

The Stuart News

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Lake ills flow from history to estuary

Advocates for Lake Okeechobee and the St. Lucie River say the problems have resulted from the lake being kept too high.

By Dan McCue of the News staff

PORT MAYACA — Seen from here, the westernmost point of the St. Lucie Canal, the power and size of Lake Okeechobee is striking.

At the heart of South Florida's ecosystem, a 730-square-mile lake called "big water" by the Seminoles who revered it, rolling waves pound

with sharp rhythm on a hardened earthen shore.

Thirty miles away, however, on the east coast of Martin County, the lake's majesty is belied by a muddy, sediment-rich stain flowing through the St. Lucie Inlet and spreading for several miles into the Atlantic Ocean.

"This happens every time there are massive releases from the lake," said Gary Roderick, director of the state Department of Environmental Protection's Port St. Lucie office.

Two weeks after water managers began releasing the unnaturally high waters of the lake, and even as state legislators approved a multi-

INSIDE:

Lake releases driving anglers away from St. Lucie.

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million dollar plan to save it, the vital center of the Kissimmee-Okeechobee-Everglades ecosystem once again is bringing grief to the Treasure Coast and taxing the mettle of even the most experienced environmental regulators.

"Lake Okeechobee is all we do these days," said Roderick, whose staff, in cooperation with scientists from the South Florida Water Management District, is monitoring the impact of huge lake releases on coastal waters. "Lake Okeechobee is all we're going to be doing, at least for the foreseeable future."

The primary reason for Lake Okeechobee's problems, river and lake advocates agree, is that

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Photographer: CHRIS PER

A plume of fresh water and sediments from Lake the Atlantic at the St. Lucie Inlet.

Detailed coverage in Sports, B1



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Area resuccess legislates

ESTUARY

it has been kept too high for too long by water managers seeking to appease the water needs of agricultural concerns and coastal resi-

Just how severe and complicated the lake's problems have grown is clearly visible, as almost 2,500 cubic feet, or 18,700 gallons, of lake water per second began coursing through the Okeechobee canal into the St. Lucie River on April

Photographed by Mark and Chris Perry of the Florida Oceanographic Society, the plume of dirty water extends more than 3 miles off shore and 5 miles up and down the Atlantic coast.

We all know the lake has got to be lowered, for a number of reasons," said Leon Abood, chairman of the Rivers Coalition, a Stuartbased organization dedicated to the betterment of local waterways. "But this is unacceptable.

'It's disgusting our river has to die because of somebody else's mis-management," he said.

For those who love and depend on the lake, such sentiments are as expected as they are hard to take.

'Our sympathies are with those that want to safeguard the St. Lucie River and Indian River Lagoon, said Carroll Head, president of Friends of Lake Okeechobee, an environmental advocacy group. "The solution to all our concerns is a lower lake. The problem in getting there is, even in the short term, nobody wants our dirty water.'

Lake reshaped

During the rainy seasons of a century ago, a normally seven-footdeep Lake Okeechobee would fill steadily and spill over its rim, creat-

ing a broad perimeter of marshland stretching at least a mile in every direction.

The greater the amount of water quantities bolstered by outflow from the Kissimmee River - the more it flowed southward, ever so slowly, in a wide, shallow sheet through thousands of acres of wetlands, creating the "River of Grass" celebrated by Marjorie Stoneman Douglas.

During the early 1900s, however, farmers began draining the land just south of the lake to plant on the rich soil, and towns sprang up.

Seeing benefits in that growth, Napoleon Bonaparte Broward was elected governor in 1904 on promises to drain more of the

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Everglades.

Between 1905 and 1927, six major canals and straightened rivers were connected to Lake Okeechobee, including the St. Lucie Canal, Caloosahatchee River and the Hillsboro Canal.

After hurricanes in 1926 and 1928 killed thousands near Clewiston, the Army Corps of Engineers grew more aggressive in resting control of the lake from nature.

Within a year of the second catastrophe, its engineers began work on the 85-mile-long Herbert Hoover Dike, which now runs around the perimeter of the lake and rises 20 feet above its mean, natural water level.

After two more severe hurricanes in 1947, Congress authorized the Central and South Florida Flood Control District, which resulted in 1,000 miles of levees and canals, 150 water-control structures and 16 major pump stations—with Lake Okeechobee at the heart

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of the system.

