CEMVN-PM-C (10-1-7a) 26 Jan 12

MEMORANDUM FOR RECORD

SUBJECT: Regional Planning Team (RPT) Region 1, New Orleans, LA, 26 Jan 12, 1:40 pm

1. Agenda Item #1, Welcome and Introductions. Mr. Chris Allen, RPT Region 1 Leader, opened the meeting and welcomed the attendees.

2. Agenda Item #2, Project Priority List (PPL) 22 Selection Process Brief Overview and Ground Rules for PPL 22 Nomination Meeting. Mr. Allen provided a PowerPoint presentation which is available online at the CWPPRA website. He stated that the purpose of the meeting was to accept project nominations and hear public comments for developing the 22nd PPL, as well as nominations for coast-wide and demonstration projects.

Anyone can propose a project for the region. Proposals should be consistent with the Coast 2050 strategies. A project can be nominated from only one basin (except for coast-wide projects). If a project crosses multiple basins, excluding coast-wide projects, it should be nominated in one basin only, based on the majority area of project influence. Coast-wide projects apply across basin boundaries; their benefits are not tied to one basin. Coast-wide projects can be nominated from any basin and can be presented in any or all of the RPT meetings. Multi-basin or coast-wide projects can be split into multiple individual projects. Alternatively, projects that are similar can be combined at the request of the project proposers, but splitting or combining projects should occur during the RPT meeting when the project(s) are first presented. Public comments on project proposals will be accepted orally during the meeting and in writing until February 3, 2012.

A coast-wide voting meeting will be held on February 15, 2012, in the Louisiana Room at the Louisiana Department of Wildlife and Fisheries in Baton Rouge. The RPTs will select three projects in the Terrebonne, Barataria, and Pontchartrain Basins; two projects in the Breton Sound, Teche-Vermilion, Mermentau, Calcasieu-Sabine, and Mississippi River Delta Basins; and one project in the Atchafalaya Basin. If only one project is nominated at the RPT meeting for the Mississippi River Delta Basin, three nominees will be assigned to the Breton Sound Basin. If proposed, one coast-wide project may be chosen for inclusion as a nominee. In addition, the RPTs will select six demonstration projects for further evaluation.

In covering the ground rules for the meeting, Mr. Allen requested that each proposer submit a fact sheet and give their name, the project name, and describe the location, problem, proposed solution, and benefits of the presented project. Public comments on the proposals should be as constructive as possible.

3. Agenda Item # 3, Brief Overview of Coast 2050 Regional Strategies. Mr. Allen indicated that the proposals should be consistent with the Coast 2050 Regional Ecosystem or Coast-Wide Strategies and noted that these strategies are included on a handout entitled “Coast 2050 Strategies” available at the sign-in table.

4. Agenda Item #4, PPL 22 Project Nominations.

a. Mr. Allen opened the floor for nominations in the Lake Pontchartrain Basin.

#1 – Central Wetlands Marsh Creation/Marsh Nourishment With Mississippi River Sediment. This project was presented by Ms. Sarah Mack with Tierra Resources, representing St. Bernard Parish. This project is a joint project with the United States Environmental Protection Agency (EPA). The project is located in St. Bernard Parish, between the Mississippi River and the Mississippi River Gulf Outlet (MRGO), in the Central Wetlands Unit, north of the Bayou La Loutre Ridge. Construction of the Mississippi River Levee cut off the Central Wetlands from freshwater, sediment, and nutrient input from the Mississippi River. Construction of the MRGO caused many acres of wetlands to fill, greatly increased salinity, killed over 10,000 acres of swamp, and impounded the Central Wetlands. Subsidence in the vicinity of the proposed project is relatively high. The proposed project would: convert approximately 500 acres of shallow open water habitat to intermediate or brackish marsh; nourish approximately 250 acres of existing intermediate or brackish marsh; and maintain about 496 acres of created/nourished marsh over the 20-year project life. Marshes would be created and nourished using sediments dredged from the Mississippi River. The proposed project would also protect the Mississippi River Levee in the vicinity of the project. Vegetative planting may be necessary to create floating marsh, swamp will be planted on higher spoil elevations, and floating marsh will be created with "marsh pillows". The estimated construction cost including 25% contingency is $25 million. Mr. Ken Teague commented that he and Mr. John Ettinger with EPA have worked on designing the project. It was added that this approach could be applied to other parts of the Central Wetlands. Mr. Charles Allen with Orleans Parish Government offered the Parish's support for this project.

#2 – Guste Island Marsh Creation Project. This project was presented by Mr. Jason Kroll with the National Resource Conservation Service (NRCS). The project is located in St. Tammany Parish, west-southwest of Madisonville, along the rim of Lake Pontchartrain, three miles east of the mouth of the Tchefuncte River. In this area, the Lake Pontchartrain Rim has breached into a failed agricultural area and is expected to expand into this area by an additional 1,000 acres. The proposed project would create approximately 590 acres of emergent wetlands using dedicated dredging from Lake Pontchartrain. In addition, 2,000 linear feet of lake rim would be restored. Project implementation would increase fisheries and wildlife habitat, acreage and diversity; improve water quality; and provide a protective wetland buffer along the lake rim. The estimated construction cost plus 25% contingency is approximately $26 million. Mr. Brian Fortson, Environmental Resources Manager for St. Tammany Parish, offered the Parish's support. Mr. Patrick Williams with National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) stated that this project overlaps with a potential mitigation site for levee work done by the United States Army Corps of Engineers (USACE). The USACE's suggestion is to shift any CWPPRA projects so there is no overlap. Mr. Kroll has been in contact with the landowner to evaluate nearby alternative areas, and the landowner would be in favor of conducting the project on other nearby areas if the USACE project is built. Mr. Charles Allen with Orleans Parish Government offered the Parish's support for this project. A member of the public asked why the marsh degraded and if hydrologic studies have been done. Mr. Kroll responded that the site was a failed agricultural impoundment. The project would maintain hydrologic connections and tidal exchange.

#3 – North Goose Point Marsh Restoration Project. This project was presented by Ms. Angela Trahan with the United States Fish and Wildlife Service (USFWS). The project is located in St. Tammany Parish, along the north shore of Lake Pontchartrain, within Big Branch Marsh

National Wildlife Refuge (NWR) and Fountainebleau State Park. Interior ponding, shoreline erosion, hydrologic alterations which allowed saltwater intrusion, and Hurricane Katrina have caused wetland loss in the project area. A narrow strip of land separates the area from Lake Pontchartrain, and the shoreline is already breached in several areas. Sediment would be hydraulically dredged from Lake Pontchartrain and placed in designated areas to create approximately 466 acres of emergent marsh and nourish approximately 220 acres of marsh. The primary project goal is to re-create marsh habitat in the open water areas immediately behind the shoreline within Big Branch Marsh NWR. This will maintain the lake rim function along this section of the north shore of Lake Pontchartrain and help to sustain the health of the lake. Based on the PPL 21 cost estimator, preliminary construction costs are estimated at $25 to $30 million. Mr. Brian Fortson, Environmental Resources Manager for St. Tammany Parish, stated that the Parish supports this project, that the Goose Point Marsh project has been successful, and that this project would likely have the same success. Mr. Fortson and Ms. Trahan added that marsh creation and re-vegetation of other projects in the vicinity of this project have been very successful.

#4 – New Orleans Land Bridge Shoreline Stabilization & Marsh Creation Project. This project was presented by Ms. Susan Herrington with USACE. The project is located along the east portion of Lake Pontchartrain west of Hwy 90 between Hospital Road and Greens Ditch in Orleans Parish. Since 1956, the project area has lost more than 110 acres of wetlands and the shoreline has retreated approximately 450 feet, which could be contributing to flooding of nearby communities. The project would include protection of approximately 26 acres of marsh, creation/nourishment of 37 acres of marsh, and indirect protection of approximately 200 acres of marsh. Shoreline protection would be accomplished by the installation of approximately 7,183 linear feet of rock along the northwestern shoreline of the New Orleans Land Bridge. Marsh creation/nourishment would be accomplished by placement of dredged material. The project would also protect the New Orleans Land Bridge and Hwy 90, which is used by the local communities as a hurricane evacuation route. The construction cost including 25% contingency is approximately $6.98 million. The fully-funded cost range is $10 to $15 million. Mr. Charles Allen with Orleans Parish Government offered the Parish's support for this project.

#5 – Small Mississippi River Reintroduction into LaBranche Wetlands. This project was presented by Mr. Ken Teague with EPA. The project area, located in St. Charles Parish, has experienced substantial subsidence from soil oxidation due to agricultural drainage and construction of the MRGO; and access canals for I-10 construction increased salinities resulting in further damage to swamp and marsh vegetation. Furthermore, the Bayou Trepagnier area in the southwest corner of the LaBranche Wetlands was contaminated by industrial discharges, but the requirement to cease those discharges, compounded by the lack of connectivity with the Mississippi River, increased salinity. The project would reintroduce Mississippi River water into the LaBranche Wetlands via one of several alternative locations. This project would reduce wetland loss rates, decrease salinity, and increase flow through the LaBranche Wetlands; improve swamp habitat quality; increase sediment accretion in the contaminated portions of the project area; and increase submerged aquatic vegetation production. The preliminary construction cost including 25% contingency is approximately $25 million. Dr. John Lopez with the Lake Pontchartrain Basin Foundation (LPBF) stated that dead cypress trees are seen on I-10 across the spillway, so the project area is very visible. Dr. Lopez added that the project could help protect the hurricane protection levee. Dr. John Day with Louisiana State University (LSU) stated that there is a need to get freshwater into the wetlands when the river is low.

#6 – Golden Triangle Marsh Creation. This project was introduced by Mr. Patrick Williams with NMFS. The project is located in St. Bernard and Orleans Parishes. Wetlands in the project area are being lost, and interior breakup and coalescence of newly formed open water with historic ponds, as well as increased connection with Bayou Bienvenue and the Gulf Intracoastal Waterway (GIWW) is taking place. The project would create approximately 400 acres of brackish marsh using dedicated dredging from Lake Borgne. Some work has been conducted in this area by the USACE and this project will work to complement the placement of dredged material. The estimated construction cost including 25% contingency is $20.9 million, with a fully funded cost in the range of $20 to $25 million. Mr. David Eber with the Center for Sustainable Engagement and Development (CSED) in the Lower 9th Ward stated that he supports the project.

#7 – Shell Beach Marsh Creation Project. This project was introduced by Mr. Scott Wandell with the USACE. The project is located along the north bank of the MRGO channel in the vicinity of Yscloskey and Fort Beauregard in St. Bernard Parish. Subsidence, wind driven wave erosion, and saltwater intrusion have caused marsh to become open water in the project area. This loss of marsh could cause the coalescence of Lake Borgne with the MRGO and threaten local communities and infrastructure. The project goal is to restore approximately 362 acres of vegetated wetlands, nourish approximately 200 acres of adjacent wetlands, and to maintain the land bridge separating Lake Borgne from the MRGO. The proposed marsh restoration would be done using dedicated dredging from the southern portion of Lake Borgne and would result in marsh creation in five existing open water areas and marsh nourishment in the immediate proximity of the marsh creation sites. The construction cost including 25% contingency is approximately $19 million.

#8 – Bonnet Carre Long Distance Sand Transport. This project was introduced by Mr. Nathan Dayan with USACE. The project is located in the Pontchartrain Basin. The Chandeleur Islands are a barrier island chain located in easternmost St. Bernard and Plaquemines Parishes. This area is undergoing shoreline erosion, interior wetland loss, overwash, and breakup. The barrier island chain is sediment starved due to reduced sediment in the littoral system. The Bonnet Carre Spillway has excess sand after a recent high water event. The proposed project's primary feature is to transport sand from the Bonnet Carre Spillway by hopper barge through Lake Ponchartrain to the Chandeleur Islands. The sand will be placed in the littoral system so that longshore transport can redistribute the material. The preliminary construction cost has not yet been estimated. A member of the public asked how much sand is currently available. Mr. Dayan responded that there is a fair amount. A member of the public asked what the USACE does with the sand at this time. Mr. Dayan responded that it is sold and the money goes to the government, not to the USACE.

#9 – Novel Collection of Restoration Techniques for Restoring Cypress-Tupelo Swamp and Marsh in Coastal Louisiana. This project was introduced by Mr. Charles Allen, Coastal Zone Administrator for Orleans Parish. The project was originally nominated as a demonstration project, but was changed to a candidate project based on discussion cited in the text below. The proposed project is located in the Central Wetlands, Bayou Bienvenue area. The Central Wetlands, located just east of New Orleans, are representative of many areas in coastal Louisiana where cypress-tupelo swamp has been killed by saltwater intrusion and the marsh that replaced it was subsequently lost due to several cumulative environmental stressors, including

lack of connectivity with the Mississippi River (or another sediment source), saltwater intrusion, reduced vegetative productivity, altered hydrology, impoundment, etc. The best solution in many cases is to restore the hydrology, especially where connectivity with the Mississippi River has been lost. Salinities have apparently been restored in the "Bayou Bienvenue" area of the Central Wetlands. There is the potential to integrate multiple approaches to achieve some synergy, resulting in significant ecological restoration of the Bayou Bienvenue area, and a new approach to coastal restoration that can be exported to other areas. The proposed project will create several small "islands" with in-situ sediment and plant these areas with cypress. Floating marsh will then be established around the islands and interspersed with Bullwhip (*Schoenoplectus californicus*). Cypress seedlings for planting will be grown in an on-site nursery capable of producing thousands of baldcypress (*Taxodium distichum*) and water tupelo (*Nyssa aquatica*) seedlings that are pre-adapted to nutrients from treated effluent and to the anaerobic conditions typical of wetlands. The seedlings are grown in simple racks constructed of PVC piping and treated lumber and the racks are located within catwalk bays surrounded by vinyl-coated fencing to protect them from nutria herbivory. When the seedlings are ready to plant they can be removed and planted immediately at the site. Floating marsh will be established using simple "marsh pillows" made of vinyl-coated wire surrounding floating PVC frames. The preliminary cost estimate (without contingency) is $1.1 million. Dr. John Day with LSU stated that this area will be nourished with freshwater. Mr. Charles Allen added that there has been close coordination with the sewage and water board with respect to nourishment with freshwater. Mr. David Eber with CSED stated that he is very much in support of this project, as are local residents. Mr. Darryl M. Wiley with the Sierra Club stated that the community has taken the idea of sustainability from their houses to the coast. Mr. Wiley added that this project would be good for community education about restoration. Ms. Amanda Moore with the National Wildlife Association (NWA) stated her support of this project, and that it has tremendous potential to help the Nation understand restoration and gain support for coast-wide restoration. Mr. Nathan Dayan with the USACE recommended that it be changed from a demonstration to a full project because many of these methods have already been done. Mr. Eber noted that they wanted to submit it as a project but were told it would not have enough benefits. Mr. Charles Allen and other project proposers agreed to change the project from a demonstration nominee to a candidate nominee.

Nominations were closed for the Lake Pontchartrain Basin.

b. Mr. Allen opened the floor for nominations for coast-wide projects.

No coast-wide projects were nominated.

Nominations were closed for coast-wide projects.

c. Mr. Allen opened the floor for nominations for demonstration projects.

#7 – Utilization of Natural Gas Power for Dredging and Placement. This project was introduced by Dr. Mohan Menon with Ecology and Environment, Inc. Potential demonstration locations for this project could be anywhere along the coast. In marsh creation projects, the majority of the cost for creating marsh substrate can be attributed to the fuel costs. The use of natural gas as fuel for dredging activities could substantially reduce the cost of marsh creation. On an energy equivalency basis, natural gas costs much less than diesel, and cost savings could

potentially be achieved in delivery and engine maintenance. Natural gas is also a cleaner fuel, reducing air pollution. This project is proposed to demonstrate the feasibility of using natural gas in lieu of diesel and demonstrate cost effectiveness. Working along with natural gas providers and dredgers, a prototype dredge natural gas engine is to be designed and manufactured. A system for supplying natural gas for dredging would need to be developed. The total project cost with a 25% contingency is estimated under $1.0 million for filling canals along Lake Pontchartrain by following traditional means. Mr. Patrick Williams with NMFS asked if the demo would identify the technology or identify how it would be applied in marsh creation. Mr. Williams failed to see how the industry will change to alternative fuels. Dr. John Lopez with LPBF stated that it is only over the last few years that we have seen the dramatic difference between prices of diesel and natural gas, so one answer is this is a recent process. He added that there is no reason why this could not be applied to restoration efforts; the demonstration of it is taking technology from elsewhere and applying it to restoration. Mr. John Jurgensen with NRCS asked if the demonstration would be implemented by a request for proposals (RFP) that specifies natural gas dredging, using a specific converter device on dredging equipment. Dr. Lopez answered that it could be an RFP that requires using natural gas, and stated that if the demonstration can show that dredging costs went down, that is demonstrating something new. Mr. Williams asked if the demo is actually a conversion or a market survey study. Dr. Lopez responded that it is an actual conversion.

Nominations were closed for demonstration projects.

5. Agenda Item #5, Announcement of Coast-Wide Voting Meeting. Mr. Allen reiterated that the coast-wide voting meeting would be held on February 15, 2012.

6. Agenda Item #6, Announcement of Upcoming PPL 22, Task Force, Technical Committee and Other Meetings. Mr. Allen reviewed upcoming CWPPRA meetings and indicated that all meeting notices are posted on the CWPPRA website.

