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# Tidings

The Newsletter of the Friends of Perdido Bay

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Jackie Lane -Editor

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## **Heck Yes We Care**

I recently heard that the reason Perdido Bay has the pollution from the papermill is because Perdido Bay residents didn't care. I often wonder where these lies came from. But I think I know where this lie arose. During the last "class action lawsuit" on Perdido Bay, circa 2004 -2005, there was a public opinion survey done by the Levin Law Firm. The Levin Law Firm commissioned several studies to be done. One was a biological assessment done by Dr. Ken Heck on Perdido Bay. The study found the usual problem with layering of freshwater from the Perdido River on the saltwater coming from the Gulf of Mexico. This caused the bottom water in Perdido Bay to be very low in dissolved oxygen which was used as the explanation for poor diversity of bottom life. The Levin firm also commissioned a public opinion survey. I thought at the time, the public opinion survey was odd. How does what the public think relate to the health of Perdido Bay and what is causing the perceived problems?

The results of the study were rather interesting and maybe a little suspect. According to the survey, only about a third of Perdido residents cared about the pollution on Perdido Bay from the paper mill in Cantonment Florida. About one-third weren't aware of it, and another third did not really think it was that bad. In thinking back, I remember the evening of the public opinion survey. Because it was late and we were distrustful of who was actually doing the survey (we thought it might have been the paper mill), our answers to the questions were pretty non-committal or even evasive. I am sure that many people were equally as cautious.

Another time when it would appear that Perdido Bay residents just didn't have the enthusiasm of residents on other bays was during the discussion of what bay should receive the IP (or Champion) discharge. This discussion occurred in 1999. At that time, Champion (the owners at the time) announced that they were considering discharging their effluent to Escambia Bay. Actually, for the paper mill in Cantonment, Escambia Bay is much closer than Perdido Bay. A meeting was held at Milton High School on the subject of switching bays. A huge crowd showed up (maybe 350 people). Speakers gave Champion spokesman, Willy

Timms, a hard time. Everyone in the crowd was against switching bays but me. But I always thought that Champion never really intended to switch bays. The meeting was all a show.

Escambia Bay already had a paper mill discharging into it - the mill in Brewton, Alabama which is now owned by Georgia-Pacific. There were also several chemical companies and Gulf Power which dumped into Escambia Bay. I am sure that none of these other dischargers wanted anymore pollution discharged into Escambia Bay. We were also told that if Alabama folks (politicians mostly) complained about Florida giving a permit to a Florida paper mill to pollute Perdido Bay then Florida folks would complain about Alabama giving a permit to the mill in Brewton, Alabama to pollute Escambia Bay. It was tit for tat. The end result is that the pollution has been spread around in all bays. The problem is - Perdido Bay receives insufficient water from the Perdido River to adequately dilute the toxic material.

### **THANK YOU FOR YOUR SUPPORT AND ENCOURAGEMENT.**

People not only send in their dues but also extra support and little notes. It is difficult to answer all questions that our members ask. But we will try and answer some of them. Recently we got a question about what was toxic in the International Paper effluent. We don't know and neither does International Paper. As you may recall, International Paper's toxicity testing at their discharge point showed that their effluent was intermittently chronically toxic to the water flea, *Ceriodaphnia dubia*, since 2012 (and before). Because of this toxicity since 2015, Florida's DEP proposed to fine IP and give them a Consent Order. This Consent Order is currently the subject of an Appeal which will be discussed later in this newsletter. But, the actual source of the toxicity in the IP effluent was in question. IP had run many tests since 2012 to determine what was toxic in their effluent. I read all these tests and it appeared to me that it was some component in their sludge - maybe the resin acids which are a natural component of pine trees. Remember IP is allowed to discharge 8,000 to 16,000 pounds per day (dry weight) of solids (sludge) into our bay. This is an enormous amount of material. But IP makes a very large amount of pulp, 2500 air dried tons/day and they process 3 times that amount of pine trees to get the finished product! One-third of this 2,500 tons per day pulp is then bleached using chlorine dioxide bleaching. Because of the enormous amount of pine trees processed, there are innumerable types of chemicals which could be produced. Many are not very nice chemicals. Friends of Perdido Bay tests for heavy metals and dioxins in the bottom sediments of Perdido Bay. And yes, we always find heavy metals and dioxins which are over the recommended levels for soils clean-up. These types of chemicals are a component of the sludges from the paper mill. But whether these chemicals are what are causing the toxicity in IP's effluent is hard to say.

Whatever chemicals are causing chronic toxicity to the water flea may not be the same chemicals which are killing other forms of life in the bay. Over the years, we have noticed a decline in many animals in the bay. I believe this is because the larval forms of life are more vulnerable to different chemicals than are adults. Something as simple as fresh water or saltwater may limit the distribution of animals. We don't find starfish in Perdido Bay because the fresh water kills the larvae. Back in the early 1980's, the bottom of Perdido Bay was paved with clams. Under one step, there would be 5 to 10 clams. These types of clams will live in water of all salinities - nearly fresh water to salt water. Today, at the beach where I live, you

might find one large clam after searching the bottom for half an hour. In the early 1980's, I put out small trays filled with clean Perdido Bay sand to see how many baby clams would settle. The number of baby clams I would find were almost too numerous to count. I repeated the experiment several years ago. There were none. The bay water is toxic to larval clams and many other larval forms of life. I suspect the reason we do not have oysters in Perdido Bay is because oyster larvae are very sensitive to something in paper mill effluent.

