



---

## 7.0 Interdisciplinary Technical Team Workshop, May 2006

The ITT group was convened to represent a broad cross-section of stakeholder interests in coastal Louisiana. The first meeting of this group was held on May 1, 2006. At that meeting, attendees were asked to review the information collected to that date by the IPT and then to assist in the population of two alternative plans for appraisal, based upon the plan formulation rationale.

At the workshop, attendees were broken out into groups representing the five planning units used in plan development. In the morning of the workshop each group was asked to review the data help by the IPT while the afternoon was used to review the plan formulation rationale and consider the measures to populate alternative plans.

The following sections present the notes from those discussions, including the comment made, and the response provided. These notes are representative of the discussions at the meeting, and the actions taken based upon those comments, at that time. No attempt has been made to modify the notes based upon the subsequent analyses, undertaken for the Master Plan. The notes are broken down by planning unit.

### 7.1 Planning Unit 1

#### 7.1.1 Morning Notes & Comments with Actions Taken

Notes taken during the Planning Unit 1 Morning Breakout Session documented the comments made by the workshop participants during the discussion. The actions taken (or to be taken) for each comment received are listed after the comment in italics.

1. The Bayou la Loutre Ridge is not within the Upper Breton Marshes and needs to be moved to the adequate ecosystem unit. *The Bayou Laloutre Ridge is shown as part of the Fringing Marsh Ecosystem Unit.*
2. Instead of using just “increase sediment introduction” use the terminology “increase sediment, freshwater and nutrients introduction” where applicable. *The suggested terminology has been incorporated into the planning unit objectives where appropriate.*
3. There was consensus that levee protection and coastal protection features will need to be maintained over time in order to fulfill their goal. *This recommendation has been incorporated into language within the revised document where appropriate.*
4. For some ITT members the objectives were too broad for hurricane protection and too detailed for coastal restoration. *The coastwide objectives cover coastal protection in a more defined manner; the planning unit objectives, as stated, were intended to inherently include the coastwide objectives.*
5. The fact that Coastal Protection includes *Hurricane Protection* and *Coastal Restoration* was not understood by some ITT members and needs more emphasis. *This recommendation has been incorporated into language within the revised document where appropriate.*
6. Describe how different projects can be measured in terms of fulfilling applicable objectives (i.e. restore natural hydrology). *At the meeting, it was explained that projects selected for either alternative would at a later date be defined in terms of how they are measured, based on historic conditions and/or modeling; i.e. restoration of natural hydrology could be measured in terms of historical salinity versus current salinity data.*



7. Define “estuarine gradient” for measuring purposes and refer to it as “dynamic salinity gradient” if possible. *This recommendation will be incorporated into language within future documents where appropriate.*
8. The USACE barrier plan that will be implemented along the shoreline of Lake Pontchartrain still needs to be protective of existing marshes and bottomland hardwoods are still of high importance to protect assets from the waves created within the Lake in case of a major hurricane (bath tub effect). *This recommendation will be incorporated into language within future documents where appropriate.*
9. It would be beneficial to identify how much surge protection will be provided by any restoration measure or by different ecosystem features (bottomland hardwood, marsh, barrier islands, etc.) to define their contribution to protection. *This suggestion will be discussed in future documents, and will be based on modeling efforts.*
10. Identify which restoration efforts support the quality of life/livelihood of residents. *This suggestion will be discussed in future documents, and will be based on data compilation and modeling efforts.*
11. Appropriate sediment sources have to be identified. *This suggestion will be discussed in future documents.*

### 7.1.2 Afternoon Notes & Comments With Actions Taken

Notes taken during the Planning Unit 1 Afternoon Breakout Session documented the comments made by the workshop participants during the discussion. The actions taken, or to be taken, for each comment received are listed after the comment in underlined italics.

1. Neither Rationale 1 nor 2 reached total consensus. *Comment noted.*
2. The new defined Rationale 3 is very similar to Rationale 2. *The Rationales have been revised in the latest document (May 12, 2006).*
3. The term “30ft @ coastline” needs to be replaced by actual modeling results on maximum storm surges and “coastline” has to be defined for this planning unit. *This recommendation will be discussed in future documentation, and will be based on data compilation and modeling efforts.*
4. Rationale 1 should not say “regardless of primary wetland impacts”. Regardless is not an option. *This recommendation has been incorporated into language within the revised document (May 12, 2006).*
5. There was a concern that there can not be an alternative that implements a hurricane protection system while destroying a significant amount of ecosystem features and at the same time ask Congress to fund restoration of ecosystem features. Protection and restoration measures should attain a balanced sustainability. *Comment noted. It is recognized that all coastal protection, both for hurricane protection and coastal restoration, has impacts as well as benefits and that multiple uses of the coast should strive for sustainability.*
6. Suggested terminology: “Minimize overall length of levees while optimizing protection and restoration”. *This recommendation will be incorporated into language within future documents where appropriate.*
7. The part “...and not constrained by local (asset) benefit/costs. Long-term O&M costs are not a consideration.” was not agreed upon and should be taken out. *This recommendation was incorporated into the revised document (May 12, 2006).*
8. Rationale 2 was not agreed upon but negative comments were not collected either. *The Rationales have been revised in the latest document (May 12, 2006).*