7. Agenda Item #7, Report on the Draft 2012 State Master Plan. Mr. Chris Allen with CPRA reported on the Draft State Master Plan. Public meetings on the Draft Master Plan were held earlier this week and comments are being accepted until February 25, 2012. The Draft Master Plan is available for download on the website. The Plan consists of 145 projects and the intent is to provide sustainability for 50 years. The focus on restoration includes marsh creation, barrier island restoration, shoreline protection, and ridge restoration. Mr. Allen explained that it is anticipated that CWPPRA and the Master Plan will work together; and the State hopes that CWPPRA projects will support the Plan. Mr. Allen noted that the State will meet obligations on existing projects. Mr. John Lopez with the Lake Pontchartrain Basin Foundation asked if the State will provide information about ecosystem services that would be provided with proposed projects. Mr. Allen said that this information might be released as part of the Appendices to the Plan, but he is not sure. Mr. Scott Eustis with the Gulf Restoration Network asked how new technologies for shoreline stabilization will be incorporated into the Master Plan, given that the Plan specifies rock for shoreline protection. Mr. Allen said that the State intends to incorporate new technologies as appropriate after they are tested.

8. Agenda Item #8, Adjourn. The meeting adjourned at 3:30 pm.

CEMVN-PM-C (10-1-7a) 26 Jan 12

MEMORANDUM FOR RECORD

SUBJECT: Regional Planning Team (RPT) Region 2, New Orleans, LA, 26 Jan 12, 9:30 am

1. Agenda Item #1, Welcome and Introductions. Mr. Brad Inman, RPT Region 2 Leader, opened the meeting, welcomed the attendees, and had the attendees introduce themselves. He recognized members of CWPPRA Planning and Evaluation (P&E) Committee in attendance including Mr. John Jurgensen with the Natural Resources Conservation Service (NRCS), Mr. Chris Allen with the office of Coastal Protection and Restoration Authority (CPRA), Mr. Kevin Roy with the United States Fish and Wildlife Service (USFWS); and representatives from the parishes including Ms. Marnie Winter with Jefferson Parish and Mr. Archie Chaisson with Lafourche Parish.

2. Agenda Item #2, Project Priority List (PPL) 22 Selection Process Brief Overview and Ground Rules for PPL 22 Nomination Meeting. Mr. Inman provided a PowerPoint presentation which is available online at the CWPPRA website. He stated that the purpose of the meeting was to accept project nominations and hear public comments for developing the 22nd PPL, as well as nominations for coast-wide and demonstration projects.

Anyone can propose a project for the region. Proposals should be consistent with the Coast 2050 strategies. A project can be nominated from only one basin (except for coast-wide projects). If a project crosses multiple basins (excluding coast-wide projects) it should be nominated in one basin only, based on the majority area of project influence. Coast-wide projects apply across basin boundaries; their benefits are not tied to one basin. Coast-wide projects can be nominated from any basin and can be presented in any or all of the RPT meetings. Multi-basin or coast-wide projects can be split into multiple individual projects. Alternatively, projects that are similar can be combined at the request of the project proposers, but splitting or combining projects should occur during the RPT meeting when the project(s) are first presented. Public comments on project proposals will be accepted orally during the meeting and in writing until February 3, 2012.

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In covering the ground rules for the meeting, Mr. Inman requested that each proposer submit a fact sheet and give their name, the project name, and describe the location, problem, proposed solution, and benefits of the presented project. Public comments on the proposals should be as constructive as possible.

3. Agenda Item # 3, Brief Overview of Coast 2050 Regional Strategies. Mr. Inman indicated that the proposals should be consistent with the Coast 2050 Regional Ecosystem or Coast-Wide Strategies and noted that these strategies are included on a handout entitled "Coast 2050 Strategies" available at the sign-in table.

4. Agenda Item #4, PPL 22 Project Nominations.

a. Mr. Inman opened the floor for nominations in the Barataria Basin.

#1 – Couba Island Armored Terrace Project. This project was presented by Mr. Todd Baker with the Louisiana Department of Wildlife and Fisheries (LDWF). This project is located in St. Charles Parish, Timken & Salvador Wildlife Management Areas, between Lakes Salvador and Cataouatche. The shorelines of Couba Island and Bayou Couba are experiencing significant erosion primarily from the erosive effects of prevailing southeast winds. The proposed project would benefit 3,050 acres of fresh marsh. This project would construct a series of large terraces along the southern shore of Couba Island and Bayou Couba. These terraces will be armored with rock on the out facing side to slow erosive effects of wind-blown wave energy. This project would protect/preserve the lake rim and bayou shores of Couba Island and Bayou Couba. The estimated construction cost, with contingency, is $15 to $25 million.

#2 – Bayou Dupont Sediment Delivery—Marsh Creation 3. This project was presented by Mr. Adrian Chavarria with the United States Environmental Protection Agency (EPA). The wetlands in the Barataria Basin were historically nourished by freshwater, sediments, and nutrients delivered by the Mississippi River and its many distributaries. These inputs ceased when levees were constructed on the lower river for flood control and navigation. In addition, numerous oil and gas canals in the area have contributed significantly to wetland losses. The project would create 457 acres of emergent, intermediate marsh and nourish 51 acres of existing marsh by placing sediment from the Mississippi River into open water areas and create approximately 10 acres of tidal ponds and approximately four acres of tidal creeks. The sediment would be obtained through an existing pipeline. The preliminary estimated construction cost plus 25% contingency is $31.7 million. Mr. Jason Kroll with NRCS asked if the refill rate of the borrow site was known because this is a regularly used borrow site. Mr. Chavarria responded that after BA-39, it was estimated that the borrow site would refill within a year, and that the sediment source should be renewed by the time the project goes to construction.

#3 – West Pointe à la Hache Marsh Creation South. This project was presented by Mr. Ken Teague with EPA. The Mississippi River Levee has isolated the West Pointe à la Hache wetlands from historic overbank flooding of the river. Without continued sediment input, the marshes have been unable to maintain viable elevations because of ongoing subsidence. In addition, oil and gas canals have disrupted the hydrology and facilitated saltwater intrusion, further degrading the marsh. Beginning in 1993, the siphons at West Pointe à la Hache were operated to reintroduce Mississippi River water, fine sediments, and nutrients into the general area; however, land loss rates continue to be high. There is an opportunity to create marshes in the southern portion of the siphon outfall area using sediment from the nearby Mississippi River. The project would create 240 acres of intermediate marsh using sediments dredged from

the Mississippi River and would protect the Mississippi River Levee in the vicinity of the project. The preliminary estimated construction costs plus 25% contingency is $18.3 million.

#4 – Freshwater Reintroduction into North of Lac des Allemands. This project was presented by Mr. Ken Teague with EPA. Swamps and marshes in the Barataria Basin have been isolated from the Mississippi River for many years, which historically was their primary source of water, sediments, and nutrients. Swamps are now dependent on local rainfall and flooding caused by wind-driven high coastal water levels. Subsidence is moderate, and because of the lack of sediment input and low swamp productivity, there is an accretion deficit that results in increased swamp flooding. The project would divert 400 to 1,000 cubic feet per second (cfs) of Mississippi River water into the swamps northwest of Lac des Allemands via a siphon. Diversion of river water into these swamps would restore natural hydrologic regimes, increase nutrient availability, and restore some sediment input. This project would not create wetlands, but it would be expected to prevent existing swamp habitat from converting to open water or other habitat types. The preliminary estimated construction costs plus 25% contingency is $15 million. Ms. Catherine Schons, a landowner in the project area, requested that a freshwater diversion be built in order to reduce saltwater intrusion and improve the fish and wildlife habitat.

#5 – Bayou Villars Shoreline Stabilization Project. This project was presented by Ms. Susan Hennington with the United States Army Corps of Engineers (USACE). The project is located along the east shore of Lake Salvador near the Barataria Preserve of the Jean Lafitte National Park and Preserve and lands south of Bayou Villars in Jefferson Parish. Within the past 50 years, the project area has lost more than 650 acres of wetlands, and the opening of Bayou Villars at Lake Salvador has retreated 5,100 feet into the Gulf Intracoastal Waterway (GIWW). Shoreline retreat and wetland loss were accelerated by winds and storm surge caused by Hurricanes Katrina and Rita. Within the project area, these storms eroded the shoreline 100 feet in places, and interior marsh was compacted or torn apart, creating open water ponds. The flooding of the communities of Crown Point, Jean Lafitte, and Barataria may be partly attributed to these high wetland losses. Stabilizing the shoreline and protecting the remaining marsh would protect natural coastal resources, communities, and infrastructure. The project would prevent shoreline erosion and protect approximately 200 acres of marsh. The project would involve the installation of 31,000 tons of rock along 5,500 linear feet of shoreline from the pipeline crossing north of Bayou Villars to the north bank of the mouth of Bayou Villars, and 44,000 tons of rock along 8,000 linear feet of shoreline from the pipeline crossing south of Bayou Villars to the south bank of the mouth of Bayou Villars. This project would protect the communities of Jean Lafitte, Barataria, Crown Point, and adjacent infrastructure, as well as provide one of the last lines of defense against storm surge coming toward the New Orleans metropolitan area from Lake Salvador and Barataria Bay. The project would also prevent Lake Salvador from continuing to break through into the GIWW. The construction cost including 25% contingency is approximately $7 million.

#6 – Caminada Headlands Back Barrier Marsh Creation. This project was presented by Mr. Stuart Brown with CPRA. The project is located directly behind the Caminada headland beach, to the east of West Belle Pass in Lafourche Parish. Caminada headland has experienced some of the highest shoreline retreat rates in Louisiana, measuring between 55 and 65 feet per year from 1998 to 2010 (historically, up to 100 feet per year). At the same time, the area is also experiencing extremely high loss rates of interior marshes. This project would create 321 acres of marsh and nourish 220 acres of existing marsh by pumping sediment from an offshore

borrow site. The project would also create a platform upon which the headland beach and dunes can migrate, improving the longevity of the barrier shoreline and protecting wetlands and infrastructure to the north and west. Preliminary estimated construction cost for the project with 25% contingency is $33.3 million. Ms. Marnie Winter with Jefferson Parish asked how the proposed project would impact the nearby Louisiana Coastal Area (LCA) project. Mr. Brown responded that the LCA project would be nearby, but not part of the proposed project site, and that the two projects would be part of an overall restoration of the area.

#7 – South Lake Salvador Shoreline Restoration and Protection. This project was presented by Mr. Quin Kinler with NRCS. The Lake Salvador shoreline is eroding at approximately five feet/year and has nearly breached into the GIWW. The project would create approximately 30 acres of marsh, and re-establish and widen approximately 6,000 feet of lake rim to provide a minimum width of 300 feet between Lake Salvador and the GIWW. Additionally, about 9,000 feet of shoreline protection would be constructed. Preliminary estimated construction cost for the project with 25% contingency is $5.4 million. A member of the public asked if erosion is coming from the lake side, GIWW side, or both. Mr. Kinler responded that erosion was coming from both sides. Mr. Archie Chaisson with Lafourche Parish Government stated that this area is critical, and that Lafourche Parish is fully in support of this project.

#8 – Northeast Turtle Bay Marsh Creation and Critical Area Shoreline Protection. This project was presented by Mr. Quin Kinler with NRCS. The project is located in Jefferson Parish, northwest of Turtle Bay. Historic wetland loss in the area stems from shoreline erosion along Turtle Bay and interior marsh loss from subsidence, sediment deprivation, and construction of access and pipeline canals. The proposed project would create approximately 400 acres and nourish approximately 364 acres of marsh using sediment dredged from Little Lake. Approximately 2,200 feet of critical shoreline would be protected and two channel liners would be installed to prevent further enlargement of two primary water exchange points. Preliminary estimated construction cost for the project with 25% contingency is $23 million. Mr. Buddy Smith with ConocoPhillips stated that the project is on their property and has their support. Ms. Marnie Winter with Jefferson Parish stated that the Parish supports this project.

#9 – Bayou L'Ours Marsh Creation. This project was presented by Mr. Quin Kinler with NRCS. The project is located in Lafourche Parish, east of Galliano and south of Little Lake. Areas located north and south of Bayou L'Ours and adjacent to the East Golden Meadow Hurricane Protection Levee have experienced marsh loss in the range of 8,000 to 10,000 acres. The proposed project would create approximately 551 acres of marsh and nourish approximately 118 acres of marsh using sediment dredged from Little Lake. Preliminary estimated construction cost for the project with 25% contingency is $33 million. Mr. Archie Chaisson with Lafourche Parish Government stated that this project is Lafourche Parish's number one priority project and that it is located in a critical area. Mr. Buddy Smith with ConocoPhillips stated that the project is on their property that they are in support of the project.

#10 – Coastal Wetland Restoration by Backfilling Canals in Jean Lafitte National Historical Park and Preserve. This project was presented by Mr. Dusty Pate with the National Parks Service. The project is located in Jefferson Parish within Jean Lafitte National Historical Park and Preserve. Altered hydrology is a problem in the Jean Lafitte Park, largely due to the effects of canals and associated spoil banks; and the park has experienced a loss of wetlands. Canals have turned marsh and swamps to open water, and spoil banks have replaced wetlands with an

upland environment. Spoil banks also restrict water flow above and below the wetland surface and cause increased periods of flooding and drying of the wetlands behind them. Canals can also facilitate saltwater intrusion into wetlands, and spoil banks retain saltwater on the landscape after storm surges. This project would achieve a total net benefit of approximately 259 acres of emergent wetlands over 20 years by backfilling a system of oil and gas pipeline and residential development canals at strategic locations in Jean Lafitte National Historical Park and Preserve. Backfilling will involve removing the existing spoil banks and disposing of the dredged material in the canals. Removal of the spoil banks will restore natural hydrology across the wetland surface over a larger area in the vicinity of the canals. Preliminary construction cost for the project with 25% contingency is $7 million. Mr. Ken Teague with EPA stated that the EPA strongly supports this project and that they are a partner with the National Parks Service in nominating the project. Mr. Scott Eustis with the Gulf Restoration Network stated that he supports this project.

#11 – Bayou Grande Cheniere Marsh and Ridge Restoration. This project was presented by Mr. Kevin Roy with USFWS. The project is located in Plaquemines Parish, along Bayou Grande Cheniere. From 1932 to 1990, the West Point a la Hache Mapping Unit lost 38% of its marsh. Through 2050, 28% of the 1990 marsh acreage is expected to be lost. That loss is expected to occur even with operation of the West Point a la Hache Siphons. Significant marsh loss has occurred south of Lake Hermitage with the construction of numerous oil and gas canals. Riverine sediments will be hydraulically dredged and pumped via pipeline to create/nourish approximately 395 acres of marsh. Approximately 1,615 acres would be benefited directly and indirectly by the project. The total net acres protected/created over the project life is approximately 285 acres. Approximately 11,200 feet of ridge (14 acres) will be constructed along the eastern side of Bayou Grande Cheniere. Approximately 85,600 linear feet of terraces (55 acres) will be constructed to reduce fetch and turbidity and capture suspended sediment. Preliminary construction cost for the project with 25% contingency is $27.3 million. A post-doctoral research scientist with the University of New Orleans (UNO) stated that this project aligns with the results of a study conducted by UNO examining scientific data combined with local priorities for restoration. Ms. Albertine Kimble with Plaquemines Parish Government stated that the Parish supports this project.

#12 – Elmer's Island Restoration. This project was presented by Mr. Patrick Williams with National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). The project is located in Jefferson Parish. Elmer's Island has narrowed and decreased in elevation, escalating the rate of over-wash and breaching near the confluence with the headland as well as along Caminada Pass. As the island has become more vulnerable from over-wash and breaching, island habitat has been lost and protection of mainland marsh and infrastructure has diminished. The spit along the pass is breached, and the breach is likely to persist and worsen without corrective actions. The proposed features include approximately 26 acres of spot dune repair at sites where over-wash and breaching is reoccurring, breach closure, and 300 acres of back barrier marsh creation. Approximately 275 acres of island habitat will be protected/created over the project life. Sediment for marsh creation would be mined offshore of the headland at a distance to avoid inducing shoreline erosion. The spot dune repair and breach closure would be planted with dune vegetation and the marsh platform would be planted with marsh vegetation. Various design alternatives will be considered for the breach closure. A rock core with sand capping is tentatively assumed. The estimated construction cost including 25% contingency is $26.2 million. The fully-funded cost estimate range is between $30

and $35 million. Ms. Marnie Winter with Jefferson Parish stated that this is the top priority project for Jefferson Parish. Mr. Rob Bourgeuis with LDWF stated that the project is located on LDWF land and gave support to the project.

#13 – Highway 1 Marsh Creation and Terracing Project. This project was presented by Mr. Patrick Williams with NMFS. The project is located in the Caminada Bay Mapping Unit, Lafourche Parish, north of Louisiana Highway 1 and between Lakes Laurier and Palourde. The area has suffered from rapid wetland loss from subsidence and shoreline erosion. The land bridge between the lakes has begun to coalesce and the marsh buffer along LA Highway 1 continues to be rapidly lost. The project would create 300 acres of saline marsh to re-establish the lake rim and protect the highway. Approximately 110 acres of marsh would be nourished with thin layer sediment disposal. Approximately 20,000 feet of earthen terraces would be constructed in open water to create additional habitat and further re-establish and protect the lake rim and the highway. Marsh creation areas and terraces would be planted with smooth cordgrass. Sediment would be mined from the lakes and/or potentially Caminada Bay. Approximately 283 acres of island habitat will be protected/created over the project life. The estimated construction cost including 25% contingency is $25 million. The fully-funded cost estimate ranges from $30 to $35 million.

