Polluted Lake Apopka seems poised for rebirth

By Kevin Spear
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The celebrated attempt to restore Lake Apopka that backfired a dozen years ago haunts a new, more-cautious effort now to revive some of the most defiled water in the country.

By the end of next year, those overseeing the giant lake's restoration expect to flood the last of the long-fallow farms along the lake's north shore, transforming them into a vast marsh resembling the area's original, natural environment.

That cropland is still stained with notorious pesticides that in 1998 killed hundreds of pelicans, wading birds and raptors when the flooding was first tried. But this time, anxious scientists have taken steps to prevent the toxic residue from poisoning a wetlands food chain that is expected to burst to life again once the field pumps are turned off and rains inundate the fertile soil.

The project's goal: end the dumping of foul farmland runoff into one of the state's largest lakes — just six miles from Orlando — in the hope that, after decades as a repulsive body of water, it will once again attract large numbers of sightseers, anglers, boaters and wildlife.

“We can imagine it being a very popular destination,” said Robert Christianson, land-resources director for the St. Johns River Water Management District, which is responsible for the restoration.

The lake, which covers 50 square miles of Orange and Lake counties, won't become anyone's favorite swimming hole anytime soon.

For much of the past century, sewage plants, citrus processors and giant vegetable farms dumped their wastewater into what had long been treasured as a fishing paradise. That runoff was polluted with phosphorus and nitrogen compounds, which fed a devastating growth of algae. The lake's waters thickened into a sickly green slop that smothered aquatic grasses and lily pads while nurturing trash fish.

Scientists working on the lake's rebirth see no feasible way now to actively cleanse the lake's 53 billion gallons. But once runoff from the former farmland is cut off, the mass of algae, bubbling with fumes of decomposition, should sink and solidify within a few decades, if not a few years, restoration manager Dave Walker said.

The more immediate appeal of the project is what it would do to the 20,000 acres of former farmland on the north shore, turning it into a haven for an astonishing number of bird species.

When much of that land, acquired by the state in the 1990s, was flooded in the fall of 1998, it attracted more than 100,000 birds in nearly 200 varieties. Explanations for its popularity varied: The birds had ancestral memories of a healthy Lake Apopka. The huge lake was a visual bull's-eye for migrating flocks. The infant wetlands were the avian equivalent of a new and very tempting roadside restaurant.

But after gorging on fish swimming in the shallow waters of the former cropland, at least a thousand birds died, their brains laced with highly lethal doses of agricultural pesticides. The farmland was pumped dry to cut short the massacre.

Today, after postmortem experiments and a cautious resumption of the flooding in monitored phases, the birds are back.

348 bird species

Self-taught ornithologist Harry Robinson of DeLand has become something of a legend by documenting Apopka's birds at least three days a week, 12 hours each day.

His reports and a two-volume, self-published book, “The Birds of Zellwood,” from the name of a nearby town, chronicle a total of 348 species — nearly as many as documented at Merritt Island National Wildlife Refuge, the renowned coastal birding site east of Orlando.

Among Robinson's favorite encounters: 1,233 nighthawks, the state's highest recorded count, on Sept. 11, 2002; 1,560 swallow-tailed kites, “swooping, circling, so aerobatic,” on July 26, 2006; and 1,660 black-bellied whistling ducks, deafening to be near, on Feb. 5, 2010.

This summer, standing on a levee in a soggy breeze, Robinson focused his spotting scope on the face of a whooping crane 100 yards away. The rare crane blinked, screening its yellow iris.

The British-born Robinson, a quiet, listening man, smiled slightly. He likes to find unusual birds, usual birds in great numbers, or displays he calls “spectacles.”

“It doesn't matter what the species is, but just something out of normal,” he said. “Like, I've stood here in the mornings and flights of white ibises come, strings and strings and strings of them crossing over until just before sunrise.

“You can't really explain very well how spectacular it is here.”

The water-management district plans to let others find out.