9. Rationale 3: For all of the following items listed, the Rationales 1 and 2 have been revised in the latest document (May 12, 2006) where appropriate.
- Maximize protection of structural and non-structural measures by balancing/weighing trade-offs of long-term sustainability of human, economic, social and natural resources.
  - The level of protection provided for all communities will be based on consensus modeling. Where the maximum protection is not feasible, an adequate degree of protection will be provided.
  - Avoid where possible and otherwise minimize environmental impacts and support sustainability of natural systems.
  - Short- and long-term perspectives will be incorporated.
10. Strategize and implement plan to elevate and/or relocate assets located outside the Hurricane Protection Plans is an important measure that was agreed upon by all ITT members. *This recommendation was incorporated into the revised document and included with the revised Alternative Plans 1 and 2 (May 12, 2006).*
11. The ITT group reached consensus on closing the MRGO and to relocate the industries affected by this or to fund the IHNC lock. *This recommendation was incorporated into the revised document and included with the revised Alternative Plans 1 and 2 (May 12, 2006).*
12. The ITT group reached consensus on the importance of restoring the barrier islands and the Bayou la Loutre Ridge. *This recommendation was incorporated into the revised document and included with the revised Alternative Plans 1 and 2 (May 12, 2006).*
13. The ITT group reached consensus on the need of re-evaluating the levee protection on the south shore of Lake Pontchartrain. *This recommendation was incorporated into the revised document and included with the revised Alternative Plans 1 and 2 (May 12, 2006).*
14. Shoreline protection and marsh creation at the MRGO-Lake Borgne Landbridge was agreed upon as an important measure. *This recommendation was incorporated into the revised document and included with the revised Alternative Plans 1 and 2 (May 12, 2006).*
15. The group reached consensus on maximizing the use of existing diversions utilizing the Mississippi River. *This recommendation was incorporated into the revised document and included with the revised Alternative Plans 1 and 2 (May 12, 2006).*
16. To minimize/stop storm surge into Lake Pontchartrain was acknowledged as very important. *This recommendation was incorporated into the revised document and included with the revised Alternative Plans 1 and 2 (May 12, 2006).*
17. The Maurepas Landbridge was acknowledged as the most critical restoration area within the Upper Basin. *This recommendation was incorporated into the revised document, and included with the revised Alternative Plans 1 and 2 (May 12, 2006).*
18. Both Alternatives (USACE Barrier Plan and USFWS Open System) need to be analyzed within the future modeling effort. More ITT members prefer the USACE Barrier Plan. *This recommendation will be evaluated in future documents.*
19. To tie the Southshore of Lake Pontchartrain levee into the USACE Alignment 1 at the Golden Triangle and to continue the Alignment to Caernarvon was requested to be of high priority by DOTD. *This recommendation*



*was incorporated into the revised document, and included with the revised Alternative Plans 1 and 2 (May 12, 2006).*

20. Utilize sediment and freshwater resources of the lower Mississippi River to rebuild land, wetlands, and to sustain the local ecosystem compatible with navigation was acknowledged and agreed on as an important goal. *This recommendation was incorporated into the revised document, and included with the revised Alternative Plans 1 and 2 (May 12, 2006).*
21. To raise the 40 Arpent Levee was recommended by an ITT member.
22. Leverage all federal funding sources (e.g. DOT, FHWA, USACE, Navigation, USFWS)

## 7.2 Planning Unit 2

### 7.2.1 Morning Notes & Comments with Actions Taken

Notes taken during the Planning Unit 2 Morning Breakout Session documented the comments made by the workshop participants during the discussion. The actions taken or to be taken for each comment received are listed after the comment in italics.

1. The term “coastal protection” as defined in Act 8 was felt to be somewhat ambiguous and ITT members expressed a desire to clearly indicate that coastal protection included wetland restoration. *Coastal protection is clearly defined in Act 8, Section 214.2. Definitions (4) as meaning plans, projects, policies, and programs intended to provide hurricane protection or coastal conservation and restoration. The meaning of coastal protection is iterated in the Purposes and Principles section of the Plan Formulation Report.*
2. Many of the comments centered on the planning unit objectives. In general, the ITT members felt that some PU comments were too specific while others were not specific enough. Some members suggested that only the coastwide objectives be used. *After the IPT-ITT Plan Refinement Workshop, the PFT met and discussed comments received regarding objectives for all five planning units. It was determined that the PU Summary Comments were often misleading because they were not considered in context with the other data provided in the objectives tables. Therefore, the summary comments were eliminated from the report, thus resolving many of the issues raised. Comments regarding specific PU objectives were reviewed and modified where appropriate. Specific modifications include:*
  - *Des Allemands was added to the list of distributed assets areas and “Provide protection to Highways 22, 70, 307, 303, 3127 and 3199” was included as an objective.*
  - *“Provide coastal protection to LA-1” was added as an objective in the L’ours distributed assets area.*
3. ITT members were concerned that the objectives to increase introduction of freshwater and sediments could be construed as an endorsement of large Mississippi River diversions, which are inconsistent with the Barataria Terrebonne National Estuary Program (BTNEP) Comprehensive Conservation and Management Plan (CCMP) and historic hydrologic regimes. Conversely, diversions with sufficient flow to deliver sediments are needed in some areas. The consensus was that the operational issues associated with the Davis Pond Diversion need to be addressed; appropriate sized diversion should be place at strategic locations along the river; and measures to deliver freshwater, nutrients and sediments should be explored. *Both alternative coastal protection scenarios for PU 2 included the following measures: Small diversions at strategic locations in the upper basin; Develop a watershed management plan that redirects freshwater and sediment, storm water, and treated sewage water to sustain upper basin swamps and middle basin freshwater marsh;*



*and, Complete/Accelerate the Louisiana Coastal Area (LCA), Louisiana Ecosystem Restoration Study Near-Term Plan including Re-authorization of Davis Pond – optimize for marsh creation, medium diversion with dedicated dredging at Myrtle Grove, and Mississippi River Hydrodynamic, Mississippi River Delta Management and Third Delta studies.*

