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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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## **HAPPY HOLIDAY SEASON**

As we close out our 30th year, Friends of Perdido Bay would like to say “Happy Holidays” to every one and see you in 2018. We still have a lot to do and a lot is happening. Our bay is still sick, mainly due to pollution from paper mill effluent. Perdido Bay, along with Escambia and Pensacola Bays, have been selected for National Estuary Money. We are looking for people who are interested in representing Perdido Bay at meetings about the National Estuary program. If you are interested in attending meetings every other month, I will submit your name to the coordinators. Most likely the meetings will be held in Escambia County at the West Florida Regional Planning Council Office on East Olive Road. You can send in your name or call us with names of people who are interested. Thank you. Our voices must be heard.

## **Is My Septic Tank Impacting the Bay?**

Have you every wondered if this were true? I have. And although I keep saying no, it couldn't be, I am never sure. I always look for telltale signs of very green algal growth at my beach. This would indicate excessive nutrients coming from septic tank leakage. Unfortunately, as long as IP's effluent is discharged to Perdido Bay, any algal growth would be killed off due to the herbicidal effects of the effluent. So we would have to use some other indicator. There are dyes you can put in your toilet, but these are too short term to use. High concentrations of fecal coliform may also be an indicator, however again Perdido Bay has high bacterial populations due to the discharge of International Paper. So any localized effect would be masked by the high amounts of bacteria occurring in the bay. High levels of ammonia, nitrate or phosphates would also indicate septic tank leakage, but this leakage would have to be pretty gross to find elevated nutrients.

A study done by Florida and Alabama Environmental agencies in 1989, to identify any contributions from septic tanks was not able to locate any problems from this source. This doesn't mean there were none. Perdido Bay was already too polluted by excessive nutrients and bacteria (mainly from the paper mill) to really find any leaking septic tanks.

After heavy rains, bacteria and all types of nutrient pollution are washed into the bay from many sources including septic tanks.

The University of Florida Environmental Engineering Program has used grant money from DEP to examine the problem with septic tanks impacting adjacent waterways. I will quote directly from an e-mail sent to me by Dr. Mark Brown, professor emeritus, Environmental Engineering Sciences, University of Florida to my question about septic tanks impacting adjacent water bodies. “Unfortunately there is no quick and easy way of detecting the influence of septic tanks on adjacent water bodies. In a research project several years ago that was designed to do just that, we installed a series of wells within the drain field and “downstream” of the drain field toward adjacent water bodies on 5 septic tank systems scattered across Florida. We determined that there was an effect. Combined field measurements and modeling suggested that on average the extent of a septic tank plume can be detected 77.5 feet (between 40 and 130 feet) from the downslope side of the drain field. Tracer studies suggested that the movement of contaminants in ground waters ranged from about 6 inches per day to about 20 inches per day and could be as high as almost 25 feet per day during rainfall events where slopes were higher.”

Based on this information, we looked to see how the adjacent counties of Escambia in Florida and Baldwin in Alabama regulated their placement of septic tanks. Escambia County Florida does not allow septic tanks within 100 feet of a water way or in wetlands. Baldwin County Alabama does not have any limitation on feet from a waterway except no septic tanks will be permitted seaward of the coastal construction line. Baldwin County does have extensive rules on percolation of sewage through soil. Both states require a permit and inspection of the site prior to installation and they recommend that septic tanks be pumped out every 2 to 5 years.

Many of the new subdivisions in both Escambia and Baldwin Counties are installing sewer, and both counties have subdivision regulations which mandate sewer when lot sizes are smaller than a certain size. Of course this leads to the question about where to put the treated sewage and the cost of building and treating this sewage. It is expensive to build new sewage treatment plants and then treat the sewage. Maintenance of the sewer system is also an issue. One old development, Innerarity Island, has a package sewage treatment plant and sewer lines which were maintained by the developer. The developer died and his heirs did not want the expense or the problem of maintaining and treating the sewage. The residents needed to have sewage, so they turned to the local utility, Emerald Coast Utilities Authority (ECUA), to provide the sewage. ECUA turned down the residents because the ECUA did not want to invest the millions of dollars required to bring the sewage system up to date. Currently the residents are paying very high utility rates to run and maintain the system. The utility system, as well as approximately 70 vacant lots were taken over by Escambia County in 2014. The county is hoping to sell the lots and get grants to improve the system. This would allow ECUA to take over the system and perhaps lower the utility rates. But you can see the problem.