As a result, largely because of that dike, Lake Okeechobee is now only two-thirds its original size in terms of acreage, but twice as deep as natural forces kept it for centuries

The corps, which manages the navigable parts of the canals with the South Florida Water Management District, now regulates lake levels. It holds them at certain "desirable levels" for specific times of year by releasing water south into the Everglades, west through the Caloosahatchee River and east through the St. Lucie Canal.

But what water managers consider a desirable level of water to meet the needs of agricultural interests and South Florida residents are lake levels so high they have diminished the lake's littoral region — marshes on the lake edges where fish and wildlife thrive.

The buildup of water eventually leads to massive discharges, which after 1998's heavy rains were blamed for fish kills and murky water in the St. Lucie River.

The loss of the marshes also led to another problem — without them, nutrients from agricultural areas were allowed into the lake unimpeded, creating a massive pollution problem.

Reed's frustration

For a generation, Nathaniel Reed, former undersecretary of the Interior Department during the Nixon and Ford administrations, has had a front-row seat from which to view changes in the lake. One of the state's foremost environmentalists, the Jupiter Island resident formerly was a member of the South Florida Water Management District's governing board.

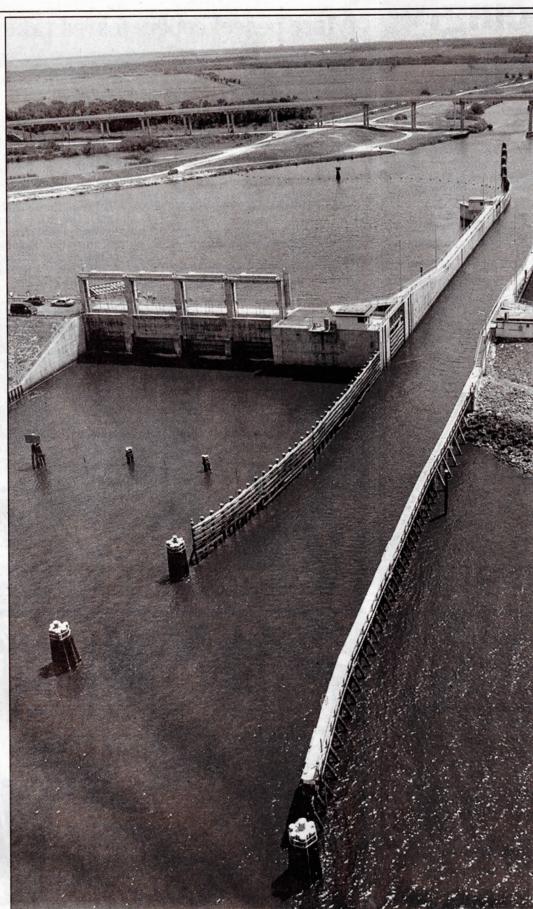
In a recent letter to Frank Finch, the district's current executive director, Reed outlined a history of the lake's deterioration, as well as his growing frustration with government agencies that were unable or unwilling to heed the warning signs.

"Lake Okeechobee's problems are not new and solutions to those problems are not unknown ...," he wrote before outlining the findings of years of publicly funded scientific studies.

"We have a clear understanding of the ecosystem forces that determine the health of the lake, its marshes and the Everglades; and (those studies have) provided a clear picture of the ecological limits of our estuaries," Reed wrote.

"After all the effort by staff, the failure to develop, fund and enact a vital ecosystem protection program (is) an environ-

mental insult."
Since the late 1960s, studies and repeated warnings — many from Dr. Arthur Marshall, an acclaimed ecologist and for a



Since the late 1960s, studies and repeated warnings — many from Dr. Arthur Marshall, an acclaimed ecologist and for a tiffic a water district board member — spoke of the grave danger the great lake was in.

In response, throughout the 1970s, the water district and the Department of Environmental Regulation attempted to persuade dairy and cattle ranchers to control their cattle wastes on their own properties.

However, no enforcement of any water quality standards was considered," Reed wrote.

After an algal bloom covered hundreds of square miles of the lake in the late 1980s, the state responded, forming the Lake Okeechobee Technical Advisory Committee.

