

Water quality in Southwest Florida has been and will continue to be a focus in the local news. Given the importance of our coastal waters to residents and visitors, it may be helpful to examine the current situation.

First and foremost, it is essential to recognize that Sanibel's waters are an integral part of a water system that stretches across the whole of the southern part of the state. Secondly, it is not just the rivers and lakes which impact the system, but the runoff from watersheds that surround these bodies of water. In a way, Sanibel is at the 'end of the line' for whatever happens further upstream.

The major influences on the quality of our local water are discharges from Lake Okeechobee and the runoff into the Caloosahatchee River that occur downstream from the Lake. The contribution each makes at any point in time depends on the amount of rain the region is receives.

While the state has experienced a drought in the past few years and the Lake level was down to 11.3 feet 2008, the drought seems to be over now and the lake has risen to 14.74 feet. For some time, no water was being released and there was stagnation in the Caloosahatchee below the dams. The situation has now changed dramatically. Recent releases from the Lake have averaged 2200 cubic feet per second (cfs). This is close to the level of 2800 cfs, where significant damage could be done to our estuary.

Already, oyster beds and seagrasses in the Caloosahatchee have died. While plans call for reducing these releases temporarily, the high level of water in the lake poses a threat of future greater releases as the rainy season arrives.

Major headway has been made in modulating the water release schedules from Lake O to prevent a repeat of the 2004 and 2005 extremely high flow rates of nitrogen- and phosphorus-rich water down the Caloosahatchee. However, this is but one of the complex interrelated set of problems which combined together impair our coastal waters. The impact of wild fluctuations of rainfall on the volume of water entering Lake Okeechobee, the percolation of nutrient rich groundwater into the system from the Kissimmee and Caloosahatchee River watersheds, and the lack of water storage capability in extreme weather situations all compound the problem. We should be proud that the City of Sanibel and Sanibel-Captiva Conservation Foundation have been leaders in stimulating action on these issues.

(A) WATER STORAGE: To accommodate the heavy rains which often accompany hurricanes, it has been calculated that there should be a capability of managing a water excess of 3.3 million acre-feet between the headwaters of the Kissimmee River and the outflow of the Caloosahatchee River. An acre-foot is the volume of water sufficient to cover an acre of land to a depth of one foot.

i) Storage north of Lake Okeechobee: I foot of rainfall in the Kissimmee valley results in a 4 foot rise in Lake Okeechobee. The continued restoration of the Kissimmee River to its original shape (the numerous bends in the River were eliminated some years ago effectively making it into a 300-foot wide canal) and the rehydration of its historic watershed could provide 1 million acre-feet of 'storage'.

ii) Restoration of flow south out of Lake O: Historically, water flowed south from Lake O to the Everglades in the so-called 'River of Grass'. With the construction of the Herbert Hoover Dike around Lake O about 70 years ago, this natural flow-way was blocked. Almost all excess water now has to flow down the Caloosahatchee and St. Lucie rivers and the Everglades are deprived of its freshwater source. Currently, the State of Florida intends to buy 73,000 acres south of Lake O which potentially would allow for a reopening of a flow-way south. It is the first phase of a planned 180,000-acre purchase. It will take years for this complex project to be completed. Ultimately it is projected that the area south of Lake O could accommodate 1.5 million acre-feet of excess water flowing into Lake O.

iii) Storage along the Caloosahatchee: The South Florida Water Management District does not plan to include a water treatment unit with the West Basin Storage Reservoir (C-43) at LaBelle. When completed, this facility would provide storage for 170,000 acre-feet of excess water flowing in the Caloosahatchee, but could promote algae growth without a water treatment unit.

After completion of the above projects there still remains a shortfall of about 600,000 acre-feet of water storage in South Florida to meet worst-case rainfall scenarios. Under current consideration is the proposal to rehydrate Lake Hicpochee, one of the historical lakes of the Caloosahatchee, which sits directly downstream of Lake O. It is clear this and all other projects discussed will not come to fruition unless the residents and representatives of Sanibel and other impacted cities keep the pressure on the South Florida Water Management District and the State of Florida.

In addition to excessive water flow in the rivers, our coastal water is adversely affected in large measure by water runoff from the Kissimmee and Caloosahatchee watersheds. Agricultural and livestock farms, septic systems, wastewater treatment plants, stormwater and landscape fertilization all contribute to the dangerously high nitrogen and phosphorus content of our rivers. Among other adverse effects, these nutrient-rich contaminants contribute to the serious algae problem which we have experienced locally.

Our mayor Mick Denham has been most effective in identifying these problems and building coalitions to address them. As chairman of the Lower West Coast Watershed Subcommittee (LWCWC) of the Southwest Regional Planning Committee, he has been a leader in revealing the sources of our river and coastal water contamination. He developed and instituted a fertilizer ordinance for Sanibel which has served as a model for communities across the state. Under his leadership, the LWCWC has defined regulations and control guidelines for surface water discharges from wastewater and package treatment plants. Regulations and management guidelines of septic systems in new and older communities and stormwater runoff are also a mandate of the LWCWC.

As one can imagine, there is pressure from many different sources to delay or prevent implementation of all the plans outlined in this summary. Also, financial constraints have become more intense in the past months. If we are to win the battle for clean water, residents need to keep informed and play their part in ensuring that appropriate measures are taken to solve our water quality problem.