

Coastal Holiday Update 2015

Jim Blackburn

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Greetings. The time has arrived for another coastal newsletter. Happy holidays to all of you and happy reading. If you know someone who might enjoy this newsletter, please forward it to them.

In this issue, you will hear about two lawsuits that have been lost, the whooping crane litigation and the Rollover Pass litigation. And while that might seem like a down note (and I truly wanted to win those cases), it is important to keep in mind that amazing change can occur out of losses. The Alamo was not a victory. Neither was the East Matagorda Bay dredging lawsuit of the late 1980s that was lost yet set in motion major changes in the way that dredging is conducted on the Texas coast. What is important is standing up for our principles and publicly challenging those whose actions may harm the coast or coastal residents.

This holiday newsletter consistently has been about standing up for principles that are necessary for the protection of the Texas coast. Individual battles come and go. At least for me, this has been and continues to be a long-term fight for an ecological place – the Texas coast – that is a world-class natural resource that we Texans are only beginning to appreciate. Hopefully, enough of this coast can be preserved to allow future generations to enjoy and know what I and many of you have known and enjoyed. And I truly believe that it can be.

I. Whooping Cranes and Kemp's Ridley Sea Turtles

As many of you know, The Aransas Project (TAP) won a huge victory in federal court in Corpus Christi before Judge Janis Graham Jack back in 2013. That decision was overturned by the 5th Circuit Court of Appeals by a three judge panel that was comprised of Judges Edith

Jones, Jerry Smith and Emilio Garza, all Texans. The motion for rehearing was denied by an 11-4 vote, with Judge Prado, yet another Texan, writing a vigorous dissent. We thought that this dissent might help us obtain review by the U.S. Supreme Court, but they denied our Motion for Certiorari. So, *TAP v. Shaw* as a case is now over. However, its legacy will continue for quite some time.

Judge Jack's decision is still very powerful, notwithstanding the 5th Circuit's opinion, which was narrow and based on a legal interpretation of proximate causation under Section 9 of the federal Endangered Species Act (ESA). Judge Jack's decision remains one of the best court reviews of the issue of freshwater inflow and the impact upon a bay caused by water withdrawals. We presented an excellent scientific case demonstrating the harm that denial of inflows caused to San Antonio Bay. In part, our proof was based on the fate of Nueces Bay which the Texas Commission on Environmental Quality (TCEQ) science advisory team determined to be essentially dead due to cut-off of freshwater inflows by Lake Corpus Christi and Choke Canyon Reservoir.

Now, stop and think about that for a minute. Texas policies allowed a bay – Nueces Bay – to be killed. Two other bays – San Antonio and Matagorda – are next in line unless we change our current approach to surface water in Texas. And none of us are doing enough to change this perilous situation.

This is clearly one of those times when if we collectively act, we can keep major harm from occurring. And if we don't collectively act, harm will occur. So, the key question is – what can and should we do? Here are some thoughts, but the key point is that you are going to need to roll up your sleeves and fight for the water to keep these bays healthy. And here are some points that may be important in that fight.

First – the federal Endangered Species Act is the best friend of coastal fishermen and birdwatchers. It is the most powerful anti-

venom to the toxic policies coming out of Austin. It should be used by non-profit organizations concerned about the coast, and we should demand that our federal agencies enforce it. I know that this is a scary proposition for some of you. But if you want to save the Texas coast, either get over your fear of the ESA or vote the snakes out of office (and we know that has been slow to happen).

From the standpoint of Endangered Species, we have two key coastal species that could be important for freshwater inflows for bays and estuaries – the whooping crane and the Kemp’s ridley sea turtle. Both of these endangered species rely upon blue crabs as their primary food source, and blue crabs require freshwater inflows and a healthy bay system for their survival. If we keep these endangered species healthy, we will also have healthy bays, good fishing and good birding. They are truly the canaries in the coal mine that is the Texas coast.

Second, there is a continuing string of potentially bad projects on the Guadalupe River system, making San Antonio Bay, Espiritu Santo, Mesquite, Carlos and northern Aransas Bays among the most threatened on the Texas coast. The Guadalupe Blanco River Authority (GBRA) is incessant, continuing to try to claim water that should be left for the bay. I am trying to work with GBRA to find solutions in the long term even as we prepare to go to battle over these issues which are as difficult as they are important.

Four important projects currently on my radar screen are shown as blue insets on Figure 1. A summary of each is presented below the figure. The background images on Figure 1 include the Guadalupe River watershed, the San Antonio River and the Edwards Underground Aquifer that feeds both of these rivers. Also shown on Figure 1 are the various bays affected by actions on the Guadalupe and San Antonio Rivers and freshwater inflow issues on the Guadalupe River.

