

The People of the Lake and the Restoration of Lake Apopka

An Interview with Dr. Joseph Siry

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Fig. 1. Dr. Joseph Siry.

“A prevailing assumption in the narrative of science is that scientific findings rarely influence policy decisions until some natural catastrophe, traceable in part to human ignorance, offers an opportunity for scientists with vision and social responsibility to suggest environmental safeguards.”

Dr. Joseph Siry, Marshes of the Ocean Shore

1. “Ich Dien” (“I Serve”)

Dr. Joseph Siry (Fig. 1) served one year as a River Restoration Coordinator for Florida Defenders of the Environment during efforts to restore the St. Johns River Watershed. Today, as Associate Professor of Environmental Studies at Rollins College in Florida, Dr. Siry is engaged in the Apopka Community Partnership. As part of SPARC (Service Philanthropy Activism Rollins College), Dr. Siry introduces his students to local communities through service-learning days and activism by partnering students with community agencies across Central Florida.¹

2. Lake Apopka

Lake Apopka in the St. Johns River watershed of central Florida is the fourth largest lake in the state (Figs. 2 and 3). The clear, spring-fed

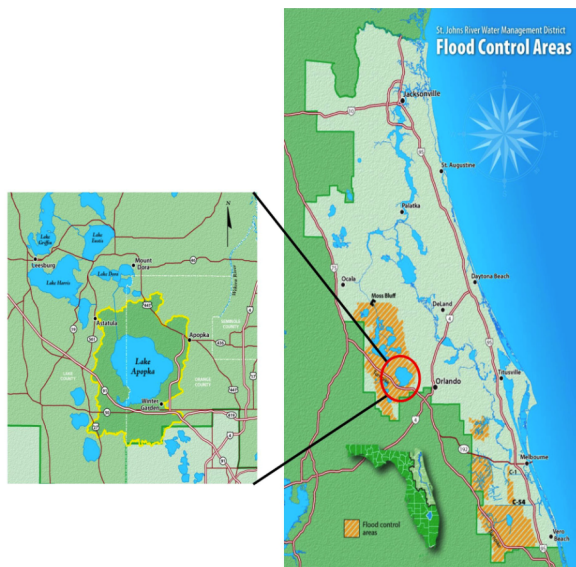


Fig. 2. Location of Lake Apopka, FL.



Fig. 3. Dr. Siry at Lake Apopka.

waters was once a world-class largemouth bass fishery. The freshwater marshes on the periphery of lake once served as a wintering area for waterfowl, shorebirds, and other migratory bird species. Historically, Lake Apopka and its surrounding shores provided multiple habitats for a diverse assemblage of species in a complex food chain that supported fish, reptiles, amphibians, and their predators.¹

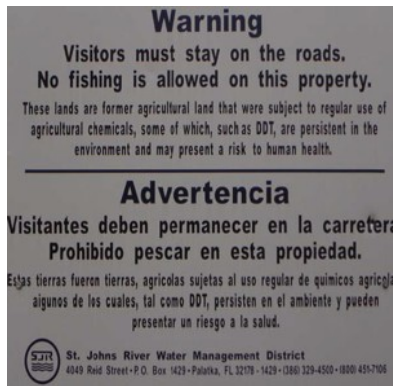


Fig. 4. The ‘tragedy of the commons’ at Lake Apopka.

3. Contamination

In the 1940s, 20,000 acres of wetlands on Lake Apopka’s north shore were drained for farming. Farmers used water from the lake for irrigation. The alternating cycles of flooding and draining of the fields resulted in a heavy run-off of fertilizers and pesticides. Algae blooms ensued and turned the clear waters to a pea-green color. But nutrients were the tip of the iceberg. Two Superfund sites, located on opposite ends of the lake, have leaked pesticides into the ecosystem since 1979 (Fig. 4).

4. The People the Lake

Fishing was a food source for farm workers and other people in the communities surrounding Lake Apopka. But toxins were stored in the fatty tissue of the fish and workers regularly consumed catfish. A massive die-off of birds finally alerted the people to the dangerous conditions of the lake. Unfortunately, Lake Apopka farm workers had already been exposed for decades to the organochlorine pesticides aldrin, endrin, dieldrin, chlordane, DDT, and toxaphene as they toiled in the fields.³



Fig. 5. Workers process produce near Lake Apopka³.



Fig. 6. The ‘people of the lake’².

5. Collateral Damage

Farm workers at Lake Apopka (Figs. 5 and 6) now suffer from life-threatening health problems. Even the children of the people of the lake are suffering. As some of these children approached puberty, males exhibited abnormal sexual development, which paralleled the effects recorded in wildlife research on the alligators in Lake Apopka. Like the alligators, these boys have significantly shorter penises than the unexposed boys of the same age.⁴

6. Restoration Efforts at Lake Apopka

A constructed marsh flow-way system filters nitrogen and phosphorus from Lake Apopka (Fig. 7). Water quality has improved since 1995. From 2004 through 2009, the annual average total phosphorus concentrations in Lake Apopka water during marsh flow-way operating periods averaged 43 percent lower than the baseline period, the algal chlorophyll *a* concentration declined 35 percent, and the Secchi transparency improved by 53 percent. Unfortunately, both Superfund sites have been only partially remediated. The EPA periodically monitors the sites.²

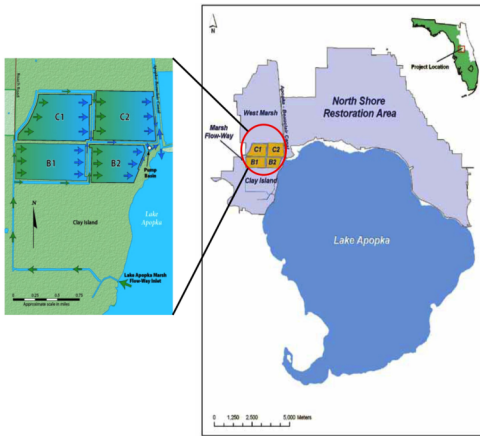


Fig. 7. Marsh flow-way nutrient removal system².

7. Restoring the Human Community

“... the continuing paradox remains of how the best of intentions of three generations from reclamation, to agricultural prosperity, to wetland restoration continue to stop us from seeing the people of the lake.”

Dr. Joseph Siry

8. FOR MORE INFORMATION

References

¹<http://myweb.rollins.edu/jsiry/Apopka%20Community%20Partner.html>

²<http://floridaswater.com/lakeapopka/history.html>

³Florida A&M University

⁴Colborn et al. (1997) Our Stolen Future

St. Johns River Water Management District

<http://floridaswater.com/lakeapopka/history.html>

Dr. Joseph Siry's webpages

http://myweb.rollins.edu/jsiry/Lake_Apopka_as_political.htm

http://myweb.rollins.edu/jsiry/Apopka_People-of-the-lake.html

Florida Farm Workers Association

<http://apopkaquiltproject.blogspot.com/>