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Tidings

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THOSE SUMMER STORMS

Late summer always brings the threat of storms and hurricanes. For awhile this summer I thought we were going to escape that scene. But here they come, rolling off Africa and dancing through the Caribbean. While the luxury of living on the water is nice, those storms always add some risk. I remember when we were building our house in the late 1970's, we were just about to put the roof on our house when Hurricane Frederic hit Mobile on September 16, 1979 as a Category 3. It was the first hurricane to hit Mobile since 1932 and it definitely took everyone by surprise. It seemed like that was the beginning of the summers being topped off by hurricanes. All through the 1980's and into the 1990's and 2000's, hurricanes were a part of late summer.

Hurricane destruction sometimes brings about changes in policy. Hurricane Andrew which hit Miami on August 16, 1992, changed the building codes in Florida. Better building materials, straps, clips, more frequent nailing patterns were mandated as the result of Hurricane Andrew. Building codes have been made even more stringent with impact resistant glass and other heavy duty construction. These improvements have added to the cost of homes but made the homes less expensive to insure.

Another Hurricane which changed the history of an area was Hurricane Ivan which hit Gulf Shores, Alabama (and us) on September 16, 2004 with 120 mph winds. Ivan was a huge hurricane which filled the whole Gulf of Mexico at one point. Its storm surge was up to 15 feet. Downtown Pensacola was flooded and the old I-10 bridge over Escambia Bay was washed out. But disasters bring FEMA money, sometimes. Because the old sewer plant in downtown Pensacola was flooded and could not operate for several days, FEMA money helped move the old downtown treatment plant out of downtown. This was a real boon for the redevelopment of downtown Pensacola. People claimed that the smelly downtown sewage treatment plant kept people away from downtown. At the time, there was a big push to move the downtown sewer plant, however ECUA just didn't have the money to move the plant. So

thanks to Hurricane Ivan and FEMA money, a new sewer plant, was built on the Upper part of Escambia Bay. All 15 million gallons of sewage was pumped north. A station to pump the sewage north was built across the street from where the old downtown plant stood. Occasionally, the pumping station still smells, and the land upon which the old sewage treatment plant used to sit, is a big empty lot with a "For Sale" sign. But downtown Pensacola has prospered since the sewer plant and its smell moved north. New development and people are moving downtown.

Once pumped north, you might wonder what happened to the effluent from that plant? Well, just about half of it, 7 million gallons, comes back into the Perdido Bay watershed. International Paper uses 5 million gallons a day (MGD) in their industrial processes and another 2 million gallons a day is released directly into the International Paper wetlands. The remainder is sent to Gulf Power and used as cooling water. I am not sure if there is any discharge to Escambia Bay, but Perdido Bay definitely lost out on that score (more effluent). Was moving the downtown plant a sneaky way to change discharge basins? Yes, I think so.

There is also the Bayou Marcus sewage treatment plant which accepts sewage from the southern part of Escambia County Florida and discharges into the northern part of Perdido Bay. That discharge is currently 8.2 million gallons per day. So somehow, maybe thanks to Hurricane Ivan and FEMA money, Perdido Bay is receiving the bulk of Escambia County's sewage. In a later newsletter, we will discuss the consequences.

Where was Friends of Perdido Bay when the plans were being made to dump all this sewage in Perdido Bay? We were attending all the meetings and heard these plans. But the plans were very unspecific. When we asked about where ECUA's new plant was going to dump the effluent, we were told on a wetland in the northern part of Escambia County. IP's wetland was never mentioned and of course moving to Perdido Bay was never mentioned. We didn't think ECUA was ever going to get the money to move the plant from downtown. As for the Bayou Marcus plant, Friends of Perdido Bay gave our blessing for that plant to go to wetlands around the northern part of Perdido Bay. But that was when ECUA's Bayou Marcus was only discharging 2 million gallons per day. As they kept increasing the discharge, we objected. ECUA's wetland consultants kept saying that there was no problem with the increasing discharge. But as time goes on, more and more nutrients are getting into Perdido Bay. This is a very bad place to put nutrients because of lack of flushing. But no algal blooms YET. We know from testing we did in Elevenmile Creek, IP's bleaching chemicals are herbicidal so they are keeping algae blooms in check.

As I look back, many people were involved in this plan. The local and state DEP, local politicians, the power company, ECUA, and all the environmentalists who were trying to protect Santa Rosa Sound and Pensacola Beach. They were trying to keep all the pollution out of Escambia Bay and Santa Rosa Sound. Noticeably silent were Baldwin County politicians. Too bad for Perdido Bay. There is some talk over in Baldwin County about suing ECUA for the sewage spill that occurred in mid-May, 2021. Approximately, 6 million gallons of raw sewage spilled into Bayou Marcus for about 20 hours before neighbors were notified. Fecal coliform bacteria were elevated for approximately 3-days after the spill. Neighbors were

alarmed because it took ECUA so long to notify neighbors who might be swimming in the area. That effluent drifts by my beach as well. My neighbor, who occasionally swims in the bay, also reported to have gotten hepatitis. However, I don't know if it was from swimming after the ECUA spill. I am more worried about the chemicals IP is dumping in the bay, When I first started swimming in the bay this Spring, my skin would sting after I got out and I would get a funny taste in my mouth. I have since decided it probably is not safe to swim and when the grand kids come for a visit, I keep them out. This is a sad commentary on a bay that used to be a great place to cool off on a hot summer's day, in spite of the foam.