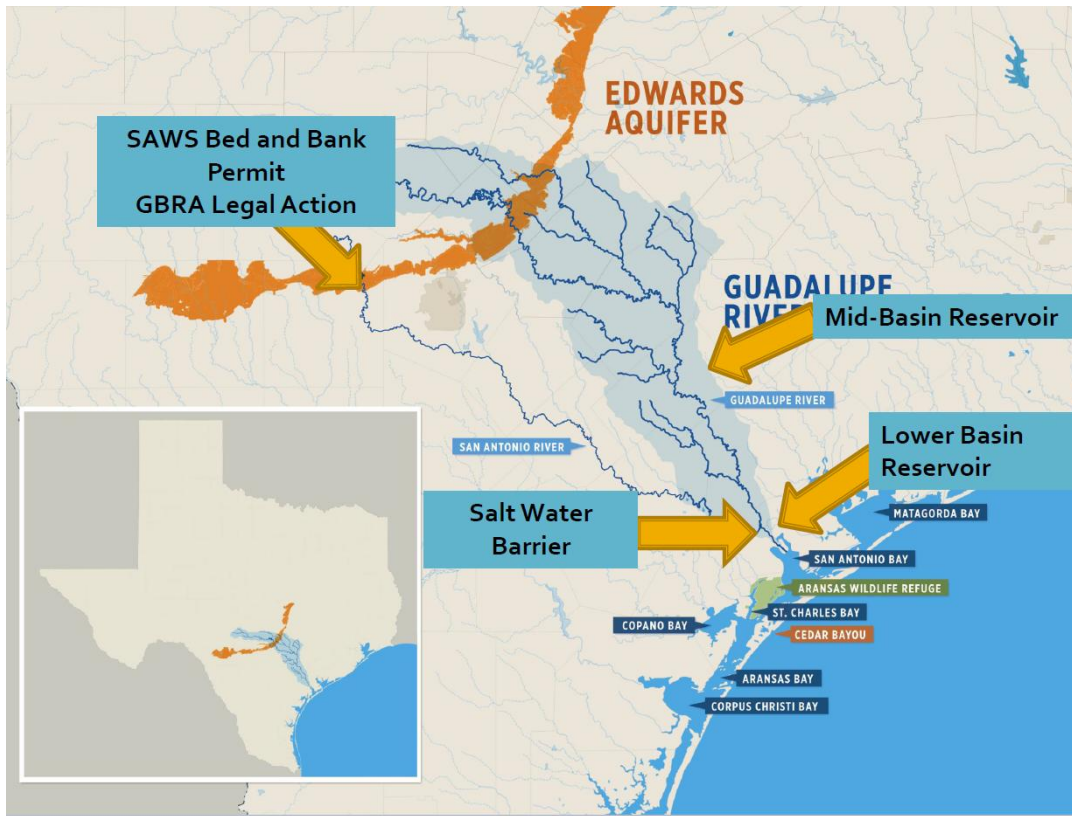


Figure 1. Pending legal actions affecting San Antonio Bay.

- 1. GBRA Opposition to San Antonio Water System (SAWS) Bed and Banks Permit Application** – Some time back, SAWS applied for a bed and banks permit to transmit 50,000 acre feet of discharged wastewater downstream to San Antonio Bay for freshwater inflow purposes. This is an excellent innovative permit application that should be supported by coastal advocates and hopefully issued by the state of Texas. However, GBRA is concerned that this permit, if issued, might negatively affect an existing water right that they have at the bottom of the Guadalupe River at the saltwater barrier if this wastewater is committed to San Antonio Bay. In addition to fighting the permit application, GBRA attempted a very creative legal maneuver whereby they sought a declaration that no action could be allowed or permitted that would

jeopardize bonds they planned to issue in support of development of their water rights. This GBRA legal maneuver was opposed by several parties, including The Aransas Project, TCEQ and SAWS. So far, GBRA has lost in both District Court and at the Court of Appeals. Their appeal to the Texas Supreme Court is pending. So here's hoping that the SAWS bed and banks permit application is granted by TCEQ and that the GBRA's bond declaration lawsuit is rejected by the Texas Supreme Court.

- 2. The GBRA Saltwater Barrier.** A major problem exists at the saltwater barrier erected by the GBRA across the Guadalupe River just north of the SH 35 crossing at the Guadalupe Delta. This barrier is inflated when saltwater threatens to come up the Guadalupe River, and the barrier blocks flow at that point in the river whether inflated or not. A two to three-foot differential exists between the upstream water level at the barrier and the downstream water level beneath it when it is inflated. There is a canal distribution system for water behind the barrier, and for years GBRA has maintained that inflows eventually get to San Antonio Bay through a series of interconnected bayous. However, a recent water planning study casts substantial doubt on this assurance. The bottom line is that even though water may be flowing toward San Antonio Bay past gauges on the Guadalupe and San Antonio rivers, it may never reach the bay because of the obstruction posed by the barrier. This barrier was erected before the Endangered Species Act was passed, but the ESA has continuing applicability to federally permitted structures like the barrier which was issued a permit by the Corps of Engineers in 1964. In light of this legal situation, the Matagorda Bay Foundation has written the Corps of Engineers asking them to

review this blockage situation under Section 7 of the ESA and to make changes to the permit to insure that adequate fresh water inflow gets to San Antonio Bay to prevent impact to whooping cranes and Kemp's ridley sea turtles due to reduction of freshwater inflow by the operation of the barrier. Among other things, MBF is requesting some type of transport system and a gauge to insure inflows pass the barrier as well as a guaranteed minimum inflow amount. MBF is committed to following through on this request with legal action if necessary.