#14 – Grand Bayou Marsh Creation. This project was presented by Ms. Kimberly Clements with NMFS. The project is located in Plaquemines Parish within the Cheniere Ronquille Mapping Unit. Historically, wetlands in the Barataria Basin were nourished by the freshwater, sediment and nutrients delivered by the Mississippi River. Following the creation of levees along the lower river for flood control and navigation, these inputs ceased. To the northwest, the operation of the Davis Pond Freshwater Diversion has aided in moderating salinities in the basin, however, this unit has remained a saline marsh since 1949. Land loss in the area can be attributed to high subsidence rates, wind erosion, increased tidal energy, and altered hydrology from oil and gas canal dredging. This project includes three conceptual options for marsh creation, which would create approximately 350 to 400 acres of saline marsh, and restore up to 12,000 linear feet of the Grand Bayou bank line to re-establish a continuous land mass. Sediment would be hydraulically dredged for project construction. Both internal and external borrow sources have been considered; internal borrow from Adams Bay or Bastian Bay are the most cost effective. Half of the constructed marsh will include vegetative plantings. Depending on option and borrow source (internal vs. Gulf), the estimated construction costs (including 25% contingency) vary from approximately $19.4 to $28.8 million. The fully-funded cost estimate ranges from $25 to $37 million.

#15 – Grand Pierre Barrier Island Restoration. This project was presented by Ms. Whitney Thompson with Coastal Planning and Engineering/The Shaw Group. The project is located in Plaquemines/Barataria Barrier Shoreline Complex, Plaquemines Parish, approximately 8.5 miles northeast of Grand Isle and immediately east of the East Grand Terre Island Restoration Project (BA-30). The barrier islands along Louisiana's Gulf Coast suffer from high shoreline retreat rates. Restoration efforts have been completed throughout the island complex. The Grand Pierre project would fulfill a vital link for approximately 14 miles of the barrier island complex and complement State and Federal funding that has been invested in the region. The proposed project would create 127 acres of beach; create 229 acres of marsh; and enhance the barrier island complex and create synergistic effects with the adjacent restoration efforts. The proposed project would consist of a beach along the Gulf shoreline with a backing marsh. The

marsh would provide a platform for sand during over-wash events. It is proposed that sediment remaining in previously developed borrow areas to the south be utilized for construction. The estimated construction cost is $14.9 million and the estimated fully-funded cost is $21.3 million.

Nominations were closed for the Barataria Basin.

b. Mr. Inman opened the floor for nominations in the Breton Sound Basin.

#1 – Wills Point Marsh Creation. This project was presented by Mr. Scott Wandell with USACE. The project is located in Breton Sound Basin, Plaquemines Parish, east bank of Mississippi River, northeast of Wills Point and adjacent to local 40-Arpent levee. The project area is mostly shallow water that appeared when marsh was lost between 1958 and 1974. Hurricane Katrina caused some loss in the project area and extensive loss in the project vicinity. Another hurricane could further open the area and impact the two natural ridges adjacent to it. The proposed project would restore 630 acres of marsh (478 acres re-created/152 acres nourished), and provide additional protection to the 40-Arpent levee and the natural ridges of Rive aux Chenes and Tigers Ridge. Approximately 2.4 million cubic yards of material would be mined from the Mississippi River from the point bar at Wills Point. The estimated construction cost including 25% contingency is $26 million. Ms. Albertine Kimble with Plaquemines Parish Government gave support to this project.

#2 – White Ditch Marsh Creation Project. This project was presented by Mr. Adrian Chavarria with EPA. The project is located in Plaquemines Parish, South of the White Ditch Siphon canal. The project area is a failed former agricultural impoundment that has also been cut off from the Mississippi River, effectively eliminating any input of sediment or nutrients from the river. High levels of subsidence have further exacerbated land loss and have increased water depths. The project area encompasses 380 acres. Within the project area, 23 acres were marsh, four acres were floating vegetation and the remaining 353 acres were open water as of 2011. The proposed project would create 357 acres of emergent intermediate marsh habitat, nourish 23 acres of existing marsh habitat using dedicated dredged sediment from the Mississippi River, and create approximately 9,500 linear feet of tidal creeks. Fifty percent of the created marsh area would be planted using the appropriate intermediate species. The project would result in approximately 331 net acres of intermediate marsh over the project life. The preliminary estimated construction cost plus 25% contingency is $23.9 million. Ms. Albertine Kimble with Plaquemines Parish Government gave support to this project.

#3 – Delacroix Marsh Restoration Project. This project was presented by Ms. Susan Hennington with USACE. The project is located adjacent to and east of the town of Delacroix and Louisiana Highway 300. Significant marsh loss occurred in this area, especially as a result of hurricanes. Loss of wetlands in the area has eliminated a natural protection buffer adjacent to the Delacroix community. The project would create approximately 468 acres of marsh utilizing dedicated dredging from Lake Lery. The dredge pipe would be jack and bored under Highway 300 or placed directly across the highway. The construction cost estimate is $17 million; including contingency, the cost estimate is $18.5 million.

#4 – Terracing and Marsh Creation South of Big Mar. This project was presented by Ms. Angela Trahan with USFWS. Marshes in the project area were severely deteriorated by Hurricanes

Betsy and Katrina. The project would create four terrace fields in the shallow, open water areas within the Caernarvon Diversion outfall area to reduce wave fetch and promote conditions conducive to growth of marsh and submerged aquatic vegetation. The project would construct 65,000 linear feet of terraces with *in-situ* material to reduce fetch and turbidity and capture suspended sediment. Sediments would be hydraulically dredged from Lake Lery and pumped via pipeline to create approximately 388 acres of marsh in the project area. Indirect benefits would occur within the four terrace fields which encompass approximately 900 acres. Preliminary construction costs are estimated at $20.4 million, which includes 25% contingency.

#5 – Monsecour Siphon. This project was presented by Mr. Ken Teague with EPA. The area north of Phoenix in Plaquemines Parish has been disconnected from the Mississippi River since levees were constructed in the early 20th century. The lack of overbank flooding/crevasses ensures that wetlands do not have sufficient sediment input to maintain elevation against subsidence. In addition, drainage canals and oil and gas canals and associated spoil banks probably create some undesirable impoundment and tidal scour/saltwater intrusion in the area. The project would involve construction of a siphon from the Mississippi River with a 2,000 cfs maximum capacity that would introduce sediments and nutrients into the project area, thereby protecting 990 acres of intermediate marsh and reducing wetland loss rates. The preliminary estimated construction cost plus 25% contingency is $5.7 million. Ms. Albertine Kimble with Plaquemines Parish Government gave support to this project and stated that the area is badly in need of water and sediment.

#6 – Breton Land Bridge Marsh Creation (West), River aux Chenes to Grand Lake. This project was presented by Ms. Kimberly Clements with NMFS. The project is located in Plaquemines Parish within the Caernarvon Mapping Unit. The major cause of wetland loss for this area has been attributed to storm activity (i.e., Hurricanes Betsy and Katrina). Altered hydrology and oil/gas development have exacerbated storm-related loss, and subsidence is high in this area. The overall, long-range restoration goal would be to create/nourish approximately 1,000 to 2,000 acres of intermediate marsh across seven miles of the Breton Basin from River aux Chenes to Bayou Terre Bouefs. Two conceptual alternative alignments are envisioned: 1) restore marshes and shorelines along western and northern Grand Lake and along Bayou Gentilly; or 2) restore marshes and bank lines along southern Grand Lake and along Bayou Gentilly. The marsh and shoreline restoration would be constructed in a west-to-east configuration, across basin, creating a more robust landmass between River aux Chenes and Bayou Terre aux Boeufs. Once restored, it would reduce the potential for coalescence of Lake Lery with Grand Lake and Lake Petit to the south. Sediment would be hydraulically pumped from a borrow source for marsh creation. Half of the constructed marsh will include vegetative plantings. Approximately 373 acres of intermediate marsh would be protected/created over the project life. Depending on the alternative and borrow source (river vs. internal), the estimated construction costs (including 25% contingency) vary from $22.4 to $37.2 million. The fully-funded cost estimate ranges from $25 to $48 million.

#7 – Lake Lery Marsh Creation and Terracing. This project was presented by Ms. Kimberly Clements with NMFS. This project would continue to address the eastern and northern shorelines of Lake Lery with marsh creation. The project would build marsh terraces to maintain the shoreline. The estimated construction cost is $23.7 million with 25% contingency. An added berm along the shoreline would increase the project cost by approximately $500,000.

#8 – Lonesome Island Restoration. This project was presented by Ms. Albertine Kimble with Plaquemines Parish. This project would restore Lonesome Island located on the east bank in the Black Bay area.

Nominations were closed for the Breton Sound Basin.

c. Mr. Inman opened the floor for nominations in the Mississippi River Delta Basin.

#1 – Pass a Loutre (PAL) Wildlife Management Area (WMA) Marsh Creation Utilizing Gulf Saver® Bags. This project was presented by Mr. Seth Domangue with Matrix New World Engineering, representing Restore the Earth Foundation. The project is located in North Pass PAL, Plaquemines Parish. North Pass PAL has naturally been filled in with sediment cutting access from PAL to the Gulf of Mexico. The resulting sand bar, also known as Popcorn Beach, has been planted with bare root plugs of native marsh grasses, but this method has limitations. The Gulf Saver® Bag, as a biodegradable package, provides a natural supply of nutrients to support, feed, and protect marsh grasses, promoting survival and growth. The Gulf Saver® Bag stabilizes and restores natural habitats, reducing erosional processes and eliminating the need for re-planting. In addition, the Gulf Saver® Bag decreases the time needed to complete 100% restoration of a project area. A demonstration project has been conducted at Popcorn Beach, and an expansion of the demonstration project is proposed to vegetate the entire Popcorn Beach area, which is approximately 15 acres. The goal of the project is to achieve 90% total cover of native vegetation of the site within one year. The estimated cost, including 10% contingency is $1.6 million ($106,575/acre) or $6,660/Discount Service Acre Year (DSAY). Ms. Albertine Kimble with Plaquemines Parish stated that she was involved in the previous demonstrations and supports this project. Mr. Ron Boustany with NRCS asked for clarification on the cost estimate. Mr. Domangue confirmed that the cost was $106,575 per acre. Mr. Scott Eustis with the Gulf Restoration Network stated that he supports this project and likes projects like this that consider the soil and use local materials. Mr. Shane Granier with LDWF stated that he has been heavily involved in the development of this project. He said that it is a great project, and that the pictures do not do it justice. Mr. Granier added that these plants survived Tropical Storm Lee with only minor loss and that most of the vegetation stayed in place.

#2 – Pass a Loutre Hydrologic Restoration. This project was presented by Mr. James Harris with USFWS. Mr. Harris did not describe the project because it has been presented in previous years. He noted that CWPPRA needs to address the issue of the causal agent in projects. Another issue of concern is the requirement for consistency with the State's Master Plan. Mr. Harris is concerned that projects that do not fit into the Master Plan criteria could be excluded from CWPPRA. Ms. Albertine Kimble with Plaquemines Parish offered support for this project.

#3 – Pass a Loutre Crevasse Project. This project was presented by Mr. Todd Baker with LDWF. The project is located in Plaquemines Parish within the Pass a Loutre WMA, approximately 12 miles south of Venice. The parent passes and mouths of many existing crevasses on Pass a Loutre and South Pass have experienced significant shoaling due to dredge disposal practices and the high river stages over the past few years. The shoaling of the mouths has decreased the continued land building potential of several crevasses on the Mississippi River Delta. The proposed project would restore hydrology and land building potential in four existing crevasses. The project would create 110 acres of new marsh via beneficial use of

dredged material, and enhance approximately 2,000 acres of adjacent shallow water bodies from increased freshwater, sediment, and nutrients delivered by the crevasses. Four selected crevasses will be hydraulically dredged to original project dimensions and connected to the parent channel. The spoil material will be used to encourage accelerated delta growth in the outfall area and create new marsh in areas that may not be as strongly influenced by the natural delta process of the crevasse. Some material will also be used in East Bay to create a colonial water bird nesting island. The project will protect/create approximately 2,910 acres over the project life. The estimated project cost is $3 to $5 million. Mr. John Jurgensen with NRCS asked if these three Pass a Loutre projects could be prioritized by the LDWF prior to the voting meeting, since only one could be approved. Mr. Baker answered that a priority project can be chosen. Mr. Ron Boustany with NRCS asked if this is an independent project, or if it could fall into the operations and maintenance (O&M) of the delta-wide crevasses project. Mr. Baker replied that it is an independent project. Mr. Patrick Williams with NMFS stated that they do not have sufficient funds to do a project at this scale; they want to distribute funds to both the State and Federal refuges. Mr. William Simmons, a private citizen, asked if this technique could it be used to build land that existed previously further upstream. Mr. Baker said that the question was outside of his area of expertise, but that Mississippi River water could benefit other areas.

Nominations were closed for the Mississippi River Delta Basin.

d. Mr. Inman opened the floor for nominations for coast-wide projects.

#1 – Coast-wide Competitive Voluntary Canal Backfilling. This project was presented by Mr. Ken Teague with EPA. The project, which includes canal backfilling at the coast-wide level, would be administered through a competitive, voluntary process. That is, the project would be marketed, such as with a request for proposal (RFP), and candidates interested in the project would apply. The preliminary project cost estimate plus 25% contingency is $25 million.

#2 – Coast-wide Floating Marsh Restoration. This project was presented by Mr. Quin Kinler with NRCS. Significant areas of fresh marsh have converted to open water, and vegetation associations have changed from thick-mat maidencane (*Panicum hemitomon*) dominated marsh to thin-mat spikerush (*Eleocharis bakhvinii*) dominated marsh. On a coast-wide scale, there are about 290,000 acres of fresh, interior open water and there are additional acres of thin mat floating marsh. Except for the active deltas receiving high mineral input (Atchafalaya Delta, Wax Lake Delta, and Mississippi River Delta), much of this area has a high potential for restoration to a more stable thick-mat maidencane dominated marsh. In each of five years (years 1, 3, 5, 7, and 9) the project would include installation of approximately 14,000 floating mat units. The floating mat units will be approximately 4 foot x 8 foot and will be planted with potted maidencane and stems. Once vegetated, the mat units for each year of installations will occupy an estimated 40 acres for a project total of about 200 acres. The mat units will be arranged to reduce wave fetch, which would serve to reduce shoreline erosion and increase submerged aquatic vegetation. At the Lake Hackberry Northeast site, about 1,000 acres would receive indirect benefits. Similar indirect benefits could be expected at other sites. For the first year, the floating mat units would be deployed at the Lake Hackberry Northeast site. For subsequent years, a site selection process similar to that used for the Coast-wide Plantings Project (LA-39) would be utilized. The preliminary estimated construction cost including 25% contingency is $16 million. Mr. Charles Allen with Orleans Parish asked if structures would

need to be assembled. Mr. Kinler answered that they would need to be assembled, and that the cost comes from: materials, labor, transport, and anchoring. Dr. Jenneke Visser with the Academic Advisory Council (AAC) stated that this technique has been successful and she would like to take it to a larger scale.

Nominations were closed for coast-wide projects.

e. Mr. Inman opened the floor for nominations for demonstration projects.

#1 – Hay Bale Restoration. This project was presented by Ms. Juli Kemp with Gulf Coast Preservation and Reclamation. With the construction of the levee system, the integrity of the natural flow of the Mississippi River has been compromised. An all "natural" solution to put back what the levees have taken away needs to be approached. The proposed project would build barriers with 800 pound round bales of hay, wheat and rice straw. These barriers will suppress the wave action and in time, the wicking of the hay will collect and create sediment and form a natural barrier. Machinery will be used to cut and blow the hay and straw onto sites where dredging is taking place or any other marsh maintenance or reconstruction site. This will help control sediment runoff. Bales can be injected with native seedling plugs to stimulate vegetation growth. The proposed project cost is $2 million. Mr. Inman stated that this demonstration project will be combined with a hay bale demonstration project which was nominated by Mr. Sherrill Sagrera with Vermilion Parish at the Region 4 RPT Meeting. It was noted at the Region 4 RPT meeting that Ms. Susan Herrington with USACE will work with Ms. Kemp and Mr. Sagrera to combine and coordinate these hay bale demonstration projects.

#4 – CREPS: Coastal Restoration and Energy Production System. This project was presented by Mr. David Heap with CC-CleanTech. Without massive-scale restoration of the delta cycle, artificial nourishment of the wetlands is necessary to prevent their complete disappearance within years to decades. Existing methods of sediment nourishment include dredging, major diversions, and piping with or without siphons. Each of these is expensive, negatively affects wildlife and fisheries, and can disrupt local communities and industries. CREPS consists of a pipe horizontally directional drilled under a levee system (>80 feet), with the input under water on the river side and the output on dry land outside of the levee. Because the average level of the river is higher in elevation than the wetlands on the outside of the levee, hydrostatic forces will force river water through the pipe. A hydrokinetic turbine will be fixed to the output and generate power. This power can then be used to power pumps that further direct the diversion, power a cutter head to increase the sediment load, or upload to the transmission grid for revenue generation. The demonstration system would consist of a 30-inch pipe. An average river level of eight feet would result in 50 cubic feet per second and 50 kilowatts of power. Volume and power would fluctuate with river level in relation to the pipe output. The demonstration could stand alone as an isolated diversion, or be implemented to increase the sediment load of an existing diversion. The total fully-funded cost for the project is $1.8 million. Ms. Marnie Winter with Jefferson Parish asked if the USACE will allow pipe installation across the levee. Mr. Heap answered that AT&T installed pipes under levees in the past, so it can be done. Mr. William Simmons, a private citizen, asked if this is like a siphon. Mr. Heap answered that it will not lose suction because it is based on water pressure. Mr. Simmons expressed doubt about the concept. Mr. Ron Boustany with NRCS asked what the cost would be for one pipe. Mr. Heap said that 3,000 feet for one pipe would be around $1.8 million, but 10 pipes would be about $1

million each. Mr. Boustany said that it is an interesting concept and that questions/issues related to funds generated from the creation of energy would need to be addressed.

