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Tidings

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WAITING FOR THE RESULTS

The data have been collected for Friends of Perdido Bay's bottom study of Perdido Bay at certain locations. We are now waiting for results. The results should be available in several weeks. We will discuss the results in the next newsletter. And again, thanks for your support. I tell people that our government has turned a blind eye to our problems on Perdido Bay. There is no enforcement of rules and violations. There is no money for testing. And many of our politicians are saying that there is nothing wrong with Perdido Bay. Just look out there. Do you see any problems? Do you see any life? No, for both questions. If you just moved here, you are probably wondering what are these people complaining about? If you have lived here awhile, you understand what we are complaining about. This bay once had life. There used to be shrimp trawlers going up and down the bay. There was a crabber who would set his crab traps and several mornings a week, you would hear the put-put of his little motor as he collected his catch. Now nothing. You don't hear the mullet jumping, the birds diving or the people come to collect their crab traps. Very sad.

THERE IS MONEY FOR BENTHIC STUDIES!!

Several months ago, I had written a proposal for a grant to fund the benthic study which we just completed with your funding. State of Florida had given \$500,000 to the Pensacola Perdido Bay Estuarine Program to distribute funds for small projects. My grant proposal was turned down because they said that the State of Florida was going to do benthic studies in Perdido Bay, and our study would be redundant. OK So after years of not having state funds to do any studies on Perdido Bay, there was money to do bottom studies. When I looked at a map of the stations which the state proposed to study, I just laughed. The only station in the Upper Bay which the state proposed to sample was right outside the mouth of the Perdido River, north of Grassy Point in Alabama. If there was any place in the Upper Bay which was not impacted by the effluent from the paper mill, it would be that location. The effluent from

International Paper (all 25 million gallons a day plus 5 million gallons from ECUA) comes out either the mouth of the Tee and Wicker Lakes or out of Elevenmile Creek. The flow from the Perdido River pushes the effluent to the east along the Florida shore. The mouth of the Perdido River is impacted as the flow from the tidal bore pushes up into the Perdido River and brings the salt wedge, which is on the bottom of the bay. (Salt water is heavier than fresh water). Perdido Bay, because of its long, narrow shape, is often stratified with fresh water on top and salt water on the bottom. This stratification cuts off the oxygen to the bottom layers and has been blamed for lack of life on the bottom (but see the following article “Something weird”).

The other area of the bay where deposits from the paper mill (IP is allowed to deposit 8,000 to 16,000 pounds a day of solids) tend to settle is north of Innerarity Peninsula in the “pouch” area of the bay. This is where the exchange of water is slower and there is less mixing. Florida did not propose to do any benthic studies in this area. In fact this area of the bay seems to be off limits to benthic studies of any sort as it is known to contain nasty sediments.

If you want to find rather uncontaminated sediments, the best place to look in Perdido Bay would be at the Lillian Bridge. While it is rather deep at the bridge, the velocity of the water flow is fast and allows for very limited deposition. Also, it has been reported that there are springs which well up into the bay at the bridge and prevent deposition. There are other areas which contain springs in the bay as well. These areas used to be known as good fishing spots.

So we will see if Florida actually follows through on their benthic studies. They may, but if the results are bad this data gets “lost”. We have seen this before. In 2007, Florida did benthic studies for the TMDL program. The biologists who did the studies were very alarmed by the paucity of life and told us about it. When we tried to get the results from the DEP, the results didn’t exist. The EPA also has benthic data which doesn’t exist, even though we know it does. Last year I put out a “Freedom of Information” request to EPA to try and get this data. They told me it didn’t exist even though I know it does because I had obtained some previously.

We will let you know what Friends of Perdido Bay’s latest benthic report says in the next newsletter.

ABOVE THE LAW

Who is allowing International Paper to break the law? Repeatedly, for the past 35 years, the paper mill in Cantonment Florida has been out of compliance with the environmental regulations. **They do not have a permit to operate.** You can not release the type of chemicals which they release into the environment and get a permit. Yet the Florida DEP with a compliant Alabama has allowed the papermill to continue to operate and KILL Perdido Bay and us. The chemicals which the paper mill emits cause cancer. How many people have gotten cancer because of their exposure to these chemicals and died? Back in 1995 there was an epidemiological study done on the prevalence of cancer in this area. This study was done by Georgia Tech and was called the PERCH study. They found that there were cancer clusters

just north of the mill in Cantonment and in the Pace area near the chemical plants. Nothing appeared to be done about it. So what!

The continual operation of this mill is an obvious sign of how corrupt our government has become. It is the politicians of both parties who have turned a blind eye to this pollution and to many other problems this country faces. Papermills should have been made to go to a closed-loop system long ago. This was part of the Clean Water Act and the permits the EPA issued were called “National Pollution Discharge Elimination System” or “NPDES”. Unfortunately very few polluters eliminated their pollution. Polluters went to work on the pollution rules to allow more and more pollution. The paper industry and their allies in the chemical industry and the tree growers were just too powerful (i.e. had money). Since 1995, there has been an anti-regulatory environment. The politicians pick and choose what rules they want to enforce. Much of the enforcement is spurred on by the media and which crimes they focus on. I believe so much illegal activity goes without punishment (like the IP case), because government officials are just overwhelmed. This lack of government oversight and general corruption has spurred these citizen militias which have taken law enforcement into their own hands. So how do we get IP to clean up since our government is not doing their job? Their effluent is impacting our bay and causing our property to be devalued? Are you just going to say “Too bad”. I can’t.