3. **GBRA Mid-Basin Reservoir.** The GBRA has filed a permit application to construct a reservoir off of the main channel of the Guadalupe River near Gonzales. This permit application has been filed with the Texas Commission on Environmental Quality (TCEQ) and it has been set for a contested case hearing before a state administrative law judge. The Aransas Project (TAP) has been awarded party status and will oppose this proposed permit based on our concern that it will generate additional impacts to San Antonio Bay and to the whooping cranes and Kemp's ridley sea turtles due to further reduction of freshwater inflows if this permit is issued.
4. **GBRA Lower Basin Reservoir.** The GBRA is also proposing to build an off-channel reservoir near the Dow Chemical Plant near Seadrift at the Guadalupe Delta. This lower basin reservoir is intended to store the water allowed under a permit purchased by GBRA several years ago from Union Carbide (now Dow). This off-channel reservoir does not require a new permit from TCEQ and will allow this water right to be fully utilized by GBRA, a right that was not used during the 2008-2009-time period when the

whooping cranes were killed by reduced freshwater inflows. In other words, this reservoir will allow the full use of all permits that have been issued by the state in the past which is bad news for fishermen and birders. Both TAP and MBF are researching legal options to oppose this off-channel reservoir that will worsen the problems suffered by the bay and the whoopers in 2008-2009.

In summary, TAP's whooper litigation was only Round 1 in the fight for freshwater inflows for San Antonio, Espiritu Santo, Mesquite, Carlos and Aransas Bays. Every group concerned about the Texas coast should be involved in fighting these projects. And all of us need to use whatever strength we have in Austin to get the Texas Legislature to guarantee freshwater inflows for all of our bays before its too late. And you might ask them to pay special attention to the Guadalupe Blanco River Authority, an entity that seems to be doing everything it can to undermine the whooping cranes and the estuary that is San Antonio Bay. If GBRA won't work with all of us for the good of the Texas coast, then we ought to seriously discuss whether they need to receive the "death penalty" from the Texas Legislature. We have to stop this before it gets any worse. Period.

II. Gate in Galveston Bay

The other day I was making a speech here in Houston and during the question and answer session, a member of the audience asked if I was the same Jim Blackburn as the one proposing some type of gate structure in Galveston Bay to protect the Houston-Galveston area from a severe storm. I answered yes and said I was co-director at the SSPEED Center at Rice University and that we were working on a couple of such ideas. And then she asked "How could you suggest undertaking an action such as erecting structures in Galveston Bay that might cause harm to the Bay, given that you are an environmentalist?"

I am an environmentalist, and it intrigued me that this person assumed that an environmentalist would not propose a course of action with some potential negative environmental consequences. In my environmental planning work, I try to minimize potential environmental harm, but sometimes the environmental benefits of a project are greater than the potential environmental harm.

The Houston Ship Channel is one of the largest petrochemical complexes in the world, and it is flanked by the Bayport Industrial area to the south that has several dozen more chemical plants. These industrial areas are located on or near the water and protected, if at all, to about elevation 15 to 17 feet above sea level. In our work at SSPEED Center, we have been studying hurricanes and potential Houston-Galveston vulnerabilities since Hurricane Ike under grant funding from Houston Endowment. This grant has allowed us to utilize one of the world's fastest computers and to bring in some of the best hurricane simulation modelers in the United States from U.T. Austin. And the results of those studies are truly frightening.

Hurricane Ike was a category 2 storm at landfall with winds about 110 mph, but it brought with it a very large surge tide over a very large area. Ike came ashore at Bolivar Roads, the pass between Galveston Island and the Bolivar Peninsula, and went north through the Galveston Bay system. It caused over \$24 billion in damage and killed over 100 people, but it missed most of the Houston-Galveston area. According to our modeling experts, if Ike had hit down the coast near San Luis Pass, about 30 miles to the south, the damage would have been much greater and surge levels would have come close to 20 feet in the Houston Ship Channel. And if Ike had had 15% higher winds with that same San Luis Pass landfall, making it a solid Category 3 storm, surge levels would have reached 25 feet in the Houston Ship Channel.

