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Tidings

The Newsletter of the Friends of Perdido Bay

April 2022

Volume 35 Number 2
www.friendsofperdidobay.com

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HAPPY SPRINGTIME

As the oaks put on new leaves and the azaleas put on their last few flowers, I look to our beautiful bay to return to life. As the water warms, small shrimp, baby crabs and small pin fish normally would appear. I see nothing but a dead bay. We haven't seen jumping mullet or schools of alewives for several years. I hear the osprey whistling for its mate, but I don't see it diving for fish. Maybe it is getting its food in the bayou. This spring, the bay appears particularly dead. I didn't even notice barnacles growing on some rocks I put out in the bay. I decided to check. So I scraped old barnacle growth off several poles and waited to see if new barnacles will resettle. Nothing, at least not yet. It is pretty clear that the water in the bay is toxic to larval forms of life. I haven't seen any baby clams for several years, although if you look in the sand for several hours you may find a giant old clam. No mussels are growing around the black needle rush and of course those shrimp boats which used to ply Perdido Bay waters in the summer, haven't been seen in many years. It is a sad tale of pollution having just about killed many forms of life in our bay.

It is obvious that our government doesn't really care. The state which used to test our waters for life stopped in the late 1980's. They didn't want to document the destruction. Next the Escambia County took up sampling Perdido Bay about 2015. They do several water quality parameters, but no documenting of life or sediment analysis. While it is good to have these parameters measured, the data does not show what is killing life in the bay. The dissolved oxygen looks good - too good. Having dissolved oxygen values over 100% saturation, is weird, especially on the bottom. Recently the Pensacola and Perdido Bays Estuary Program (PPBEP) sampled sediments and water quality areas in Pensacola and Perdido Bay. I looked at the sampling sites in these bays and knew that the report which is being written about the health of the bays, is going to depict the health of our bays over optimistically. It is easy to pick areas in our bays which are least impacted by pollution - near shore environments which are washed by local rivers. The areas chosen in Perdido Bay were the shallow areas on either

side of the Perdido River. The Perdido River is a Florida outstanding water and carries rather clean water and sediments. The cleanest area in Perdido Bay is Grassy Point which is washed by the Perdido River. This is where one sample site was. The other looked like it was in Tee Lake. This site may be a little more polluted but still nothing like the deeper depositional areas in the Upper and lower Perdido Bay. The deeper areas in all our bays is where the contaminated sediments settle. None of these sites were sampled in the PPBEP testing. So the state of our bays will appear better than what it really is.

In the mid-1990's the University of West Florida did sediment analysis in Escambia Bay (in the deeper areas). They found very high levels of PCB's which were also found in the blue crabs in Escambia Bay. It would be nice to know if those PCB's are still there. I suspect they still are. It looks like honest sampling is a thing of the past. At least the sediment samples which Friends of Perdido Bay takes show the dioxin and heavy metals which are dumped into the bay by the paper mill.

Why IP Isn't fined for dumping cancer causing dioxins?

This is the question which people ask me. How can IP dump chemicals which cause cancer? The answer is because the regulatory rules do not specifically outlaw these forms of dioxin. There is only one form of dioxin which is specifically outlawed at a certain concentration - 2,3,7,8 TCDD. When the rules for dioxin were written in the late 1990's the other forms of dioxin which were also going to be produced by the bleaching of paper, were either ignored by the regulators or not known. Chlorine bleaching produced the potent form of dioxin 2,3,7,8 TCDD, and this is the only form of dioxin which is regulated. In 1995, the paper mill which was then owned by Champion, replaced chlorine bleaching with chlorine dioxide bleaching. I remember the big arguments at the regulatory hearings about what level of 2,3,7,8 TCDD was safe. But the argument was moot. Once the paper industry replaced chlorine bleaching with chlorine dioxide, 2,3,7,8 TCDD dioxin was not produced. But many other forms of dioxin are. The levels of these dioxins are not regulated. Because of the anti-regulatory environment in the U.S., I doubt that these other forms of dioxin will ever be regulated. The issue of dioxin has disappeared from public discussion.

There is one industry which produces the chemicals for the paper industry - it is called the chlor-alkali industry. They take sodium chloride and split this molecule into two - sodium (NA) and chloride (Cl). Sodium is converted to sodium hydroxide which the paper industry uses to break down their wood chips into pulp. Sodium hydroxide is used by all paper mills using the Kraft process to make paper. A lot. Chlorine is left over. So the chlor-alkali industry converts chlorine to a chemical for bleaching-chlorate, which can be transported. At the mill, chlorate is converted to chlorine dioxide and used for bleaching. Most mills which make pulp using sodium hydroxide also will do bleaching using chlorine dioxide. The chlor-alkali industry gives a discount on the price of sodium hydroxide if the paper mill also buys chlorate.

There were some companies which experimented with other forms of bleaching, such as hydrogen peroxide. I think IP used hydrogen peroxide as a bleaching agent at its mill in Mobile. This mill was making recycled paper. I do not know how hydrogen peroxide performed relative to chlorate, but IP's mill in Mobile was closed (as far as I know).