4. The group recommended that all future diversion projects should be designed to deliver freshwater when needed to nourish wetland habitat and also to remove storm water when flooding threatened communities. *Consideration of this technique will be addressed through the Develop a watershed management plan that redirects freshwater and sediment, storm water, and treated sewage water to sustain upper basin swamps and middle basin freshwater marsh measure.*
5. The group was concerned with how objectives would be measured and how the objectives would be used to select and prioritize measures. *Measures were ranked as either have positive, negative or no impact toward achieving objectives.*
6. There were many comments regarding the objective to increase delta building processes. As part of this discussion, the measure to divert the sediment load out of the main river channel into Barataria Bay was discussed. Although the group agreed there were many benefits to diverting the river and establishing a non-stop locking system for navigation, there were concerns about impacts to fisheries and saltwater habitat. *The measure to complete/accelerate the LCA Near-Term plan will address these concerns through the Mississippi River Hydrodynamic and Mississippi River Delta Management studies.*

## 7.2.2 Afternoon Notes & Comments with Actions Taken

Notes taken during the Planning Unit 2 Afternoon Breakout Session documented the comments made by the workshop participants during the discussion. The actions taken or to be taken for each comment received are listed after the comment in italics.

1. Considerable discussion took place regarding Rationale 1 and Rationale 1. The ITT group felt that the first rationale is unrealistic and the second rationale brings out more of the true factors. They also felt that Rationale 2 needs to include time to construct, political factors and socioeconomic considerations. The group recommended that these factors be incorporated into Rationale 2 or that a third rationale be developed. The third rationale proposed would read as follows:  
Rationale 3: Maintain existing natural features and use them effectively to minimize the footprint of new structure and maximize existing structures to ensure sustainable communities that acknowledge and accept the risk associated with living on the coast.

Measures selected for coastal protection Alternative 2 were selected to minimize the footprint of new structures and maximize existing structures to ensure sustainable communities. All rationales include the measure to strategize and implement a plan to elevate and/or relocate assets located outside the hurricane protection plans.

2. Some members of the ITT felt that levee protection for Grand Isle was futile and that a back levee would destroy wetland without adding storm protection value. The consensus was that coastal protection for Grand Isle should be achieved by maintaining the 12 foot dune on the Gulf side, landscape features on the back side such as marsh creation and restoration of back islands through the beneficial use of dredge material and non-structural measures such as elevating homes and ensuring early evacuation. *Comment noted.*



3. The group developed the following list of measures that they want to see included in alternative plans:
  - Barrier Island Restoration
  - Ridge Restoration
  - Marsh creation
  - Pipeline sediment delivery
  - Levees in strategic locations (appropriate sized levees dependent on soil composition) where technically feasible; and other flood control structures, such as sheet pile and concrete walls where earthen levees are not technically feasible.
  - Appropriately sized Freshwater diversions
  - Storm water management plans
  - Continue beneficial use of dredged materials
  - Protect evacuation routes

These measures were selected for inclusion in Alternative 1, Alternative 2, or both.

4. The ITT members felt that all levees should include a marsh buffer on the unprotected side to ensure long-term sustainability. If no marsh exists, marsh creation should be part of the levee design/footprint. *Marsh creation and restoration measures included in Alternative 1 and Alternative 2 were selected for their ability to enhance coastal protection by adding marsh buffers along back levee alignments.*

## 7.3 Planning Unit 3A

### 7.3.1 Morning Notes & Comments with Actions Taken

Notes taken during the Planning Unit 3a Morning Breakout Session documented the comments made by the workshop participants during the discussion. The actions taken or to be taken for each comment are listed after the comment in italics.

1. Formulate general consensus on what belongs in the Planning Unit 3A as compared to Planning Unit 3B and what has been omitted?
  - 1a. How were areas divided? *Originally the Team set the boundary line as the center line of the Atchafalaya River at the direction of CPRA. It was then moved to Oyster Bayou by the CPRA. Further at the PFT workshop, the boundary was further moved to the east. Bay Junop was decided to be the boundary so as to include areas that are significantly influenced by the Atchafalaya River.*
  - 1b. What were ecosystem units? *See response to 1a above.*
  - 1c. Why not planning unit objectives for each section of each unit? *See response to 1a above.*
  - 1d. Why not follow the Chacahoula boundary line for the unit? *Constraints such as sediment delivery. Levees constitute disconnect.*
  - 1e. Were Coastal Engineers consulted? *See response to 1a above.*
2. Rework the objectives for the unit to be more proactive (e.g., enhance this landscape features of a specified location to reduce a specified impact). *Comment noted.*