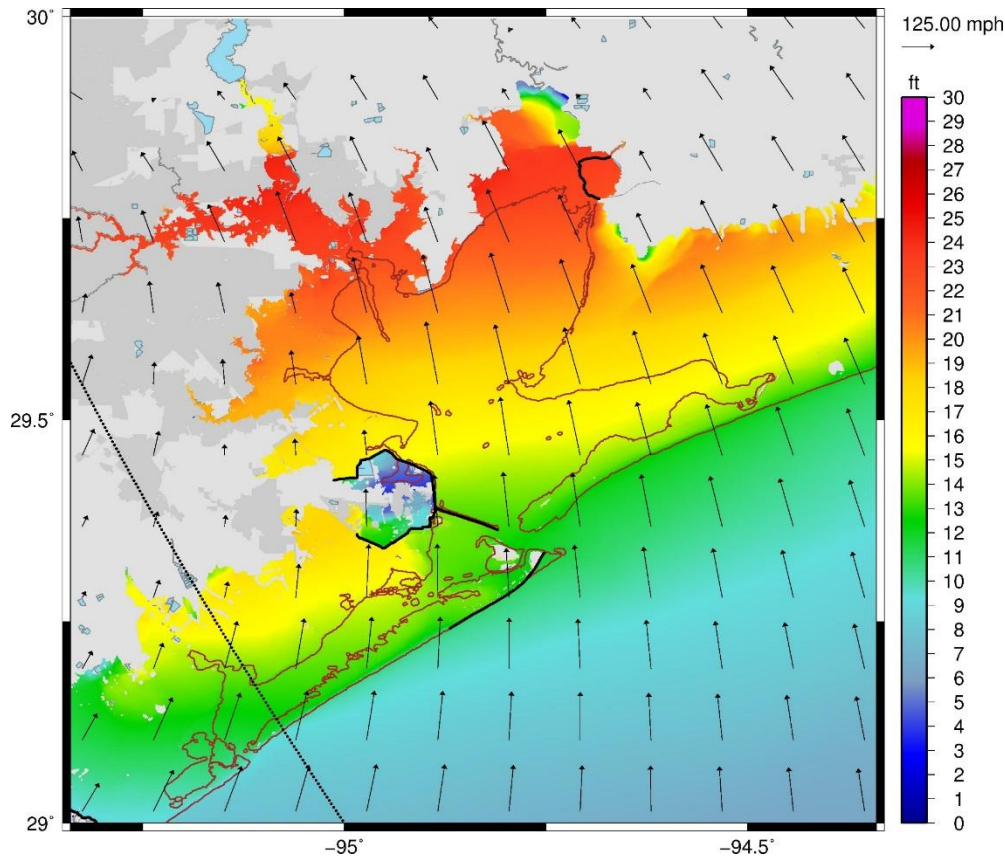


Figure 2. Hurricane Ike + 15% wind speed making landfall near San Luis Pass with modeled surge tide elevations shown five hours after landfall. Graphic courtesy of Ben Bass, SSPEED Center, Rice University.

Although we have never seen a surge greater than 13 to 15 feet in the Houston Ship Channel, the potential for such an event is very real. With climate change, the ocean is warming and ocean heat provides the fuel for hurricanes. There is a large surge in our future. And if it occurs, the results will be catastrophic. In figure 2, the inundation caused by a storm like Ike with wind speeds about 15% higher (about 125 mph) hitting at San Luis Pass is shown approximately four hours after landfall with wind directions indicated as well.

In the Houston Ship Channel area, we have over 4000 storage tanks holding crude oil and various chemicals, many of which are hazardous. A 25-foot surge would cause water to rise around many of these tanks. And as was the case during Hurricane Katrina, one or more

of those tanks will be lifted from its foundation, and its contents will be spilled. Modeling completed by the SSPEED Center indicates that with a 20-foot surge, over 37 million gallons of crude and/or hazardous substances would be spilled. With a 24-foot surge, which we consider to have a reasonable risk of occurring, over 90 million gallons are projected to be released.

It is difficult to overstate the environmental impact of the release of 35 million to 90 million gallons of crude and hazardous substances into Galveston Bay, not to mention adjacent neighborhoods. For comparison, the Exxon Valdez spill in Alaska in 1989 released between 11 to 38 million gallons, and the BP Deepwater Horizon Spill has been estimated at 210 million gallons. However, rather than being spilled into open waters like those two horrendous events, a spill of this magnitude in the Houston Ship Channel first would move into adjacent neighborhoods with the incoming surge and then flow back into Galveston Bay where much would likely end up on the shorelines as well as on the bottom of the bay. We hope to have a model of the movement of this spill in the next year.

Galveston Bay is a very resilient system that has survived wastewater discharges and smaller spills, but it is difficult to conceive of the bay recovering from this projected hurricane surge disaster in the lifetime of anyone reading this article. Additionally, thousands of homes would be lost from this disaster as well as hundreds if not thousands of lives based on only our initial projections.

There is an alternative future for us, one that offers the chance of protection. But there are costs to such protection and environmental consequences to each. There are currently two alternatives that protect large numbers of people and homes as well as industry and the bay. The first costs approximately \$3 billion while the second, costs at least \$8 billion depending upon location. Arguably, the \$3 billion alternative, which is called the “mid-bay” alternative and places a gate across the Houston Ship Channel across from the San Leon/Eagle Point area, could be built with a combination of the creative use of existing

budgets and a local bond issue. The \$8 billion alternative, which is known as the “lower bay” or “Ike Dike” alternative, places a gate across Bolivar Roads and would likely require federal funding and probably take much longer to be approved and constructed. Figure 3 shows the protection provided by the mid-bay solution.