Using Recycled Cardboard

The dynamics of having to use some sort of chlorine bleaching may change as the paper industry uses more and more recycled paper or cardboard. Just look at all the recycled cardboard boxes at Walmart (they are usually stored outback). I am sure it is much less

expensive to use recycled fiber rather than to make fiber from virgin wood such as pine. And much less polluting also. But recycled cardboard has to be de-inked. The industry uses sodium hydroxide to remove the inks from the cardboard. What do you do with the sodium hydroxide once it has been used for de-inking? Well, I believe that the IP mill in Cantonment sends it to the air scrubbers to remove carbon dioxide from the air and then dumps it into Elevenmile Creek. This solution would be colorless and would not color the water in Elevenmile. However it would make Elevenmile Creek very alkaline (and may be a little bit toxic) since sodium hydroxide is very basic (think about Drano). This is exactly what has happened. I have measured the pH in Elevenmile Creek at 8.5 (just below the outfall at Kingsfield Road) , which is very alkaline. Most streams in this area have an acidic pH of about 5. Of course, IP is not measuring the chemicals in the outfall into Elevenmile Creek. This discharge of very alkaline water into Elevenmile would be considered illegal dumping. I have reported this to DEP. They just ignored me. They don't want to hear about illegal dumping.

This dumping of sodium hydroxide into streams would cause the pH of the bays to go up. This is exactly what has happened. Perdido Bay should be about the pH of the Perdido River which is below 6. However because of the dumping of the alkaline effluents from the pulping at the paper mill into the bay, the pH used to be about 7.6. Now the pH in the bay has been as high as 8.2 due to the additional sodium hydroxide from Elevenmile Creek. Last summer I would take a pH reading at Perdido Pass every time I was down that way. It usually averaged 8.2. This is extremely alkaline. Of course after a heavy rainfall, the salinity in the bay would drop and so would the pH . As an example, last April (4/19/2021) this area experience a heavy rainfall. Escambia County biologists measured the salinity in the Upper Bay as being nearly fresh and the pH as 5.9 on the surface. The month before in March , the pH had been 7.7. This is certainly not normal.

This dumping of sodium hydroxide into Elevenmile Creek is intermittent. I live in the Upper Bay and when IP dumps their sodium hydroxide into Elevenmile Creek, the water coming out of Elevenmile Creek has a different surface tension than the rest of the bay water. It is a pretty distinctive. I have tried to photograph this difference in surface tension, but it is difficult. But you can see this difference in water types and you notice that the different water streams do not mix instantly.

I saw the porpoise in the bay the other day. I am sure that they can sense this change in pH and I hope they are able to avoid this water. Of course this pH change would probably not kill them, but in the long run, they may suffer skin irritations. These skin irritations may get infected and in the end, result in death. Similarity, humans swimming in this water may experience skin irritations and burning skin. My neighbor stopped allowing his Labrador Retriever to go into the bay because of skin irritations. The cancers take a little longer to develop. I must admit that occasionally on a hot day in the summer, I will take a dip to cool off. We no longer go down and sit in the bay all afternoon like we used to to cool off, but I still like to take a swim. After all, the bay is classified as a swimmable body of water and it should be. However, once I get out, my skin feels very hot, like it is burning. This is not normal. I would be interested to hear from you on what your experience has been after swimming and where in the bay you live. I don't see many people swimming in the bay or any sort of recreation at all. I don't believe that it is just high pH which is causing the sensation of burning. I believed that IP has increased its discharge of chlorine dioxide (a potent disinfectant) to the bay. This is the reason for death of larval forms of life and many other things, including burning skin. Our bay is being disinfected.

IP's Permit or Lack of

What our 35-year presence has done is prevent our environmental agencies from issuing more illegal permits to IP. I am sure that our government would love to issue a permit, but they can't. **We are here.** You, me and the rest of Friends of Perdido Bay to try and block any half baked idea of how IP can get a permit for this bay. We know that our government will not stop IP from destroying Perdido Bay, but to make this destruction legal, no way. Maybe IP will decide it isn't worth it and close the mill. We can only hope. It is not that I want to lose American jobs to Mexico or any where else, I just don't think it is right to destroy a bay for 400 jobs.

IP's 2010 permit expired in 2015. They made a timely application which allowed the permit to be continued until whenever a new permit is issued. This is legal but good luck trying to justify a new permit. A Consent Order, which accompanied the 2010 permit, was necessary because IP did not meet the requirements for a new permit in 2010. The 2010 Consent Order required IP to get out of Elevenmile Creek and go to a wetland. As we all know, this fix did not work either. Life in the bay is just as bad, if not worse than before they went to a wetland. Our sampling in 2018 and again last year proved that life did not improve in the bay. So now what? We will see.

However, the 2010 Consent Order expired in 2019. The state, for whatever twisted regulatory justification, thought a new Consent Order was necessary. Viola, the 2019 Consent Order. It was supposed to replace the Consent Order written in 2010. The 2019 Consent Order was given to IP for their violations to the toxicity standard. But the 2019 Consent Order contained much more than fines and ways to correct toxicity violations. It contained limits and moderating provisions. In other words, it was much more than a document for fines and corrections. I challenged this Consent Order and lost. I appealed and lost. So what IP wants to do (Per 2019 Consent Order) is get out of the wetland (it didn't get them a permit) and go back into Elevenmile Creek. They plan on getting a bunch of variances for the water quality parameters they are not meeting. **Do you think IP is getting a little tired of all this government B.S? Well, I would be.** It is costing IP money. And at some point, you have to know that this shoe doesn't fit. Your foot is too big,

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.

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