#5 – Application of Bioengineering of Shorelines and Canal Banks. This project was presented by Ms. Jane Rowan with Normandeau Associates. Vegetation on shoreline banks helps preserve the bank. Woody growth is better than herbaceous growth because of greater root mass for stabilization. Bioengineering provides strong protection of banks without weighing much; allows natural plant communities to develop; provides native plants an advantage; grows in strength with time; provides habitat and wildlife food; and is truly sustainable. Examples include protection of toe of slope in high energy areas using willow poles between rocks, logs staked to or planted in bank, a vegetative mat, layering of soils wrapped in fabric with cuttings of shrubs or trees that will root, bare root plants, and bunches of trees that will root from cuttings staked to slopes. The selection of methodology is based on site characteristics (location, existing condition, fetch, substrate, access, existing plant community, salinity, water quality, etc.). The proposed demonstration project would utilize live stakes, which are cuttings of willow shrubs that are installed directly into the soils. Plants are harvested during dormancy and buried in the bank by approximately three-fourths of their length. Roots will begin to develop. Pilot holes can be used in the rip rap to plant the trees. The project would increase habitat value, cause sediment to settle out, and could increase strength. The project could start with willow species and then introduce cypress trees or more native plants.

#6 – Research to Assess Louisiana Native Plant Efficiency for Bioengineering Applications. This project was presented by Ms. Jane Rowan with Normandeau Associates. The project would develop a shortlist of appropriate native woody plants according to their application based on testing results. Species need to: root adventitiously, develop strong subsurface root systems or floating mats, need range of tolerance to salinity, have the ability to absorb wave action, encourage sedimentation, and provide habitat. The project would develop standards and specifications and then develop a guidebook so that others can use the methods. The candidate species are willows, dogwoods, buttonbush, and elderberry. The first step of the plan is to collaborate on a strategy with persons familiar with the local vegetation.

Nominations were closed for demonstration projects.

5. Agenda Item #5, Announcement of Coast-Wide Voting Meeting. Mr. Inman reiterated that the coast-wide voting meeting will be held on February 15, 2012.

6. Agenda Item #6, Announcement of Upcoming PPL 22, Task Force, Technical Committee and Other Meetings. Mr. Inman reviewed upcoming CWPPRA meetings and indicated that all meeting notices are posted on the CWPPRA website.

7. Agenda Item #7, Report on the Draft 2012 State Master Plan. Mr. Chris Allen with CPRA reported on the Draft State Master Plan. Public meetings on the Draft Master Plan were held earlier this week and comments are being accepted until February 25, 2012. The Draft Master Plan is available for download on the website. The Plan consists of 145 projects and the intent is to provide sustainability for 50 years. The focus on restoration includes marsh creation, barrier island restoration, shoreline protection, and ridge restoration. Mr. Allen explained that it is anticipated that CWPPRA and the Master Plan will work together; and the State hopes that CWPPRA projects will support the Plan. Mr. Allen noted that the State will meet obligations

on existing projects. Mr. John Lopez with the Lake Pontchartrain Basin Foundation asked if the State will provide information about ecosystem services that would be provided with proposed projects. Mr. Allen said that this information might be released as part of the Appendices to the Plan, but he is not sure. Mr. Scott Eustis with the Gulf Restoration Network asked how new technologies for shoreline stabilization will be incorporated into the Master Plan, given that the Plan specifies rock for shoreline protection. Mr. Allen said that the State intends to incorporate new technologies as appropriate after they are tested.

8. Agenda Item #8, Adjourn. The meeting was adjourned at 1:30 pm.

CEMVN-PM-C (10-1-7a) 25 Jan 12

MEMORANDUM FOR RECORD

SUBJECT: Regional Planning Team (RPT) Region 3, Morgan City, LA, 25 Jan 12, 9:00 am

1. Agenda Item #1, Welcome and Introductions. Mr. Ron Boustany, RPT Region 3 Leader, opened the meeting and welcomed the attendees. He recognized elected officials present at the meeting including State Senator Mr. Bret Allain, St. Mary Parish President Mr. Paul Naquin, and St. Mary Parish Council Chairman Mr. Kevin Voisin. Senator Allain, who is the Vice Chair of the Senate Committee on Coastal Restoration, spoke of the importance of coastal restoration efforts and offered his support for the *Cote Blanche Island Shoreline Protection Project* and the *Cote Blanche Freshwater and Sediment Introduction and Shoreline Protection Project.* Senator Allain submitted letters of support for both projects.

2. Agenda Item #2, Project Priority List (PPL) 22 Selection Process Brief Overview and Ground Rules for PPL 22 Nomination Meeting. Mr. Boustany provided a PowerPoint presentation which is available online at the CWPPRA website. He stated that the purpose of the meeting was to accept project nominations and hear public comments for developing the 22nd PPL, as well as nominations for coast-wide and demonstration projects.

Anyone can propose a project for the region. Proposals should be consistent with the Coast 2050 strategies. A project can be nominated from only one basin (except for coast-wide projects). If a project crosses multiple basins, excluding coast-wide projects, it should be nominated in one basin only, based on the majority area of project influence. Coast-wide projects apply across basin boundaries; their benefits are not tied to one basin. Coast-wide projects can be nominated from any basin and can be presented in any or all of the RPT meetings. Multi-basin or coast-wide projects can be split into multiple individual projects. Alternatively, projects that are similar can be combined at the request of the project proposers, but splitting or combining projects should occur during the RPT meeting when the project(s) are first presented. Public comments on project proposals will be accepted orally during the meeting and in writing until February 3, 2012.

A coast-wide voting meeting will be held on February 15, 2012, in the Louisiana Room at the Louisiana Department of Wildlife and Fisheries in Baton Rouge. The RPTs will select three projects in the Terrebonne, Barataria, and Pontchartrain Basins; two projects in the Breton Sound, Teche-Vermilion, Mermentau, Calcasieu-Sabine, and Mississippi River Delta Basins; and one project in the Atchafalaya Basin. If only one project is nominated at the RPT meeting for the Mississippi River Delta Basin, three nominees will be assigned to the Breton Sound Basin. If proposed, one coast-wide project may be chosen for inclusion as a nominee. In addition, the RPTs will select six demonstration projects for further evaluation.

In covering the ground rules for the meeting, Mr. Boustany requested that each proposer submit a fact sheet and give their name, the project name, and describe the location, problem, proposed solution, and benefits of the presented project. Public comments on the proposals should be as constructive as possible.

3. Agenda Item # 3, Brief Overview of Coast 2050 Regional Strategies. Mr. Boustany indicated that the proposals should be consistent with the Coast 2050 Regional Ecosystem or Coast-Wide Strategies and noted that these strategies are included on a handout entitled "Coast 2050 Strategies" available at the sign-in table.

4. Agenda Item #4, PPL 22 Project Nominations

a. Mr. Boustany opened the floor for nominations in the Teche-Vermilion Basin.

#1(A) – South Little Vermilion Bay Terraces. This project was presented by Dr. John Foret with the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). The project is located in Vermilion Parish, in the northwest portion of Vermilion Bay, extending southward from TV-12 (Little Vermilion Bay Sediment Trapping). Continuous wind-wave energy in the bay prevents sediments from the Gulf Intracoastal Waterway (GIWW) through Freshwater Bayou and Schooner Bayou from becoming sub-aerial features, and is also responsible for shoreline erosion. Continued shoreline retreat in Vermilion Bay is threatening the integrity of the bay rim, which if compromised, would expose surrounding marsh to open bay energies. In addition, several oil and gas canals within the project area would be opened to Vermilion Bay if the shoreline were compromised. Project features include construction of a series of vegetated terraces to diminish waves in Little Vermilion Bay, helping to increase sediment deposition and reduce the rate of shoreline erosion. A pattern of channels would be dredged to beneficially distribute sediment from the GIWW through Freshwater and Schooner Bayous. Dredged sediments would be used to construct 22,000 linear feet of earthen terraces. The bases of the terraces would be planted with 26,000 containers of smooth cord grass (*Spartina alterniflora*). The estimated construction cost including 25% contingency is $2.9 million. Mr. Sherrill Sagrera with Vermilion Parish asked if there would be terraces placed around Buck Point to which Dr. Foret stated that terraces would be placed south to the end of Buck Point, but not likely beyond due to increased water depth. Mr. Sagrera noted that the existing terraces do a good job at trapping sediment and Dr. Foret agreed, noting that this project would improve on the already successful sediment trapping in the area. Mr. W.P. Edwards with Vermilion Corporation asked if the location of the terraces could be modified and Dr. Foret stated yes, that the exact placement of terraces has variability within the limits of what is reasonable and feasible. Dr. Foret made note that planting efforts through private entities and the National Resource Conservation Service (NRCS) in between the existing terraces of Little Vermilion Bay have been successful at creating emergent marsh. Mr. Edwards, on behalf of adjacent landowner Vermilion Corporation, expressed support for this project which would be an extension of the successful CWPPRA Little Vermilion Bay Terracing Project. Mr. Randy Moertle with McIlhenny Company stated that they have participated in plantings in the area that have been successful, and expressed support for this project.

#1(B) – Northwest Vermillion Bay Vegetative Planting and Maintenance. This project was presented by Dr. John Foret with NMFS. The project is located in Vermilion Parish, on the northeastern shore of Vermilion Bay extending from Buck Point, around Little Vermilion Bay, to the State Wildlife Refuge. Continued shoreline retreat in Vermilion Bay is threatening the integrity of the bay rim, which if compromised, would expose surrounding marsh to open bay energies. In addition, several oil and gas canals within the project area would be opened to Vermilion Bay if the shoreline were compromised. The project calls for annual vegetative

planting of impacted areas along the north shore of Vermilion Bay. Vegetative planting would be installed along 31,415 linear feet of the Vermilion Bay shoreline. Maintenance plantings would occur over the subsequent four years. This project would create approximately 11 acres of emergent marsh and would also help protect the existing shoreline. The preliminary estimated construction cost plus 25% contingency is $1.6 million. A member of the public inquired if this project could fall under the funded PPL 21 coast-wide planting project. Dr. Foret noted that this project area was not selected as part of that coast-wide project and that the landowners, who were concerned about the shoreline erosion rate, asked that this project be nominated. Dr. Foret suggested rolling this project into the *South Little Vermilion Bay Terraces* project described above (#1A) and Mr. John Jurgensen with NRCS agreed. Mr. Boustany stated that this project is a repetitive action on a specific shoreline which is different from the focus and purpose of the coast-wide project. Mr. Boustany inquired if there were any objections to combining these two projects to which there were none. The decision was made to combine the projects and Dr. Foret stated he would combine the fact sheets and re-submit the project before next week.

#2 – Cote Blanche Island Shoreline Protection Project. This project was presented by Dr. John Foret with NMFS. The project is located in St. Mary Parish, adjacent to Cote Blanche Island. Project area wetlands and Cote Blanche Island are undergoing losses from shoreline erosion. Continuous wind and wave energy in West Cote Blanche Bay is preventing sediments from the GIWW from becoming marsh. In addition, these energies are causing shoreline erosion making it unlikely that any of these areas will recover unaided. The project features include the construction of a series of vegetated terraces to diminish waves in West Cote Blanche Bay, helping to increase sediment deposition and reduce the rate of shoreline erosion. A pattern of channels would be dredged to beneficially distribute sediment from the GIWW through the Ivanhoe Canal. Dredged sediments would be used to construct 16,000 linear feet of armored, segmented, earthen terraces along the shoreline, and 5,300 linear feet of earthen terraces at the mouth of Ivanhoe Canal. This project would help abate wind-driven erosion along this portion of West Cote Blanche Bay. The estimated construction cost range including 25% contingency is $5 to $10 million. A member of the public asked if the armor would be sheet piles and Dr. Foret answered that the project was priced with rock armor from the lip of the terrace crown downward. Mr. John Russell Walters, on behalf of the adjacent landowner JMB Properties, expressed support for this project which would provide protection for critical marsh area, coastal upland forest that is under a conservation easement, and the North American Salt Mine that if impacted, would affect jobs and salt production. Mr. Chad Courville with the landowner, Miami Corporation, expressed support for the project, as did Mr. Paul Naquin, St. Mary Parish President, who noted that shoreline protection needs to be implemented to the west along the coast as well as the east. Mr. J.P. Hebert with the St. Mary Parish Soil and Water Conservation District (SWCD) also expressed support for this project.

#3 – Cote Blanche Freshwater and Sediment Introduction and Shoreline Protection Project. This project was presented by Ms. Cindy Steyer with the NRCS. The project is located in St. Mary Parish within the TV-4 Cote Blanche Hydrologic Restoration Project interior, and along portions of the northern shoreline of East Cote Blanche Bay and the southeastern shoreline of West Cote Blanche Bay. Substantial loss has occurred in the project area due primarily to increases in hydrologic energy and marine impacts within organic marsh following oil and gas canal installation. Hurricanes have caused severe impacts, along with removal of emergent marsh. Significant quantities of freshwater and sediment are available from the GIWW, but only a small portion currently reaches the adjacent interior marshes. The targeted Marone

Point shoreline has experienced historic erosion rates. If left unchecked, the rapidly eroding shoreline along East Cote Blanche Bay will lead to a conversion of the highly organic interior to open water. The proposed shoreline protection component would protect approximately 120 acres of emergent wetland over the project life; the freshwater and sediment introduction component would create 449 acres and protect 194 acres, for a net total of 643 acres over the project life. The total acreage benefited both directly and indirectly from the project would be approximately 11,251 acres. Project features will include channel improvement or enlargement and structural measures where necessary to increase freshwater and sediment input from the GIWW into interior Cote Blanche marshes, to cease emergent marsh loss, promote land building, and to halt and/or reverse shoreline erosion. Project implementation would yield an estimated net flow increase of 930 cubic feet per second (cfs) to the project area's interior marshes. Project features also include construction of approximately 27,150 linear feet of armored protection parallel to the northern shoreline of East Cote Blanche Bay. The estimated construction cost plus 25% contingency is $24.1 million. Mr. Paul Naquin, St. Mary Parish President, expressed his support for the project and noted that this is St. Mary Parish's number one project for PPL 22. Mr. Kevin Voisin, St. Mary Parish Council Chairman, also expressed support for this project. Ms. Catherine Siracusa, the Black Bear Conflict Officer for St. Mary Parish, expressed her support for the project and noted that the project would help the recovery of natural Black Bear habitat. Mr. Chad Courville with Miami Corporation expressed support for this sustainable project and stated that he would provide a formal letter of support. Ms. Kimberly Walden, the Tribal Historic Preservation Officer and member of the Chitimacha Tribe of Louisiana, also supports the project, noting that the project would protect the tribal land base. Ms. Walden also serves as the Chairperson of the St. Mary Parish Tourist Commission and cited other economically viable resources of the Parish that warrant protection. Mr. Russell Walters, with neighboring landowner JMB Properties, Mr. J.P. Hebert with the St. Mary Parish SWCD, and Ms. Sophie Kilchrist, a citizen of St. Mary Parish, also stated support for this project.

#4 – Southeast Marsh Island Marsh Creation Project. This project was presented by Mr. Chris Llewellyn with the United States Environmental Protection Agency (EPA). The project is located in Iberia Parish on the southeast end of the Marsh Island Wildlife Refuge. Areas of emergent marsh in the Marsh Island interior have been converted to open water, primarily due to hurricane activity and subsidence, and the site is projected to continue to lose habitat through 2050. Areas targeted by this project are those with the greatest historic land loss and are proximal to East Cote Blanche Bay. The proposed project would create 341 acres and nourish 269 acres of brackish marsh in deteriorated areas of the interior marsh on Marsh Island. This will be done through the hydraulic dredging of approximately 1.3 million cubic yards of material into two marsh creation areas. The borrow site will be offshore, thereby limiting water quality impacts, avoiding in-situ deltaic sediments, and minimizing impacts to potential oyster beds. The marsh nourishment will be completed with minimal or limited containment to allow finer material to flow through the interior marsh areas and provide nourishment. The estimated construction cost plus 25% contingency is $17.1 million. A member of the public asked if the project would be confined or unconfined and was answered that it would be confined unless engineering dictated that unconfined was feasible and reasonable. Another member of the public asked if nourishment of existing marsh in the area would be a part of the project, to which Mr. Llewellyn responded the project would primarily be marsh creation. Mr. Cassidy Lejeune on behalf of the Louisiana Department of Wildlife and Fisheries (LDWF) expressed support for the

project and commented that the project would improve habitat conditions at the Marsh Island Refuge.

#5 – State Wildlife Refuge Shoreline Protection and Terrace Project. This project was presented by Mr. Cassidy Lejeune with LDWF. The project is located in southeastern Vermilion Parish, approximately 6.5 miles north of the Gulf of Mexico, 7.5 miles south of Intracoastal City, and encompasses approximately 250 acres at the State Wildlife Refuge. North and Fearman Lakes are areas of high shoreline loss rates at the State Wildlife Refuge. North Lake, which historically has been a functional part of the marsh management unit and provides waterfowl foraging habitat due to its submerged aquatic vegetation, is on the verge of breaching due to shoreline erosion and a compromised bulkhead. If breached, water exchange would result in deep water conditions, increased erosion within the interior marsh, and decreased wildlife habitat. Fearman Lake Peninsula has breached in several areas, causing increased fetch in the lake and shoreline loss. Approximately 150 acres of wetlands would be created from the proposed project and approximately 50 acres of marsh would be protected. In order to rebuild the Fearman Lake Peninsula and construct an earthen barrier to keep North Lake isolated from Vermilion Bay, hydraulic dredging will create approximately 35 acres of marsh within the footprint of the peninsula and approximately 30 acres of earthen berm along the western shoreline of North Lake. Material would be borrowed from Vermilion Bay and pumped to the project site. These project features would provide shoreline protection and help maintain the area's historic hydrology. The North Lake berm will also provide similar benefits as coastal chenier habitat. Additionally, approximately 85,000 linear feet of earthen, vegetated terraces would be constructed using a marsh buggy and in-situ materials to create two terrace fields within Lake Fearman and one field in North Lake for shoreline protection. All of the project's constructed features would be planted with vegetation. The preliminary construction cost of the project is estimated to range between $5 to $10 million.