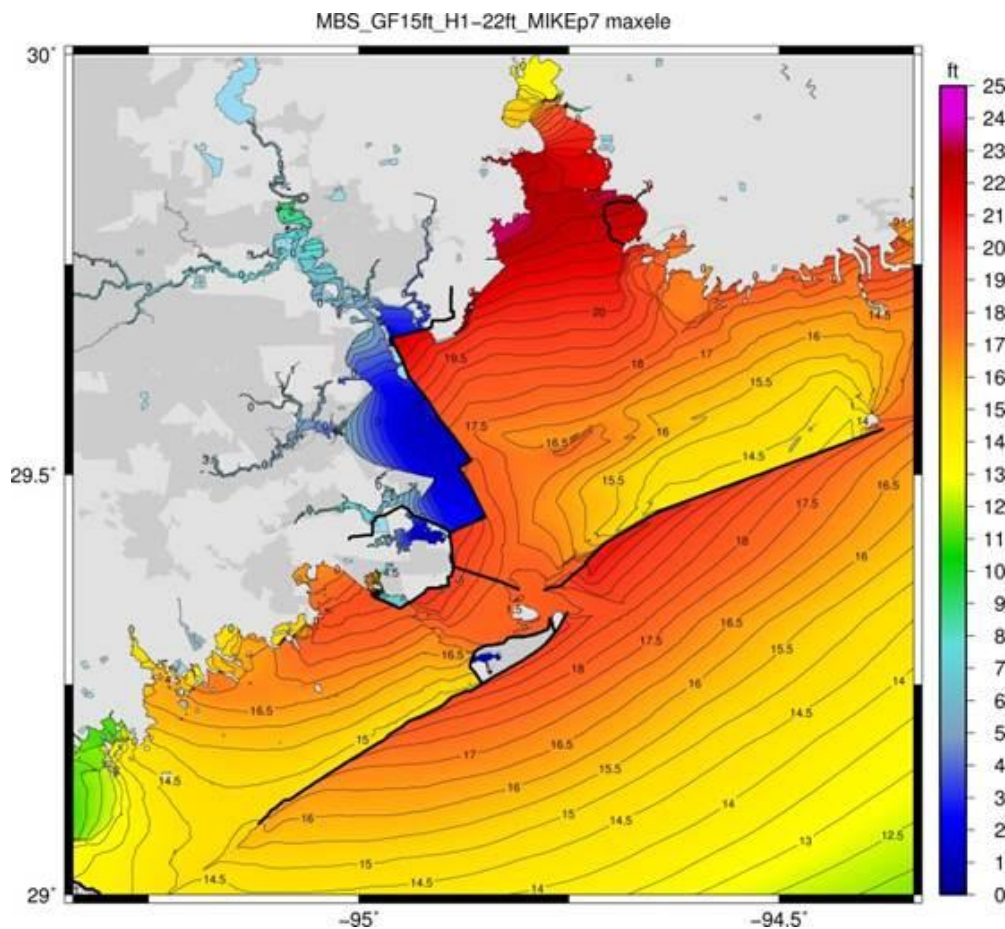


Figure 3. Resultant surge levels for Ike +15% coming ashore near San Luis Pass with the mid-bay alternative in place along with a backside levee at Galveston and elevated U.S. 87 and FM 3005. Graphic courtesy of SSPEED Center, Rice University.

Each of these two alternatives protect the majority of residential and industrial facilities in the region. Either option is economically justified with conservative estimates of avoided damages of more than \$40 billion – a savings for more than \$40 billion from just one storm.

There are certainly unresolved environmental issues that need to be addressed through further analysis and design, and this information needs to be generated as soon as possible so that we can move forward with one design or the other. But there can be no mistake that a storm of this projected magnitude will likely hit – it is not a question of if, but when. And of course, of the two, the lower bay alternative has the greatest potential for environmental damage to Galveston Bay. Current design proposals have the “environmental gate” spanning about 10,000 feet of Bolivar Roads with the “navigation gate” taking up the remainder of the space, potentially interfering with fish and shellfish movement through Bolivar Roads. By contrast, the mid-bay alternative would potentially affect only the northwestern quadrant of the Galveston Bay system as shown on figure 3 and will have much less potential for fish and shellfish impacts.

So when I am asked why I would suggest that we might need to place a structure in Galveston Bay, my answer is that without such a structure, I think the demise of Galveston Bay is extremely likely during this century due to a big storm taking out our industrial complex and putting a knife in our environmental heart. And that would be a truly bad outcome.

III. Rollover Pass

On Friday, December 4, 2015, I was notified that the Gulf Coast Rod, Reel and Gun Club and the Gilchrist Community Association had lost their fight in federal court to overturn the Corps of Engineers’ permit that gives the General Land Office of the State of Texas permission to close Rollover Pass. This fight is not over yet, but our first line of defense has failed.

Rollover Pass is a man-made connection across the Bolivar Peninsula connecting East Bay with the Gulf of Mexico. Rollover Pass is one of the most important public fishing resources on the Upper Texas Coast. Rollover Pass was constructed in the mid-1950s as a joint project of the

Texas Game and Fish Commission and the Gulf Coast Rod, Reel and Gun Club. The Pass was constructed to improve fishing in East Bay which historically had poor saltwater circulation and often became dominated by freshwater. It has been incredibly successful in achieving this goal of improved fishing, and if it is eventually closed, fishing in East Bay will suffer.



Figure 4: Rollover Pass is a popular fishing destination.

This lawsuit was filed against the Corps of Engineers for issuing a federal permit to the General Land Office (GLO) of the State of Texas allowing them to close the Pass. The Corps' decision was based on documentation submitted to them by the GLO – documentation that I believe to contain significant errors. However, the nature of this type of lawsuit is such that great deference is given to the Corps' internal analysis and it is very difficult to get a federal judge to rule against them, particularly in a situation involving fact disputes.

This fight is not over yet. It turns out the GLO does not own the land through which Rollover Pass was constructed. Instead, that land is owned by the Gulf Coast Rod, Reel and Gun Club. In order to obtain the land, the GLO will need to obtain the property through condemnation as the Club has no desire to close the pass and has denied GLO's request that they work together to close the Pass. This situation gets more interesting in that the GLO lacks the power of condemnation and

must convince another governmental entity to condemn the pass. The GLO and Galveston County have enacted an agreement whereby Galveston County has agreed to condemn the land on behalf of the GLO. However, that condemnation suit has not been filed, although I anticipate it being filed soon.

