoff that brought the level up to 15 feet above sea level in just 15 days.

'In a matter of two weeks, the lake jumped 3 feet,' said Corey Lee, a FWC biologist. 'But as long as we hold steady and drop down slowly, we'll be OK.'

UPBEAT ABOUT THE FUTURE

With the recovery under way, water managers, fishermen, wildlife biologists and fish camp owners are upbeat about the immediate future of the lake, almost 13 times the size of Lake Kissimmee at 450,000 surface acres.

'I was in an airboat four days ago, and it brought tears to my eyes,' Martin said recently. 'The lake is in rehab. Regrouping, re-everything. Anything you can put a 'R-E' in front of.

'I saw fish beds. I saw even a few apple snail eggs. I saws flocks of egrets, beautiful birds nesting in the potholes in the reeds. There were big heads of new bulrushes coming up, and pencil reed,' she said.

Susan Gray of the South Florida Water Management District, which manages the lake in coordination with the Corps of Engineers, said Okeechobee has proved that it can bounce back from near collapse.

'The lake has the ability to heal itself,' said Gray, the SFWMD deputy director of watershed management. 'We need to continue to focus on improving the quality of the water that's going into the system and continue to manage lake levels. Will it be exactly what it was? I don't know.'

NEW WATER LEVEL THE KEY

Fishermen like Chris Lane of Winter Haven can't wait for the winter/spring spawn in three or four months, when trophy bass will start bedding throughout the new growth in the shallows.

'I've seen it so much across the country, when lakes get drawn down for two, three or five years and the lake comes back up to normal pool, it's just the most phenomenal lake to come back to,' said Lane, a full-time pro on the Bassmaster Elite Series. 'And Okeechobee will be the same way. I can't wait to get back down there and fish it.'

Most importantly, though, Fox said the Corps' decision to keep the water at a lower level is the most crucial factor in the recovery. 'From a regulation standpoint, managing the lake to the level where it is desirable to maintain plant communities is the key,' Fox said. 'The fact that the Corps has adjusted the regulation schedule back to the schedule that was beneficial to the estuary is a large stamp.'

Fox, the project administrator in the FWC's Okeechobee office, called the new schedule a 'keystone' event in the lake's history. 'That's the big bite that we had to take. The language in the act gives the ecology of the lake a voice,' Fox said.

Gray, however, is more guarded about the impact of the new schedule because it is just now being tested with Fay raising the

level to the limits of the new regulation zone, forcing the SFWMD to discharge millions of gallons down the environmentally sensitive Caloosahatchee and St. Lucie rivers.

'I think we'll have to see how it will play out,' Gray said.

In changing the schedule, the Corps is recognizing the lake's ecological needs while also reducing structural risk from seepage to the 30-foot-high Herbert Hoover Dike that surrounds three quarters of the lake.

'It's the No. 2 structure behind the levees in New Orleans that the Corps ranks that are ready to blow out,' Fox said.

Construction of the dike began in the 1930s after the 6- to 9-foot storm surge from the San Felipe-Okeechobee Hurricane in 1928 drowned at least 2,500 people in farming communities along the south shore at Belle Glade, Pahokee, South Bay, Clewiston and Canal Point. Two years earlier, another hurricane killed 300 people around the lake.

That loss of life prompted Congress to develop plans to replumb South Florida by managing Oki Chubi, or big water as named by the Seminole Indians in the 1700s, through a system of dikes, locks, levees and canals to protect people and property.

'It's not a lake anymore. It's a reservoir, and we have to deal with that,' said Dr. Dan Canfield, a University of Florida professor who specializes in the management of aquatic systems.

HIGH WATER BANE OF LAKE

Managed at high levels for the past 30 years, Lake Okeechobee has become a battleground of competing interests, with the welfare of fish and wildlife always a low priority.

'It's serving a lot of masters,' Gray said.

Okeechobee is a flood-control project and a drinking water supply for more than 6 million people on the Gold Coast. It's a reservoir for dairy farms and cattle ranches to the north as well as citrus and row crops like corn to the south in the Everglades Agricultural Area. It's an environmental laboratory and a source of recreation for fishing and hunting. It's a commercial fishery for black crappie and catfish, and the headwaters of the Everglades.

High water has been the bane of the lake since 1978, when the Corps of Engineers raised the regulation schedule range to 15 1/2 feet to 17 1/2 feet.

Martin said the lake - approximately 36 miles long and 31 miles wide - should not be managed as a reservoir. 'They cannot manage this lake at high levels,' Martin said. 'Everybody gets in trouble with a high lake. That's why you had a breach in the dike. That's why the estuary got wiped out. That's why we had a bad lake.'

