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# Tidings

The Newsletter of the Friends of Perdido Bay

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[www.friendsofperdidobay.com](http://www.friendsofperdidobay.com)

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## **Thank You for the Input**

In the last newsletter, we asked for input about grass beds on Perdido Bay. There were several very interesting responses. People remember Perdido Bay in the 1960's and 1970's as a bay full of life, including grass beds and fish. People remember shrimping and floundering at night and generally using the bay for family entertainment. Unfortunately people growing up on Perdido Bay today probably don't have the same fond memories. The bay has declined to the point that few people would use the bay as their center of entertainment or main source of food. Too bad.

## **The major impact to the bay is still the IP paper mill in Cantonment**

I never fail to go to a meeting with a bunch of bureaucrats when someone will stand up and say that the major problem in Perdido Bay is from non-point sources - run-off, septic tanks, etc. **This is not true.** The last major study done on Perdido Bay to try and measure the relative contributions from point sources ( the paper mill, sewage treatment plants, industries up the Perdido River in Robertsedale and Bay Minette) and non-point sources (septic tanks, run-off, over fertilizing lawns, etc) found that the contributions from the paper mill overwhelmed all other sources. This study was done by ADEM/DEP in the late 1980's and early 1990's. One of the scientists who did this study said Perdido Bay was one of the worst examples of pollution that he had ever seen. Not much has changed since the early 1990's except maybe the addition of more ECUA wastewater. Paper mills are massive polluters and belong on large rivers or large bodies of water where the effluent can be sufficiently diluted, not on Perdido Bay. The IP paper mill in Cantonment is allowed to put out 4,500 pounds per day of biological oxygen demand and 8,000 pounds per day of Total Suspended Solids. This is an enormous amount. It is equivalent to what a sewage treatment plant treating wastes from 360,000 people would put out. If you took this impact from the paper mill away, you might be able to see impacts from other sources. But the paper mill's impact masks all other sources. That was what the last creditable study found. Even the paper mill's own consultant, Dr. Livingston, attributed the decline in bay to the paper mill's nutrients and the profusion of toxic algae blooms.

The bureaucrats work for governmental agencies whose bosses are the politicians. The politicians get elected by getting money from big companies or big entities such as unions. So the big companies or big entities are the ultimate bosses. No matter how independent a politician might try to be, it takes money to get elected- more and more these days. The bureaucrats tell the political bosses what they want to hear. That is how they keep their jobs and get promoted. It is a system corrupted by money. And this is why pollution has continued on Perdido Bay so long, even though it is such a gross example of pollution. Eventually one of these days the paper mill in Cantonment will shut down. Some of IP's large pieces of equipment are very old. They have two recovery furnaces which were built in 1975. These are major pieces of equipment which IP will probably not replace, I hope. So in the meantime, IP will try and make as much money as it can from this mill. These large companies are making money by cutting costs - especially on pollution control. The environmental agencies and the politicians which direct them are closing their eyes and allowing these companies to do what they want. These are the facts of life in the U.S. today. And the bureaucrats will continue to tell us that things are getting better.

### **Just How Has the Bay Been this Summer?**

Dark, Turbid, and Fresh. With all the rain we have had this summer, Perdido Bay has been very fresh (not salty). While some of the dark color may be attributed to the water washing color out of the swamps, most of the dark color is coming from the IP effluent. People who have seen the effluent coming out of the pipe and flowing through the wetlands, report that the IP effluent is BLACK. Apparently IP has decided to cut corners by not removing color. One thing, though, which does seem better is the lack of foam. Even with the increase in pulp production, there has been a lot less foam on the bay. I don't know why. Are they using a better defoaming agent? Who knows. We do know one thing, the less than 12-hour trip through the wetlands, has done little to remove their solids. This is the reason for the turbidity in the bay. Even before the bay turned dark, IP was spreading their solids far and wide and causing the bay to be turbid. When IP went to the new activated-sludge treatment, they knew that the sludge produced by this treatment does not settle well. I believe this is the reason they removed their last two settling ponds. The ponds wouldn't be effective at catching the solids and it cost money to clean them out. I think there was some hope that the solids would get caught in the wetland. But of course with the heavy rainfall and the washing action of the effluent itself, not much is going to settle. A lot of the natural detritus from the wetland itself has probably been washed into the bay, especially around the upper end of the bay. All this organic material is very visible when the bay is calm in the early morning. The tan sand is covered with a black layer of organic material. Disease-causing bacteria are also associated with suspended organic material. Risk of infection is greater from swimming with this increased suspended material.