This condemnation action could become interesting. There are several novel legal issues that arise in association with this situation and there is the overriding issue of why is this Pass being closed? I hired several consultants to help me evaluate the technical issues supporting the closing of the Pass, and we found the rationale for closing the Pass to be very weak. At most, closing the Pass might help a bit with coastal erosion, but that gain will be overwhelmed by erosion associated with tropical storms and hurricanes. What we need is a sand source as erosion is occurring throughout the upper Texas coast except for a very few spots. I do not believe that the ecology of East Bay will be improved by this closure. And the overall cost of dredging on the Gulf Intracoastal Waterway, which allegedly is increased by the Pass being open, will not be reduced by more than about \$50,000 per year according to my consultants, which is not very much in the context of governmental spending for GIWW maintenance.

This is one of those situations that leaves me perplexed. Why the GLO is so set on this is not clear at all. This action was originated by Jerry Patterson when he was Commissioner of the General Land Office. We will see what difference, if any, George P. Bush being elected Land Commissioner will make in this strange action. Stay tuned.

IV. Essential Fish Habitat

And speaking broadly for our entire Texas coast, I have become concerned that the Gulf of Mexico Fishery Management Council (the "Council") has failed to do its job in ensuring a healthy fishery for both our commercial and recreational fishing. The Council manages fishery resources off the coasts of Texas, Louisiana, Mississippi, Alabama, and

Florida under the Magnuson-Stevens Fishery Conservation and Management Act (the “Fishery Act”). It is charged with ensuring healthy estuaries and bays. I think we often forget that Galveston Bay contributes 1/3 of Texas' commercial fishing income, over 1/2 of our state's expenditures for recreational fishing are related to Galveston Bay and that Galveston Bay has the 3rd largest concentration of recreational boats in the U.S.

The Council has designated essential fish habitat under the Magnuson-Stevens Act that includes all of our bays along the Texas coast. In theory, certain protections, including provision of freshwater inflows, should come with this designation. Unfortunately, the Council is not actively engaging in decisions by the Corps of Engineers and other federal agencies when it comes to protecting those commercial and recreational fisheries or by commenting on the importance of river inflows for estuaries and bays. I'll be examining ways to ensure that the Council does in the future through actions of the Matagorda Bay Foundation.

V. Update on the Colorado River and Matagorda Bay Inflows

Matagorda Bay gets most of its freshwater inflow from the Colorado River which flows into the bay at Matagorda. The problems on the Colorado River are distinct from those on the Guadalupe/San Antonio River system because of the existence of the Highland Lakes adjacent to and north of Austin. These lakes include LBJ, Buchanan, Travis, Austin and Ladybird Johnson (Town Lake) and are managed subject to a single management plan developed by the Lower Colorado River Authority (LCRA) and overseen by the Texas Commission on Environmental Quality (TCEQ). This arrangement of an operating plan is unique in the management of Texas rivers and began in response to litigation years ago.

The Highland Lakes Management Plan has recently been modified and I have concerns that both TCEQ and LCRA are not adequately

reporting out the impacts their management choices will have on freshwater inflows. During our last several years of drought when water levels on these lakes dropped, water releases for the bay were curtailed, rendering this plan ineffective at protecting Matagorda Bay during this critical period when inflows were most needed. There is nothing in the new plan that effectively eliminates this possibility again.

As such, the Matagorda Bay Foundation is quite concerned about this management plan and about a new reservoir under construction by the LCRA at Lane City. This Lane City Reservoir is being built off-channel, meaning that it will not block the main channel of the river (a good design element, but still a reservoir). The impact of this reservoir on Matagorda Bay is not clear and is a source of concern for the Matagorda Bay Foundation.

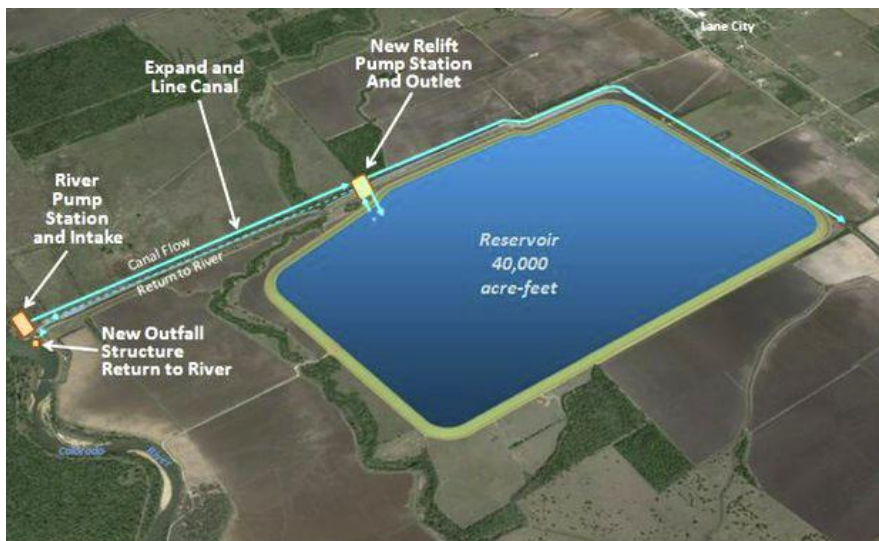


Figure 5. Diagram of Lane City reservoir in Wharton County south of Wharton and north of Bay City.

