



# Frequently Asked Questions

## From the public and the media

### **Why not use constructed wetlands instead of natural wetlands?**

Constructed wetlands along with several other alternatives were evaluated as part of the permitting process. All were found inferior to the selected project on technical, environmental and economic grounds. For instance, constructed wetlands would have involved destruction of hundreds of acres of natural wetlands- which the selected project will restore and/or enhance. Since the natural wetlands project will result in the protection, enhancement and restoration of more than 1400 acres with all the biodiversity, aesthetic and conservation objectives that will result while achieving the same or superior water quality, it is the proper choice.

### **Does the term experimental wetlands program suggest that this is unproven technology?**

The State of Florida in responding to the loss of wetlands adopted a program to encourage the restoration of wetlands and their utilization as a low energy, restorative system of waste treatment. The State named this program "experimental" and set forth a number of criteria to evaluate to assure that while the conservation objectives were met there would be no significant adverse environmental impacts from projects that would achieve multiple environmental objectives. This project after thorough analysis will result in the objectives sought by the State of Florida --- significant environmental benefits with no significant adverse impacts, a win-win situation for the State, Escambia County and its citizens.

### **Does the wetlands exemption allow the mill to achieve compliance with water quality standards?**

The wetland experimental authorization and the conditions in the permit assure that the benefits of the wetlands restoration and maintenance will be achieved without any significant adverse impacts. To ensure these benefits are maintained over time, the program will allow IP to develop new information and demonstrate enforceable water quality criteria to apply to the wetland ecosystem. The Department would then adopt site specific alternative water quality criteria appropriate to these wetlands which would replace the statewide Class III default criteria.

### **What are the criteria for granting the wetlands exemption?**

The exemption requires an up-front demonstration that the wetlands ecosystem utilized to achieve conservation objectives can be expected to assimilate the effluent without significant adverse impact on the biological community. In addition, applicants—IP in this case-- must show that granting the exemption would be in the public interest, not adversely impact public health, not impact potable water supplies nor interfere with the designated use of contiguous waters. Finally, the exemption requires that scientifically-valid systems be provided to monitor the long term ecological effects. IP has done all of these things.

### **The company characterizes the wetlands as a 'polishing' step. What kind of treatment is expected?**

As proposed in our permit application, the enforceable limits for BOD, solids, and nutrients will be achieved at the mill before it enters the pipeline. The wetlands therefore becomes supplemental treatment and we coined the term "polishing" to stress that they are not required for compliance. In fact, we believe the benefits go beyond compliance with: better water quality from the polishing of the effluent through the natural wetlands, conservation and protection of a coastal wetland with biodiversity, aesthetic and recreational benefits. All of this prevents alternative use of those lands, such as development, which will assure the long term protection of the Perdido Bay ecosystem.

The water quality benefits will be beyond that necessary to protect the environment. In fact, based on the modeling work of our lead consultant Dr. Wade Nutter, we expect the quality of water that emerges from the mill's treatment system, followed by the "polishing" expected from the wetlands, will be equal to or better than advanced wastewater treatment standards for domestic wastewater treatment facilities.

### **Some opponents say the mill is allowed to discharge 4,500 lbs day BOD and 9,000 lbs solids. Is this correct?**

The proposed permit lists these limits as protective of the designated receiving waters; they cannot be exceeded and are subject to enforcement. The mill will meet these limits on site before the effluent is discharged into the pipeline and wetlands. In fact, we expect to perform typically at about 50 % of the limit. In the wetlands, we expect to see the residual BOD and suspended solids reduced by another 70-90%, mimicking the levels typically seen in any natural wetlands

**Are the proposed BOD and TSS limits too high for Perdido Bay? Don't they decrease the dissolved oxygen levels and create a bottom, mucky layer?**

According to the Administrative Law Judge, the studies conducted by Dr. Robert Livingston represent perhaps the most complete study ever conducted of a coastal ecosystem. In those studies, Livingston found that the mill's contribution to solids loading and low dissolved oxygen levels in Perdido Bay were negligible and insignificant. By contrast, the studies show that the most important factors that govern the health of the Perdido Bay ecosystem are the level of nutrients, phosphorus and nitrogen, discharged from both point and non-point sources. Other significant sources of nutrients affecting the health of Perdido Bay include things like stormwater runoff, septic tanks, agricultural activities, and lawn fertilizers.

**Why did the administrative law judge deny the permit?**

The Administrative law judge determined that an up-front demonstration of no significant adverse impact was required for the wetlands before the permit can be issued and he believed the data presented by the company was insufficient in this regard. This decision reversed an earlier DEP position – which IP had to follow—that such a demonstration was to be made based on data produced after the implementation of the project. Both the ALJ and Secretary found that the project would improve the Perdido Bay system, would allow the meet to achieve compliance with all standards and would also allow for some restoration and enhancement of wetlands and their functional value.