3. Rewrite the objective to include “Need to maintain the ridge” (Also stated that this objective would block movement of water in some places). *A separate planning unit objective has been added to the objectives and measures table to accommodate this request.*
4. Rewrite the objective to include “Maintain and protect the natural ridges.” *A separate planning unit objective has been added to the objectives and measures table to accommodate this request.*
5. Edit and rewrite to include “Verret and other locations”. Define Upper Basin Swamp (UBS) more specifically. UBS should include Verret and Chacahoula (It is also stated that this objective would promote regeneration and acquisition of conservation easement). *The objective will be revised to: “Improve hydrologic conditions to promote cypress regeneration in the Upper Basin Swamps (UBS) such as Verret, Chacahoula, and other locations.”*
6. Rewrite PU Objective 6 to include “Protection from vessel draft surges” and improve natural hydrology as it relates to ecosystem benefits and storm surges reduction”. *Improve natural hydrology as it relates to ecosystem benefits and storm surge reduction within the North Central Terrebonne Wetlands (NCTW) including the effects of GIWW such as protection from vessel draft surges.*
7. Rewrite PU Objective 7 to include ‘sediment into the NCTW where needed’. *The comment will be incorporated appropriately.*
8. Increase introduction of sediment into NCTW where needed. *The comment will be incorporated appropriately.*
9. Rewrite PU Objective 12 to add Robinson Canal and Bayou Dulac. *The objective will be revised to include the comment as “Reduce storm surge impacts of the Houma navigation Canal, Bush/Boudreaux Canal, Cutoff Canal, Falgout Canal, Robinson Canal, and Bayou Dulac.”*
10. Rewrite PU Objective 13 to add Robinson Canal and Bayou Dulac and include, “Reclamation of the north of Lake Boudreaux System and South of Houma Swamps Area. *Reduce storm surge impacts of the Houma navigation Canal, Bush/Boudreaux Canal, Cutoff Canal, Falgout Canal, Robinson Canal, and Bayou Dulac and reclaim the north of Lake Boudreaux System and South of Houma Swamps Area.*
11. For PU Objective 15 Omit “along the bay rim”. *The objective will be revised to “Reduce deleterious tidal energy and salt water intrusion within Fringing Marshes West (FMW).”*
12. Comment on:” For PU Objective 18 omit “along the bay rim” and replace with “salt water intrusion”. *The objective will be revised to: “Reduce deleterious tidal energy and salt water intrusion within Fringing Marshes West (FMW).”*
13. Rewrite PU Objective 20 to add “enhance and maintain”. *The objective will be revised to “Enhance and maintain the storm attenuation characteristics of the Barrier Islands.”*



14. Rewrite PU Objective 21 to add “Enhance and maintain”. The objective will be revised to: *“Enhance and maintain the ecosystem functions and values of the Barrier Islands.”*
15. Rewrite PU Objective 22 to add “of sediments” and delete “direct”. The objective will be revised to: *“Eliminate removal of sediments on the Barrier Islands.”*
16. Rewrite PU Objective 23 to add “or other sources... Atchafalaya River and other sources”. The objective will be revised to: *“Introduce sediment to the Penchant East area via Atchafalaya River and other sources.”*
17. For PU Objective 24 delete “at Minors Canal”. The objective will be revised to: *“Reduce tidal exchange Penchant East Marshes (PEM).”*
18. Rewrite PU Objective 25 to add “Enhance Hydrologic Conditions” and delete “reduce/eliminate impounded areas”. The objective will be revised to: *“Enhance hydrologic conditions of the impounded areas within the PEM.”*

### 7.3.2 Afternoon Notes & Comments with Actions Taken

In the afternoon breakout session for Planning Unit 3a the discussion regarding the planning unit objectives was continued. The breakout session time expired prior to the group being able to discuss the planning unit rationales. For clarity, all discussions regarding the project objectives have been listed together in the morning session section even though some of these were covered in the afternoon session. As no discussion occurred on the planning unit rationales, there are no further notes to be included in this afternoon session for Planning Unit 3a.

## 7.4 Planning Unit 3B

### 7.4.1 Morning Notes & Comments with Actions Taken

Notes taken during the Planning Unit 3b Morning Breakout Session documented the comments made by the workshop participants during the discussion. The actions taken or to be taken for each comment received are listed after the comment in italics.

1. Rewrite to add “Baldwin and Erath” into communities list. *Communities of Baldwin and Erath have been added to objective 1.*
2. Rewrite or add “and off-shore sediments” following “Atchafalaya River”. *Objective 2 was rewritten to include “and off-shore borrow sediments” following “Atchafalaya River”.*
3. Objective 3 is okay as written. *No action required.*
4. Delete Objective 4. Also remove “wake” from all written information as boat wakes are not the problem. The problem is wind-driven waves. *Objective 4 has been deleted. All of the objectives were reviewed and the word “wake” removed where appropriate.*
5. Rewrite after talking to landowners in the area, because their concerns must be considered. *Public meetings are planned to be scheduled. Public input and comment is very important to this process and opportunities for review of the process and meaningful comment will be provided.*



6. Ditto as above – landowners must be consulted before objectives can be finalized. *The action is the same as Action 5.*
7. Okay as written. *No action required.*
8. Rewrite to include “Passive and Active” with regard to introduction of sediments. *Objective was modified as requested.*
9. Okay as written. *No action required.*
10. Again need input from landowners. Rewrite to add “Wake (note misspelling?) influence GIWW/Acadiana Wetlands” and add “to reduce degradation”. Sediment goals could have unintended consequences. *Added Objective 12: “Plug outlets from the GIWW into Acadiana Bay to reduce degradation in the Acadiana Wetlands” and Objective 14: “Reduce wave/wake energy impacts into the Acadiana Wetlands.” (Along GIWW.)*
11. Rewrite to include “Freshwater Bayou”, and add “Where and as needed to prevent degradation. *Objective 15 was rewritten as requested.*
12. Rewrote to delete “wake”. *Word “wake” removed.*
13. Rewrite to add “and reduce” following “maintain” and what do we mean by “historic”? *Added “and reduce” following maintain and removed the word historic”.*
14. Delete objective. *Objective 14 “Reduce direct removal of sediments from Wax Lake Swamps (WLS)” deleted.*
15. The workshop participants requested that the following be added to the list of objectives for Planning Unit 3b:
  - Improve hydrology to Marsh Island, Acadiana area, and Rainey Marsh.
  - Increase sedimentation to Wax Lake Island Marsh.
  - Maximize the Atchafalaya Bay building process gulfward.
  - Improve fresh water and sediment transport westward through the GIWW.
  - Maintain or reduce tidal exchange openings to the Acadiana Bays.
  - Sustain productive and diverse fish and wildlife habitat.
16. In the Master Plan adopt the nomenclature used in 2050/LCA, and to name all small communities in an “undistributed assets” category but to make sure they are “ALL” named to show Congress the large face of the issue. *This comment is noted. The list of identified communities will be expanded to include the communities listed for each parish by the National Association of Counties. This listing is based on the US Postal Service mail delivery.*
17. Request to add the state-wide objective “F” (sustain productive and diverse fish and wildlife habitats throughout the Coastal Zone). *The requested objective “F” was included.*