The key issue here is what water is being used to fill the Lane City Reservoir. This issue of “what water” is very important because certain water in the Colorado River may be subject to stringent bay protection criteria brought about by litigation with multiple entities, including the Matagorda Bay Foundation. Several years ago, the LCRA requested a

permit for all of the flow remaining in the Colorado River. This permit was opposed by Matagorda Bay Foundation as well as Texas Parks and Wildlife, Coastal Conservation Association and National Wildlife Federation. We eventually settled that dispute, but only after getting LCRA to agree to insert a provision in the permit that requires the maintenance of 25 parts per thousand salinity in Matagorda Bay at a specified monitoring location.

According to LCRA, the water that is being used to fill that reservoir does not come from the permit with the requirement for bay protection but instead comes from the Highland Lakes and rights purchased from rice farmers decades ago. The key to understanding which permit is providing the water is a computer model developed by the LCRA and used in planning and operating the Lane City Reservoir. Matagorda Bay Foundation has requested this computer model under the Texas Public Information Act. Rather than provide us this model developed with taxpayer money, the LCRA has asked the Texas Attorney General's office if they need to provide this information under the Texas Act. MBF believes that they have a right to this model and may have to file suit to obtain it. Using science in discussing these issues is fundamental, and the idea that a suit must be filed in order to ensure that the non-profit community is discussing the same "water" as the agency is striking.

The point here is that much of the same hanky panky is occurring on the Colorado River as is occurring on the Guadalupe/San Antonio River system. When another revision of the master plan for the Highland Lakes is completed and submitted for TCEQ approval in another year or two, the opportunity will exist for a contested case hearing to determine if Matagorda Bay is protected sufficiently, and MBF will be there for this challenge, if necessary. Similarly, if the Lane City Reservoir proposes to take water under the water rights permit subject to the settlement agreement, then MBF will ensure that the salinity levels agreed to when the permit was issued are met. But without the computer model used in support of the reservoir, MBF will be at a

disadvantage in understanding and/or demonstrating “which water” is being used and how.

This all gets down to the core issue: our rivers are over appropriated and the bays are not getting the freshwater inflow they need to maintain healthy estuaries. We plan for hurricanes, and we have plans for disaster preparedness. We also need to ensure healthy bays and estuaries for all by making sure that enough of the water in our rivers reaches our bays.

VI. New Focus and New Book

As many of you know, Texas A&M Press published *The Book of Texas Bays* which I wrote in 2004, and they have recently agreed to publish a new book that I am writing, also about the Texas coast. This new book has been inspired by some work that I have been undertaking in coastal Louisiana, a place that has suffered catastrophic land loss over the last several decades. In particular, I was struck by the fact that Louisiana has a master plan for attempting to protect their coast into the future. This plan identifies a number of important structures and natural features that could be built, and attempts to provide a coherent framework for approaching the daunting task of restoring coastal Louisiana. The plan is not perfect and I don't necessarily like or support all features of it, but the important point is that they have managed to get their act together to a degree not found in Texas or on the Texas coast.

I have decided that there is virtually no chance of Texas ever considering any plan that involves significant governmental regulation or major governmental intervention into coastal matters except to construct levees and dikes, navigation channels and roads. We just aren't wired that way. I have spent much of my legal career trying to chart a course of increased regulation. I helped conceive and draft the Texas Coastal Management Program which has turned out to be a huge disappointment after being gutted by the Texas Legislature back in the

days when Garry Mauro was the Land Commissioner and Ann Richards was Governor. So, rather than continuing to run head-long into the brick wall that is Texas, I decided that if I couldn't beat 'em, I'd join 'em.

This new book is committed to the concept of ensuring the future of the Texas coast by private sector action using market-based solutions. I am now developing a plan using the power of natural capital such as the services provided by native ecosystems to define a much more positive future on the Texas coast. I have begun to speak about ecology and money in the same sentence, and I must admit that I can keep the attention of almost any audience in Houston and in Texas by linking those two subjects. And while stewardship and spirituality remain very important to me personally, I now am engaging economics to define an alternative future for the Texas Coast that could not be forged with stewardship and spirituality alone, although I must recommend that you read Pope Francis's encyclical entitled "Laudatu Si". It is marvelous, but I digress.

In summary, this new book will hopefully chart an economic and ecological path to protect the Texas coast for future generations based primarily on private sector action. In the process, this book will pull together data describing both the ecological and economic reality of the Texas coast and will introduce some concepts that I believe will propel us into a future that preserves those things that are truly unique, ecologically important and even awe-inspiring about the Texas coast.

On a more personal note, I am still teaching in Civil and Environmental Engineering at Rice and am co-director of the SSPEED Center, a severe storm research center at Rice, as well as a faculty scholar at the Baker Institute at Rice. I am active with the Matagorda Bay Foundation and The Aransas Project to ensure freshwater inflows and protection of these bay systems. I am undertaking some planning work through my firm Sustainable Planning and Design, primarily along

the Louisiana coast, and I continue to write poetry as you will see below.

And as I stated last year, I am in the process of closing Blackburn and Carter, the law firm that Mary Carter and I have maintained since 1986. That does not mean that I am disappearing from the Texas coast. In fact, if anything, I hope to be more involved on the Texas coast in many respects over the next several years, just not as an attorney taking cases and representing those of you with problems with your neighbors, industry and/or the government. I remain available to talk about any problems you might have involving environmental topics, and I am certainly willing to help you find good legal representation. My e-mail is jbb@blackburncarter.com. Please contact me if you need some help or feedback. Also, Mary Carter continues to be involved in environmental and conservation issues primarily through Houston Audubon. Her email is marywcart@att.net and she is available to talk with you as well.