As a result of the committee's work, John Jones, then the director of the Florida Federation of Wildlife, persuaded the Legislature to pass the Surface Water Improvement and Management Act, which requires development of a program to clean the lake.

An effort even was made to coordinate with the state Department of Environmental Protection to develop and enforce water quality laws and rules. To this day, the tonnage of phosphorus reaching the lake continues to be well more than recommended levels.

"But after the incontestable evidence of the massive change in the botanical makeup of the water conservation areas became known, the senior staff went into paralysis," Reed wrote.

A federal lawsuit, which contended neither the district nor the DEP was enforcing state water-quality standards, led to the Everglades Settlement Agreement and the Everglades Forever Act of 1992.

One of the outcomes was another round of studies that concluded phosphorus loads could be sharply reduced by marshes, which were being destroyed by high water.

Reed alleges that although previous water district boards endorsed the concept of managing Lake Okeechobee as a "lake," not a "private reservoir," that public stance was undermined by senior district staff.

The locks at Port Mayaca where water from Lake Okeechobee flows into the Okeec

Reed alleges those staff members met "secretly" with their counterparts at the Army Corps and "agreed to maintain the lake as a primary source for irrigation and urban water supply thus thwarting that decision."

Since then, he wrote to Finch, "the lake has been managed on a schedule that the Corps and District agreed to without proper review in the Sunshine, that has flooded the littoral marshes and damaged its ecological health."

'It's just a nasty soup'

If Reed provides a boardroom context of the problems, Carroll Head offers a man-on-the-lake perspective.

"It wasn't always like this," said Head, a man who has fished the lake for 39 years and still catches largemouth bass along its perimeter from his 191/2-foot Stratos bass boat.

Dawn is the best time to be on the lake, Head said in the warm country drawl that reveals a childhood spent on the banks of the Mississippi River.

"Anyone who tells you different is just too lazy to wake up and fish," he added with a chuckle.

The lake was different in 1961, when Head traveled from Jupiter every weekend to test his fortune. Several feet lower than it is today, Lake Okeechobee was dotted with pepper grass beds 40 to 50 feet wide, he said.

"Buzzing those beds, if you got out early enough in the day, you were almost guaranteed a catch," Head said.

The water was "gin clear" in those days, he said, but what really stands out in his memory were the ducks.

"Thousands and thousands of them, every winter." Head said. "So many that

hunters were as plentiful in the marshes as the fisherman on the lake."

But the lake is a much different place than the sportsman's paradise Head remembers.

"In the last 10 years, particularly, there have been great changes to lake," he said.

Don Fox, the top fisheries biologist at the Florida Fish and Wildlife Conservation Commission's Okeechobee Field Station, agreed.

"It's dirty. It's bad. It's just a nasty

soup," Fox said.

According to recent surveys by the conservation commission, the population of juvenile black crappies and largemouth black bass have declined by 80 percent.

"We could entirely eliminate the phosphorous from Lake Okeechobee tomorrow and the devastating loss of desirable aquatic vegetation would continue," Fox said. "The reason is the sustained high water levels over the past decade.

"This is not a projection for the future.

This is now."

Fox said a water level of 15.5 feet in Lake Okeechobee is the benchmark. Troubles begin when the level reaches or exceeds that mark for sustained periods.

"Before 1978, when water managers decided to keep a significantly larger amount of water in the lake, its level exceeded that mark only 16 percent of the time," he said. "For the next 12 to 15 years, the lake exceeded 15.5 feet 50 percent of the time, and, if you look at just the past five years, the lake level has exceeded that mark 72 percent of the time."

As a result, the biologist said, 95 percent of the lake's underwater grass beds, about 50,000 acres, have died in the past five

years.

"That's unprecedented," he said.

Now, Okeechobee is murky with pollu-

ECHOBEE



increasing the chances of future water restrictions for the region's cities and farms.

However, area environmentalists have

been skeptical from the start.

'They, meaning sugar, other agriculture and our neighbors to the south get a share of the water," said Max Quakenbos, a member of the St. Lucie River Initiative. "We get all the adversity."

That feeling was expressed three days after the releases began, at a meeting of

Leon Abood's Rivers Coalition.

An angry session, it verged on ugly after Dan Haunert, the water district's lead scientist on estuaries, told the group that damage to the St. Lucie River is all but inevitable.