Canfield, however, said the SFWMD and the Corps are following established regulations. 'Within the law, they're doing exactly what they've been told to do, so I can't blame them, per se,' said Canfield, the University of Florida professor.

The lake's high level - it was over 14 feet for a year and a half

after the recent hurricanes - has been harmful to the ecosystem.

But the Corps' recent decision lowers the lake to a level that Fox and the Lake Okeechobee and Associated Estuaries Issue Team recommended in 2003.

And Fox said the value of fish and wildlife, often overlooked until their survival is in peril, is now more recognized by water managers.

'I think that in the last four or five years, fish and wildlife is having more of a voice at the table. Things are getting better,' Fox said. 'I think people are becoming more conscientious.'

SNAIL KITES DISAPPEAR

Last month, Fox noticed the presence of frogs and yearling bass. That's not surprising for a biologist who's worked on the lake since 1982. But it was stunning because the lake was practically devoid of life early last year.

'I was walking along the edge of the lake, and there were frogs jumping in the water, and we haven't seen that for years,' Fox said. 'I'm seeing young bass when I'm wading around.'

With Okeechobee's water level ranging from 14 to 18 feet for a total of 19 months from September 2004 to April 2006, the lake's fish, insects, reptiles and bird-life were negatively affected.

Willow communities where wading birds nested became too deep for them to wade and feed.

The Everglades snail kite, a federally endangered species that feeds on apple snails, was affected by extreme high water.

'The snail kites were gone before the drought. We haven't seen them in over 10 years,' Fox said.

Chizzywinks, a food source for black crappie, vanished. Young of the year shad, a favorite for bass, disappeared from the system because of turbid water stirred with silt.

The lake's population of crappie plummeted to a 35-year low without a successful spawn since 2001. And bass numbers were at a 15-year low.

The food chain was out of whack without the benefits of photosynthesis to maintain habitat. Without sunlight penetrating to submersed vegetation, plants like peppergrass, eel grass and hydrilla growing off the bottom died. Constant winds and waves tore apart emergent plants on the surface like bulrushes and Kissimmee grass.

'Some type of plant community has to be there. Everything runs on sunlight energy. You've got to have those building blocks,' Fox said. 'We lost all that. So we've got to get these plant communities back and make sure we don't let the water get up and destroy the rebuilding process that this drought has allowed to occur.'

Over the past year, expansive meadows of native vegetation in the lake's littoral zone, from the edge of the outside grass lines into the shallow marshes, are coming back with vigor in many

areas. Plants like native spikerush, a bulrush cousin, are thriving.

Apple snails that feed in spikerush habitat are coming back, perhaps providing hope for the return of snail kites that were once abundant.

'Nature's pretty resilient no matter how hard we try to mess it up,' Fox said. 'Mother Nature is a lot better at this than we are.'

MILLIONS HAVE BEEN SPENT

Coming out of Harney Pond Canal into Fisheating Bay on the northwest shoreline of Lake Okeechobee in mid-September, fields of spikerush were the most obvious sign of the recovery. The brown tops of the pencil-like sedge glisten in the sunlight and collectively give the appearance of a hay field.

Fox is optimistic the rebirth of all the lake's native plants will continue. But water levels must remain in the optimum range, and excessive nutrients flowing into the lake have to be reduced for Okeechobee to resemble its former self.

'We're in the process now of rebuilding it,' said Fox, who has worked on the lake for 26 years. 'Let's see what happens. Maybe we haven't seen the best yet.'

The hope is for Lake Okeechobee to return to the paradise it was before three decades of being managed at high water levels, back to when fishermen looked forward to the thrill of 10-pound bass breaking the surface.

Scientists, biologists, water managers and anglers are waiting to see how far the recovery can go.

'Will it be what it was in 1928? I doubt it. Will it be worse? Maybe. Will it be better? Could be,' said Canfield, the University of Florida expert. 'But we can make it the best fishing lake in the state of Florida.'

The battle to maintain a vibrant fishery in a well-functioning environment despite the impacts of flood control since the dike was built will remain an ongoing challenge on this lake known as the heart of the Everglades.

Billions of dollars have been spent on protection plans for Lake Okeechobee and the Everglades through state and federal projects known by their acronyms. The lake is monitored and regulated by at least six governmental agencies and five counties surrounding the lake.

Progress comes at a slow pace, with continuing controversy over the many objectives for the use of Okeechobee's water.

Canfield said there is no accountability among state and federal agencies.

'We have spent hundreds of millions of dollars and no one is willing to say what we got for it,' Canfield said.

Today, Fox and Canfield said Okeechobee continues to face the same issues it has in each of the past four decades.