VII. Poetry

As always, I end this coastal newsletter with a few poems about the coast. These poems allow me to express my great love and appreciation of the coast. I hope you enjoy them.

The Redhead

At Port Mansfield
Wade fishing in the fall.

Stillness surrounds me,
The quiet disrupted only by the whirr

Of my reel as I fish the edge of the spoil
Where sea grass blades approach the surface,
Revealed by the soft rays from the large yellow ball
Rising slowly over the sand dunes of Padre Island.
The tails appear as blue-tipped flippers,
Casually moving from side to side,
Inviting me to try my luck,
Inviting a cast.

The line spools off the reel
As the rod catapults the imitation close,
And then BAM . . .
Wow - the power of the strike,
The strong fish pulling,
Me feeling and then losing the swift red.

In frustration I look to the heavens,
Where three redheaded ducks flare away
From the sudden movement,
Rising up before me –
The red revealed by the morning sun,
Brilliant against the clear blue sky,
So clear – so bright – so perfect.

Years later I close my eyes
And there they are -
The tailing redfish and the three redheads,
Captured forever in my mind

On a spoil island near Port Mansfield
On a perfect morning in the early winter.

The Hooded Merganser

En route to a restored wetland project
Near Chef Menteur Pass east of New Orleans
On a brutally cold and windy winter day.

The airboat glides along the bayou
That traverses through marsh that is still with us,
Distinct from the vegetation that has been slowly
Sloughing, disintegrating and disappearing,
Releasing roots and carbon that was stored
Within the moisture laden soil,
Soil that can no longer hold its own
Against the continuous onslaught of
The slow and persistent rise of the sea
Combined with canals and other artifacts
Of oil extraction that made Louisiana
First richer and now poorer.

The big diesel has us flying along when suddenly
A merganser dashes across the bow
Pursued by a swooping red-tailed hawk
That hits the hooded duck hard,
Knocking it into the water

Where it dives like a submarine escaping shell fire,
Only to reappear and take wing
After ensuring the red-tailed is nowhere near.

Later I observe the created marsh,
A marvel of industrial-scale wetland restoration,
Proof that we can undo some of that which we have done
If we only recognize necessity and opportunity
And our responsibility to the Earth and to each other.

The marsh and the merganser,
Submerged with the hope of reappearing,
Impacted but not eliminated,
Truth revealed to me on a cold winter day
Near Chef Mentour Pass east of New Orleans.

The Blue-winged Teal

In late spring on the Brown and Root Ranch
In Chambers County.

The rains have come and filled the fresh
Water meadow brim full,
Filling it with hues of the green and blue
Of the life-giving water and the native plants –
The juncus and panicum and widgeon grass –
Plants with varied shapes and forms -
Plants that offer comfort to the lovely teal
With the blue wings who rise and flash their color,

Teal who are the last migrants
In the procession of spring birds on the coast,
Teal who fly with abandon and grace
And add to the quality of my life.
The green mosaic of the varied plants amazes me,
Forming a natural quilt not seen for some time
For rain has been scarce since the climate changed,
Rain that defines a freshwater wetland,
A wetland needed for diversity
Within the coastal prairie ecosystem,
Wetlands now filled with life-giving water
And teal and black-necked stilts and mottled ducks
Celebrating the water meadow being alive

Driving back to Houston,
I am happy that today I worshipped
In the Church of the Earth that is a freshwater
Wetland in Chambers County in the spring.

The Unknown Warbler in the Marsh

Wade fishing in the marsh
On the backside of the Matagorda Peninsula.

The bird came stumbling out of the southeast wind,
Erratic, buoyancy lost, regained and then lost again,
Finally falling into the marsh grass nearby,
Wings spread to break the crash,
Softening the landing atop the stems
That supported the weary traveler as I waded by,

A traveler that looked at me
With alive eyes within a dead-tired body,
A traveler seemingly at the end.

Later as I waded back past the spot,
The little warbler was gone,
Energy regained for at least one more short flight
To find water, food and shelter,
A place for the night,
A sanctuary during spring migration.

Today looking back on that day,
I remember the connection
That comes from a living being of another type
Linking up with me,
With my spirit, with my inner self,
A manifestation of the church that welcomes me
Wade fishing on Matagorda Bay in late April.

The Common Grackle

Jogging around Rice on a hot July day
Preparing to defend the whooping cranes.

Our panel of 5th Circuit appellate judges
Has just been announced -
Three hard jurists for an environmental case
Seeking findings of liability against a state
For harming endangered species.

I feel the heat and the oppression
Of the Houston July, magnified by concern
About our chance to protect that excellent
District Court decision – one offering hope
Of water inflows to San Antonio Bay to avoid
A repeat of the killing of 23 cranes
By Texas officials.

Looking to the side of the trail,
I see a bedraggled male grackle,
Standing with his beak open,
Tongue seemingly dangling,
Feathers askew,
Looking like a man having a bad day
And I smile as I pass and say
“Hello my brother,
I feel your pain”.

On the jogging track at Rice
Before the 5th Circuit argument
On the whooping cranes.

Thanks for reading this. Be sure and pass it on to someone else who might enjoy it. And don't forget to stand up for the Texas coast. It's worth it.