"In the short term, this lake water will literally flush out the estuaries — flush out the algae that is the basis of productivity, Haunert said. "So it's likely you're going to lose a year's worth of crabs and shrimp and fish.

Carroll Head was at the meeting. "It's a real tough thing," he said. "I don't want to mess up the estuary — after all, I love to do my trout fishing there ... but we need this lake lowered and then kept lower all the time.

Several coalition members said the most prevalent feeling in the room was one of betrayal, a sense that state officials are not being square with them.

Water managers were saying the releases were about 1,900 cubic feet, or 14,200

gallons, per second.

"That's because the district is talking about the average volume of releases over the entire three-month period," said Lewis Hornung, Lake Okeechobee program manager for the water district. "In actual practice, more water may be being release now so that the Corps can cut back on the volume later.

The Army Corps' Web site, which updates reports on the releases, calculated the volume at about 2,500 cubic feet, or 18,700 gallons, per second.

Hornung's answer pleased no one.

"The bottom line is they should have done something about high water levels a long time ago, been upfront about it and done these releases in a way at least approaching constructive," said Fox, the fisheries biologist. "Unfortunately, they waited, delayed and made an emergency situation a necessity.

"I mean, they had the lake down to 13.5 feet last year, then let it run up to 18 feet again, June through September," Fox said "That kind of thing just irritates me and when you complain and ask, "How much water do you really need,' no one can tell

you.



Photographer: SHAMUS FATZINGER

chobee Waterway.

tion. A mud center in the lake is thought to contain at least 30,000 tons of phosphorous — the effect of increased agriculture and development combined with the absence of marshes to cleanse it.

"I have been fighting about this for the 18 years that I've been here, but in the last two years I've taken a much more upfront stance and began to push hard on certain issues," Fox said. "We're in the eleventh hour on this lake."

Here on the east coast, the combination of fresh water and pollutants, delivered in large doses through the St. Lucie Canal, has been blamed for lesioned fish outbreaks, most notably in 1998.

"I think water managers concerns about preserving the water supply are overplayed," Head said. "I have been here since 1961, living first in Jupiter and now in Okeechobee, and I have never seen a severe water shortage.

"And anyway, what's more important," Head said, "watering a golf course or sav-

ing a lake?"

Harm really shared?

Twelve days have passed since the water district's governing board ordered emergency releases from the lake to save smothered fish and wildlife habitats and give its marsh zone an opportunity to recover before the rainy season.

They called the method and volume of discharges, the "shared diversity plan," meaning all of South Florida would share the harm that everyone involved acknowledges will come with saving the lake.

Barring significant rainfall and or severe problems in the estuaries, water managers plan to continue the releases through July.

In ordering the action, members of the governing board said they might be

Cleanup projects

Testing of the lake water pouring into the St. Lucie River began Tuesday. In addition to water quality assessments at 11 monitoring stations, the district and state Department of Environmental Protection also are doing bi-weekly monitoring of sea grass and oyster beds.

Will the anticipated harm be worth it? Few people answer that question direct-

ly.

you.

"If the question is will this work, will we accomplish my goals, the answer is the weather will have the last word on that," said Dr. Alan Steinman, director of research on Lake Okeechobee for the water district.

"They real key is whether we can hold the lake down for any appreciable amount of time. If we get a drier than normal start to the rainy season, odds are we will. If not, we won't.

"I think the key thing is, this is a tradeoff. Two wrongs don't make a right, but we are helping the lake a lot by doing this."

Steinman said his goal is to see the lake

managed as a lake once more.

" I think that's everybody's goal," he said. "And I honestly think the payoff has

just begun to happen."

More than three decades after scientists first expressed alarm about the deterioration of Lake Okeechobee, state legislators this week gave final approval to the first stage of a 15-year cleanup that could cost \$1 billion to \$2 billion.

The Legislature's proposed state budget, formally adopted Friday, includes \$38 million for the first year of cleanup projects

and related land purchases.

The plan orders South Florida water managers to work on a series of pollution studies and some modest projects, which include restoring isolated filter marshes north of the lake.

A final cleanup plan is expected by 2004. By 2015, water flowing into the lake must meet state cleanliness standards.

To biologist Don Fox, though, that will

be too late.

"These projects aren't supposed to be complete until 2010. ... By then, this won't be an issue," he said. "The lake will be dead."