**How is the new application different?**

In consultation with DEP and the Florida Fish and Wildlife wetland experts, IP completed additional analyses of the receiving wetlands to adequately assess plant and animal species, current conditions and potential impacts. After thorough evaluation, DEP experts determined the proposed discharge would not significantly affect general plant and animal species and will likely enhance wetlands function. IP agreed to modify its application to eliminate impacts to 100 acres and has agreed to set aside an additional 1,188 acres – for a total of 2,500 acres – of land adjacent to the wetlands that will be placed in conservation and perpetually managed to enhance the special species and habitats. This property might otherwise have been lost to land development or other human activity.

**Will the mill reduce the levels of ammonia in its discharge?**

Yes. The upgrades to the mill's wastewater treatment system will allow the mill to meet the fresh water quality standard for ammonia. .

**Are septic tanks really a problem? Opponents say that thousands of septic tanks would be required to match the BOD coming from the paper mill.**

Perdido Bay is listed as an impaired waterbody due to the levels of both nutrients and fecal coliform. Some opponents choose to ignore the contribution of septic tanks to the release of these constituents and only focus on BOD. The Florida DEP has developed a septic tank abatement program in recognition of the impact of nutrients and coliform on receiving waters. If granted the permit, IP will upgrade its treatment system which will significantly reduce the levels of nitrogen and phosphorus in its effluent. With the wetlands application, the levels of nutrients, BOD and total solids will be comparable to the quality expected from an advanced wastewater domestic treatment facility.

**Is the time it takes the effluent to move through the wetlands sufficient to achieve significant treatment?**

We expect the effluent to move across the wetlands site over a five to seven-day period, during which time the BOD and suspended solids are projected to be reduced to background levels. We also project an additional decrease in nutrients beyond what is achieved with the treatment system upgrades. We expect the quality of water entering Perdido Bay to compare favorably to natural background levels at or beyond advanced wastewater treatment standards.

**Will the amount of effluent flood the wetlands and harm the plants and vegetation?**

The hydraulic loading rate is about 0.6 inches/day. Recommended rates for natural systems range from 0.16 inches to 1.6 inches per day, so we are well within the recommended ranges. In the wetted area, some portions of the wetlands will be changed from a pine savanna setting to wetter cypress swamps or bay swamps. While this is a change in wetlands types, the cypress and bay swamps will exhibit valuable wetland function for plants and wildlife. For those areas we may negatively impact, the company proposes to place into conservation and land management over 1200 acres to maximize and enhance. The net result of the project is an increase in wetland functional value.

**Why not use more land for the wetted area such as that located adjacent to the proposed site?**

The natural terrain of the site is such that the surface and groundwater of the entire wetted area naturally flows to lower Elevenmile Creek and the marshes and lakes bordering Perdido Bay. We chose not to expand the site more westward

in order to avoid any surface flow to the Hurst Hammock community and to the mouth of Perdido River. More structures redirecting and moving water back to the east would have been required with the significant environmental impact that it would entail. We chose to instead set aside this land for conservation. The wetlands will also be placed in conservation and perpetually managed to enhance the special species and habitats.

**What will happen to the solids in the wetlands? Will it accumulate over time?**

Based on our consultants' experience, on computer modeling, and on several years of collecting baseline data on the project site, solids build up is not a concern. Wetlands are capable of effectively treating solids (TSS) through physical and biological processes. It is well known that the naturally occurring organisms that exist in wetlands along the roots of plants and vegetation will digest and break down the TSS over time. As a result, the TSS becomes part of the soil and carbon dioxide is removed and absorbed by the plants as nutrients. We expect the TSS to be reduced to background levels before the flow even reaches the lower portion of the wetland tract. Furthermore, as part of the proposed land management plan, we will track the system's overall performance, and if required, we can employ a number of means to control any build-up.

**In the public forum, some suggested alternate technologies such as a "closed loop" system thereby eliminating any discharge. Have you looked into these?**

Although the scientific community has tried, the closed loop system that eliminates any effluent discharge is not yet attainable. Today, there is no completely closed system in place for a kraft pulp mill. The Pensacola Mill currently employs many processes that accomplish water / solids recycling. As a result, we recover most of our solids in a manner that allows for their beneficial reuse, and we regenerate most of our process chemicals through internal closed-loop processes. For similar kraft mills, we rank very favorably among our peers in water usage, waste loads and the quality of our discharged effluent. The most recent National Council for Air and Stream Improvement (NCASI) data shows that Pensacola Mill's use of 14,200 gallons per ton is 34 percent below the industry average of 22,418 gallons.

