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Tidings The Newsletter of the Friends of Perdido Bay

March 2012 Volume 25 Number 2 Jackie Lane -Editor
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Wondering if your dues are up to date

The date in the upper right corner of your mailing label tells you when your dues are due. We don't cut you off if you are late paying. However, if you don't pay for several years, we figure you have lost interest and stop sending you a newsletter. Our memberships have been holding fairly constant - about 200 people. True, there are a lot more people who live on the bay, but many people send in extra dues or contributions which helps a lot. As far as we know, we are the only grass roots organization still in operation on Perdido Bay. We are not government sponsored and we do not take industry sponsorships. This allows us to be truly independent. It is very difficult these days to find an independent organization which is not run by BIG MONEY. We are little money but we want to have a say. From time to time people send us suggestions and we try and accommodate them. So keep sending your dues.

It has been strange.

The other day I was thinking back about all the events that have occurred over the years since we have been working on cleaning up Perdido Bay. We have been involved since November 1986 - 25 and ½ years. It hardly seems that long. Friends of Perdido Bay was founded in 1988 as an off shot from Perdido Bay Environmental Association. I am sure there are some of you out there who remember that first meeting we had at the Lillian Community Club (the old club) in January 1987 when 400 people showed up to protest the pollution of Perdido Bay by the paper mill then owned by Champion Paper. At that meeting, an EPA scientitst, Bill Kruczynski, declared that the bottom of the bay was dead. Another EPA scientist in Atlanta who was interviewed for a story several days later said that "his agency hadn't dealt with a bay like Perdido before. It is just a non-flushing bay".

This was not the first time citizen's had voiced outrage over the pollution of Perdido Bay. In January 1970, the first of several conferences were held by the Federal Water Pollution Control Administration (the precursor to the EPA) to examine the pollution of local waters, Escambia and Perdido Bays. JoAnn Allen, Edgar Stewart , Mr. And Mrs. Elebash, Harry

Gamble, Paul Corwin, Jim Murray complained about the foam and scum and general deterioration of the bay. Government officials assured the early Perdido Bay fighters that the paper mills would be made to clean up and Perdido Bay would get better. The government agencies were going to do studies to determine how much pollution would have to be eliminated so that Perdido Bay could be restored. In those days (1970's), the mill was owned by St. Regis. It had an output of 850 tons of pulp per day. The 5-day BOD was 4,100; the total suspended solids were 5,700 and the organic nitrogen was 0.3 mg/l . Today (2012), the mill now owned by International Paper makes 2500 tons of pulp a day. The winter limits for 5-day BOD are 5,100; the total suspended solids permit limit is 8,000 pounds per day and the organic nitrogen averages approximately 5.8 mg/l. Needless to say, things have not gotten better, in spite of our environmental laws and agencies.

The EPA scientists which were involved with the bay in the late 1960's (Bill Kruczynski "The Bay is dead" and Jim Greenfield "The Bay doesn't flush") were all reassigned and their statements long forgotten. The results from one very detailed EPA study of Perdido Bay done in 1986 and 1987, was never published; it only came out as tables and graphs in draft form. A study of the sediment toxicity in estuaries in the Gulf of Mexico which was commissioned by the EPA came out in 1992. It found that Perdido Bay had the second highest toxic sediments of any bay in the Gulf of Mexico. Unfortunately, this study was declared a "draft"study only and later one of the researchers told us a mistake had been found and the study was unreliable.

After three DEP Florida biologists testified about the deleterious effects of the paper mill effluent on Perdido Bay at a 1987 hearing, they were taken out of the permitting loop. One was given a reprimand. All three biologists basically ruined their careers by telling the truth.

In 1990, the EPA was supposed to issue a new federal permit (called NPDES permit) for the paper mill. Some of you may have remembered going to a hearing in the UWF gym about this permit. This permit contained "new, more stringent" limits which were supposed to go into effect in December 1, 1994. This date coincided with the date a new Florida permit was supposed to be issued. The limits which were being proposed by EPA to go into effect on December 1, 1994 were a 5-day BOD of 3,036 pounds per day with a daily max of 4,554 pounds per day (these limits are below todays permitted limits). Sometime before December 1, 1994, the 1990 Federal permit was withdrawn and replaced with a federal permit issued in 1983. How this happened or who ordered this, we could never determine. We sought any information on how this permit switch occurred through a Freedom of Information Act request. The EPA informed us that there was no written record. Without taking EPA to court, we were never able to find out the truth.

The Florida permit which was supposed to expire on December 1, 1994 never did. Florida's DEP "administratively continued" this permit for 15 years even though it had expired. In 1995, the Federal permit which was supposed to have expired on August 31, 1995 and the state permit were combined into one permit. It was at this point, I believed ,that some environmental official replaced the 1990 federal permit with the 1983 permit. The rules for combining the two permits said that the permit with the more stringent limits was the controlling permit. That would have been the 1990 federal permit with the 3,036 pounds per day. Those limits were just too rigorous. So presto, in came the 1983 federal permit. So much for rules.