Nominations were closed for the Teche-Vermilion Basin.

b. Mr. Boustany opened the floor for nominations for the Atchafalaya Basin.

#1 – West Wax Lake Wetlands Diversion. This project was presented by Ms. Karen Wicker with Coastal Environments, Inc. for SM Energy Company. The project is located in St. Mary Parish on the west side of the Wax Lake wetlands. Three Wax Lake Outlet Bayous (Hog, Leopard, and Blue) are becoming blocked by the development of the outlet's west bank natural levee, which is reducing the diversion of freshwater, nutrients, and sediment to the West Wax Lake wetlands east of Bayou Sale and causing marsh loss. The project would restore and maintain the hydrologic connection between the Wax Lake Outlet and distributary channels to sustain hydrologic processes and wetlands. The project is designed to restore and maintain the bayou openings by dredging to create approximately 64 acres of freshwater wetlands through deposition of dredged material from the channels and indirectly create approximately 55 acres of freshwater wetlands through accretion in access canals and shallow ponds adjacent to the channel. Additionally, the project would benefit approximately 20,480 acres of freshwater wetlands through the input and flow of sediments, nutrients, and freshwater; improve water quality in the interior wetlands and water bodies through flood pulse flushing; and promote natural levee formation. The preliminary construction cost of the project is $5.3 million and the fully funded cost estimate is $9.6 million.

Nominations were closed for the Atchafalaya Basin.

c. Mr. Boustany opened the floor for nominations for the Terrebonne Basin.

#1 – Bay Raccourci Marsh Creation Project. This project was presented by Mr. Robert Dubois with the United States Fish and Wildlife Service (USFWS). The project is located in Terrebonne Parish, north of Lake Mechant. High saline waters from Lake Mechant have directly contributed to the loss and/or conversion of much of the historically intermediate marshes to low salinity brackish marshes north of Lake Mechant. Currently, the largest exchange point between Lake Mechant and the lower salinity marshes north of the Lake is Bayou Raccourci. High salinity water entering Bay Raccourci via Bayou Raccourci/Lake Mechant effectively short circuits the TE-44 project and flows unimpeded into lower salinity marshes surrounding Bay Raccourci. This project will help reduce the effects of that water exchange point by restoring the integrity of the Bay Raccourci shoreline through marsh creation and planting. The proposed project would create 430 acres of marsh and nourish 100 acres of broken marsh along the shorelines of Bay Raccourci and Bayou Decade through hydraulic dredging from Lake Mechant. The project would benefit approximately 382 net acres of emergent marsh over the project life. Approximately 20,000 linear feet of bayou and bay shorelines would be planted with *Spartina alterniflora* to reduce shoreline erosion. The earthen containment dikes would be gapped within three years of construction. The preliminary construction cost for the project plus 25% contingency is $18.6 million. Mr. Nic Matherne with Terrebonne Parish expressed support for the project, stating that this is Terrebonne Parish's number three project for PPL 22. Mr. Jeff DeBlieux, on behalf of landowner ConocoPhillips, and Mr. Francis Fields, on behalf of landowner Apache Louisiana Minerals, stated support for this project.

#2 – Falgout Canal Terraces Project. This project was presented by Mr. Robert Dubois with the USFWS. The project is located in Terrebonne Parish, south of Falgout Canal between Highway 315 and Houma Navigational Canal. Marshes south of Falgout Canal have subsided, leaving large areas of shallow, open water. This area is located within an oil and gas field impounded on three sides by levees, for which the only freshwater reaching this area is by rainfall or a non-functional pump station near Highway 315. As such, there are no sources of freshwater to help flush out the high saline waters that work their way from Terrebonne Bay into the marshes. The proposed project would create a terrace field in 3,700 acres of open water within the oil and gas filed located below Falgout Canal; and approximately 179 acres of emergent marsh and 89 acres of shallow, open water would be constructed. The terraces will be planted with *Spartina alterniflora*. The project would protect Falgout Canal and Highway 315 forced drainage levees. Additionally, freshwater received from the to-be constructed Morganza Flood Levee System will nourish the emergent marsh created by this project. The preliminary construction cost for the project plus 25% contingency is $8.6 million. Mr. Pat Williams with NMFS commented that this area has been identified as a potential mitigation site for either the Federal Morganza Levee or a Coastal Impact Assistance Program (CIAP) project; however it has not yet been formally proposed as a mitigation area through the permitting process. Mr. Nathan Dayan with the USACE stated he would provide the USACE mitigation and borrow site footprints for the project area to Mr. Dubois. Mr. Dubois noted that if mitigation is completed, the project footprint could be modified accordingly.

#3 – North Lake Boudreaux Marsh Creation and Shoreline Protection Project. This project was presented by Mr. Robert Dubois with USFWS. The project is located in Terrebonne Parish, south of Houma, between Highways 57 and 56. High saline waters enter Lake Boudreaux via Robinson and Boudreaux Canals, impacting the low salinity marshes north of Lake Boudreaux. This high saline water and lack of sediment and freshwater inputs coupled with historic dredging of oil and gas canals have directly contributed to the loss and/or conversion of much of the historically fresh/intermediate marshes to low/moderate brackish marshes. Several stretches of vulnerable lake shoreline remain without any protection. This project would create/protect 324 net acres of emergent marsh at the end of the 20-year project life. The proposed project features include construction of approximately 9,900 linear feet of rock revetment/dike in three non-contiguous sections along portions of the western, northern, and eastern shorelines of Lake Boudreaux and the creation of 413 acres of emergent marsh. The rock would provide protection for the newly created marsh as well as 76 acres of vulnerable marsh along the unprotected portions of the lake. Sediment would be pumped from Lake Boudreaux into the marsh creation areas. Containment dikes would be constructed to keep material on site during pumping and would be gapped/degraded within three years of construction to facilitate the exchange of water and estuarine organisms. This project would tie together several projects into one continuous shoreline protection and marsh creation project. The preliminary construction cost for the project plus 25% contingency is $15.5 million. Mr. Jeff DeBlieux, on behalf of ConocoPhillips, and Mr. Francis Fields, on behalf of Apache Louisiana Minerals, stated support for this project.

#4 – Lake Tambour Marsh Creation. This project was presented by Mr. Robert Dubois with USFWS. The project is located in Terrebonne Parish, along the northern shoreline of Lake Barre/Terrebonne Bay from Bayou Chitique to the western shoreline of Lake Tambour. Emergent marshes north of Terrebonne Bay have experienced some of the highest erosion rates along coastal Louisiana, caused by subsidence, lack of sediment input, and a limited supply of freshwater coupled with past dredging of oil and gas canals. As these marshes convert to shallow, open water, the tidal prism will increase which will in turn increase the frequency and duration of tides north of Terrebonne Bay. The proposed project would benefit 420 net acres of emergent marsh at the end of the 20 year project life. The project consists of filling shallow, open water with material hydraulically dredged from Terrebonne Bay/Lake Barre, thereby creating 425 acres of intertidal emergent marsh and nourishing 420 acres of broken marsh. This would reduce water exchange between Terrebonne Bay and interior marshes and reduce shoreline erosion along 12,000 feet of the northern shoreline of Terrebonne Bay and major bayous. Containment dikes would be constructed around each marsh creation site. Containment dikes located adjacent to naturally occurring marshes or small interior ponds would be sufficiently gapped within three years of construction to allow tidal exchange and estuarine organism access. This project would be the second phase of a comprehensive plan to protect the northern shoreline of Terrebonne Bay and the interior marshes from further erosion and reduce the tidal prism. The preliminary construction cost for the project plus 25% contingency is $24.5 million. Mr. Nic Matherne with Terrebonne Parish expressed support for this project, stating that this is Terrebonne Parish's number one project for PPL 22, that the Draft State Master Plan ignores this area which is in need of protection/restoration, and that the Parish will fight to see it included in the final plan. Mr. Jeff DeBlieux, on behalf of adjacent landowner ConocoPhillips, and Mr. Francis Fields, on behalf of landowner Apache Louisiana Minerals, stated support for this project.

#5 – Terraces on Point aux Chene Wildlife Management Area (WMA). This project was presented by Mr. Robert Dubois with USFWS. The project is located in Lafourche Parish, west of Grand Bayou on the Point aux Chene WMA. The marshes of Terrebonne and South Bully Camp sub-basins have been disappearing through a combination of subsidence and erosion, resulting in the northern movement of high saline water from Lakes Tambour and Felicity into the lower salinity marshes of St. Louis Canal and North Bully Camp marshes. The emergent marsh area between Grand Bayou and Highway 665 has been converted into shallow, open water, thus increasing wave fetch and subsequent bank erosion of Grand Bayou along Highway 665. The proposed project would create 92 acres of emergent marsh and 46 acres of shallow, open water through the construction of a terrace field in 2,000 acres of open water within the Point aux Chene WMA project area. The terraces will be planted with *Spartina alterniflora*. The project would help protect the levees along Grand Bayou and Highway 665 by reducing wave fetch. The preliminary construction cost for the project plus 25% contingency is $4.9 million. Mr. Todd Baker on behalf of LDWF expressed support for the project, citing that the project would benefit the Grand Bayou 1 Unit, an area of intense recreational use. Mr. Jeff DeBlieux on behalf of adjacent landowner ConocoPhillips also expressed support for the project. Dr. Jenneke Visser of the Academic Advisory Committee (AAC) inquired about the success of terracing in the area and was answered that terraces built in the area around 2001 have held up well against hurricane events.

#6 – Grand Bayou Freshwater Enhancement. This project was presented by Mr. Robert Dubois with USFWS. This project is located in Lafourche Parish on either side of Grand Bayou in the North Bully Camp Marsh and St. Louis Canal Marshes. The amount of high saline waters being pushed northward into the marshes within the project area from Lake Felicity and Lake Raccourci is increasing as the marshes continue to break up. Freshwater flow influencing the project area, originating from the GIWW, is restricted by the small cross-section of the channel above and below the Highway 24 bridge and at Margaret's Bayou. The project would increase the flow of freshwater south along Grand Bayou, lowering the salinity of emergent marsh and shallow, open water for approximately 4,000 acres on the west and 5,000 acres on the east of Grand Bayou. The project would increase the cross sectional area of the Grand Bayou channel by 1,000 square feet and a small wing wall structure would be constructed to assist in the capture of more water flows into Margaret's Bayou. Additionally, a plug would be placed in one of the oil and gas channels to force freshwater out of the channels and into the marshes and shallow, open water. The preliminary construction cost estimate for the project plus contingency is $3.5 million. Mr. John Jurgensen with NRCS noted that this project was previously proposed as a CWPPRA project that was ultimately de-authorized. He asked what the difference was between this project and the previously de-authorized project. Mr. Dubois answered that this project does not include a large structure placed in Grand Bayou. Mr. Chris Llewellyn with EPA explained that he would be nominating a similar project today and also clarified that the de-authorized CWPPRA project was TE-10. Mr. Dubois stated that even though this project is similar to a proposed Louisiana Coastal Area (LCA) project, this project is on a larger scale and it is unknown if the LCA project will be funded. Mr. Francis Fields on behalf of the landowner Apache Louisiana Minerals supports this project. Mr. Todd Baker on behalf of LDWF also expressed support for this project, noting the positive influence the project would have on the Point aux Chene WMA which is intensely utilized for various recreational activities. He also commented that the acres benefited by this project would be greater than what was estimated. Mr. Nathan Dayan with the USACE stated that he did not think there would be larger benefits to the west due to the proposed Morganza

flood levee system alignment unless additional open structures were constructed. Mr. Baker expressed that many residents are upset with the absence of Terrebonne Parish projects in the 2012 State Master Plan and suggested that this project and the Terraces on Point aux Chene WMA project could be combined. Mr. Jeff DeBlieux on behalf of ConocoPhillips, Mr. Archie Chaisson with Lafourche Parish, and Mr. Nick Matherne with Terrebonne Parish all expressed support for this project. *NOTE: It was discussed in the meeting that this project overlaps in general location and features with project #7 – Grand Bayou Freshwater Introduction and Terraces. As such, it was agreed upon by the lead agencies of these projects (EPA and USFWS), as well as the NRCS which also has a similar Grand Bayou project in development, that they would work together to combine these multiple projects into one project to be nominated for PPL 22.*

#7 – Grand Bayou Freshwater Introduction and Terraces. This project was presented by Mr. Chris Llewellyn with EPA. The project is located in Lafourche Parish. The wetlands of Terrebonne Basin suffer from subsidence, erosion, and saltwater intrusion and are largely removed from any beneficial deltaic processes. In order to reintroduce freshwater that flows in the GIWW from the Atchafalaya River and Bayou Lafourche into the wetlands south of the GIWW, the project will dredge Grand Bayou from its confluence with the GIWW to the Highway 24 bridge and increase the width and depth of a drainage ditch that connects the GIWW to Grand Bayou south of Highway 24. Improvements will need to be made to Highway 24 in order to convey the water into Grand Bayou and outfall management will likely be needed. Additionally, approximately 60,000 linear feet of terraces will be constructed. The project will increase retention of freshwater and sediment, create fish and wildlife habitat, and increase marsh grass productivity and sustainability. The preliminary construction cost estimate for the project plus 25% contingency is $15.7 million, which includes the cost of a medium span concrete bridge for Highway 24 and outfall management. A member of the public commented that the location where the proposed Morganza flood levee system alignment will cross Grand Bayou will create a restriction point for water flow, which will ultimately be a limiting factor to the benefits obtained from this project. Mr. Nathan Dayan with the USACE stated he could provide the size of the restriction area and that a structure designed to pull the water through this restricted area could be implemented as part of this project. Mr. Todd Baker with LDWF proposed orienting the terraces to the east and west where Grand Bayou meets the WMA boundary in order to mimic the historic hydrology of the area. Mr. Nick Matherne with Terrebonne Parish expressed support for this project and requested coordination occur between the project sponsor and the Terrebonne and South Lafourche Levee Districts to ensure project cooperation with the proposed Morganza flood levee system alignment. He also asked that the CWPPRA agencies work together to determine who will sponsor this project. *NOTE: It was discussed in this meeting that this project overlaps in general location and features with project #6 – Grand Bayou Freshwater Enhancement. As such, it was agreed upon by the lead agencies of these projects (EPA and USFWS), as well as the NRCS which also has a similar Grand Bayou project in development, that they would work together to combine these multiple projects into one project to be nominated for PPL 22.*

#8 – East Island Beach and Backbarrier Marsh Restoration. This project was presented by Mr. Ken Teague with EPA. The project is located in Terrebonne Parish as part of the Isles Dernieres, approximately 38 miles south of Houma. East/Trinity Island is part of the Isles Dernieres barrier island chain, one of the most rapidly deteriorating barrier shorelines in the U.S. These barrier islands ensure that the estuaries behind them are low energy environments

capable of supporting wetlands and emerging deltas. These islands lack a stable sub-aerial backbarrier platform upon which the islands can migrate landward. The project will create 232 acres of vegetated intertidal marsh using new dredged material and vegetative plantings in order to provide a stable backbarrier platform and additional sand for redistribution by currents/waves along the island's beach. The project would benefit approximately 2,148 acres of barrier island habitat. Approximately 272 acres of barrier island habitat would be created internally with an estimated 175 acres protected over the 20-year project life. This project will extend the life of this barrier island by increasing its width and protecting the Terrebonne estuary and wetlands against direct exposure to the Gulf. The preliminary construction cost estimate for the project plus 25% contingency is $30 million. Mr. Cassidy Lejeune, on behalf of LDWF, expressed support for the project.

#9 – Timbalier Island Shoreline Sediment Nourishment. This project was presented by Mr. Ken Teague with EPA. The project is located in Terrebonne Parish, approximately 38 miles south of Houma, Louisiana. Timbalier Island is part of the Lafourche Delta headland and barrier island system, one of the rapidly deteriorating Louisiana shorelines. Additionally, the pass east of Timbalier Island (Little Pass Timbalier) is moving in a westerly direction. Recent hurricanes have breached the island in the project area. This breach has the potential to increase erosion of the island, as well as coalesce with Little Pass Timbalier as it migrates westward. The project would place dredged material on the bay side of Timbalier Island to create 60 acres of intertidal marsh and to provide a stable platform for the island to migrate landward. Dredged material would also be placed on the Gulf side of the island, which will provide sand that can be redistributed along the island's shoreline by currents and waves, creating approximately 100 acres of beach. The project would protect approximately 130 acres of barrier island habitat over the 20-year project life, would extend the life of the island by increasing its width, protect Terrebonne estuary and vegetated wetlands, and close the cut in the island to slow the shifting tidal pass. The preliminary construction cost for the project plus 25% contingency is $30.5 million. Mr. Darin Lee with the Coastal Protection and Restoration Authority (CPRA) stated that the cut in the island has been closed, resulting from work done during the British Petroleum (BP) oil spill, where sheet piles were driven across the closure allowing sand to build-up from normal wave activities. Mr. Lee acknowledged that even with the cut now closed, this is still a vulnerable area given planned future oil canal dredging activities in the area.