18. Request to add beneficial uses of dredged material and dedicated dredging specifically to the unit objective. Beneficial uses of dredged material and dedicated dredging specifically to the unit objective was added to the objectives list.
19. A question was asked as to why LDNR wants to protect Wax Lake Outlet and that it needed to specify reason, i.e., railroad tracks or other reasons. *The question stems from the Distributed Assets Table. The geographical location is DA3b-3 Wax Lake Swamps. According to the table, the current issue is an extremely high level of flood risk to distributed assets with storm surges over 30 feet. The future risk impact is increased flood risk to assets due to sea level risk subsidence and wetland loss. PU Objectives show:*
- Provide coastal protection to oil and gas fields, pipelines and facilities. (structural)
  - Provide coastal protection to Wax Lake Outlet. (general)
  - Provide coastal protection to highways, bridges, and evacuation routes. (storm evacuation)

*There is coastal protection to the structure complex, which is designed to divert a specific percent of the total Atchafalaya River flow to the Gulf. The integrity of the structural complex could be compromised should sea level rise, subsidence, and wetland loss result in open gulf water at the structural complex. The structural complex would be subject to greater storm attack. Thus the Wax Lake Outlet Swamps are valuable as an element of protection to the structure complex. Integrity of the structural complex is also vital to evacuation routes.*

20. Add Chene, Boeuf, Black Bayou, and Lower Atchafalaya River to Wax Lake Outlet Swamps. *It is believed that Chene, Boeuf, Black Bayou and Lower Atchafalaya River influence does not have a significant influence on Wax Lake Outlet swamps. A case could be made for the Lower Atchafalaya River but the case would be very weak for Chene, Boeuf, and Black Bayou.*
21. Add “sustain productive fish and wildlife habitats to all ecosystem units.” *“Sustain productive fish and wildlife habitats to all ecosystem units” will be added to the remaining ecosystem units. The objective is in 3 units but not shown in 6 of the units.*
22. Add “and continue beneficial uses of dredged material” to Wax Lake Outlet Marshes and to deltas. *Objective 26 “create marsh in eroding areas where possible using dredged material” applies to this request.*
23. Add “restoring hydrology” to Marsh Island, Acadiana Wetlands, and Rainey Marsh. *This is covered in Objective 13. “Improve hydrology to Marsh Island, Acadiana area, and Rainey Refuge Marshes.*
24. Add “increase sediment” to Wax Lake Outlet Marsh. *This is covered in Objective 4, “Increase sedimentation to the Wax Lake Island Marsh”.*



## 7.4.2 Afternoon Notes & Comments with Actions Taken

Notes taken during the Planning Unit 3b Afternoon Breakout Session documented the comments made by the workshop participants during the discussion. The actions taken or to be taken for each comment received are listed after the comment in italic.

1. In Rationale One, questions were raised as to why a 30-foot storm surge protection was needed in Measure 1. *It was explained that actual surge levels for different category hurricanes were not available so different surge levels used. A 30-foot surge was a high level at the coast. This explanation was acceptable to the participants.*
2. It was discovered quickly that most measures were incorrectly placed on the map. It was explained that apparently an incorrect version of the map was provided for the workshop. Regrets were expressed that the locations on the map were depicted incorrectly but that the listed measures that were being considered (listed on the map) were correct. It was further explained that the goal was to discuss the measures and all agreed and the discussion proceeded.

Some suggested changes in the measures being considered in Rationale One were:

- To be sure we included in all discussion of beneficial uses of dredged material the wording for dedicated dredging to indicate that it was not a maintenance-dredging source, but from borrow pits off shore in the Gulf, or from some other dredging source such as regulatory mitigation for pipelines or canals.
  - Group wanted to put Measures 10 and 13 on the objectives list rather than being on the measures list.
3. A measure to include Avoca Lake restoration in the Terrebonne Parish was requested to be added. *It was indicated that the area was located in Planning Unit 3a.*
  4. Several questions were raised as to why we included the ESF items as measures, since those were not peer reviewed like LCA and Coast 2050 measures were and had been put out by FEMA with no expertise in Coastal Louisiana. It was recommended that they be eliminated from the measures lists in all planning units. *Twelve measures had been added to the Planning Unit 3b measures list but nine have been taken out. Three were left in. One is to create marsh at Weeks Bay. This area is eroding into the GIWW. Marsh creation and maintenance needs to happen, therefore Planning Unit 3b retained this measure. Create marsh at Marsh Island was another project that has merit and is included in the measures but more has been added to that measure. Restore the Vermilion Bay Shoreline was a third ESF project. That project also has merit and is needed badly, therefore it remains in the measures and has been added to in its scope.*
  5. The group wanted to add the shoreline stabilization measures 5, 9, 10, and 11 from Rationale Two (and have them in both Rationales). *Outer shorelines such as Rainey Marsh, Marsh Island and Point Au Fer and historic reef remnants would be considered outer defences against storm surges. Placing both categories in each Rationale was considered extreme from a cost viewpoint. Rationale one is considered the higher cost rationale (reef restoration and a levee alignment with less than favourable foundation conditions). Rationale Two on the other hand is considered the more conservative rationale considering better levee foundation conditions and protecting and preserving existing shorelines. It is recommended that including measures the subject measures into both rationales is not desirable. There will be opportunities in the future to add or subtract measures but for this report it is recommended to not put these measures in both rationales.*