Another bad feature of this suspended organic material coming from IP wetlands is depletion of oxygen from the water. While floating in the water, bacteria degrade this organic material and use up the oxygen. High levels of suspended bacteria can also make the water turbid. Recently, I have started taking dissolved oxygen readings at our beach in Upper Perdido Bay twice a day - early in the morning and latter in the afternoon. These oxygen measurements are taken in very shallow water - 6" to 12". Oxygen concentration in the water is usually lowest in the early morning and then goes up as the phytoplankton (little plants) in the water start producing oxygen. Florida has gone to a new oxygen standard - a percentage of oxygen

saturation. Florida now requires that a body of water have an average dissolved oxygen saturation of 67% to be considered healthy. Water can only hold so much oxygen when it is saturated and this is dependent on the salinity and temperature of the water. The warmer the water, the less oxygen it can hold. This is why fish kills usually occur in the summer. Over the past 7 days (Aug 5 to Aug 12), the average percent saturation of oxygen in the water was 49.9%. The highest was 72% of saturation and the lowest was 16%. It looks like the factor which influences the level of percent saturation in the shallow water the most is turbulence. When the water is wavy, the dissolved oxygen goes up. **But the level of dissolved oxygen saturation in shallow water at our beach does not meet state standards.** This is probably true for most of the shallow water in Upper Perdido Bay. Dissolved oxygen saturation is probably worse in deeper water. We are going to be checking that soon.

One other phenomena which is showing up on our beaches after rain storms is **duckweed**. This is a small green plant which floats on the top of the water and has a little tiny, white root hanging down under the small green leaves. It is a characteristic of wastewater treatment ponds and is often grown to help remove nutrients. Where could this duckweed be coming from? According to a DEP employee, it is most likely coming from the IP wetlands. There is a lot of duckweed growing in the flooded wetland.

The rain has produced some good things, too Small baby clams and snails which can stand low salinities, are beginning to show up along beaches in the upper Perdido Bay. This means that there is sufficient dilution of the paper mill effluent so that the larval clams and snails can survive. Back in the 1980's, the bottom of Upper Perdido Bay was paved with clams. While you wouldn't want to eat them because they contained heavy metals, the clams helped to filter the water. The clams were all killed when Champion Paper company pulled the weirs on their settling ponds and allowed toxic sludge to flow into the bay. Over the years, small settlements of clams have occurred only to die off again when the dry season began and rainfall was not sufficient to dilute the paper mill effluent. We will see what happens this summer. Maybe, if the rain continues, a population of clams will develop in the bay and help clear up the water.

## **Restore Projects**

In anticipation of getting a whole lot of money from the BP fine, various meetings have been held and various governmental agencies have submitted projects for Perdido Bay which they would like to see funded. At this time, there are about 40 projects, varying widely from land acquisition to retrofitting stormwater projects to ECUA wanting a back-up generator to run the Bayou Marcus plant incase of a major power outage. Most of the projects look worthwhile and would in some way help localized problems. The town of Perdido Beach wants to restore 1.3 miles of waterfront properties to make a living shoreline. Orange Beach has a similar proposal. Among the land acquisition projects, Dupont wants to sell their 46,135 acre parcel on the Perdido River for \$101,200,000 - a real deal. For habitat restoration, Florida DEP has proposed removing an old cattle dip in the Tarkiln Bayou Preserve which is leaching arsenic and stabilizing 11 low lying places in roads in the preserve. Seems like a worthwhile project.

One worthwhile project which no one has proposed is a long-term monitoring of our local bays. DEP stopped monitoring Perdido Bay in 1988. I am not sure if Alabama still has a monitoring program or not. The EPA used to give money to the states to run their monitoring programs. Biologists who used to do the monitoring on Perdido Bay, said that DEP stopped this monitoring because it showed how degraded Perdido Bay was and who the culprit was. Perhaps, water quality monitoring and benthic monitoring are too controversial to be funded.

There are other projects which might not be so worthwhile. Any attempt to plant grass beds in Upper and Middle Perdido Bay might just be a waste of money. There was a seagrass planting project which DEP undertook in several locations in Upper Perdido Bay over a series of years. The grassbeds would live for awhile and then die. Because of the turbidity and dark color of the water now, it is doubtful that seagrasses would live. The same is true for trying to restore benthic invertebrates in Upper and Middle Perdido Bay. Until the water quality improves, attempts to restore seagrasses and animal life is not going to work. In many cases, such as with the clams described above, animal life will restore itself once the water quality improves. We will post the list of proposed projects on our website. Not all projects will be funded .

### Wetland Regulation in Escambia County, FL Revisited

Years ago, Friends of Perdido Bay became involved in helping to establish some of Escambia County's Land Development Codes, especially the wetlands ordinance. At the time, we were unpopular with some people for pushing environmental protection for wetlands. As I read through the current Wetlands and environmentally sensitive land section of the Escambia County's Land Development Code, the progress which has been made is evident. There are about 20 lines describing the importance of wetlands. The county strongly discourages development in wetlands. However there are exceptions. If you own a lot of less than five acres and do not have sufficient uplands to build your house, you can fill up to 4,000 square feet and clear up to 6,000 square feet of wetland. If you are a developer and you can not avoid impacting wetlands after much planing, you can mitigate. Mitigation can take several forms. You can purchase degraded wetlands elsewhere and restore them or you can opt for a cash payment to Escambia County's Environmental Lands Trust Fund. The amount of wetlands you restore or pay a fee depends on whether the wetlands you impact are high, medium, or low quality. Utilities rights of way and silvaculture are exempted from these wetland rules. Other environmentally important aspects of the Land Development Code are: requirement for 30' natural buffers (set backs) between all water bodies (including wetlands) and development, retention of storm water on site, requirement for natural shoreline protection (no sea walls) and no draining of stormwater into wetlands. This code shows real advancement in thinking.

#### 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 \$10.00 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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