(Note: With the recent conversion to mostly unbleached pulp production, water consumption at IP-Pensacola has decreased further.)

**Does the mill have an alternate plan?**

All reasonable alternatives were analyzed and found inadequate to achieve the water quality requirements and the many associated environmental benefits that the project would achieve. We are completely confident of this plan. It was put together by highly qualified professional engineers and scientists. It is an innovative project and has been supported by \$3 million dollars of grants from the U.S. Congress and the State of Florida in recognition of its multiple environmental benefits.

**Does the mill generate dioxin in its bleaching process?**

In 15 years of quarterly effluent testing, we have not detected any dioxin (2, 3-7, 8 TCDD) in our effluent. The mill introduced technology in 1985 to further minimize generating the compounds that can lead to dioxin production; the detection unit of measurement is "parts per quadrillion" (ppq). One ppq is equivalent to one second in 32 billion years.

**Is the effluent toxic?**

No. We are required as part of our permit to test the effluent regularly for acute and chronic toxicity using very sensitive biological organisms and we routinely pass these tests.

**Will the effluent have any adverse impact on the lakes found within the wetlands?**

The DEP requires an affirmative demonstration that the wetlands ecosystem can assimilate the waste discharge without significant adverse impact on the biological community within the receiving waters. The DEP review focused on plant communities and impacts to fauna within the freshwater wetlands and the Tee and Wicker lakes. The department has concluded that no significant adverse impacts are anticipated, and based Dr. Livingston's report, compliance with the permit limits should maintain the high productivity of the ecosystem.

**Is IP operating on an expired permit?**

Despite claims made by project opponents, the Pensacola mill is operating under an administratively-continued Temporary Operating Permit and is in full compliance with all conditions of that permit. The Secretary of the Florida Department of Environmental Protection issued a Final Order in 2007 denying the proposed renewal of the mill's wastewater permit but did grant a stay of the Final Order pending an appeal. New conditions were established with the Stay that included new limits on nutrients and effluent color. The mill is in compliance with those new limits.

**Why are there no oyster beds in Perdido Bay?**

Oysters are highly dependent upon a specific fresh water / salt water regime. The highly variable nature of Perdido Bay due to the fresh water flows from Perdido River and salt water input from the Gulf of the Mexico and the impact of heavy rainfalls, Perdido Bay does not provide a habitat suitable for oysters. The absence of oyster beds has nothing to do with the mill's discharge.

**Some opponents often show pictures of foam on area beaches. Is this due to IP?**

IP and DEP investigate each foam complaint, and in every single case have found that foam found on Perdido Bay is from natural origins. Tidelines, for example, are natural phenomena where the salt water and freshwater interface lead to turbulence and foam generation which typically appear as long streaks across area bays and sounds.

**What is the status and nature of the partnership with ECUA?**

IP and ECUA entered into an agreement in 2004 that states that a key objective of the partnership is to use reclaimed water as a means of reducing fresh water consumption. IP hopes to use up to 5 MGD of ECUA reclaimed water. While IP's interest is to reduce its consumption of fresh water consumption, ECUA's interest is to find a beneficial outlet for its treated effluent. Another key objective of the ECUA /IP partnership is to assist the County in addressing septic tank abatement and to manage growth with additional capacity while improving water quality and the environment.

**Some opponents claim that the mill shuts down its aerators and reduces the capacity of its treatment system to save electrical costs during certain seasons. Is this true?**

No, this is a completely false allegation.

**It was reported that a pilot wetlands installed at the mill in the 1990's resulted in only 2.5% survival of trees over a five year period and that the wetlands became a cattail pond. How will this be prevented with the proposed natural wetlands project?**

The pilot constructed wetlands was built in 1992 and operated until 1995 at which time there was no longer a need to manage the site. As a result of no site management, a beaver population emerged which reduced the tree population and gave way to the cattails and related grasses which were also planted. The reduction in trees was not at all related to the quality of the mill's effluent. The constructed cells had many deep water zones which was an idea habitat for the beavers and ideally suited for the growth of cattails.

In the proposed wetlands project, such levels of inundation are minimized to areas immediately behind the berms. Elsewhere, the water will be more of a sheet flow. The site will be managed to control invasive species and promote the growth of many hardwood species.

**The mill recently underwent a major transition and is now producing mostly unbleached pulp. Has this transition resulted in any environmental improvement?**

With the conversion, the mill eliminated one bleach plant and reduced significantly its bleached pulp production. In designing the project, we projected a reduction in water usage along with waste loads. To date, now almost one year after start-up, we believe those projections were correct as we are seeing reduced water consumption, less wasteloads and more efficient treatment thus leading to an improved effluent quality.

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