6. The group wanted to add measures 3 and 5 from Rationale One to Rationale Two. *This request was considered reasonable and performed.*
7. Several in the group suggested that instead of new levees, that the old USACE levee alignments be used as the footprint of any levee improvements planned in order to lessen impacts to the communities involved. *The request is noted and will be retained for future reference.*
8. In Rationale Two add “and Rainey Marshes” on Measure 5; add “and Freshwater Bayou” on Measure 7; add “marsh plantings and dedicated dredging” on Measures 8 and 10. *“Marsh plantings” inadvertently left out, can be added.*
9. Add Avoca Lake to Measure 12. *Avoca Lake is in Planning Unit 3a.*
10. Find a way to include dredged material from private sources, i.e. oil and gas companies, etc. *Noted for future opportunities.*
11. Planning Unit 3b will require new maps and new information being sent to the group.
12. Question arose as where was the rationale for the scoring criteria and where were the scores so that they could look at them (the tables and procedures summary in the workbook used to reach the measures maps was apparently not presented well enough or not understood by participants, several of whom said they could not read the small print in the workbook tables.

NOTE: All references to Measures by number in the above should be ignored and the most recent correct maps and measures be furnished the participants in the Planning Unit 3b part of the Workshop. Measures have been changed, modified, removed and new ones added several times since the workshop. Some measures have remained but numbers have changed since the workshop.

## 7.5 Planning Unit 4

### 7.5.1 Morning Notes & Comments with Actions Taken

Notes taken during the Planning Unit 4 Morning Breakout Session documented the comments made by the workshop participants during the discussion. The actions taken or to be taken for each comment received are listed after the comment in italic.

1. There was the general concern about how to prevent measures from conflicting with objectives. This was directed at the GIWW levee. *This is a valid concern. There are multiple uses of our coast and coastal protection must be a responsible integration of hurricane protection and coastal restoration.*
2. Concerns over omissions were expressed because regulatory procedures are not mentioned in the objectives. Regulatory agencies deal with problems on a daily basis that impact on these Planning Unit 4 Objectives. *This concern seems to be a policy issue rather than a planning objective. It is proposed that this issue be dealt with at the policy level.*
3. The following new objectives were recommended:
  - “Promote the beneficial uses of dredged material from the Calcasieu Ship Channel, Mermentau River and Sabine River to create marsh.”



- “Sustain productive and diverse fish and wildlife habitats.”

They were included in this planning unit.

4. The storm surge heights shown under Current Issues in the Objectives Table were questioned. Exactly what do 30-ft and 25-ft storm surges mean? When will risk assessment be completed and protection levels be available? USACE questioned the surge heights being used. *Tony Thomas pointed out that the 30-ft storm surge level (at the coast) was arbitrarily tied to a Category 5 level of protection until better information is available. It will be refined when the USACE modeling effort provides better information.*
5. The level of protection at Hackberry should take into consideration that three new LPN facilities are being in Cameron Parish. They are the Sabine Pass LNG at Sabine Pass, the Creole Trail LNG west of Calcasieu Ship Channel in Cameron, and Cameron LNG at Hackberry. In addition, the National Strategic Reserve is located at Hackberry. *This information will be used in the next phase of plan development when the level of protection is addressed.*
6. Highway rights-of-way were eroded during Hurricane Rita, but the embankments helped reduce the storm surge. Manmade berms also reduced storm surges. Woody vegetation growing on berms trapped huge amounts of debris and deflected waves. *Comment noted.*
7. Potential conflicts in objectives were discussed. The implementation of measures under Objective 1 hinges on the details. The concern was how to prevent these measures from conflicting with the other objectives? *This is a valid concern and can only be addressed if the state’s objectives are used by those designing the levees or other protective measures. Those coordinating the work should deal with this issue.*
8. The comment to remove the word “wake” from “wave/wake” in objectives 4 and 6 was made. Wakes are not significant and waves are due to wind. Only on GIWW and ship channels do wakes matter. *Do not concur. Although wakes may not be significant in some locations, the presence of that energy in the objectives does not compromise their intent.*
9. Marshes that are becoming open water bodies need to be restored. Both Chenier ridges and marshes play similar roles in protection in that they dissipate the surge height. There is no objective that allows marshes to be restored or preserved. Either include marshes in objective 5 or develop a stand-alone objective. *The words “AND the MARSHEs” will be added to objective 5 following “cheniers” making it read: Restore/preserve the existing Chenier ridges and the marshes.*
10. A considerable discussion ensued over Objective 7 and from it came the realization that “Restore more natural hydrology”—“is more of a concept than a measure. To the USFWS, the concept means correcting the disruptions of flow that exist at Highway 82. To others, the concept included the removal of jetties because the perception was the jetties deflect the long-shore currents away from the Louisiana coast. This concept needs clarification. *Two changes to the wording of the objective were made: 1) add the parameters that are significant in defining what “natural hydrology” means and 2) describe what, when and where one should measure to compare existing conditions to what the “natural values” should be. This issue was resolved in the measure “Complete/Accelerate the Chenier Plain Freshwater and Sediment Management and Allocation Reassessment Study which was included in the LCA Near-Term Plan”.*
11. A DOTD comment was made concerning the impact of oil and gas canals on natural hydrology. Should we recommend closing some of the canals and restricting navigation to facilities through “highways”? *This is a measure that can be included because of Objective 7.*