## Clams have Dioxin and other Chemicals

This summer Friends of Perdido Bay decided to retest the clams in Upper Perdido Bay for dioxin and PCB's. We had done this same testing in 2007 and wanted to see what the dioxin situation was now. The first difference which was apparent immediately was the lack of clams in 2017. It took about two days of feeling around the bottom of the bay to find sufficient clams (20) to send to the laboratory. The clams ranged in size between big (4 to 5 year old) clams and small (1 year old) clams. The extended sampling time and exposure to Perdido Bay water caused the sampler (me) to develop sores which became infected. I treated them with a fungal cream which seemed to cure the sores.

The 2017 clams did have dioxin/furans although the most dangerous form of dioxin, 2,3,7,8 TCDD was not detected. There are about 40 different forms of dioxins and some are more dangerous than others, but all forms are toxic and cause cancer at some concentrations. The concentrations of total dioxin/furans in Perdido Bay clams was 8.69 picograms/gram. PCB's which are dioxin like and can cause cancer were also present in the clams at a concentration of 2,260 picograms/gram. This was quite high and demonstrates how polluted Perdido Bay has become. These numbers are all higher than the clam values for 2007. The profile of the PCB's in the 2017 clams was interesting. Two PCB's were much higher than the rest - PCB 118 and PCB 105. These two PCB's were the same ones which were high in the 2007 clams. The same profile of PCB's was found in Escambia Bay as well, by researchers from UWF. They attributed the PCB's to an old spill of PCB from Monsanto (now Ascend). However we never had a Monsanto spill of PCB in Perdido Bay. Rather the common source of PCBs in both bays appears to be sluice water from coal ash. The power utility in Escambia Bay uses coal and International Paper in Perdido Bay uses coal mixed with ground wood to fire their power boilers. Coal ash also appears to be the source of arsenic and mercury found in the 2017 clams.

The presence of dioxins in the clams is not too surprising. IP is still doing bleaching at the Pensacola mill, although most people assume they have stopped. They haven't. In November 2017, IP reported a flow of approximately 5 million gallons a day of effluent from the bleach plant which contained among other nasty chemicals 0.14 pounds per day of chloroform. When the bleach plant effluent is added to the other effluent streams from the mill, about 27 million gallons a day of effluent flows from the International Paper mill. This effluent contains **73** pounds per day of chlorinated compounds (referred to as AOX) and is the source of the dioxins into Perdido Bay. The 27 million gallons of effluent a day also contains a whopping **38,739** pounds per day of chemicals (COD) which consume oxygen. This is an incredible amount of oxygen consuming substances entering our bay and is the source of much of the toxicity in our bay.

You may wonder why, because of the toxicity of the bleach plant effluent, IP just doesn't cease making bleached pulp altogether. The reason is IP gets a discount from the chemical companies who make the pulping chemical sodium, if they also buy a chloride product with the sodium. This chloride product is the bleaching chemical, sodium chlorate. The chlor-alkali companies get sodium from splitting sodium chloride (salt) into sodium and chloride in an electrolysis process using a mercury cathode. Mercury has always been associated with paper mills and I believe that sodium is slightly contaminated with the mercury. This mercury contaminates the sediments and wildlife .

## A Dividend Rock Star?

As I was reading through some financial news, I happened to see International Paper being named “a dividend rock star”. IP was given this laudatory designation because they have consistently paid out dividends of 3.45% over the past 10 years or so. This is pretty good considering you can get less than 2% on an interest-bearing bank account. But in order to pay out these dividends, IP must continue to make money. It was amazing to me that IP pays 43.85% of its earnings as dividends. And of course now that they only have to pay 21% income tax, their earnings ought to be even higher. So who wins in this case? Well it is obvious, the shareholders. And who are these shareholders? The big investment groups; Wellington Management Co., The Vanguard Group, SsgA Funds Management Inc, etc. Maybe some of your retirement funds are tied up in IP stock. So it appears that all the big investors profit from IP making as much money as it can at our expense. Instead of investing in pollution control equipment, its will mainly maximize it profits for Wall Street. Isn't that IP's mission statement?

Another thing IP will invest in is businesses in areas where it thinks it can make money. IP saw investment opportunities in Russia in 1998 when it acquired its first Russian Mill. Then in October 2007, IP went into a joint 50-50 venture with Ilim (a Russian company) to form the largest alliance in the Russian forestry sector. Of course they had to beat out one of the Russian oligarchs, Oleg Deripaska, for the business. IP invested money in the aging Russian manufacturing sector to modernize equipment and streamline efficiency. Today the Ilim Group produces over 65% of marketable cellulose and over 21% of cardboard in Russia and probably has an unlimited supply of trees (fiber). There is probably very little other competition in an area which is growing after the Soviet Union fell apart in 1991. As long as they stay on the good side of Putin and his friends and the ruble and dollar cooperate, it may be a real money maker for IP. Which would be good for Wall Street but we would still live on a polluted bay.

**Thank you for your support and see you in 2018. Happy Holidays**

### 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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