“Lake Apopka has the potential to become one of the premier bird-watching destinations in the country,” said Gian Basilli, a district assistant director.

'Dirty dozen' chemicals

How that would happen is uncertain, however. The district's budget was slashed earlier this year by the governor and Legislature, so it can little afford to manage a new wildlife refuge. Still, visitors will come, anyway.

Orange County is paving a nearly mile-long trail from Magnolia Park on the lake's east shore to the former farmland, creating the first public entrance. That segment, and a proposed loop trail around the entire lake, would connect with an 18-mile-long unpaved path across the former farmland.

That area “would be the biggest draw,” said Greg Gensheimer, chairman of the nearby Green Mountain Scenic Byway and a loop-trail advocate.

Regardless of how Lake Apopka's popularity progresses, the water-management district expects to remain custodian of the defunct farms' dark side. The soils beneath the new wetlands are still steeped with DDT, dieldrin and toxaphene, some of the world's “dirty dozen” worst chemicals.

Based on research conducted after the 1998 bird deaths, the district in 2007 hired Allen Machine & Equipment Company from Roscoe, Texas, using specialized Baker plows with 52” blades, to deeply plow under 6 square miles of contaminated topsoil. That was done to separate the pesticides from the fish that would thrive once the fields were allowed to flood again. It took years of experiments to predict at what concentrations the pesticides would not taint the fish enough to kill feasting birds.

“We need to see that those predictions are holding,” district scientist Mike Coveney said.

Another safeguard: This time around, the district is initially flooding fields with only inches-deep water, to promote a lush growth of wetland plants to further remove the pesticides from the birds.

Slow improvement

The lake itself, long likened to pea soup, is already improving.

One recent morning, monitoring scientist Paul Ek steered his boat across Apopka to inspect a thriving patch of lily pads.

“Whenever you heard about Lake Apopka, people would make a face or crack a joke,” said Ek, who grew up in nearby Montverde. “It was a joke.”

With farmland discharges reduced, the water is slightly cleaner now, and Ek pointed out eelgrass, pickerelweed and other plants recovering in the shallows along the shore.

Even alligators, plagued by pesticides and malnourishment, have rebounded.

Such signs suggest that Lake Apopka's rebirth is at hand, though optimism is guarded. Many thought the same thing back in 1998.

That year's bird kill wasn't the worst on record. For example, at least eight times as many birds died in last year's Gulf of Mexico oil spill.

But what made the Lake Apopka disaster stand out: Good intentions killed those birds.

Heath Rauschenberger, a compliance supervisor for the U.S. Fish and Wildlife Service in Jacksonville, said that, given the huge number of birds at the lake at the time, the number of deaths was relatively minor if “you boil it down to the hard, cold science of it, to total logic, with no emotion.”

“But it was such a blow emotionally. It was like the Hindenburg. Everybody was, 'Wow, this is great, this is wonderful,' and then it's, 'Oh, the humanity.'

“We're not out of the woods yet,” he said of the latest restoration effort, “but we're on the way.”

Timeline of trouble

Recovering from disaster

Efforts to clean Lake Apopka went terribly wrong in late 1998 during what had been a celebrated attempt to turn shoreline “muck farms” back into wetlands. Pesticides in the soil killed hundreds of birds that had flocked to the newly flooded fields, until the St. Johns River Water Management District pumped the land dry again.

1996: State approves nearly $100 million to buy farms on north shore.

1998: Former cropland is flooded.

1998-99: Hundreds of birds die; pesticides blamed.

1999: Flooded farmland is drained.

2001: Federal investigators confirm pesticide poisoning.

2002: Flooding resumes on farms not linked to deaths.

2003: Water district accepts blame for deaths.

2005: Tests show how pesticides went from soil to fish to birds.

2008: Flooding begins on farmland linked to deaths.

2012: Flooding to be completed.

SOURCE: Sentinel research

Link to pictures: http://www.orlandosentinel.com/news/os-lake-apopka-rebirth-photogallery,0,3861395.photogallery