**Have we had any help from other environmental groups or from any particular politicians?** No. It has become clear that our government, no matter what the political party, has supported paper mills, not us. This is one of the few industries we have left in this country, so our government has turned a blind eye to the pollution from paper mills. It is amazing because paper mills are enormously polluting. Can you imagine 8,000 to 16,000 pounds per day of solids being allowed to be dumped into a small bay? An IP spokesperson has said they don't know what is in those solids? Well, we know what a few of the chemicals are - dioxins, PCB's, heavy metals like arsenic and barium. Friends of Perdido Bay has been sending our environmental agencies, EPA and DEP, our studies showing dioxins and heavy metals in the bottom sediments for years. These are not old deposits, but new ones. Not a peep out of our government agencies. These chemicals cause cancer, birth defects, and many other health issues, but our government says nothing. They continue to allow paper mills to discharge these dangerous chemicals.

In the early 1980's there was the discussion about chlorine bleaching of pulp causing the formation of dioxin, namely the 2,3,7,8 TCDD form of dioxin. This was a particularly dangerous form of dioxin. There were scientific studies which indicated it was the most dangerous chemical ever found. The paper and chemical industries proposed going to a different form of chlorine bleaching - chlorine dioxide. Was this form of bleaching pulp any better? It doesn't look like it. The 2,3,7,8 TCDD form of dioxin was no longer being produced, but many other dioxin forms, which are equally as dangerous, are produced. These are the forms of dioxin we see today. What did our government do? It stopped testing for dioxin and stopped talking about it. The only dioxin limit which is in International Paper's permit is for the 2,3,7,8 TCDD form of dioxin, the most dangerous form. This tells me that the government knew that there were these other forms of dioxin going to be produced. Somebody caved into the chemical industry over the dioxin issue. I believe it was the Clinton administration, because that is when the issue of what type of bleaching agent the paper industry should use, was decided.

Not only does chlorine dioxide bleaching produce dioxin, it is also herbicidal. The paper mill in Cantonment, FL went to chlorine dioxide bleaching in 1995. The paper mill was still discharging to Elevenmile Creek. Almost immediately, I could see a change in the experiments I was running on Perdido Bay. So, to test the hypothesis that chlorine dioxide bleaching was herbicidal, we took water samples at the head waters of Elevenmile Creek where the paper mill was discharging. We sent the water off to a professional laboratory and they did algal growth studies. Sure enough, effluent from the mill in Cantonment inhibited the growth of the algae versus a control. We did this several times. We sent the results of these studies to state and federal environmental agencies as well. Nothing happened. The EPA had to have known about the problem with paper mill effluent being herbicidal. They didn't care or maybe they were hoping the paper industry would correct the problem. It didn't.

Since 2000, we have learned more about chlorine dioxide. Chlorine dioxide is generated at the mill from a chemical called sodium chlorate. Sodium chlorate is a potent herbicide which is sprayed commercially as an herbicide to kill brush and small trees. Chlorine dioxide is used as a disinfectant in drinking water and will revert to chlorate under alkaline conditions. While the paper mill was still discharging to Elevenmile Creek, Friends of Perdido Bay found both chlorine dioxide and chlorate present in the mill effluent. So by discharging a disinfectant to Perdido Bay, as well as an herbicide, the mill would solve several problems that it was causing. One, the depletion of oxygen in the bay caused by the bacteria living on organic material discharged by the paper mill, would be less. The bay is disinfected. And two, any plant nutrients which may cause algal blooms in the bay (which we saw in the late 1990's) would be inhibited from causing these blooms because of the chlorate. IP must meet a certain chlorophyll standard in Perdido Bay which it was having a hard time meeting several years ago. The solution to the problem was just make the effluent a little more alkaline and more chlorate (the herbicide) will be reformed and inhibit algal blooms. The end result is that IP is not violating many of the water quality standards which the state uses to assess the health of a water body. This is to the detriment of life in Perdido Bay. And the environmental agencies are stressing water quality standards over biological standards to assess the health of water bodies.

**THE 2019 CONSENT ORDER**

The chronic toxicity of the International Paper’s effluent has been apparent for many years. In 2019, the Florida DEP decided to fine IP for failure to meet the toxicity standard. On its face, this was the purpose of the 2019 Consent Order. However there were many other aspects to the Consent Order which were very suspect -like limits for certain water quality standards which IP could not be meet. The 2019 Consent Order was a blue print for future IP regulatory plans. **Remember IP is operating on an expired permit.** I can not see how IP will ever get a permit to discharge to Perdido Bay, especially since our recent studies have shown that going to a wetland discharge has done nothing to help life in Perdido Bay.

The 2019 Consent Order points IP to a future of taking the effluent out of the wetlands and going directly back into Elevenmile Creek. To try and get a permit, they could then get variances for the water quality standards which they can not meet. But again, because of our studies which show degraded life in the bay, granting a permit for this mill would be very difficult. Thank you for your help.

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