12. The Mermentau Cutoff forced the old channel of the Mermentau River to silt up, and this is impeding drainage. It is no longer functioning as an estuary and needs to be dredged. *This is to be moved into the list of measures and addressed under Objective 7.*
13. Objective 9 refers to Highway 82. It should be expanded to include Hwy 27, also. These highways should also be included as evacuation routes. When rewording Objective 9 to include Highway 27, remove the word “fresh”. *Objective should also include Hwy 27. This would accommodate measures that deal with both fresh and salt water. The new objective will read, “Provide water control structures at strategic locations along Highways 82 and 27. These highways are already included as evacuation routes in Objectives 2 and 3.”*
14. Change Objective 11 to include all sub-basins by replacing “Sabine Sub-Basin” with Planning Unit 4. *This would allow a broader application of measures and still not require that any historic gradient be maintained. The new objective will read, “Control the salinity gradient in the Planning Unit 4 to promote diversity of ecosystem habitat.”*
15. The western parts of the Calcasieu Basin and the Sabine Ship Channels cause bad circulation patterns. These patterns contribute to an increase in salt water intrusion into these areas. Find a way to minimize these impacts from artificial channels. These are “plumbing issues.” *This is an issue that can be addressed as a measure under Objective 11.*
16. In Objective 12, a clarification needs to be made in spite of the Texas/Louisiana conflict over the Sabine River. The words “at strategic locations” were suggested. *They were added as follows, “Provide additional fresh water from sources outside the planning unit at strategic locations.”*

Regarding objective 12, some areas may not want to add additional water, i.e., fresh water levels already too high in Grand Lake and White Lake due to outlet problems. Half of PU 4 is Mermentau, and the objective needs modifying to add the words “at strategic locations.”
17. Sand nourishment projects for protection on coast should be a strategy. It is somewhat covered in Objective 14, but not well enough. *The words “sand pumping from off-shore” will be added to the “such as” list in objective 14 as follows: Promote the use of sediment from sources outside of this planning unit, such as trapping sediment that is moving long-shore and pumping sand from off-shore, to increase the area of wetlands and beaches.*
18. Add the coast-wide Objective “F” to Planning Unit 4: “Sustain productive and diverse fish and wildlife habitats.” *That objective is not visible in PU4, and it is deeply buried in PU4 objectives dealing with hydrology, salinity gradient or freshwater distribution. It will be added.*
19. Regulatory issues are not addressed in objectives. Oil and gas companies are issued permits to access wells by hydraulic dredging. Regulatory agencies do not presently have the authority to “permit” oil and gas companies to include beneficial uses of sediment when they construct canals. Regulatory agencies are also permitting activities that contradict environmental enhancement and/or coastal protection. It would be well to possibly modify an existing objective or add a new one that deals with regulations for the beneficial uses of dredged material. If it were a requirement, companies could get credit for beneficial use as mitigation or environmental restoration. *Regulatory issues do need to be addressed. However, these are policy issues that should utilize the objectives selected for the Master Plan and not the objectives themselves.*
20. USFWS suggested that a specific objective be added to state, “Promote the beneficial uses of dredged material from the Calcasieu Ship Channel, Mermentau and Sabine Rivers to create marsh.” This use was only implied in our objectives 13 and 14. *Objective 15 was added with the recommended text.*



21. A new objective was proposed to “Restore the width of the present Mermentau, Calcasieu and Sabine channels to their original, authorized widths.” The purpose is two fold. First, it would restore bank lines to their original location. Second, it would reduce the rate at which salt water could move inland by reducing the discharge capacity of these channels. *This idea was included as a measure under Objectives 4 and 11.*
22. A suggestion was made to add “using Atchafalaya River sediments” as a measure or an objective in Unit 4. The idea was to compete with Planning Units 3a and 3b for that resource. *This would require the introduction of water, also, and several comments were made regarding the excessive volume of freshwater. Intuition suggests that it is not technically feasible to consider Atchafalaya River Sediment as a significant source of sediment for use in Planning Unit 4. The idea needs technical evaluation.*
23. The Old River Control Structure management should be added as an objective in Unit 4, and should be incorporated in the objectives to use sediments and water from outside the planning unit. Modify Objective 14 to include active management of Atchafalaya and Red Rivers sediment (all available sources). *See response to Comment 22.*

### 7.5.2 Afternoon Notes & Comments with Actions Taken

Notes taken during the Planning Unit 4 Afternoon Breakout Session documented the comments made by the workshop participants during the discussion. The actions taken or to be taken for each comment received are listed after the comment in italics.