The strangest part of the story, for me, is the continual coverup of this massive pollution (we will re-examine this in the next article) of Perdido Bay by governmental agencies and the slanted science which was used to divert attention from the main culprit - too much carbon. In

the 1990's ,beginning about 1992 and continuing until about 1998, massive amounts of filamentous green algae bloomed in upper Perdido Bay in the spring and summer. It was so thick, it would cover our crab traps so that a crab couldn't find its way in or out. Our children would throw it and algae fights would breakout. Of course this was reported to the environmental agencies. Their response was that Dr. Livingston would address this algae in his study. Eventually he did. In several of his reports that came out in the 2000's, he did find that the paper mill had increased their releases of phosphorus into the bay in nearly a perfect bell-shaped curve. Phosphorus is the one nutrient which limits algae production in our bay. The other nutrient, nitrogen, is present in unlimited supply. The phosphorus released by the paper mill peaked in 1995. To cause this type of nuisance algae bloom is against the environmental rules. EPA and DEP did nothing. Champion obviously knew that their release of phosphorus was causing these algae blooms. Why wasn't the paper mill made to stop releasing excessive amounts of phosphorus? Maybe it was because they decided to reinforce Dr. Livingston's story that nutrients were killing the bay.

This was Dr. Livingston's ultimate conclusion about why life in Perdido Bay had declined precipitously - too many nutrients (nitrogen and phosphorus) had caused blooms of toxic algae which ultimately killed most life in Perdido Bay. According to Dr. Livingston, there was one particular organism, Heterosigma, which was the culprit. He began finding Heterosigma organisms (this a one-celled organisms, but it is not formally classified as a plant) in his plankton samples in mid-1995. When asked at one of the hearings, where he thought this organism came from, he didn't know. His story about blooms killing life in the bay did not make sense. To begin with, we didn't see any massive kills of fish or other animals. This is very inconsistent with other toxic plankton blooms that I have seen. Red tide is a very messy, obviously destructive event. We saw none of that on Perdido Bay.

The appearance of Heterosigma in 1995 corresponded with Champion's initial use of chlorine dioxide. I noticed in my own scientific experiments on little one-cell plants, called periphyton, that periphyton would not grow on plates in Perdido Bay beginning in mid-1995. A literature search on effects of chlorine dioxide on plankton growth showed that past research had indicated deleterious effects from chlorine dioxide. Friends of Perdido Bay funded algal studies which were done by independent labs which showed negative growth when algae were grown in Elevenmile Creek water. I sent our information to DEP who sent our information to the paper industry's scientific arm. They sent back a bunch of slanted science to show that there was no effect. In a way, it was much like the global warming debate. All you need to do is cast a little doubt.

Today, life in the bay is still scarce. International Paper (IP) has increased its production to 2500 tons per day from 1500 in the early 2000's. International Paper fired Dr. Livingston. The bay this spring has been very turbid and there has been scum and foam. IP has gone to a new type of treatment which will allow them to treat more effluent in a shorter time period. This type of treatment called activated sludge produces a sludge which does not settle, hence we are seeing more of it come into Perdido Bay. IP is diverting 25% of their effluent to the wetlands. After a trip into Tee and Wicker Lakes, I would say that the sludge does not appear to be settling in the wetlands. Tee and Wicker Lakes were extremely turbid. Recently, Friends of Perdido Bay sampled Elevenmile Creek at 297A. You can see the results on our website - www.friendsof perdidobay.com/water.htm. Total suspended solids was, as usual, high. What was usually high was the concentration of sulfate - 540 mg/l. With the flow at 20 million gallons per day, this concentration of sulfate would deliver 91,000 pounds of sulfate a day to Perdido Bay. This is a huge amount. Exactly why IP is releasing this much sulfate is not known. Maybe they have

nothing else to do with this stuff. Maybe, with the increased production, they are using sulfate and calcium (which is also high) to try and cut back on the foam. But I do know that concentrations of sulfate this high are going to be toxic to many things - especially the larval forms of many sea creatures. The level of total phosphorus is also high - 0.30 mg/l as well as the level of total nitrogen - 5.9 mg/l. These values are well above DEP's proposed nutrient limits of 0.06 mg/l and 0.67 mg/l for total phosphorus and total nitrogen in fresh water. Total residual chlorine is also present in Elevenmile Creek water. This was present in small quantities - 0.06 mg/l, but this may be sufficient to curtail any plankton blooms. Yes, it is strange, strange that this huge source of pollution with all its obvious deleterious effects would remain is a tiny bay which does not flush.

It is Massive

In spite of Dr. Livingston's statements that the major problem in Perdido Bay is nutrients, the pollution from oxygen consuming compounds is still one of the major problems in Perdido Bay (the very high values of sulfate are also a problem). Remember this is a bay which does not flush. IP is permitted to discharge 4,500 pounds per day of oxygen consuming products into the bay. This standard is called a 5-day BOD. A 5-day BOD is not a very accurate measurement of the true oxygen consuming properties of paper mill effluent. The oxygen demand in most domestic sewage is degraded after five days. This is the reason the oxygen consumption after five days is used as a test. Paper mill effluent, however, continues to use oxygen even after 100 days. Some of the wood fibers and chemicals in paper mill effluent take a long time to degrade. The true or ultimate biochemical oxygen demand of paper mill effluent is about 8 times the 5-day BOD value. So this would make the ultimate BOD value in IP permit limit, approximately 36,000 pounds per day. Compare this value to a rather large domestic wastewater treatment plant which uses advanced wastewater treatment. ECUA's Central Reclamation Facility near Gulf Power on Upper Escambia Bay has a permit limit of 844 pounds of BOD per day. This plant treats the sewage from a lot of Escambia County. So IP's discharges would consume 40 times more oxygen than ECUA's large sewage treatment plant discharges. Much of the oxygen consuming material settles out to the bottom. Yes, this is a problem in Perdido Bay. The low dissolved oxygen in the bottom waters of Perdido Bay is not natural. The problem becomes aggravated when the bay becomes layered with freshwater on top and salt water on the bottom. So please, do not believe what the government officials tell you. They are running interference for paper mills.

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 rightand 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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