'The first project to prevent the eutrophication of Lake

Okeechobee was convened by Gov. Reuben Askew (in the 1970s) the year I graduated from high school, and we're still dealing with the same issues,' Fox said. 'We haven't treated the lake very nicely.'

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Sugar Buyout Only Adds to Complexity of Everglades Restoration

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Editor's Page

Sugar Buyout Only Adds to Complexity of Everglades Restoration
by Mark R. Howard

Mark Howard,
Executive Editor

With the 8-year-old, much-ballyhooed comprehensive plan (CERP) to save the Everglades mired in its own intricacies, Gov. Charlie Crist's billion-dollar-plus impulse bid for U.S. Sugar Corp.'s lands has generated a surge of optimism. Whether the purchase will jump-start the restoration program or just throw a new bundle of complications into the picture is very much an open question, however.

The South Florida Water Management District is now slogging through the process of evaluating how much U.S. Sugar is worth. It must then negotiate a purchase price and terms, finance the deal in the current credit environment (!), decide how many of U. S. Sugar's 187,000 acres to keep, and then sell off excess acreage and other assets like the mill and the railroad that it doesn't want or need — all the while without destroying the agricultural economy around the lake.

Meanwhile, it will have to determine how to use its new land holdings to store and clean the water coming out of Lake Okeechobee — and then figure out a route for that water into the Everglades. And, of course, it will have to revise the existing comprehensive plan to reflect the new possibilities.

Alone, the issue of how many acres to keep could tie knots into the process. One of the key issues in Everglades restoration is avoiding the feast-or-famine cycle of water flow created by man-made changes that have reduced the area's ability to store water. To keep the lake from overflowing during periods of heavy rain, the water management district must dump polluted, phosphorus-laden water from Lake Okeechobee eastward and westward via canals into fragile, damaged estuaries on the Gulf and Atlantic Ocean. But if a drought follows the rainy period, the area quickly goes from too wet to too dry, with too little water for people, farms or the Everglades. Case in point: Less than two years after

the water management district dumped massive amounts of lake water into the estuaries in 2005 it had to impose water-use restrictions on the region.

The reservoirs and wells envisioned in the comprehensive plan were supposed to provide the capacity to store water rather than dump it. But none of the projects have been completed, the wells have always been problematic, and calculations of water flow based on the current weather cycle indicate the need to store more water than originally planned.

The U.S. Sugar acreage may provide plenty of room to store and clean water, but not everybody is doing the same arithmetic about how many acres are needed — and for what.

The water district has said it doesn't need all 187,000 acres to amass the 1 million acre-feet of water storage it needs to make CERP work. And it says it's committed to an approach that will keep U.S. Sugar's mill in Clewiston open. Some environmentalists, however, believe the district needs to keep as much of the 187,000 acres as it can for water treatment. A sugar industry executive, meanwhile, says the Clewiston mill won't be economical if the district takes more than about 50,000 acres out of production. Reconciling the storage goals and the economic goals will be tricky.

Then there's the land and mill owned by the Florida Crystals sugar company, which lie between U.S. Sugar's property and the Everglades. Regardless of how many U.S. Sugar acres the water management district keeps, that water is going to have to go either around or through Florida Crystals' land to get to the Glades. Some in the environmental community would like Florida Crystals to fold its tents and ride off into the sunset. That won't happen, nor should it. However you may view its behavior historically, Florida Crystals today is one of the most sophisticated, competitively run agricultural operations in the state if not the country. For power, its mill and operations consume sugar cane and wood waste in the largest biomass power plant in the country. Between the use of biomass and cane's consumption of carbon, the company has virtually no net carbon emissions. It's also working on a biomass-to-ethanol plant.

Whatever deal emerges will have to take Florida Crystals into account — and a lot of people who detest sugar companies as a matter of principle may have to grit their teeth if best serving the Everglades' interests also favors Crystals at some level.

Aside from the potential for further delaying CERP, the biggest problem with the U.S. Sugar deal is that it continues to focus on the land south of the lake as the solution for the phosphorus pollution that threatens the Everglades. Some 558 metric tons of phosphorus continue to pour into the lake each year — almost all of it from communities, dairies, farms and ranches extending north nearly to Orlando. The state's goal to maximize the lake's water quality? 105 metric tons.

Water management district figures show clearly that the agricultural area south of the lake, including the sugar company lands, contributes only a tiny percentage of the phosphorus that flows into the lake. The figures also show that the polluted lake water that flows south into the agricultural area is cleaner when it leaves the agricultural area than when it came in.