WORSE

Friends of Perdido Bay has gotten the report on the benthic study of Upper Perdido Bay from the consultant Cardno. As expected, very little life exists at the two stations the consultants sampled in the bottom of Upper Perdido Bay. Fewer animals were found in this sampling period than in the last sampling period in 2018. In other word, the bay has not improved. The consultant hypnotized that it was the toxic hydrogen sulfide in the bottom sediments which killed the bottom animals, but I am more inclined to believe that the water is toxic to larval forms of life. Most of the bottom animals have larvae which swim around in the water before they settle on the bottom. If the water kills the larvae there will not be anything to settle, no matter what the bottom is like. I noticed that at my beach, which is still sandy with areas of bottom muck, the clams which used to be present, are not there. I even put out some small containers with sand but no small clams showed up. The water is definitely toxic to larval clams. Also I put out some rip-rap at my beach last summer to try and protect the little bit of beach front that I had. There aren't even any barnacles on the rip-rap yet. It is alarming. Blue crabs, which come into our bays as larvae, grow up in the bays and then leave in the fall to spawn in the Gulf of Mexico are few and far between. No sense in putting out your crab traps.

The results from our present studies can be compared with historical results from the same two stations in upper Perdido Bay dating back to the late 1970's. Florida's environmental agency DEP used to take samples at these same two stations in Upper Bay quarterly. While the sample never indicated a pristine environment, there were at least sufficient animals to do some statistical analyses. Not today. After citizens started advocating for a clean-up in 1986, DEP stopped doing benthic testing at all stations. The testing was turned over to the Champion consultant, Dr. Livingston. He was able to find sufficient animals to do analyses. He stopped testing in 2007. In 2007, DEP did a Total Maximum Daily Load assessment of the bottom life at these same two stations. That data disappeared. Alarmed, one of the samplers called us and told us there were hardly any animals in the bay bottom. After 2007, no data (at least of which we are aware) on benthic animals in Perdido Bay had been taken until our study in 2018. International Paper was supposed to do studies after they transferred their effluent to the wetland in 2012 to "demonstrate that there was no significant impact from their discharge". They didn't do that study. Instead they did a plankton analyses of five stations in the Upper Bay. There were some hardly forms of plankton (blue-green algae).

So bottom line - after two bottom sampling events over four years, we can say that the discharge to the wetland did nothing to improve life in Perdido Bay. It is worse. Our

data demonstrates this. What the effluent transfer did, was allow IP to increase production and continue to pollute Perdido Bay for an additional 12 years and counting. Would the situation be worse without the wetland? Maybe, because the wetlands do remove the nutrients in the effluent.

Thank you everyone who donated money for this study. With data, we are able to refute the lies of big business and maybe one day have a clean bay. Our environmental agencies which are supposed to work for the public, are helping IP coverup their damage to Perdido Bay. This situation is caused by politics and the money which is used to elect crooked politicians who don't really want to see the truth or care about the environment.

OTHER DATA IN THE STUDY

Beside taking samples of bottom sediments and looking for life, our consultants do water chemistry and some chemistry of the bottom sediments. It is difficult to know what chemicals to test for in the water. There are millions of them. But we do the standard tests so that we can compare results over the years. Several changes which I have noticed are the increasing pH's and the increasing percentages of dissolved oxygen. While we used to have very low dissolved oxygen in the deeper waters of Perdido Bay, oxygen levels are usually over 100% saturation. Production of oxygen by algae really can't explain these increasing levels of dissolved oxygen. Increasing pH is caused by increased discharge of sodium hydroxide by the paper mill. They use sodium hydroxide to break down the fibers in the pine trees, and just over the past several years, to absorb carbon dioxide from their smoke stacks.

The sediment analyses are horrible. The sediments in Perdido Bay are full of dioxins and heavy metals. The sediment dioxin levels are 14 ppt at the station in the middle of the Upper Bay and 6 ppt at the more western station on the Alabama side. The soils clean up level for dioxin is 7.0 ppt and NOAA's apparent effect threshold is 3.6 ppt. Our sediment levels are above these values.

THERE ARE FISH

There are some fish. My son who has grown up and fished in Perdido Bay his whole life, goes out with a kayak, usually at night and tries fishing. Several nights ago he caught a big redfish around a dock in the Upper Bay. Also people have reported manatees being present around the La Paz canal. We see virtually no mullet. Hope for better times

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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