SOMETHING WEIRD

For years researchers who went out and measured the dissolved oxygen levels in Perdido Bay would always find the same thing - the dissolved oxygen levels would drop as they lowered their oxygen probe to the bottom. This drop would often occur rapidly as the probe passed through the halocline. A halocline is where the saltwater from the Gulf of Mexico comes up the bay and the fresh water from the tributaries, mainly Perdido River flows on top. This freshwater on top of saltwater is called stratification, and Perdido Bay was pretty famous for this stratification. It is a long, narrow bay which is not well mixed by the winds. I have seen this phenomena occur many times.

In the past several years, Escambia County has taken up water quality (not benthic) sampling of several of the old DEP sites in the bay. One site in the Upper Bay (Station#26) is just off my property in the Upper Bay. I see the county biologists out doing their monthly sampling. I request this data from Escambia County. What I have noticed is a very different pattern than in the past. You no longer see this drop in dissolved oxygen levels with depth even though the bay appears to be stratified. The water is 100% saturated with dissolved oxygen from top to bottom. Sometimes the saturation is over 100%. **This is weird.** I have questioned the county biologist about this. He gives you the standard answer. “If there is lots of phytoplankton, sufficient oxygen could be produced to cause the water to be over 100% saturated with oxygen.” Hum. Even at the bottom in six or seven feet of water where it is pretty dark? Every time? I asked our consultants who did the recent studies whether or not they found the water column was 100% saturated with dissolved oxygen. Yes, they found the same thing. This is not natural or real. So I have decided to take my aging oxygen meter out early in the morning, and do some measurements. The dissolved oxygen in the water is usually lowest just at daybreak. This is before the sunlight can stimulated the algal photosynthesis. If

the dissolved oxygen in the water is anywhere near saturated at this time of day, there is something funny going on.

A MANAGED BAY?

Perdido Bay is small enough that it could be managed by paper mill chemicals. Take eutrophication. This is enrichment caused by nutrients (mainly nitrogen and phosphorous fertilizers) which cause plants to grow. After 17 years of study, Dr. Robert Livingston wrote a book, "Eutrophication Processes in Coastal Systems", about this process in Perdido Bay. He blamed the fertilization process for the bloom of toxic algae and decline in life in Perdido Bay. He managed to get his data (blooms of toxic *Heterosigma*) to back up his hypothesis that once the paper mill reduced their releases of phosphorous and nitrogen, blooms of toxic algae would stop and the bay would recover. Well, it didn't happen - the recovery that is. And the bay is worse that ever. But ever since Dr. Livingston stopped studying the bay, there have been no more blooms of toxic algae or much of any algae. We see some grassbeds pop up once in awhile, but then they disappear. **It turns out that the IP effluent is herbicidal.** Friends of Perdido Bay did studies in the late 1990's, which showed IP's effluent was herbicidal. We send water samples from Elevenmile Creek off to special labs to do algal assays. Most of the time these assays showed that IP's (it was also Champion) effluent was both toxic and herbicidal or just herbicidal.

This is not surprising. IP bleaches a third of their pulp using chlorine dioxide generated at the mill from sodium chlorate. Both chemicals, chlorate and chlorine dioxide, which is a gas, show up in their effluent. Chlorate is a potent herbicide and chloride dioxide is a disinfectant. Matter of fact, some countries, like Bolivia, were promoting the use of chlorine dioxide to kill the COVID virus. But by having low levels of chloride dioxide in your effluent, you may be able to kill off harmful bacteria, such as fecal coliforms or micrococcus which would cause Perdido Bay to be out of compliance with the bacteria standard. Chlorine dioxide would also probably kill off sensitive larval fish and invertebrate, i.e., be toxic. By having chlorate in your effluent, you would n't have to worry about algal blooms, toxic or otherwise. The few algal phytoplankton, that do bloom in Perdido Bay, are the blue-green algae which most herbivorous fish would try and avoid, hence no mullet. So depending what side of the fence you are on, these bleaching chemical may do some good.

Membership and Renewals

Tidings is published six times a year by Friends of Perdido Bay and is mailed to members. To keep up with the latest news of happenings on Perdido Bay, become a member or renew your membership. For present members, your date for renewal is printed on your mailing label.

Membership is \$20.00 per year per voting member. To join or renew, fill out the coupon to the right and mail with your check to the address on the front.

Friends is a not-for-profit corporation and all contributions are tax-deductible. Funds received are all used for projects to improve Perdido Bay. No money is paid to the Board of Directors, all of whom volunteer their time and effort.

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