1. USFWS comments are that Rationale Two is better for coastal resources, and they prefer that Rationale. They also preferred ring levees for surge protection rather than the GIWW alignment. The GIWW alignment in Rationale One will act as a wall, but if it could be moved further north, it could be workable. Incorporate concepts from their Planning Aid Report in response to the USACE October 2005 LCPR report. Add the constriction of outfall channels to Rationale Two. *Remember that this is a 100-yr horizon Master Plan, which has to consider sea level rise and continued subsidence, and measures should be sustainable under changing conditions.*
2. The freshwater-salinity issue was discussed at length. First determine the locations needing fresh water across all uses. This will identify what measures will be most useful. Hydrology drives salinity. There are problems with too much salinity in the west and too much fresh water in the east. Grand and White Lakes’ levels are too high because they cannot drain adequately. Water should drain north to south. Highway 82 needs more culvert capacity to help restore natural hydrology. Land loss and marsh loss are the biggest problems. Levee alignment is critical, and if high levees are needed, the footprint will destroy both marshes and fisheries. Protecting shorelines and land bridges is a no-brainer. Everything else is more difficult, including managing water issues. Everyone was cautioned not to make this more difficult than it has to be. *These were general statements of concern from the group. No response required.*
3. Hackberry and Cameron should have some sort of surge protection. How did one community get picked over another? With Hackberry and Cameron and other small communities outside all protection due to their elevations and exposed locations, only a ring levee is a possible solution, and Hackberry and Cameron are situated where they cannot be protected by a ring levee. Their infrastructures will all have to be re-built/constructed to stand hurricane force winds and water, or in the case of Cameron, they are already considering relocation further inland. *This discussion reached no conclusion. It did not change the possible difficulty of protecting these communities with levees. The rationale provides hurricane protection by re-zoning, building codes and evacuation routes. Since no technical reason to change this rationale was provided by this comment, no changes were made.*



4. Overall, beach nourishment should be considered as well as detached near-shore breakwaters, where sediment dredged from off-shore is pumped onto the beaches, and/or behind detached breakwaters built far enough out to serve a protection for new beaches behind them. *Shoreline restoration is an included measure.*
5. An issue was raised about the Cameron-Creole levee. One said it should either be completed or mined for sediment. Another opposed by USFWS any modification. *In general, the group had no problem with the lack of linear levees as long as they had the proposed ring levees and other types of protection were included in the measures.*
6. In discussing the Rationale One measures, the following general comments were made (no response was required to these comments and all will be taken under consideration in further project development):
  - 6a. No linear levee should be built below the 10-ft contour MSL.
  - 6b. Okay as written
  - 6c. Salinity on East Shore of Sabine Lake---hydrologic modeling indicates weir structures with a boat bay are not reducing salinity in interior marshes and are also fish impediments. USFWS suggests dropping measure.
  - 6d. Re-word to include a weir at the Sabine Causeway, and to return Sabine/Calcasieu/Mermentau to authorized dimensions and maintain at this dimension, i.e., a new measure for all new channels. The existing weir in Sabine causes unnatural high velocities.
  - 6e. Measures 3, 5, 10, 11, 13, 15, 19, 20, 21, and 22 depend on salinity/fresh water inflow decisions. On Measure 5, there is no provision to restore the cheniers. It should include stopping mining as well.
  - 6f. Measure 8 is not just for salinity but for protection of banks. Construction to armor navigation channels helps during hurricanes. Fresh/saline measures need to be looked at individually for effectiveness.
  - 6g. Suggest deleting Measures 12 and 13 from Rationale One, or at least re-considering how they are worded. *Wording regarding freshwater was changed to include "strategic" locations.*
  - 6h. Measure 14 has been partially completed under CWPPRA, and might be better if it was carried out at Mallard Point.
  - 6i. Measure 22 is out of Coast 2050 strategy, and is a new look at Calcasieu or GIWW, old lock for salinity management, really move fresh water out of lakes and release high water pressure.
  - 6j. Measures 19, 20, and 21 create could blockages across water to fisheries, and will be problematic unless designed properly. Needs to be examined individually.
  - 6k. Measure 24 is not needed because CWPPRA has a maintenance plan for this area.
7. The fact that Rationale Two is without a linear levee but has strategically placed ring levees brought considerable discussion. Roads on levees were discussed as to their importance, and Hwy 82 serves as both a levee and a highway. Their shoulders need reinforcement because they eroded during Rita. The group asked that the Master Plan not base all decisions on what is required for New Orleans. We should consider the importance of Lake Charles area and Lafayette and their infrastructure. *It was pointed out that Lake Charles Metro scored as highly as New Orleans did for hurricane surge protection. It was followed closely by Lafayette. This scoring was based on concentrated assets. Hackberry also scored highly, but we saw no reasonable way to levee Hackberry.*



- 
8. Overall, DOTD commented that without protection, restoration and preservations would be meaningless. USFWS said that protection is given by restoring and maintaining the wetlands. DOTD wants to have a tiered system to reduce surge, and wants to talk more about breakwaters rather than levees. Multiple lines of near-shore to dissipate wave energy that would function like a “barrier island” would be effective, and the only structure that completely survived Rita on the Unit 4 coast was the detached riprap breakwaters at Holly Beach, still functioning to trap sediment from the water column and littoral drift. Protection off the beach would offer some measure of protection to those communities that cannot support a levee, i.e. Hackberry, Cameron, Creole, Holly Beach, and others. *Such protective use of these coastal resources seems logical.*
  9. The private sector can contribute significantly if they are allowed to do so. Oil and gas companies can build and maintain spoil banks and canal berms that provide habitat and reduce storm surge heights. This should also be encouraged and included in the concept of beneficial uses of dredged material. *This seems like a policy issue.*
  10. Fresh water could be brought from the GIWW, or managed using the GIWW. Cheniers are being mined, and this needs to be stopped under policy issues (also a private landowner issue). The current practice of mining sand from cheniers is undermining coastal protection. Swapping cheniers for marshes is irresponsible. Strategically, areas west of Highway 27 and south of Highway 82 need fresh water input. *Comments noted.*