

Lois Edwards

From: <Dale.E.Beter@saj02.usace.army.mil>
To: <ledwards@coastaltechcorp.com>
Cc: <Dale.E.Beter@saj02.usace.army.mil>;
Sent: Thursday, October 31, 2002 12:32 PM
Subject: FW: Palm Beach restoration plans
Lois:

I spoke with this gentleman on the phone. Here is his written comment for your file.

Thanks,

Dale Beter

-----Original Message-----

From: Robert Swinson [mailto:swinsonr@bellsouth.net]
Sent: Thursday, October 31, 2002 12:00 AM
To: Beter, Dale E
Subject: Re: Palm Beach restoration plans

Mr. Beter,

Since we spoke on the phone last week I have taken time to do some research on the internet, speak with some local members of the community, and visited the site myself. I have to agree that the beaches through that section of Palm Beach are in pretty sad shape. Can we repair them AND the actual cause of the erosion?

After I wrote this I realized it became a bit long rambling. My suggestions are at the bottom. A few in the middle. This is a first draft that I will probably clean up a bit and add a little to over time. But it covers most of my findings and opinions on this project. And it is late tonight.

My suggestions are simple in that I think a natural flow of sand should be restored and maintained. Implementation of that project is overwhelming in the scope of what will have to be done to accomplish that.

I look forward to future conversations with you and I would like to invite you to speak with our dive group about activities of the Corp.

Sincerely,
Robert Swinson

First, from a brief overview of the History of Palm Beach County Inlets I located on the Palm Beach County web site.

A few nights spent reading through historical reports of the Palm Beach

County inlets from the County's web site made me aware of how long ago the problem started. "In 1844, a mail carrier and four helpers dug the inlet open with shovels. Water flooded through and created a channel nearly a quarter mile wide. The inlet stayed open until 1847 then closed for six years". We've been battling the natural flow of water and sand ever since. This was the Jupiter Inlet.

The Lake Worth inlet started in 1860 when August O. Lang dug a trench from the lake to the ocean and let the fresh water of the lake drain down to sea level. The start of two problems; an inlet that was constantly being filled and re-dug, finally to be dredged to the inlet we have today, and a formerly fresh water lake that was now subjected to the salt waters of the ocean and the ever increasing pollution of the growing population.

The south Lake Worth inlet, (Boynton Beach inlet), was opened in 1927 after two years of construction. The inlet "was deemed necessary for for shipping and transpiration but primarily for health and sanitation because water quality in Lake Worth was declining."

The story of the Boca Raton inlet is pretty much the same. In 1966 the inlet was closed by a storm. The waters of Lake Boca were recognized to be polluted and the city of Boca Raton quickly ordered it open although not deep enough for boat traffic.

The problems of sand migration have been evident from the beginning. Just the problem of keeping the inlets open make that obvious. In 1937 a sand transfer pump was installed at the Boynton inlet. Within six months a 150 foot wide beach grew in front a the seawall which had been constructed by a man named McCormick and the shoaling inside the inlet decreased.

The North Lake Worth inlet, (Palm Beach), would not have a sand pump until 1958. This pump system was allowed to fall into disrepair and did not run for a period of six years starting in 1990 when the discharge pipe finally gave in to repeated damage from dredging operations and rust.

Palm Beach Shores, located on the north side of the Palm Beach inlet are quite happy with the expanse of the sand on their beach. Most likely from the six years of the pump being shut down. There was discussion at a January 21, 2001 commission meeting of the Town of Palm Beach Shores mentioning rumors of a plan to upgrade the sand pump. Vice Mayor Hayes stated that he had met with representatives of Palm Beach County and assured the commission that there were no plans in the works to upgrade the sand pump.

A document discussing the history of Palm Beach Shores mentions that the beach has grown instead of eroding due to the Palm Beach inlet.

My suggestions for JUST replenishing the Phipp's Ocean Park section.

1. Make certain the conditions during the dredging operation are favorable to the sand staying in place. Currents around the reefs and inshore can be unpredictable. While diving we experience currents on the bottom running the opposite direct as those on the surface.

Currents do not run only north and south. Sometimes we experience currents pulling us across the reef to the out side while the surface may be still. Perhaps having divers in the water outside of the area could give a good account of what was actually occurring.