#10 – Marsh Creation on Point au Fer Island by Beneficial Use of Dredged Material or Dedicated Dredging in the Gulf of Mexico. This project was presented by Mr. Ken Teague with EPA. The project is located in Terrebonne Parish on Point au Fer Island. Brackish marshes continue to be lost over time at Point Au Fer Island, presumably due to insufficient accretion, oil and gas canal effects, and semi-impoundment marsh management. This project would restore approximately 200 acres of brackish marsh in open water areas on Point au Fer Island, as well as nourish an estimated 50 acres of existing degraded brackish marsh. The project would maintain 196 acres of brackish marsh in the project area over the project's 20-year life span. Marsh creation will be accomplished either by beneficially using dredged material from the Atchafalaya navigation channel to the west in Atchafalaya Bay or by "dedicated dredging" in the near-shore Gulf of Mexico. The possibility of not confining the dredged material and vegetative plantings will be explored. The preliminary construction cost for the project plus 25% contingency is $19.0 million. Mr. Darin Lee with CPRA commented that the borrow site in the Atchafalaya Bay has been previously utilized on a few projects, and had filled back in five to six years after project construction. Mr. Lee suggested that the creation of a sediment trap as a

permanent borrow area would allow the maximum amount of material to be utilized as efficiently as possible. A member of the public inquired if material in the sediment trap would be separate from that already designated for beneficial use, to which Mr. Lee responded yes.

#11 – Wine Island Barrier Island Restoration. This project was presented by Mr. Cassidy Lejeune with LDWF. The project is located in Terrebonne Parish on the Isle Dernieres Barrier Island Refuge. Although Wine Island was re-created in 1991 after it had eroded to a partially emerged sand shoal, the area has since seen significant erosion. A second attempt to nourish the island was made in 2007, but the material did not stay due to high wave energy. The current footprint is about five acres. The island used to support over 15,000 nests, but habitat has been lost over time, and the island no longer serves as bird breeding habitat due to lack of elevation and rapid shoreline loss. The project will restore approximately 30 acres of dune habitat, 120 acres of super-tidal habitat, and 150 acres of tidal/sub-tidal habitat. The island would be recreated by depositing offshore dredge material in the vicinity of Wine Island and a subaqueous shoal southwest of Wine Island. Vegetative plantings will follow the construction of the dune/beach platform. Wine Island will be restored to productive avian habitat and expand the storm buffering capabilities of the Isle Dernieres barrier island chain. The preliminary construction cost for the project plus 25% contingency is $15 to $20 million.

#12 – North Catfish Lake Marsh Creation Project. This project was presented by Mr. Archie Chaisson with Lafourche Parish. The project is located in Lafourche Parish along the northern shoreline of Catfish Lake. Catfish Lake is one of the most prominent interior lakes in the eastern Terrebonne Basin, an area significantly isolated from riverine influences, thus resulting in high rates of erosion and subsidence. The northern half of the Catfish Lake shoreline has experienced an average erosion rate of approximately 10 feet per year, with some areas losing as much as 40 feet per year. Interior marsh loss along the lake rim has also formed a large pond on the east side of the lake shoreline that has breached and threatens to greatly accelerate wetland loss in the area. The project would create 212 acres of marsh and nourish 196 acres of existing marsh along the northern lake rim of Catfish Lake using a hydraulic dredge and plantings of smooth cord grass along the lake shore-face. The preliminary construction cost for the project is $12.7 million. Mr. Jeff DeBlieux, on behalf of landowner ConocoPhillips, and Mr. Francis Fields, on behalf of adjacent landowner Apache Louisiana Minerals, stated support for this project.

#13 – Bayou Terrebonne Ridge Restoration. This project was presented by Mr. Stuart Brown with CPRA. The project is located in Terrebonne Parish on the east bank of Bayou Terrebonne. Terrebonne Bay was historically structured by a series of north-south ridges. Much of the habitat function of these ridges has been lost due to erosion, subsidence, and development. Land loss projections predict that the ridge and surrounding marshes will be converted to open water by 2050. The project would create a 65,000 foot ridge along the east bank of Bayou Terrebonne that would create approximately 42 acres of marsh and 139 acres of ridge habitat necessary to support transient migratory land birds. Ridge material will be borrowed from Bayou Terrebonne. The project will also help reduce storm surge and restore natural hydrologic patterns. The preliminary construction cost for the project plus 25% contingency is $48.8 million. Mr. Jeff DeBlieux, on behalf of ConocoPhillips, expressed support for the project. Mr. Patrick Williams, on behalf of LDWF, also supports this project, but is concerned that without marsh creation, the project benefits will not outweigh the cost.

#14 – Bayou DuLarge Ridge Restoration. This project was presented by Mr. Stuart Brown with CPRA. The project is located in western Terrebonne Parish along Bayou DuLarge. Terrebonne Parish was historically structured by a series of ridges. Much of the habitat function of these ridges has been lost due to erosion, subsidence, and development. Bayou DuLarge ridge is a critical east-west feature supporting what remains of the land bridge separating Caillou Lake and Lake Mechant. Deterioration of this land bridge has allowed saltwater to move more freely into the upper basin. Land loss projections predict that the ridge and surrounding marshes will be converted to open water by 2050. The project would create a 55,000 foot ridge along the east bank of Bayou DuLarge that would create approximately 36 acres of marsh and 118 acres of ridge habitat necessary to support transient migratory birds. Ridge material will be borrowed from Bayou DuLarge. The project will also help reduce storm surge, restore natural hydrologic patterns, and work synergistically with TE-66. The preliminary construction cost for the project plus 25% contingency is $40.5 million. A member of the public inquired as to why, on the west side the project, the proposed ridge creation is on the north bank and on the east side of the project the proposed ridge creation is on the south bank. Mr. Brown responded that the project was developed to follow the area's natural ridgelines in order to minimize project costs. Another member of the public inquired if the project would include plantings and was answered yes. Mr. Jeff DeBlieux, on behalf of landowner ConocoPhillips, expressed support for the project, offered their assistance, and noted the importance of TE-66 and that this project would tie in nicely to that project. Mr. Patrick Williams on behalf of LDWF supports this project, but is concerned that without marsh creation, the project benefits will not outweigh the cost. Mr. Brown noted that the project footprint would be lessened and moved closer to the bayou as much as possible. Mr. Ron Boustany commented that he is the project manager of TE-66 and that the project is currently being modeled which should give a better idea on how the project will influence the movement of water.

#15 – West Belle Pass Marsh Creation. This project was presented by Ms. Whitney Thompson with Coastal Planning and Engineering/The Shaw Group. The project is located in Lafourche Parish, west of the West Bell Pass jetties, approximately three miles southwest of Port Fourchon, and immediately north of the West Belle Pass Barrier Headland Restoration Project (TE-52). Material dredged annually from West Belle Pass and used beneficially along the Gulf shoreline has a high silt content, which over time is released from the placed fill and lost offshore due to wave action. The material could provide longer term benefits if it were placed in an area with a lower wave climate. Additionally, interior marsh shorelines are subject to continuous erosion due to back-bay waves, which over time exposes more shoreline to wave attack causing land loss rates to increase exponentially. The proposed project would create 244 acres of marsh to optimize the use of material dredged from West Bell Pass during the annual maintenance cycles and utilize material dredged from outside the system. In addition, the project would enhance the marsh behind the West Belle Pass barrier headland, creating a synergistic effect with the TE-52 project. Containment dikes would be required around the perimeter of the creation area throughout construction. The preliminary construction cost for the project plus 25% contingency is $8.4 million and the fully funded cost estimate is $13.0 million. Mr. Archie Chaisson with Lafourche Parish expressed support for this project because it provides support not only for the barrier islands, but for Port Fourchon, the 10th Ward of the Parish, and other critical areas.

#16 – Lake Decade Marsh Creation and Nourishment. This project was presented by Mr. Patrick Williams with NMFS. The project is located in Terrebonne Parish along the shorelines of Lake Decade, southwest of Theriot. The Lake Decade shoreline breaches routinely, even with

efforts by the landowner. Generally, a breach or two develop in between the annual maintenance efforts to re-establish the integrity of the shoreline. Construction of the South Lake Decade Freshwater Introduction Project (TE-39) has addressed the vulnerability on the lake shoreline east of Bayou Decade. Sediment would be dredged from Lake Decade and placed in a semi to confined manner in strategic locations along the lake shoreline to create approximately 346 acres and nourish approximately 153 acres of intertidal, intermediate, and fresh marsh. Approximately half of the created marsh acres would be planted with appropriate wetland vegetation. The project would directly and indirectly benefit approximately 499 acres and approximately 343 net acres would be protected/created over the project's 20-year life span. The project would restore lake rim and interior wetlands that have been lost and fragmented. The preliminary construction cost estimate for the project plus 25% contingency is $21.6 million; and the fully funded cost estimate ranges from $25 to $30 million. A member of the public asked how the structural integrity will be maintained on the west side to which Mr. Williams responded that containment would be typical marsh creation with the likely use of some structural design until vegetated, from which maintenance will then fall to the landowner or be subject to the impacts of the lake. Another member of the public noted that the area designated as Marsh Creation Area B is also included in the TE-39 project and questioned if there would be any conflict with the NRCS's plan to potentially re-investigate freshwater introduction to this area. Mr. John Jurgensen with NRCS commented that the NRCS does not oppose this project and that the projects should be able to work hand in hand. Mr. Jeff DeBlieux, on behalf of landowner ConocoPhillips, and Mr. Francis Fields, on behalf of landowner Apache Louisiana Minerals, stated support for this project. Mr. Williams explained that the scale of the marsh creation component could be adjusted if determined economically feasible.

#17 – Island Road Restoration Project. This project was presented by Mr. Phillip Parker with NMFS. The project is located in Terrebonne Parish. There has been a significant reduction in the marsh platform in the vicinity of Island Road that has provided some historic wave energy protection. Island Road is the only land access to the Isle of Jean Charles located west of Pointe aux Chenes, where 174 people reside, of which 46% are Native American Indian and 90% are minority (U.S. Census, 2010). The project consists of two fill options for creating and nourishing existing marsh. Concept A provides for the creation/nourishment of approximately 434 acres of marsh, will form a land bridge along the perimeter of Cutoff Canal and the twin pipelines, and allows for future restoration projects between Island Road and the newly constructed marsh platform. Concept B provides for the creation/nourishments of approximately 324 acres of marsh and terracing directly adjacent to Island Road, providing direct protection to Island Road. Terrebonne Parish and the landowners support either option and one concept will be selected based upon public input. The project would result in approximately 341 net acres of marsh creation/nourishment over the 20-year project life. The preliminary construction cost estimate of the project plus 25% contingency is $23.5 million; and the fully funded cost estimate ranges from $25 to $35 million. Mr. Nic Matherne with Terrebonne Parish commended NMFS for being willing to pursue a project with inside borrowing because there are some sediment starved areas, such as this project area, where the only option is internal borrowing. He explained that Terrebonne Parish has expended approximately $7.0 million rebuilding Island Road and that it is the only way for the residents to get to Isle of Jean Charles. Mr. Matherne stated that Terrebonne Parish fully supports this project, prefers Concept B, and that this is their number two priority project for PPL 22. A member of the public asked where the borrow site would be located and was answered on the property of ConocoPhillips. Mr. Jeff DeBlieux, on behalf of landowner ConocoPhillips supports both concepts, but prefers Concept A. Mr. Francis

Fields, on behalf of landowner Apache Louisiana Minerals, stated support for this project. Mr. Todd Baker, on behalf of LDWF, supports this project and explained that this project would work synergistically with the management of 5,000 adjacent acres of managed wetlands at the Point aux Chenes WMA.

Nominations for the Terrebonne Basin were closed.

d. Mr. Boustany opened the floor for nominations for coast-wide projects.

#1 – Coast-wide Competitive Voluntary Canal Backfilling. This project was presented by Mr. Ken Teague with EPA. The project, which includes canal backfilling at the coast-wide level, would be administered through a competitive, voluntary process. That is, the project would be marketed, such as with a request for proposal (RFP), and candidates interested in the project would apply. The preliminary project cost estimate plus 25% contingency is $25.0 million.

Nominations were closed for coast-wide projects.

e. Mr. Boustany opened the floor for nominations for demonstration projects.

#3 – Marsh Creation Project Containment Dike Degradation and Gapping Demonstration. This project was presented by Mr. Ken Teague with EPA. There is concern regarding the potential negative effects of containment dikes on the ecological functions of created marshes. Over time, some "standard" practices for "gapping" or "degrading" the containment levees have been implemented within various CWPPRA projects, and assumptions regarding minimum gapping/degradation needed for full ecological function have become accepted by most of the agencies, even though there are no data to support them. The purpose of this project would be to demonstrate the variability in ecological functions of created marshes under different types and degrees of containment dike degradation/gapping. Under a variety of different containment dike degradation treatments, the project would test whether there are differences between created marshes and adjacent water and/or wetlands for the following factors: ecological connectivity; exchanges of water, suspended solids, nutrients, and organic carbon; and movements of nekton (finfish, shellfish). The project would also evaluate the functionality and cost-effectiveness of different degrading and gapping methods (not just construction techniques, but different degrees of degradation/gapping). The project would work to develop design criteria for maximum ecological function and cost-effectiveness. The preliminary construction cost estimate of the project is $1.0 million.

Nominations were closed for demonstration projects.

5. Agenda Item #5, Announcement of Coast-Wide Voting Meeting. Mr. Boustany reiterated that the coast-wide voting meeting would be held on February 15, 2012.

6. Agenda Item #6, Announcement of Upcoming PPL 22, Task Force, Technical Committee and Other Meetings. Mr. Boustany reviewed upcoming CWPPRA meetings and indicated that all meeting notices are posted on the CWPPRA website.

7. Agenda Item #7, Report on the Draft 2012 State Master Plan (CPRA). Mr. Brent Haase with CPRA reported that the Draft 2012 State Master Plan has been released and explained the

public meeting and comment process. Public meetings are being held this week and comments are being accepted until February 25, 2012. Mr. Haase stated that this is a draft plan and will not be finalized until it is reviewed by the CPRA and approved by the Legislature. Mr. Hasse described how the Draft Master Plan will work with the CWPPRA Program, acknowledging that the State will likely support projects in the CWPPRA Program that support the Master Plan and that many of the goals of the CWPPRA Program projects are synergistic with the goals of the Master Plan. Mr. Hasse noted that the State intends to meet its current obligations and re-iterated that this is a draft plan that is subject to change. Mr. Nic Matherne with Terrebonne Parish commented that the Draft Master Plan will not be approved prior to the CWPPRA coast-wide voting meeting on February 15th and that the draft plan could change. Mr. Matherne asked those with voting authority to vote based on the best projects, not just what fits into the Draft Master Plan.

8. Agenda Item #8, Adjourn. The meeting was adjourned at 1:20 p.m.

CEMVN-PM-C (10-1-7a) 24 Jan 12

MEMORANDUM FOR RECORD

SUBJECT: Regional Planning Team (RPT) Region 4, Abbeville, LA, 24 Jan 12, 1:00 pm

1. Agenda Item #1, Welcome and Introductions. Mr. Darryl Clark, RPT Region 4 Leader, opened the meeting, welcomed the attendees, and had the attendees introduce themselves. Mr. Clark thanked Mr. Mark Shirley with the Louisiana State University (LSU) Agricultural Center and the Vermilion Extension Office for providing the meeting facilities. He welcomed all of the attendees and recognized representatives from Cameron, Calcasieu, Iberia and Vermilion Parishes. Mr. David Richard, Mr. Sherrill Sagrera, and Ms. Tina Horn representing Calcasieu, Vermilion, and Cameron Parishes, respectively, welcomed attendees and noted the importance of shoreline protection and restoration within their parishes. Mr. Clark recognized Mr. Brad Inman with the United States Army Corps of Engineers (USACE) as chairman of the CWPPRA Planning and Evaluation (P&E) Committee; Mr. John Jurgenson with the National Resources Conservation Service (NRCS) and Mr. Chris Allen with the Coastal Protection and Restoration Authority (CPRA) as members of the P&E Committee; and Dr. Jenneke Visser with the Academic Advisory Committee (AAC). Mr. Clark then had all meeting attendees introduce themselves and state their affiliation.

2. Agenda Item #2, Priority Project List (PPL) 22 Selection Process Brief Overview and Ground Rules for PPL 22 Nomination Meeting. Mr. Clark provided a PowerPoint presentation which is available online at the CWPPRA website. He stated that the purpose of the meeting was to accept project nominations and hear public comments for developing the 22nd PPL, as well as nominations for coast-wide and demonstration projects.

Anyone can propose a project for the region. Proposals should be consistent with the Coast 2050 strategies. A project can be nominated from only one basin (except for coast-wide projects). If a project crosses multiple basins, excluding coast-wide projects, it should be nominated in one basin only, based on the majority area of project influence. Coast-wide projects apply across basin boundaries; their benefits are not tied to one basin. Coast-wide projects can be nominated from any basin and can be presented in any or all of the RPT meetings. Multi-basin or coast-wide projects can be split into multiple individual projects. Alternatively, projects that are similar can be combined at the request of the project proposers, but splitting or combining projects should occur during the RPT meeting when the project(s) are first presented. Public comments on project proposals will be accepted orally during the meeting and in writing by February 3, 2012.

A coast-wide voting meeting will be held on February 15, 2012, in the Louisiana Room at the Louisiana Department of Wildlife and Fisheries in Baton Rouge. The RPTs will select three projects in the Terrebonne, Barataria, and Pontchartrain Basins; two projects in the Breton Sound, Teche-Vermilion, Mermentau, Calcasieu-Sabine, and Mississippi River Delta basins; and one project in the Atchafalaya Basin. If only one project is nominated at the RPT meeting for the Mississippi River Delta Basin, three nominees will be assigned to the Breton Sound Basin. If proposed, one coast-wide project may be chosen for inclusion as a nominee. In addition, the RPTs will select six demonstration projects for further evaluation.

In covering the ground rules for the meeting, Mr. Clark requested that each proposer submit a fact sheet and give their name, the project name, and describe the location, problem, proposed solution, and benefits of the presented project. Public comments on the proposals should be as constructive as possible.