Despite the numbers, little effort is made to limit phosphorus pollution at its northern sources. Instead, the approach has been to use Lake Okeechobee as a toilet for the areas to the north, east and west of the lake — and to try to turn the land south of the lake into one big treatment facility. The 2007 expansion of the Lake Okeechobee Protection Act was an acknowledgement that controlling pollution had to involve the areas north of the lake. But that “Northern Everglades” plan, for all the packaging and lip service, was an afterthought and has continued to play a distant second fiddle to CERP.

For the moment, the U.S. Sugar deal has sucked all the air out of any broader discussion of Everglades restoration. “Everybody’s taken their lines out of the water to see if Charlie Crist can reel in the big fish,” says one observer.

But it’s still worth asking how far the \$2 billion the state will likely spend on U.S. Sugar would go if spent instead on controlling pollution and storing water north of the lake. It will be interesting in any event to see how much additional delay the deal, whether successful or unsuccessful, adds to the restoration. When it comes to preserving the Everglades, even promising new developments rarely seem to advance the cause, but rather just to add more complexity to the challenge.

Sugar Buyout Progressing

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Sugar buyout progressing
SFWMD exercising due diligence in U.S. Sugar buyout

By Pete Gawda

Okeechobee News Since Gov. Charlie Christ's June 24 announcement of the sale of all of U.S. Sugar's assets in Florida to South Florida Water Management District (SFWMD), the district has been working with due diligence preparing to close the deal, finance it and make best use of the property.

The land will be used as part of the Comprehensive Everglades Restoration Program (CERP). It will be used for water storage and treatment to clean the wa-ter before it is sent to the water conservation areas. The land purchase will also protect the St. Lucie and Caloosahatchee estu-aries from freshwater discharges from the lake by providing for more excess water to be sent south.

Offi cials have pledged that the public will be kept informed throughout the process.

“Public participation is as vi-tal to the Everglades restoration process as the projects them-selves,” said Sheryl Wood, SF-WMD general counsel. “ The citi-zens of Florida and stakeholders will play a valuable role in this process.”

The public will have the op-portunity to review and com-ment on the contract before clos-ing. A firm acquisition price has not yet

been established, but an estimated price tag of \$1.75 billion was mentioned at when the purchase was first announced.

Certificates of participation (COPs) are being used to finance the acquisition. This is a type of revenue bond that government agencies may issue to finance projects such as land acquisition. District officials stress the acquisition will be possible without raising taxes.

No timetable has been established for closing the deal. It appears that early estimates of a November closing were not accurate.

Water management officials hired the Duff & Phelps Corporation to scrutinize the appraisals, property and all aspects of the potential transaction. They will issue an independent "fairness opinion" which will give their opinion as to whether or not the sale represents a good and fair deal to taxpayers.

Engineers are evaluating res-

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tation concepts. They are looking at plans for storage, treatment and conveyance components.

To aid in contract development SFWMD has secured the international business law firm Sidny Auston, LLP. This firm will be assisting in reviewing more than 5,000 documents including title policies, surveys, leases, contracts, permits, sugar mill and citrus processing logs and maintenance records. Many of these documents are not public record until a contract is secured.

The district has assembled a team of seven independent appraisal and consulting organizations to prepare an appraisal of all U.S. Sugar assets including 185,839 acres of land in Palm Beach, Hendry and Glades counties, a sugar mill and refinery in Clewiston, a citrus processing plant in Clewiston, two railroads which own about 225 miles of track and all tangible property owned by U.S. Sugar including such things as computers, desks, and tractors. It is possible that some assets not needed for Everglades restoration will be sold to reduce the debt load.

There are ten engineering and environmental firms performing an environmental assessment for all 392 square miles. This assessment will determine the viability of the property for its intended future uses as well as the necessity of remediation. An independent engineering firm is conducting an analysis of the condition of the sugar mill and refinery, citrus processing plant, vehicles, equipment, machinery, railroads and air strip.

" This acquisition represents an unprecedented opportunity to protect and restore the Everglades in a way we never anticipated," said Kenneth Ammon, District Deputy Executive Director for Everglades Restoration. " The increased flexibility provided by these lands will present a suite of restoration options and will work to build up and enhance the federal/ state partnership known as the Comprehensive Everglades Restoration Plan."

While SFWMD is working on the financial, ecological and engineering aspects of the sale, the Office of Trade Tourism and Economic Development (OTED) is working on the economic aspect.

There will be 700 employees of U.S. Sugar out of work plus the impact on the economy of the towns at the south end of the lake.

A survey has been conducted of the communities involved and OTED is working on an impact study. Florida's Heartland Regional Economic Development Initiative will use this impact study to develop a regional economic development package. No details of this economic development program have been announced yet.

Post your opinions in the Public Issues Forum at www.newszap.com. Reporter Pete Gawda can be reached at pgawda@newszap.com.

