

## Flood Protection and Land Loss Position Paper and Response Request from Public Officials

For the last 100 years South Louisiana has lost an incredible amount of both wetland and dry land. The basic science of dealing with the issues associated with land loss has been known for at least 40 years. The Mississippi and the Atchafalaya Rivers' water and sediments, coupled with the dredging of offshore deposits are the major resources to begin the reduction in losses and allow for the possible re-establishment of lost areas. These resources can be used for both systemic and defensive measures to maintain our estuaries' functions. Both diversions (systemic) and dredging and slurry pipelines (defensive) measures are core methods of dealing with these problems.

### Hurricane Protection

In 1985, Hurricane Juan was a weak category 1 hurricane which flooded many inhabited areas of South Louisiana. Never before had a weak hurricane caused so much damage. Hurricane Juan, 20 years after powerful Hurricane Betsy, should have re-awakened Louisiana to the need to develop a comprehensive approach to hurricane protection. In the 1990's coastal parishes and levee districts, with the support of Comprehensive Hurricane Protection committee of the Association of Levee Boards of Louisiana, attempted to encourage the State to pursue a consistent response to the hurricane threat. Even after a near miss from Hurricane Georges, the State and much of the leadership in New Orleans failed to focus on the hurricane protection issue. The hurricanes of 2005 and the disaster they incubated finally awakened the previously unfocused leadership in New Orleans, Baton Rouge and Washington.

### South Louisiana Protection

The heart of Louisiana's population, economy and culture has evolved in the southern part of the state. Although we must always work toward maintaining and improving the infrastructure and flood protection of North Louisiana, the existence of much of the productive areas of South Louisiana is at risk. Increasing water levels, threatened drinking water supply, and road ways at risk, are a few examples of the issues we face.

Although much has been written concerning the substantial hurricane flood protection benefits of wetlands, these features cannot replace the need for levee protection. Wetlands and estuarine landscapes undoubtedly contribute to the protection of levee systems, but are limited in protecting against large hurricane surges. Only large barrier islands, cheniers and forested wetlands make a substantial difference in large surges.

In order to properly defend and maintain the existence and viability of South Louisiana, it is necessary to build flood protection in a manner to minimize interference with estuarine processes and the flow of water and sediments. Although there will be conflicts, the goal is to minimize the problems at the start of the projects rather than deal with delays when construction is imminent.

- The complexity of the problem, conflicting stakeholder interests, environmental regulations (especially NEPA), and the Congressional approval and appropriations process combine to produce major delays in construction. The complexity and dynamic nature of the issues, and the need to avoid the perception that government funds are being ill-spent, create a tendency toward being overly conservative, resulting in extensive and time-consuming feasibility studies. In this dynamic environment, such studies are soon obsolete. These studies should instead describe the potential range of operations and environmental results without being so exhaustive that they are useless by the time they are completed.

A number of similar diversion-type features have been recommended in many of the recent studies (i.e. Myrtle Grove diversion in the Barataria Basin). These diversion features are needed in combination with other measures. Rather than wait until the entire system is designed, certain of the most critical diversion structures should be designed and built as soon as practicable. They should be designed to accommodate a wide range of management flexibility including periodic high-volume diversion introduction. This is an adaptive management approach that would require less up front “study” and depend largely upon monitoring actual results in order to direct future operations. If lesser flows are needed as other diversions and restoration measures come on line, then the operation plan can be adjusted accordingly. Such management flexibility would allow the adjustment of operations to address the many uncertainties. Most importantly, this strategy would introduce improvements at a quicker pace. While that first wave of large-scale measures are designed and constructed, and results monitored. Planning can proceed for additional restoration measures that treat areas not benefited and/or that provide widely accepted synergistic benefits, or measures needed to achieve sustainability. To “sell” to the public the concept of construction of an initial few large diversion structures, one may have to commit to only a 1 in 5 year high flow operation mode in order to evaluate effects. This will reduce rate of benefit gains, but may be needed to achieve public approval. Once the benefits are seen by the public, and the public begins to adjust, then perhaps flow rates and increased flow frequency can be approved. Alternately, a few more bad storms and associated serious flooding and destruction may also help garner support for more aggressive restoration actions.

The mission and focus of certain federal agencies make them more difficult to deal with than others. It could also be argued that environmental laws would not be so problematic if they and the court system were not abused by special interests to the detriment of the common good.

A comprehensive approach with large projects is necessary, even though these projects may adversely impact some segments of our population. This is our challenge. We are currently paralyzed from attacking our landloss issues aggressively because of the unavoidable negative

affects. An aggressive approach to dealing with the problems of protecting South Louisiana will hurt some people now, but a failure to do so will hurt us all, including future generations.

#### ---Restoration Projects Problems---

- > Limitation of the use of private land
- > Closure of channels and limited access to fishing and areas with camps
- > Change in the ecosystem from saltier environment to fresher environment
- > Change in fisheries
- > Increased flood threats
- > Use of the Mississippi River water and sediments and navigation concerns
- > Cost of projects
- > Maintaining projects in response to subsidence

#### Levee Construction Problems

- > Cost
- > Impeding natural flow and other natural functions
- > Allowing development in undesirable area
- > Change in habitats to less biologic productivity
- > Maintaining projects in response to subsidence

Our task is to reduce or eliminate the negatives associated with flood protection and ecosystem restoration. We must also reduce the hurdles which delay implementation.

#### Implementation Issues

- > Land rights issues must be well stated in fact and in law. Most large projects will have right-of-way problems. Do you agree with these statements? If you do, how will you approach this problem?
- > Navigation on the Mississippi is of national importance. Navigation interest may see major diversion and the removal of sediments as a threat to commerce due to issues like shoaling and sand bars. Do you agree with these statements? If you do, how will you approach this problem?

Also, for years different administrations have placed people with intelligence and education in leadership positions for work on south Louisiana flood protection and restoration. But most of these people have little life experience battling land loss and flooding. We need people with wisdom and courage to deal with these complex issues. That wisdom comes from intelligence, life experience and vision. We must treat this effort as a business and have a CEO in charge. Science, engineering, politics, etc. are all components of a business decision, but ultimately a decision must be made that carries with it certain risks. The current system of letting science and engineering lead

the restoration effort, has basically failed because these they rarely take risk and we will never have good enough science to answer all the questions or be able to afford the engineering that mitigates all risks. That is precisely why we continue to study projects endlessly and are constructing very little. How do we deal with this problem?

Finally, federal environmental regulations sometimes delay or stop restoring or maintaining our estuaries. Do you agree with this statement? If you do, how will you approach this problem?

- Adequate funding has been difficult for flood protection and restoration. Even when funds are available, some programs have minimized effectiveness by spending as little as 50% of the funds on construction with the remainder going toward planning, engineering and administering. Do you agree with these statements? If you do, how will you approach this problem?

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