3. Agenda Item # 3, Brief Overview of Coast 2050 Regional Strategies. Mr. Clark indicated that the proposals should be consistent with the Coast 2050 Regional Ecosystem or Coast-Wide Strategies and noted that these strategies are included on a handout entitled "Coast 2050 Strategies" available at the sign-in table.

4. Agenda Item #4, PPL 22 Project Nominations.

a. Mr. Clark opened the floor for nominations in the Calcasieu-Sabine Basin.

#1 – West Cove Marsh Creation and Nourishment Project. This project was presented by Mr. Scott Wandell with USACE. This project is located in Cameron Parish. The Calcasieu Ship Channel, immediately east of the project area, provides an avenue for the rapid movement of high-salinity water into the marshes around Mud Lake. This movement increased salinity in the area, resulting in plant death and marsh loss. The marshes located between Mud Lake and West Cove were decimated by Hurricanes Rita and Ike; and marshes that once provided a buffer to the southwest rim of West Cove are now shallow, open water areas. The project would create and/or nourish approximately 623 acres of marsh (143 acres created, 479 acres nourished) by hydraulically pumping material from offshore into the shallow water marsh creation area. Containment dikes will be constructed around the marsh creation area to keep material on site during pumping. Once pumping has been completed, the containment dikes will be degraded to the current platform elevation and gaps will be made in the containment dike. Additionally, the newly constructed marsh will be assessed to determine if vegetative plantings will be necessary. The project will help to restore the rim of West Cove and prevent breaching of Lake Calcasieu into the adjacent marsh. This project would have a synergistic effect with the CWPPRA East Mud Lake Marsh Management Project. The estimated construction cost including 25% contingency is $17 million ($9.1 million incremental cost if constructed during maintenance event in Calcasieu River). A member of the public asked how far the dredged material would be transported and Mr. Wandell replied approximately 4.5 miles. Ms. Tina Horn with Cameron Parish asked if the project included any work near Highway 27 to which Mr. Wandell replied no.

#2 – Marsh Creation in Calcasieu Lake-Beneficial Use of Upland-Disposed Dredged Material. This project was presented by Mr. Chris Llewellyn with the United States Environmental Protection Agency (EPA). This project is located in Cameron Parish at Calcasieu Lake, along the Calcasieu Ship Channel. Wetland loss in the Calcasieu-Sabine Basin is significant and marsh creation is one means of compensating for those losses. It is preferable to utilize sediments that are already being dredged for another purpose, rather than conducting additional dredging for the express purpose of marsh creation. The proposed project would convert approximately 200 acres of open water habitat to saline marsh and maintain about 150 acres of created saline marsh over the 20-year project life. The marsh would be created using soils stored in the Calcasieu Ship Channel Upland Confined Disposal Areas. Soil will be moved from high elevations in the confined disposal areas, to shallow, sub-tidal open water on the east side of the containment areas, probably using conventional heavy construction equipment. The proposed project will also create tidal creeks and ponds, and vegetative planting will also likely be necessary. The

preliminary construction cost including 25% contingency is $13.5 million. Mr. Curt Marcantel with Black Lake Land Company commented that he was not opposed to the project, but noted that he has land west of the project and would be happy to take the dredged material from the Calcasieu Ship Channel for marsh restoration efforts, which in turn would eliminate land-right concerns and pipeline concerns. Mr. Llewellyn responded that a major obstacle to the use of a confined disposal facility is how to transport the dredged material across the channel. Mr. Marcantel responded that in previous instances, the dredged material has been pumped to marsh areas, that there are plenty of shallow marsh areas along the ship channel where dredged material would be better utilized versus the deeper areas of Calcasieu Lake. He also stated that placement of the material in the shallow marsh areas would eliminate opposition from oystermen and fishermen who will oppose deposition in Calcasieu Lake. Mr. Llewellyn responded that the water depth is no more than approximately 3-feet deep, and therefore the project as presented, is constructible. A member of the public inquired as to how the material would be contained to which Mr. Llewellyn answered that the project would be fully contained during construction, using existing material or rock and that following construction, creeks or ponds would be constructed to increase fishing productivity of the habitats. Mr. David Richard with Calcasieu Parish stated his opposition to the project, citing that in his opinion, it is meant to supplement the USACE dredged material placement areas and that this project met with huge opposition when it was previously proposed as a way to increase the disposal area of the Calcasieu Ship Channel. He also commented that every bit of material from the Calcasieu Ship Channel should be used to restore the neighboring marshes, and not be put in the lake where marshes did not exist historically. Mr. Llewellyn responded that this project was designed to utilize a huge sediment resource from the ship channel, and was not designed to supplement the USACE dredged material placement areas. Dr. John Foret with the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) noted that when a similar project was previously proposed by the USACE, a major question posed was when material is taken from an upland disposal site, would the USACE continue to replenish that upland disposal site or use the material beneficially in the marsh. Mr. Llewellyn stated that the biggest problem facing Federal agencies are budget constraints and that it is becoming more difficult to use material beneficially. A member of the public commented that he would like to see funds used to construct a new pipeline traveling north to the Black Lake area so that material dredged from the ship channel could be directly deposited to the marsh areas. He also suggested that if dredged material is placed in the lake the sediment will end up back in the Ship Channel.

#3 – Lake Calcasieu Beneficial Use. The project was presented by Mr. Chris Llewellyn with EPA. This project is located in Cameron Parish at Calcasieu Lake, adjacent to the Calcasieu Ship Channel. Maintenance dredging events in the Calcasieu Ship Channel create approximately 4.0 million cubic yards of dredged material each cycle. Currently, the dredging cycle occurs every two years. This project would allow for more of this material to be used beneficially in a cost effective approach to maximize restoration dollars spent. The proposed project would create approximately 515 acres of emergent marsh habitat within designated placement areas in existing open water along the Calcasieu Ship Channel. The created marshland would be publicly accessible for outdoor activities such as birding, fishing, and paddling. All dredging costs associated with creating marsh inside the placement area would be paid for using the existing USACE dredging operations budget. This partnership will limit CWPPRA funds to the construction of the containment dikes and post-construction operation, maintenance and monitoring costs. Similar projects have been constructed in Galveston and Chesapeake Bays. The preliminary project cost estimate with 25% contingency is approximately $12 million. Mr.

Darryl Clark noted that many of the comments made for the *Marsh Creation in Calcasieu Lake - Beneficial Use of Upland-Disposed Dredged Material Project* (#2 above) would be the same for this project. Ms. Tina Horn with Cameron Parish asked how far this project would be from the Calcasieu Ship Channel to which Mr. Llewellyn responded that this project is immediately adjacent and on the east side of Hog Island Gully and the Sabine National Wildlife Refuge; and that this location was selected because the island could be utilized as containment, which in turn helps to minimize project costs. Mr. Clark inquired about how this project relates to the USACE Federal Standard for dredging. Mr. Brad Inman with USACE responded that a Calcasieu Ship Channel Dredged Material Management Plan (DMMP) has been developed and approved which will become the de facto Federal Standard for this area; however there has not been an agreement signed with the Port of Lake Charles which is the local sponsor, nor has Federal funding been received. Until those two things occur, the standard will be to look for the cheapest location to place dredged material as a means to keep the channel clear and port open. Once the agreement is signed and funding received, part of the Federal Standard could include shipping material to the areas specified within this project. Mr. David Richard with Calcasieu Parish commented that Section F within the project area has been disallowed by the USFWS, that this area was proposed previously by the USACE and met with opposition, and that this area, to his knowledge, is not within the DMMP. A member of the public inquired as to what the cost was for the similar project with recreation areas at Atkinson Island in Galveston Bay and Mr. Llewellyn responded he did not know.

#4 – Cameron Meadows Marsh Creation and Wetland Restoration Project. This project was presented by Dr. John Foret with NMFS. This project is located in Cameron Parish, approximately 18 miles west of Cameron, five miles north of the Gulf of Mexico shoreline, northeast of Johnsons Bayou, and immediately south of Cameron Meadows Gas Field. Physical removal of the emergent marsh communities in the project area during hurricane events, coupled with low rainfall after Hurricane Ike, has resulted in the conversion of intermediate to brackish emergent marsh to shallow, open water. Significant interior marsh loss has also resulted from saltwater intrusion and hydrologic changes associated with storm damage and blocked drainages. Habitat shifts and hydrologic stress reduce marsh productivity. It is unlikely that many of these areas will recover unaided. This project would construct 350 acres of marsh in one or two areas utilizing dredge material from the Gulf of Mexico. Additionally, the project would construct 35,000 linear feet of earthen terraces, oriented to reduce wind generated wave fetch. Approximately 330 net acres of wetlands would be protected/created over the project life. The marsh creation and terrace footprint area is 371 acres and the overall project boundary, including areas benefited from drainage improvements could total over 18,000 acres. The project seeks to restore coastal marsh habitat and to reverse the conversion of wetlands to shallow, open water through the reestablishment of hydrologic connectivity. Project features would include cleaning out over 30,000 linear feet of canals to re-establish drainage patterns filled in as a result of hurricanes. In addition, the project would build upon an existing HD model to assist in the identification of those canal reaches that need clearing to restore this system. Marsh creation areas would be planted with appropriate species of wetland vegetation to reestablish the plant productivity. The preliminary estimated construction cost plus 25% contingency is $25.8 million. Dr. Jenneke Visser with the AAC asked what material would be used for marsh creation and Dr. Foret responded that mud would be obtained from an offshore location. Mr. W.P. Edwards with Vermilion Corporation asked why the canals would be cleaned out, given the saltwater intrusion problem to which Dr. Foret noted that the goal of the project is to facilitate east-west drainage and that the project

would be modeled to determine functionality. A member of the public inquired if this project was consistent with the State Draft Master Plan, given the project's size to which Dr. Foret responded that the entire area is delineated in the State Draft Master Plan. Mr. Clark noted that the project did not have to be consistent and that the State Draft Master Plan is a draft version and subject to change.

#5 – Black Bayou Terraces. This project was presented by Dr. John Foret with NMFS. This project is located in Calcasieu and Cameron Parishes, on the south side of the Gulf Intracoastal Waterway (GIWW), and west of Gum Cove Ridge. Saltwater intrusion into the surrounding marsh and canals from the GIWW, coupled with erosion caused by wave action from nearby boats, wind, and tides, have caused historic land loss within this area. Approximately 75% of the emergent marsh has converted to open water over the last 70 years within the proposed project area. The expansive open water area identified by this project continues to experience shoreline erosion and coalescence of smaller water bodies into one 2,700 acre pond. This expansion is threatening the integrity of the western levee boundary. The CWPPRA sponsored Plowed Terrace Demonstration Project (CS-25), mitigation terraces, and terraces constructed by Ducks Unlimited within this area have shown the usefulness of terracing to reduce wave fetch; however, more terraces are needed. The proposed project would create approximately 150 acres of wetland directly from terrace construction and approximately 500 acres of brackish to intermediate marsh would be benefited indirectly. The proposed project would construct up to 183,000 linear feet of earthen terraces, oriented in such a way as to reduce wind generated wave fetch. In addition, the terraces would be planted with appropriate species of wetland vegetation to re-establish the plant productivity needed to rebuild the organic peat for marsh vertical accretion and expansion. The estimated construction cost plus 25% contingency ranges from $5 to $10 million.

#6 – Beneficial Use of Dredge Spoil at Sabine National Wildlife Refuge. This project was presented by Dr. John Foret with NMFS and is located in Cameron Parish. Historically, wetlands in this portion of Cameron Parish have been significantly altered by hydrologic modifications, saltwater intrusion, and conversion of marsh to open water. Anthropogenic factors such as construction of the Calcasieu Ship Channel and Highway 27 have caused significant hydrologic changes, contributing to weakening of the wetland plant community, such that the community cannot respond to increasing salinities and flood duration. The conversion of the wetlands to open water also occurred during increased tidal action when wetland vegetation was physically removed, leaving open water areas. Salinity levels and flood duration have been improved with time; however water depths are not conducive for the re-establishment of emergent vegetation and submerged aquatic vegetation habitat is limited by wave action within the large, open water area. The proposed project would create and/or nourish approximately 550 acres (510 acres created, 40 acres nourished) of marsh, and approximately 10,000 linear feet of tidal creeks using sediment hydraulically pumped from the upland disposal areas along the Calcasieu Ship Channel into the shallow water marsh creation area. Approximately 344 acres of brackish marsh will be protected/created over the project life. Containment dikes will be constructed around the marsh creation area to keep material on site during pumping. The existing Hog Island Gully channel pipeline corridor and Highway 27 crossing will be utilized. Once pumping is completed, the dikes will be degraded to current platform elevation and gaps will be made, hydraulically connecting the constructed tidal creeks to the adjacent water. Vegetative plantings will be completed if determined necessary. Funds are budgeted to plant 50% of the created marsh acres. The project will provide direct protection to Highway 27, the region's only

northward hurricane evacuation route. The estimated construction cost including 25% contingency ranges from $20 to $25 million. Mr. John Jurgensen with NRCS asked if the site could be used as an upland placement area and Dr. Foret responded that while he cannot speak for the United States Fish and Wildlife Service (USFWS) who owns the land, the current inclination is to leave it at marsh elevation. Mr. Darryl Clark with USFWS confirmed that the Sabine National Wildlife Refuge would like to return dredge disposal area F to marsh. A member of the public inquired what the volume of borrow material would be and Dr. Foret responded that he was unsure of the volume, but that the project was scalable depending on the volume of borrow material. When inquired by Mr. Clark, Dr. Foret confirmed that a hydraulic dredge would be utilized and also re-iterated the path of the dredged material. A member of the public inquired as to where the dredging disposal for the most recent dredging was transported and Mr. Clark responded that it was near the Brown Lake area as part of cycle 2, completed by the State through State Surplus Funds.

#7 – Black Lake Shoreline Restoration. This project was presented by Dr. John Foret with NMFS and is located in Cameron Parish. Historically, the wetlands in this portion of Cameron Parish have been significantly altered by hydrologic modifications, saltwater intrusion, and conversion of marsh to open water. Anthropogenic factors such as the construction of the Calcasieu Ship Channel and the GIWW have caused significant hydrologic changes to this system. These factors contributed to the weakening of the wetland plant community, such that the community could not respond to increasing salinities and flood duration. The conversion of wetlands to open water also occurred during increased tidal action and the wetland vegetation was physically removed, leaving open water areas to the point that Black Lake is no longer delineated. This large, open water area is now generating a wave environment that is threatening recent restoration efforts in this region. The proposed project would recreate the northwestern shoreline of Black Lake through the construction of 9,500 linear feet of armored, earthen terrace. Once the lake rim is constructed, approximately 100 acres of emergent marsh platform would be constructed immediately adjacent to the newly created lake rim using dredge spoil from the Calcasieu Ship Channel. The estimated construction cost including 25% contingency ranges from $5 to $10 million. Mr. Darryl Clark noted that the State has rebuilt portions of the eastern levee at Black Lake and that the construction of the rock barrier would help reinforce portions of the levee that have deteriorated due to wave action. For this reason, a member of the pubic noted that the project would actually help protect 30,000+ acres. A member of the public asked why the levee would not be extended farther to which Dr. Foret responded that the project was scalable and could be extended. Dr. Foret agreed to modify the project to extend the levee; and the revised project will be sent to Mr. Brad Inman and Ms. Allison Murray with USACE. A member of the public asked how many acres of marsh would be constructed to which Dr. Foret responded 100 acres. A member of the public inquired where the dredge material would originate from and Dr. Foret stated either from Black Lake or via pipeline from the Calcasieu Ship Channel.

#8.- Black Lake/Gum Cove Terracing. The project was presented by Mr. Curt Marcantel with Black Lake Land Company. This project is located in Cameron Parish, east of Gum Cove and south of the GIWW. Between 1952 and 1974, this area experienced an 81 percent marsh loss, much in part due to the construction of the Calcasieu Ship Channel, which greatly increased the efficiency of water exchange through Calcasieu Pass. Freshwater retention was consequently reduced and saline water was able to enter in greater quantities and penetrate further north. Due to loss of organic soils from erosion, it is unlikely that emergent marsh will reestablish in

the open water areas; submerged aquatic vegetation habitat is also limited by the energy associated with the large, open water fetch. The proposed project would construct approximately 250,000 linear feet of terraces with 300-foot spacing. The proposed project would also compliment a Ducks Unlimited terracing project to be constructed in the spring. This project would reestablish emergent marsh and create submerged aquatic vegetation habitat by reducing wave energy associated with fetch. Preliminary construction cost of the project is estimated at $5.0 million.

#9 – Conway Bayou Hydrologic Restoration. This project was presented by Mr. Troy Mallach with NRCS. The project is located in Calcasieu Parish, north of the GIWW. Construction of the GIWW has greatly increased tidal exchange within the project area, resulting in interior marsh loss through increased saltwater intrusion and subsequent organic soil export. The project would directly and indirectly benefit approximately 8,000 acres and protect/create approximately 500 net acres of wetlands over the project life. The project proposes approximately 50,000 linear feet of terracing which will be designed to reduce wave energies and promote growth of submerged aquatic vegetation. The project also consists of structures designed to promote the historic drainage of freshwater from the Sabine River through the project area south into Conway Bayou. Over the next 20 years, the project will increase organic production and promote the expansion of emergent marsh vegetation throughout the project area. Preliminary construction cost including 25% contingency is estimated from $5 to $8 million. Mr. David Richard with Calcasieu Parish commented that the similar Black Bayou Hydrologic Restoration Project (CS-27) has been an exemplary project in relation to hydrologic restoration. Mr. Mallach noted that it was the nearby landowners that initiated the development of this project based on the successful results seen from the Black Bayou Hydrologic Restoration Project. Dr. John Foret commented that modeling helped dictate the project features of the CS-27 project and suggested modeling be performed on the proposed project as well to which Mr. Mallach noted that modeling has been included within the estimated project budget. Mr. Richard commented that the landowners are in support of the project.

