December 21, 2005

Almost daily you have been deluged with articles regarding red tide, dredging of the gulf, and beach re-nourishment. Please allow me to explain my views on this continuing saga with our inlet waterways, the gulf, and the oceans.

These issues plague our waterfront communities and beg to be explored.

If the red tide is caused by fertilizer run offs, sewage spills and pesticides as the media would have you believe, then why is the massive fish kill in the gulf ending up on our beaches and NOT in the inlet waterways? Where have the majority of the dead fish come from – The Gulf. Again, they're not coming from the inlet waterways.

We know the massive fish kill was caused by the red tide. But where is the red tide? The majority of the red tide bloom is out in the gulf. We are continually told the red tide is in the inter-coastal waterway, but ask yourself, why then are the allergic reactions so strong on the beaches and not on the inter-coastal waterways?

I feel that dredging plays a huge part in creating the red tide bloom. As an example, sand was dredged 12 miles offshore due west and northwest of the Venice shorelines, which would put it just off Sarasota beaches. They dredged 17,200 linear feet of sand from that location. This enormous amount of dredging stirs up the nitrogen from the bottom (one of the causes of red tide). This is, of course, my opinion; however, it has been confirmed by two different scientists working on the red tide solution.

Dredging the floor of the Gulf can be compared with strip mining vast amounts of land. Some beach re-nourishment projects may really be acts of marine genocide, as the process kills large numbers of marine life.

Midnight Pass needs to be re-opened, but I feel that other priorities should precede it. Sarasota County is planning to spend $3.8M to dredge Midnight Pass, requiring an additional $16.7M for maintenance over the next 30 years. I have been advised that those figures are woefully low; that the actual figures could be as much as twice the amount quoted. The solution, as seen by the engineer hired to correct the problem, would be to install a sand basin southeast of the inlet on the inter-coastal side in an effort to alleviate the problem. This is not a logical process to keep the pass open. Millions of dollars will be thrown at this project, and in my opinion, this will not work. I also believe that New Pass and Big Pass should first be addressed before taking on Midnight Pass.

Once again you need to ask yourself, do you want your tax dollars to continue to be thrown at ideas that don't work, while we are losing our sealife at an alarming rate.

There is an alternative. Use a proprietary catch basin for salt water sand that would be placed into the mouth of the pass on the gulf side, with a pump to empty the sand from the catch basin as it fills. The sand that is extracted from the basin would be used for beach re-nourishment. (The same clean sand that was originally on the beaches). It would alleviate dredging the passes every year or even every four years. It would last for decades. The only maintenance required would be periodic replacement of the screens on the basin and maintenance on, or replacement of the pumps. This invention is invaluable in keeping the inter-coastal waterways healthy, allowing the beaches to be refurbished by using the sand pumped from the basin in lieu of sand that has been dredged from the Gulf.

The Army Corps of Engineers' scientist assigned to this project has reviewed the invention and agrees that the catch basin I have developed and patented will most likely work. However a prototype is needed. I have offered Sarasota County and Charlotte County the right to use my patent for the prototype. They have not taken advantage of my offer.

I cannot understand why Sarasota and Charlotte Counties employ engineers and scientists and continue throwing money at ideas that don't work, when there is a solution to the problem. This invention could save the taxpayers millions of dollars. I ask you to become involved. In an effort to save our sea-life, allow us to enjoy our beaches once again without the stench of dead fish, as well as prevent us from losing tourism, you need to help with this effort. Please write or call your County Commissioners to ask why this prototype has not been built. It can be built at their cost, with no charge for them to use my patent to determine if it will work. Many people involved in the red tide issue have reviewed this patent and feel it could be the solution to the problem.

The longer we ignore this problem, the more money it will eventually take to cure it. It is not yet known what additional impact the recent hurricanes have added, but what is known so far is alarming. We have elected officials to represent us, but their priorities seem out of order.

It seems to me that the fresh approach to this problem that I have presented at least deserves a trial run as a pilot project on one pass. Instead, the County drones on with business as usual, at a continuing cost of many millions of taxpayer dollars, and no long-term solution to the problems of beach erosion.

Calvin N. LeBuffe

941-377-9725

DIMENSIONS OF BASIN

(All drawings are for illustrative purposes only)

The angles of basin walls in correlation to the basin bottom shall be determined by volume of current and sediment through area being addressed (inlet, estuary, etc.) This positioning (angle) of walls, size of basin, depth of basin, and physical anchoring position of basin for usage shall be determined by engineers to the project.

An estimated dimensional diagram of such basin is provided in figures 5, 6, and 7, where examples are given as to approximate dimensions and angles of said basin from 10 feet wide and 20 feet long. These angles and sizes are to be adjusted accordingly to take into account different needed sizes of basins for appropriate usages of each project. Thickness of walls shall vary based on needed structural support required by flow of current and volume of sediment, as well as composition of materials(s) used.

With regard to illustrations 8, 9, 10, and 11 associated with the constructional use of panels for larger basins (etc.), it is anticipated that there may exist unlimited sizing and shape usage in such application, but the basic basin concept defined here within remains applicable. Due to structural size increases (if necessary), bracing and/or brackets may be required (as illustrated) to support the additional span openings as illustrated in 9 and 11.

Illustration 10 (top view) allows for the positioning of ports/openings in the bottom of the sectional basin for the direct pumping of sediment and sand below the positioned basin on a permanent basis, if required.

Accessories to the basin to be addressed are as follows:

A screen to be placed over the basin to prevent the intrusion of sea life and larger debris, which would be detrimental to the operation of the system and also to protect animal life in the area. Also, an adapter may be placed at appropriate ends of the basin to assist and guide the flow of sand and sediment into the catch basin. See illustration 12 for an example of said guide.

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Dear Mr. LeBuffe,

Mr. Jim Clausner gave me the opportunity to review your design for a "Catch Basin For Salt Water Sand." Your invention should indeed aid in the capture of sand. The concept of a catch basin in the channel has been applied in at least two smaller inlets I know of. One is in Jupiter Inlet, Florida, and the other is Carolina Beach Inlet, North Carolina. I have enclosed an illustration of the one at Jupiter Inlet. In each case the basin was dredged into the natural channel bottom to some depth greater than the natural channel. They did function in the way you propose your invention would work.

A fixed basin constructed as you propose will be somewhat difficult to apply to almost all Corps of Engineer projects due to the areal magnitude they usually encompass and the tendency for channels to migrate over a large geographical area. Also, if large amounts of sand, perhaps during a storm, are introduced into the basin, will the pumping system be able to remove the solid mass of sand that may clog the entrance to the pumps? Perhaps even more important, systems such as you have designed are very prone to clogging with debris, e.g., old tires, plastic bags, kelp, waterlogged tree trunks and branches, etc. If you can overcome the debris problem (with your screen), which has plagued essentially all small scale systems with fixed pumps such as the one you are designing, your invention may work for small inlets. However, the debris problem is quite difficult to manage. The only systems where catch basins have worked well have used either dredges or pumps deployed from the surface that allow the pumps to be raised to clear them of debris. If you can solve the debris problem, your system might have application at very small inlets. However, for large inlets associated with Corps of Engineer projects, your system would likely be cost prohibitive as compared to a dredged basin. These are questions you may need to focus on in order to implement your invention.

Another area of concern is that of scour near the basin. Channel migration could lead to scouring near the basin and undermine its structural integrity. This would more likely be a problem in a larger inlet system.

I admire your initiative for tackling a tough problem and wish you success in the future. Please feel free to contact me if you have any questions.

Sincerely,

Bill Seabergh

<<jupiterinlet_basin.jpg>>

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