

9. **OLD BUSINESS**

- a. Water Quality Issues
- 5. Other

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT GOVERNING BOARD
MEETINGS FOR 2006**

The SFWMD Governing Board meetings on the 2nd Wednesday of the month on the following dates:

January 11
February 8
March 8
April 12
May 10
June 14
July 12
August 9
September 13
October 11
November 8
December 13

The meetings are held at the SFWMD Headquarters at 3301 Gun Club Road in W. Palm Beach.

Natural Resources Department Memorandum

Date: December 29, 2005

To: City Manager Judie Zimomra

From: Natural Resources Director Robert K. Loflin, Ph.D. 

RE: Lake Ocheechee release damage summary

The following is a predominantly non-technical synopsis of the adverse impacts of the ongoing discharges from Lake Ocheechee to local coastal waters:

Negative Impacts to marine resources and fisheries:

Area of greatest impact: At least 25,000 acres of estuary at the mouth of the Caloosahatchee River and within San Carlos Bay, southern Matlacha Pass, and southern Pine Island Sound.

Primary Impact: The ongoing die-back and potential permanent loss of over 10,000 acres of seagrass, critical to the marine food chain and to endangered species including the West Indian manatee and sea turtles (especially the green sea turtle (*Chelonia mydas*) and the loggerhead turtle (*Caretta caretta*)). The species most affected are: turtle grass, (*Thalassia testudinum*), manatee grass (*Syringodium filiforme*) and shoal grass (*Halodule wrightii*). In the impact area, these species have already all dropped their blades as a result of the discharges. If continued as planned by the U.S. Army Corps of Engineers and the South Florida Water Management District, these releases could result in a catastrophic and widespread seagrass die-off which would manifest itself as a complete functional collapse of the estuary, taking many years to recover. The discharges are turbid and dark polluted freshwater which kills these marine species due to low salinity, blockage of sunlight and elevated levels of the nutrients nitrogen and phosphorus. These artificially high nutrient levels promote damaging algae growth on the individual grass blades, can result in macro-alga (seaweeds) establishing at un-natural levels in the seagrass beds themselves which physically crowds out or even replaces the grasses, and algal and diatom blooms in the water column that further block sunlight and use up oxygen. The recent blue-green algal bloom in the Caloosahatchee River and San Carlos Bay caused by the discharges was of a poisonous species (*Microcystis aeruginosa*), which produced toxins that resulted in fish kills and numerous secondary effects including reported health effects on humans. The extremely high sediment loads flowing within the discharges also has the potential to simply cover and kill seagrasses as it settles out in the bay. These sediments will have a continuing and long-lasting negative effect on the estuary and along Gulf of Mexico beaches as they become re-suspended during every high wind event and storm and as they slowly release their bound nutrients into the surrounding waters, prolonging the damage to seagrass beds.

Secondary Impacts: The low salinities and high sediment load of the release waters is killing marine filter-feeding species and destroying entire fisheries throughout the estuary. Oysters, clams, mussels, barnacles, sponges, tunicates and corals that normally filter and clean our local waters are being destroyed. Oyster bars, (comprised of eastern oyster (*Crassostrea virginica*), in particular are a critical component of our bays as marine habitat and cannot withstand protracted periods of low salinity. Many species of estuarine fish and shellfish also cannot tolerate pure freshwater or the loss of their habitat within healthy marine seagrass beds and entire year classes of commercially and recreationally valuable species such as speckled seatrout (*Cynoscion nebulosus*), gag grouper (*Mycteroperca microlepis*), blue crab (*Callinectes sapidus*), stone crab (*Menippe mercenaria*), and pink shrimp (*Farfantepenaeus duorarum*) may well be lost in the impact area. Loss of such an extensive array of species will have a ripple effect in surrounding waters including a reduction in baitfish and crustaceans supporting adjacent commercial and gamefish fisheries. Seabirds, shorebirds and wading birds are losing critical food resources and feeding habitat to such a degree and for such a duration that would be expected to negatively affect their local populations.

Adverse Impacts to Economic Systems: Local industries and stakeholders that are reliant on healthy estuarine conditions include:

- 1) Tourism and related and co-dependent industries such as hotels, restaurants, retail stores, ecotourism, etc.
- 2) The entire boating industry (involves numerous marine trades and jobs including marinas, boat and engine sales, boat building, repair, maintenance, rental, boat trailers, water skiing, sailing, kayaking, canoeing, boating safety equipment, supplies, fuel, clothing, etc.)
- 3) Fishing, including:
 - a) Significant commercial industries for: mullet, blue crab, pink shrimp (both for bait and direct consumption), grouper, snapper, seatrout, stone crab, clams and seashells
 - b) A huge recreational fishery for primarily seatrout, redfish, snook, tarpon, sheepshead, gray snapper, grouper, pompano, mackerel and shark
 - c) Fishing related trades especially commercial guides, bait and tackle supply, seafood restaurants and shops, etc.
- 4) Real Estate
- 5) Quality of Life for residents.

All of these industries and entities within and surrounding the impact area are experiencing profound and potentially devastating effects from the releases. The sediments deposited at the mouth of San Carlos Bay and along the eastern beaches of Sanibel Island and all of Fort Myers Beach will have long term impacts to the beauty and clarity of the Gulf of Mexico as they are repeatedly stirred-up by winds. The excessive nitrogen and phosphorus-based nutrients will continue to contribute to algal blooms, including the toxic varieties, over-production of seaweeds that wash up and degrade beach conditions, and fish kills including very likely exacerbating the severity, frequency and duration of red tide outbreaks.