#10 – Sweet Lake and Willow Lake North Shoreline Restoration. The project was presented by Mr. Troy Mallach with NRCS. This project is located in Cameron Parish northeast of Calcasieu Lake and north of the GIWW. Land loss from shoreline erosion, subsidence, and storm impacts are threatening the critical wetland area that separates Sweet and Willow Lakes from large, open water areas and adjacent wetlands to the north. Without restoration, Sweet and Willow Lakes will coalesce with open water areas and more than double in size threatening adjacent wetlands. Numerous restoration techniques ranging from planting a constructed terrace (CS-11b) and Christmas tree fencing have been attempted. However, it is clear that a more substantial restoration technique (shoreline restoration via marsh creation) is needed. The proposed project features the dedicated dredging of sediment from Sweet and/or Willow Lake, which would be hydraulically pumped via pipeline to create approximately 508 acres of marsh in the project area. Approximately 335 acres of existing shoreline will be reinforced with marsh nourishment. Approximately 2,000 acres would be benefited directly and indirectly by the project and the total net acres protected/created over the project life is approximately 650 acres. The proposed project would re-create and nourish the degraded marsh in the project area as to prevent additional loss to adjacent marshes and coalescing with adjacent open water areas. Preliminary construction cost including 25% contingency is estimated at $21.3 million. Mr. Mallach noted that the landowners are in support of the project. A member of the public inquired where the sediment would come from and Mr. Mallach responded that it would come

directly from the lakes. Ms. Tina Horn with Cameron Parish inquired as to how the area around Sweet Lake was holding up to which Mr. Mallach noted the south rock shoreline is doing well and Mr. Doug Miller with Sweet Lake Land and Oil Company (landowner) responded that the land bridge connecting Sweet Lake to the water to the north is almost deteriorated, but that the water conditions should allow for a diversity of marsh plants with the introduction of sediment. Ms. Horn suggested terracing in the pond area north of the lake and Mr. Miller responded that additional work outside the project scope could be completed if additional funding becomes available and that the project location was selected based on its ability to utilize the existing infrastructure of the project area in order to minimize project costs. When asked by a member of the public if rocks or earthen containment would be used, Mr. Mallach responded earthen containment, but that it would be further evaluated.

#11 – East Holly Beach Gulf Shoreline Protection. This project was presented by Mr. Troy Mallach with NRCS. This project is located in Cameron Parish, south of State Highway 82 and west of the Calcasieu Ship Channel. This project area has experienced erosion with recent rates at 26.5 feet/year. In 2010, approximately 25 feet of shoreline remained between Highway 82 and the Gulf of Mexico. The project would construct 15,000 linear feet of breakwaters to protect the most critical shoreline area along Highway 82. Breakwaters will be designed on the CS-01 template, using all lessons learned from the Holly Beach Breakwater Enhancement and Sand Management Project. Approximately 40 round rubble breakwaters, placed 300 to 700 feet offshore, will be created. The project would provide direct protection to 137 acres of wetlands over the project life and indirect protection to several hundred acres north of Highway 82 which were impacted when water overtopped Highway 82 during recent tropical events. The project will reduce wave energies of the Gulf shoreline west of the Calcasieu Ship Channel and trap sediment between the breakwaters and shoreline. The project maintains a beach rim component of the coastal ecosystem, would have a positive impact on critical infrastructure, would have a synergistic effect on the proposed State surplus project, and would protect/restore critical habitat for the piping plover. The estimated construction cost including 25% contingency is approximately $17 million. Mr. David Richard with Calcasieu Parish cited his support for the project, commented that the project would directly protect much more than 137 acres north of Highway 82, and cited that this type of project has been used along Highway 82 in a different area (west of Holly Beach) and has been successful at protecting the highway during storm events. Ms. Tina Horn with Cameron Parish commented that the acreage protected by the rock breakwater should be increased as part of this nomination. Mr. Mallach responded that he can increase the acreage, but is unsure if it would be accepted by the Environmental Work Group. Ms. Horn commented that the project should note the national significance of our fisheries and the nursery grounds to grow our fisheries; and that this should also be added to Congress' list in hopes of obtaining more projects for the area.

Nominations were closed for the Calcasieu-Sabine Basin.

b. Mr. Clark opened the floor for nominations in the Mermentau Basin.

#1 – East Pecan Island Marsh Creation – Increment 1. This project was presented by Mr. Chris Allen with CPRA. The marshes to the west of the Freshwater Bayou Navigation Channel have experienced severe land loss and habitat conversion. What was once a productive fresh water marsh has been converted to open water due to the negative effects of exchange from the Freshwater Bayou Navigation Canal on soils followed by impacts from major hurricanes. This

project intends to create and nourish 511 acres of marsh using approximately 3.9 million cubic yards of marsh fill material borrowed from offshore within State waters and will utilize the Freshwater Bayou Navigation Canal as the pipeline corridor. The proposed project would result in approximately 450 net acres of intermediate marsh over the 20-year project life. Some historical ponds will be retained and creeks may be included to promote exchange with the surrounding marsh and provide marsh functionality. Half of the acreage will be planted to encourage rapid vegetation. Earthen containment dikes will be gapped upon construction completion and included in the operations and maintenance. This project will also help to reduce the potential for exchange between the target marshes and the Freshwater Bayou Navigation Channel by working synergistically with the ME-31 Freshwater Bayou Marsh Creation Project. The preliminary cost estimate including 25% contingency is $35 million. Ms. Tina Horn with Cameron Parish inquired when the NRCS PPL 19 Freshwater Bayou Marsh Creation Project, which is adjacent to the proposed project, was completed, to which Mr. Allen responded that it has not yet been constructed. Mr. Sherrill Sagrera with Vermilion Parish commented that it is critical to have this proposed level of protection for the Marmentau Basin because the integrity of the basin is continuing to deteriorate. Mr. W.P. Edwards, a representative of the landowner (i.e., Vermilion Corporation), noted their support of the proposed project.

#2 – Pecan Island Marsh Creation Project. This project was presented by Dr. John Foret with NMFS. The project is located in Vermilion Parish, south of Pecan Island. Project area wetlands are undergoing losses from shoreline erosion, subsidence, and coalescence of interior ponds. Future land loss will most likely occur in areas of existing loss and may become more apparent along Highway 82. Disturbances to the landscape from hurricanes and herbivory have resulted in the breakup and export of large sections of interior marsh. The ensuing erosion creates water turbidity within the interior ponds; this coupled with increased pond depth, decreases the coverage of submerged aquatic vegetation. Additionally, recent hurricanes have resulted in large and wide-spread losses. It is unlikely that many of these areas will recover unaided. The proposed project would create between 400 to 500 acres of intermediate-to-brackish marsh and would protect interior marshes from erosion. Sediment would be mined from the Gulf of Mexico, approximately 1.5 miles offshore. The proposed dredge pipe corridor would be an existing pipeline right-of-way. There is the potential to use an abandoned 36" gas pipeline within the proposed dredge pipe corridor as a delivery mechanism to be explored at a later date. The estimated construction cost range including 25% contingency is $15 to $20 million. Ms. Tina Horn with Cameron Parish asked what was causing marsh degradation in the area and Dr. Foret answered it is a combination of subsidence, saltwater intrusion, weakening vegetation, and storm events. Mr. Sherrill Sagrera with Vermilion Parish commented that when saltwater gets into the area it takes a long time to travel out.

#3 – Umbrella Bay Shoreline Protection Project. This project was presented by Mr. Kevin Long, landowner. The project is located in Cameron Parish along the eastern Grand Lake – Umbrella Bay shoreline. The project area experiences shoreline erosion estimated at an average of 15 feet per year; and approximately 275 acres of marsh will be lost over the next 20 years at this rate. Shoreline breaches have already resulted in small interior lakes, and continued shore loss will increase connectivity with Grand Lake and introduce greater energy to the interior marsh. The total net marsh acreage benefited directly over the 20-year project life would be approximately 275 acres, assuming an erosion rate of 15 feet/year. The proposed project consists of approximately 40,000 linear feet (7.5 miles) of foreshore segmented rock breakwater placed at the 1 to 2 foot depth contour with gaps approximately every 1,000 feet and

access channel dredged material placed shoreward to restore marsh. Shoreline erosion along the Umbrella Bay and Grand Lake shorelines would be reduced by 100%, assuming that the structure is completely effective at stopping erosion from wave energy. Additionally, the rock dike would prevent breaches that connect interior ponds to Grand Lake. The project would also maintain a portion of the Grand Lake-Umbrella Bay shoreline, which is a structural component of the coastal ecosystem, and would combine with the existing Grand-White Lakes Land Bridge Shoreline Protection Project to the south to protect the eastern Grand Lake shoreline. The estimated construction cost is $12 to $15 million. Dr. Foret asked how far off the bank the dike would extend to which Mr. Long responded 50 to 100 feet from the shore, and that it would be as close to the shore as possible. A member of the public inquired if the estimated average shoreline erosion rate of 15 feet/year had been verified, to which Mr. Long said yes and explained the results of the GIS analysis based on data from 1952 to 2008.

#4 – Front Ridge Freshwater Introduction and Terracing. The project was presented by Mr. Troy Mallach with NRCS. This project is located in Vermilion Parish, east of Pecan Island and south of Highway 82. Virtually all of the project area marshes have experienced increased tidal exchange, saltwater intrusion, and reduced freshwater retention associated with Freshwater Bayou and Humble Canals. Highway 82 traverses cheniers wherever possible; however, low spots between cheniers historically allowed drainage from the Lakes Sub-basin south into the Chenier Sub-basin. Currently, Highway 82 forms a hydrologic barrier that isolates those sub-basins. The total area directly and indirectly benefitted by the proposed project is approximately 4,350 acres and the project would protect/create approximately 200 net acres of wetlands over the project life. The project proposes approximately 133,000 linear feet of terracing and freshwater introduction. The terracing will be designed to reduce wave energies and promote growth of submerged aquatic vegetation. The proposed freshwater introduction would restore/improve hydrologic conditions by allowing water from the Lakes Sub-basin to drain south across Highway 82 into the Chenier Sub-basin. The majority of the necessary infrastructure is existing and would only require cleanout and construction of an outlet structure under the gravel road at Front Ridge. The estimated construction cost including 25% contingency is $8 to $10 million. Ms. Tina Horn with Cameron Parish inquired what the canals south of the project are to which Mr. W.P. Edwards with Vermilion Corporation responded they were oil field canals, many of which have been abandoned and plugged. A member of the public commented that the project looks like it would protect more than 200 acres to which Mr. Ron Boustany with NCRS answered that the 200 acres was a conservative estimate. Dr. John Foret commented that getting freshwater across a highway presents challenges. Ms. Albright asked if this project would afford ridge projection to which Mr. Mallach responded that the project would be oriented for ridge protection. Mr. W.P. Edwards commented that the culvert component of the project is fairly inexpensive compared to the terraces component, so the actual project cost is highly variable depending on what components are implemented. Mr. Chris Llewellyn with EPA asked if there was potential to have backflow of water to the north. Mr. Ron Boustany responded that water can be moved south of Highway 82, but that there is not enough head differential to get south water flow throughout the entire year. Mr. Sherrill Sagrera with Vermilion Parish commented that even though it is not every day, there is generally at least a large enough head differential to get some water flow south.

#5 – Southwest White Lake Shoreline Protection. This project was presented by Mr. Troy Mallach with NRCS. This project is located in Vermillion and Cameron Parishes, along the southwest shoreline of White Lake. This portion of the White Lake shoreline is experiencing

significant erosion of approximately 15 feet/year. In some areas, the historic lake rim is completely lost and interior organic soils are exposed to high wave energies. This project would complete the protection of the southern shoreline and protect small interior ponds from coalescing with the lake, as well as protect emergent marsh and interior ponds from high wave energies associated with White Lake. The total area benefitted both directly and indirectly by the project is approximately 550 acres. The project would protect/create approximately 360 marsh acres (242 acres protection, 90 acres created, and 28 acres terraced). The project would construct 35,200 linear feet of rock breakwater shoreline protection and 45,000 linear feet of terracing with 300-foot spacing in an adjacent interior open water body. The shoreline feature would protect approximately 242 acres from erosion and the terraces would create an additional 28 acres of wetlands. Sufficient material would be available from dredging the floatation channel to raise the substrate behind the rock dike to marsh elevation. The recommended best-fit alignment should provide approximately 90 acres of marsh creation behind the dike. The estimated construction cost including 25% contingency ranges from $8 to $10 million. Mr. Sherrill Sagrera with Vermillion Parish noted the success of the nearby constructed ME-22 White Lake Shoreline Protection Project. A member of the public asked if the proposed breakwaters and the constructed breakwaters from the ME-22 project could be connected. Mr. Mallach responded that in the past he thinks there have been land owner issues with the area in between the two projects, but that it would be further investigated.

Nominations were closed for the Mermentau Basin.

c. Mr. Clark opened the floor for nominations for coast-wide projects.

No coast-wide projects were nominated.

Nominations were closed for coast-wide projects.

d. Mr. Clark opened the floor for nominations for demonstration projects.

#1 – Hay Bale Demonstration Project. This project was presented by Mr. Sherrill Sagrera with Vermilion Parish. The demonstration project would consist of placing round hay bales in open water to assist with re-vegetation. Ms. Susan Herrington with USACE stated that Mr. Bryan Kemp and Mrs. Julie Kemp with Gulf Coast Preservation and Reclamation will be presenting a hay bale restoration demonstration project at a nomination meeting for another region later this week. Mr. Darryl Clark noted that the project area for a demonstration project is decided on by the Engineering and Environmental Work Groups. It was noted by Mr. Clark that Ms. Herrington will work with both Mr. and Mrs. Kemp and Mr. Sagrera to combine/coordinate the hay bale demonstration projects.

#2 – Reconnection of Hydrologically Isolated Wetlands to Improve Ecological Function. The project was presented by Mr. Erick M. Swenson with LSU. The juxtaposition of canal spoil banks often results in the impoundment or partial impoundment of coastal wetlands, thus reducing the exchange between these wetlands and the surrounding areas. This reduced exchange results in fewer, but longer flooding and drying events. The increased flooding may be enough to increase the soil waterlogging to a point where plants may become stressed due to soil chemistry changes, ultimately leading to plant death and wetland loss. The proposed project would re-establish the connectivity to the surrounding wetlands by opening hydrologic pathways. This could be

accomplished by putting gaps in existing spoil banks or degrading sections of spoil banks to re-establish overland flow. The concept is to restore the system without using structural components. The openings will be sized to keep the average flow velocities low enough to preclude any scouring of material. It is anticipated that three sites will be used. The overall plan (at each site) would be to (1) monitor (~6 months) the hydrology, soil chemistry and fish assemblages in the site; (2) cut gaps or degrade spoil bank to increase connectivity and monitor (~6 months) the changes in hydrology, soil chemistry, and fish assemblages; and (3) increase the size of the opening or increase the number of gaps and monitor (~6 months) the hydrology, soil chemistry, and fish assemblages. The hydrologic measurements would include continuous water level and salinity instruments (1) within the marsh being re-connected, (2) in the open water, and (3) in an adjacent non-impounded marsh area. Water velocity on the marsh and in the openings would also be monitored. Soils chemistry would be monitored in the two marsh areas at each site. The initial gap width used would be 25 feet which corresponds to the gap width currently being used on CWPPRA projects. The fish assemblages would be monitored in the open water and the two marsh areas. The total estimated cost including monitoring plus 25% contingency is $1.1 million. Mr. W.P. Edwards with Vermilion Corporation suggested studying the tidal amplitude on the water body that would be connected to a wetland and Mr. Swenson noted that CRMS data would be used to determine tidal amplitude and salinities.

Nominations were closed for demonstration projects.

5. Agenda Item #5, Announcement of Coast-wide Voting Meeting. Mr. Clark reiterated that the coast-wide voting meeting will be held on February 15, 2012.

6. Agenda Item #6, Announcements of Upcoming PPL 22, Task Force, Technical Committee and Other Meetings. Mr. Clark reviewed upcoming CWPPRA meetings and indicated that all meeting notices are posted on the CWPPRA website.

7. Agenda Item #7, Report on the Draft 2012 State Master Plan (CPRA). Mr. Brent Haase with CPRA reported that the Draft State Master Plan has been released and explained the public meeting and comment process. Public meetings are being held this week and comments are being accepted until February 25, 2012. Mr. Haase stated that this is a draft plan and will not be finalized until it is reviewed by CPRA and approved by the Legislature. Mr. Sherrill Sagrera with Vermilion Parish asked if landowners within marsh creation areas designated in the Master Plan have been notified. Mr. Haase answered that the landowners have not been coordinated with yet; and acknowledged that landowner agreement and funding are major considerations that will be dealt with in the future. Mr. Sagrera also asked how current proposed marsh creation projects through CWPPRA would work with the State Master Plan. Mr. Haase acknowledged that the Master Plan identifies where the State will want to invest funds; however, this is a draft plan that is subject to change. He added that as long as a project is not in conflict with the Master Plan's objectives, it still should receive due consideration. He also noted that the State would likely fulfill any existing obligations that are currently in the pipeline. Dr. Jenneke Visser with the AAC commented that the State Master Plan is updated every five years and that what is planned for the next 50 years may change the next time the Master Plan is updated in 2017. A member of the public commented that it would have been better if the State Master Plan public meetings had coincided in location with these CWPPRA project nomination meetings. Mr. W.P. Edwards asked if next year's CWPPRA project nominations would need to coordinate with Coast 2050 Strategies or the State Master Plan. Mr.

Darryl Clark stated that it would be a Task Force policy decision to be decided prior to next year's project nomination meetings.

8. Agenda Item #8, Adjourn. The meeting was adjourned at 4:20 pm.