2. Don't rely on a towed video survey of the borrow areas. Many creatures live in the bottom itself. Some one needs to actually dive the site. I intend to soon if time and conditions permit. In areas that have not been drastically disturbed for a while, you can settle on the bottom a see many small fish that build their homes in the sand. Moray eels find their homes there too. Night dives that wind up "over the sand" will see starfish and stingrays lying in the sand. Others will be foraging through the sand for food.

3. Rethink the idea of placing an artificial reef just past the surf line composed of rocks and hard debris. Although these rock piles attract many types of ocean life, they may not mimic a naturally occurring reef. Study natural reefs in the area such as the area know as Commercial Pier in Ft. Lauderdale. (If these are natural). This a beautiful area to dive from the beach and would be an attraction to divers and snorkelers looking for photographs and lobsters. It would also attract fish that could be caught from the beach as well as from boats.

4. The residents may not be aware that this artificial reef will attract stingrays, sharks and barracudas. I dove a rock pile just north of Boynton Beach's public beach, in 12 feet of water, from just after it was placed there for a couple of years. With in a couple of months there was growth on the rocks, small tropical fish were plentiful. On several occasions I was in the company of several large barracudas. A large stingray made it his home for a while.

5. Study the cause of the erosion. These condos are built right against the old A1A road bed. I don't know how far it extended, but there was a wooden seawall built to protect that road from erosion back in the 1910s and '20s. That may be all that is there now. If this road bed were to collapse during or after the replenishment project, it would be futile to try and save these buildings. The sand to be added to the beach will cover the existing rocks along the waters edge. This could provide a smoother path for incoming waves to rush against the face of this road bed, what appears to be a dune structure.

6. Decide wether or not to move A1A from the ocean from to the west side of the island as it is in Manalapan, Lantana and Lake Worth. Just to the north of the condos, at Sloan's Curve and on further north, there is no beach. Huge rocks are piled against the embankment in hopes of protecting it from erosion. The shallow waters are filled with more of these rocks from previous projects that didn't work. I think that these ill planned projects simply contributed to the lack of migrating sand that should now be in front of Phipp's Ocean Park but instead is laying along the bottom just past the surf.

To actually fix the entire system:

The entire region is suffering from man's attempts at modifying the natural features to suit his desires. The inlets keep filling up with sand that would have been happily migrating south to eventually extend

the tip of Florida through the Keys. Too many inlets were cut through in hopes of clearing up the pollution in the lakes. This prevents any inlet from having enough water flowing constantly through it to keep it clear. The rising tide allows the inlet to "inhale" the sand that is migrating past it's opening. But without enough pressure from a flowing river it cannot exhale this sand back into the ocean much less prevent the inhalation in the first place.

Likewise the lack of a flowing river prevents Lake Worth being "flushed" of it's pollutants. The lake has become a collection basin for the waters that should be flowing through the Everglades but instead are used to fill the canals to provide hydraulic pressure for our wells and irrigation for our fields and lawns. These waters carry many pollutants from our streets and lawns.

I have experienced a disgusting taste to the ocean waters while diving off our beaches after heavy rains.

To fix the erosion of the beaches we should address the capabilities of the sand pumps or consider running a dredge continuously as Boca Raton does. The objective is to maintain an even flow of sand throughout the region. If there is a build up on one side of an inlet or jetty, then more sand should have been moved.

We should study natural areas and work towards restoring our beaches to that profile. To allow a town or property owner to build "sand traps" deprives all of his neighbors to the south of their sand. Let it migrate as it should.

When dredging the inlets, that sand should be placed onto the beach south of the inlet being dredged as that is where it was headed. Plus it's beach sand which is better than the sand dredged from the ocean bottom.

If we determine what is a balanced system and the amount of energy require to keep it running, we can have our inlets and our reefs. Since we have chosen to deviate from the natural design by cutting inlets and flooding fresh water lakes with salt water, it will never be self sustaining. But maybe we can reduce the extremes of fluctuation that result in severely eroded beaches and then smothered habitats as we've seen in previous projects. Maybe we can clean up our waters.

We've been trying here in Florida for a hundred and fifty years or so, maybe we can start learning by our mistakes, maybe...